



FILED

10-01-12

04:59 PM

**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.

R. 09-11-014
(November 20, 2009)

**OPENING COMMENTS OF THE NATURAL RESOURCES DEFENSE COUNCIL
(NRDC) ON ADMINISTRATIVE LAW JUDGE'S RULING SEEKING POST-
WORKSHOP COMMENTS ON DEMAND-SIDE COST-EFFECTIVENESS ISSUES**

October 1, 2012
Lara Ettenson and Sierra Martinez
Natural Resources Defense Council
111 Sutter St., 20th Floor
San Francisco, CA 94104
(415) 875-6100
lettenson@nrdc.org

Table of Contents

I.	Introduction	1
II.	Generation Related Avoided Cost Discussion (Section 3.1 of Ruling)	2
	A. Efficiency should be compared to long-term avoided costs, instead of continuing to use the resource balance year method which under-values efficiency. (Q1, Q4)	2
	B. Avoided renewable procurement should be modeled by a linear function to match the actual renewable procurement patterns. (Q7)	4
	C. The CPUC will continue to need a “GHG adder” since the allowance prices in the market will only reflect short term costs. (Q9)	4
III.	Discount Rates (Section 3.3 of Ruling)	5
	A. The Commission should use a lower discount rate for all cost-effectiveness tests or, at a minimum, use a lower discount rate for the TRC even if it continues to use the after-tax WACC for PAC. (Q17, Q18, Q20)	5
	<i>Lower discount rates are appropriate for lower risk investments</i>	5
	<i>The discount rate must match the test perspective</i>	6
	<i>At minimum the Commission should use a lower discount rate for the TRC</i>	7
	B. The consumer discount rate should not be used in any cost-effectiveness analysis for energy efficiency. (Q19)	7
IV.	Updates (Section 3.4 in the Ruling)	7
	A. The Commission should set up a schedule to periodically assess whether updated data is available for assumptions; however the approach to cost-effectiveness should remain consistent. (Q 21-22)	7
V.	Consistency Across Demand-Side Proceedings (Section 3.5 in the Ruling)	8
	A. There should be one framework for cost-effectiveness, but each demand side management (DSM) approach requires unique inputs. (Q23)	8
	B. The Commission should continue to address cost-effectiveness in each DSM proceeding and establish a process to update inputs that are consistent across all DSM options. (Q24)	8
VI.	Standard Practice Manual Tests (Section 3.6 in the Ruling)	9
	A. The Commission should ensure that the full benefits of efficiency are accounted for in the TRC test, and use both the PAC and the TRC tests to determine the cost-effectiveness of efficiency investments. (Q25, Q28, Q30, Q34-36)	9
	<i>The Commission should prioritize improving the application of the TRC</i>	9
	<i>Consider including a NEB adder to address the imbalance of the TRC costs and benefits</i>	10
	<i>Continue using both the PAC and TRC tests to assess efficiency programs</i>	11
	<i>Invite experts to discuss options prior to presenting a proposal</i>	11

B.	Net-to-gross and non-energy benefits should be determined through different processes and one does not inform the other. (Q26)	11
C.	The economy-wide rebound effect should not be included in the cost-effectiveness methodology and the Commission should pursue higher priority modifications before focusing on measure or customer specific rebound effect. (Q31)	12
D.	The Ratepayer Impact Measure (RIM) test is not useful to determine investments in energy efficiency programs. (Q33)	13
VII.	Conclusion	13

**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.

R. 09-11-014
(November 20, 2009)

**OPENING COMMENTS OF THE NATURAL RESOURCES DEFENSE COUNCIL
(NRDC) ON ADMINISTRATIVE LAW JUDGE'S RULING SEEKING POST-
WORKSHOP COMMENTS ON DEMAND-SIDE COST-EFFECTIVENESS ISSUES**

I. Introduction

Pursuant to Rules 1.9 and 1.10 of the California Public Utilities Commission's (CPUC or Commission) Rules of Practice and Procedure, the Natural Resources Defense Council (NRDC) respectfully submits these comments on the "Administrative Law Judge's Ruling Seeking Post-Workshop Comments on Demand-Side Cost-Effectiveness Issues," (ALJ Ruling) dated August 14, 2012. NRDC is a non-profit membership organization, with nearly 100,000 California members with an interest in receiving affordable energy services and reducing the environmental impact of California's energy consumption.

NRDC appreciates the hard work of the staff to evaluate current cost-effectiveness methodologies and to explore improvements to ensure energy efficiency is properly valued. As parties and staff continue discussing the key issues through comments, rulings, and in workshops, it is apparent that the state could benefit from including technical experts within and outside of California to help address the key questions associated with updating the cost-effectiveness methodology. NRDC therefore recommends that the Commission utilize the vast expertise across the country and convene a short-term, task-oriented series of meetings or working groups targeted at resolving specific outstanding questions. The recommendations from these groups could then be integrated into a proposal for an updated cost-effectiveness methodology. To that end, we recommend the Commission reach out to the experts across the country, such as the Pacific Northwest, American Council for an Energy-Efficient Economy (ACEEE), and the Consortium of

Energy Efficiency (CEE), who have grappled with these issues, and have the added benefit of experience across the country.

Properly applying cost-effectiveness tests and ensuring that the Commission accurately account for the benefits in addition to the cost of efficiency is critical to ensure that the state is not under-investing in this important resource. Taking the added time now to sufficiently pursue solutions with experts will not only support the efforts of Commission staff to improve the current methodology, but it will also allow for a more collaborative approach to resolving challenges that could potentially be replicated for other policy issues needing resolution.

II. Generation Related Avoided Cost Discussion (Section 3.1 of Ruling)

A. Efficiency should be compared to long-term avoided costs, instead of continuing to use the resource balance year method which under-values efficiency. (Q1, Q4)

We recommend that energy efficiency be valued in comparison to long-term avoided costs because that is the resource that efficiency is displacing. Failing to do so ensures that we will perpetually over-procure long-term commitments to generation and infrastructure. First, the current approach to calculating the resource balance year (RBY) only assesses resource shortages at the system level and does not conduct an assessment at the local level. Recently, resource shortages at local capacity areas have been the driver of long-term supply-side resource procurement—not at the system level, as seen in the past two LTPP cycles, (R.10-05-006 and R.12-03-014).

In these long term procurement proceedings, energy efficiency is considered as a replacement for conventional generation. Even with near-term system-wide over procurement of conventional generation, energy efficiency is displacing long-term commitments to supply-side resources (due to need at the local level), despite the fact that these decisions are occurring in advance of the theoretical RBY. Thus, the exclusive focus of the current RBY methodology on the system level does not allow it to account for the fact that energy efficiency is presently avoiding long term resources. Therefore, the Commission should remove the RBY theory and value efficiency as avoiding the long-term generation and infrastructure that it actually avoids.

Second, if we value energy efficiency in the near-term only as avoiding short run costs (under the RBY theory that energy efficiency is not avoiding long term procurement), we will ensure the perpetual over-procurement of long term commitments to conventional generation. Using the RBY methodology, energy efficiency gets valued less. Once efficiency is valued less, the amount of cost-effective energy efficiency that the state can acquire is diminished. Once less

energy efficiency is acquired, demand will be higher, and long term procurement proceedings will show the need to build more conventional generation. Thus, there is a self-fulfilling prophecy to undervaluing energy efficiency based on the current theory that it does not avoid long-term generation until many years into the future. This is exacerbated by the fact that CPUC authorization for new long-term commitments to supply-side resources must be made at least several years in advance of when the resource would be needed, so the RBY approach undervalues efficiency at the very time when it could be making the difference in changing the CPUC's authorizations.

In addition, if the RBY assumes that energy efficiency only avoids short term costs in the short run, and gets updated more frequently, the error in undervaluing energy efficiency will be further exacerbated. When the last RBY was calculated, the RBY was projected to be 6 years out into the future.¹ This means that energy efficiency was assumed to only be avoiding short term costs for the first 6 years. If the RBY were not updated very often, that 6-year time frame will shift downward, and allow a greater portion of the total savings to be valued at avoiding long-term costs. However, if the RBY were updated annually, that RBY would be perennially 6 years into the future. In that case, energy efficiency would always be valued at short-term avoided costs for the first 6 years of savings.

Given the fact that the present portfolio of energy efficiency programs has an average EUL of less than 8.9 years,² this means that two-thirds of all of the energy efficiency would be valued using short-term avoided costs. As mentioned above, energy efficiency actually displaces long-term commitments to supply-side resources in the present. Furthermore, the current application of a relatively high discount rate heavily devalues long-term savings, further ensuring that efficiency is valued at short-run avoided costs. For both reasons: (i) because energy efficiency is actually displacing long term generation, and (ii) because assuming energy efficiency is not presently displacing long term generation ensures an excess supply of long-term generation, we urge the Commission to remove the RBY theory and instead, compare energy efficiency to long-term avoided costs as general practice.

¹ The RBY depicted in Figure 8, page A17, of the Ruling shows a RBY that includes 6 years of short term costs, but in Figure 9, page A19, shows a RBY that includes 9 years of short term costs. We use 6 years here to be conservative in our point. CPUC, "Administrative Law Judge's Ruling Seeking Post-Workshop Comments on Demand-Side Cost-Effectiveness Issues," Attachment A, pp. A17-A19 (August 2012).

² CPUC, EEGA Database, *PG&E, SCE, and SDG&E 2010-2011 Annual Reports*, Table 1: Total Energy Savings (GWh) – Annual; Total Energy Savings (GWh) – Lifecycle, (June 2012). 69,576 GWh of lifecycle savings and 7,829 GWh yields a portfolio average EUL of 8.89 years.

B. Avoided renewable procurement should be modeled by a linear function to match the actual renewable procurement patterns. (Q7)

NRDC recommends that the CPUC model avoided renewable resources in a manner that reflects how renewable resources are actually procured. The current renewable portfolio standard (RPS) has discrete goals at certain years, but its flexible compliance mechanism does not require that actual renewable procurement follow an absolute step-wise function. Rather, actual renewable procurement follows smoother increases that would be better approximated by a linear function here. Therefore, analytically, the avoided renewable costs should be determined by a linear function of procurement of renewable resources.

However, we understand from the June 2012 cost-effectiveness workshop that Energy Division finds that such an alteration from a step-wise function to a linear function would not have a significant impact on the total avoided costs. Therefore, while we maintain that the Commission should include the more accurate approach, we also recognize the numerous tasks in front of staff and understand the need to prioritize updating other elements that would have more of an impact.

C. The CPUC will continue to need a “GHG adder” since the allowance prices in the market will only reflect short term costs. (Q9)

The CPUC will still need a “GHG adder” going forward, since it is a forecast of the future cost of GHG emissions. Prices of California allowances under CARB’s cap and trade program are only available for the near-term. The CPUC must include a forecast of GHG costs throughout the entire timeframe of the avoided costs (i.e., over the entire expected useful life of the measures and programs). Such a forecast must take into consideration both current and future prices of California allowances, as well as estimates of the cost of compliance with likely future GHG reduction policies (in California and/or nationally).

The process of developing a forecast of GHG costs remains largely the same as the CPUC’s prior processes to develop the GHG adders; the only differences are (i) there is certainty that there will be a compliance cost associated with GHG emissions beginning next year and (ii) there is limited near-term information about those compliance costs. This approach will continue to provide a conservative estimate of GHG costs, since the current and estimated future costs of compliance with GHG regulatory programs likely do not include the full societal cost of GHG emissions (i.e., the full externality).

III. Discount Rates (Section 3.3 of Ruling)

A. The Commission should use a lower discount rate for all cost-effectiveness tests or, at a minimum, use a lower discount rate for the TRC even if it continues to use the after-tax WACC for PAC. (Q17, Q18, Q20)

NRDC continues to support a lower discount rate for all tests assessing the cost-effectiveness of energy efficiency investments. As NRDC works across the country promoting strong efficiency policies, we look to other states to help assess whether California's practices are in line with other states that are also considered leaders in efficiency. For example, Massachusetts uses a lower discount rate than California to value efficiency³ and Vermont recently modified its discount rate to be 3% for assessing efficiency efforts.⁴ In addition, our own state's Energy Commission uses as societal discount rate to assess the cost-effectiveness of codes and standards work. We urge the Commission to look to best practices and rationales across the country (and within the state) to ensure California is in line with standard practice when appropriate.

Furthermore, the decision for which discount rate to use should be based at least on the following: (1) what is the risk associated with the investment, (2) who is affected and what is the time value of money for that particular group, and (3) how much weight is given to the future costs and benefits of efficiency programs? The following reasons outline why a lower discount rate for energy efficiency cost-effectiveness tests should be considered and applied.

Lower discount rates are appropriate for lower risk investments

Investments in energy efficiency are inherently less risky and less costly than investments in traditional generation and infrastructure, both for the customer and the utility.⁵ Regardless of the cost-effectiveness test, investments with lower risk should be evaluated using a lower discount rate. Similarly, the higher the level of risk, the higher the discount rate should be. The investments for efficiency come from customers and carry much less risk than supply-side investments that often put customers on the hook for highly variable (and therefore risky) future costs including

³ MA D.P.U Order 08-50-B § 3.4.6, *Investigation by the Department of Public Utilities on its own Motion into Updating its Energy Efficiency Guidelines Consistent with An Act Relative to Green Communities*, (October 26, 2009). Available at: <http://www.ma-eeac.org/docs/DPU-filing/08-50-B%20Order%20091026.pdf>

⁴ "...society has less of a time preference for the return on an investment than a company might; this reduced time preference manifests itself as a lower discount rate." State of Vermont Public Service Board "Order Re Cost-Effectiveness Screening of Heating and Process-Fuel Efficiency Measures and Modifications to State Cost-Effectiveness Screening Tool" (February 7, 2012) p.21 available at: http://www.vermontfuel.com/2012_Files_files/OrderReCostEffectivenessScreeningofHeating.pdf

⁵ Synapse Energy Economics. "Best Practices in Energy Efficiency Program Screening: How to Ensure that the Value of Energy Efficiency is Properly Accounted For," July 23, 2012. p.51 (Synapse Report) < <http://www.synapse-energy.com/Downloads/SynapseReport.2012-07.NHPC.EE-Program-Screening.12-040.pdf>>

fuel costs and availability, and environmental regulatory costs.

Efficiency is also less risky to the utilities both in terms of recovering the costs of investment (the funds for efficiency are collected from customers without accessing shareholder capital) as well as reducing the risk of planning, construction, and operation of power plants.⁶ Since energy efficiency is a low risk investment for customers and a moderately lower risk investment for utilities than supply side, the discount rate used for cost-effectiveness tests should be at the lower end of the range.

The discount rate must match the test perspective

The discount rate must also accurately represent the perspective of the test that is being used. That is, if the test is valuing longer term gain to society (which includes all utility customers), the discount rate needs to match the value of an investment in the long term. Along the same lines, government projects - or projects carried out by the private sector that serve the public good - should use a lower discount rate because the focus of these projects are on ensuring future welfare.⁷ A lower discount rate more accurately values projects that require more costly investment in the short term to derive greater savings in the long term (e.g., whole building approaches).

Consistency between the discount rate and the test perspective is critical to accurately assess the benefit of the proposed efficiency projects. This is not currently the case. The Commission uses the TRC, which takes the perspective of valuing the longer term benefits, but applies the WACC discount rate, which primarily values shorter term savings. This sets up an inherent misalignment between the test and the assumptions being used. Since the types of programs being directed by the CPUC are intended to benefit society as a whole and are expected to provide substantial benefits in the long run, this assumes that money spent now to avoid energy use at a later date is *more* valuable than avoiding energy in the short term. Therefore a lower discount rate should be used for assessing the cost-effectiveness of efficiency.

The discount rate must align with the Commission's goals

The Commission must also decide what the appropriate assumptions are to support its stated policies and goals; these rules cannot be decided in isolation. For example, D.12-05-015 reaffirmed the Commission's focus on increasing efforts to capture longer-term savings. If the

⁶ Synapse Report, p.52 for a further discussion of options for lower discount rates (e.g., a risk-adjusted discount rate or the discount rate for U.S. Treasury Bills, a recognized low risk investment).

⁷ California Energy Commission (CEC) "Discounting Future Fuel Costs at a Social Discount Rate," August 2008 (CEC-200-2008-004) < <http://www.energy.ca.gov/2008publications/CEC-200-2008-004/CEC-200-2008-004.PDF>>

Commission wants to enable the utilities, local governments, and third party providers to meet these goals, these implementers need to be able to design programs within a cost-effectiveness framework that *values* long term savings. If the inputs primarily value the short term savings instead (as with the WACC), the implementers will never be able to achieve the goals set out by the Commission. It is therefore imperative that when staff considers updates to the current assumptions, they ensure the updated rules align with and make it possible to achieve the goals.

At minimum the Commission should use a lower discount rate for the TRC

If, however, the Commission chooses not to apply a lower rate for all tests, NRDC supports the use of the after-tax WACC for the PAC test but continues to urge the Commission to use a lower discount rate for the TRC as it represents the perspective of all utility customers. NRDC also recommends that the Commission focus efforts on determining the most appropriate discount rate for the test being used (including the best rate to align with the Commission's stated goals) and use one discount rate consistently for all inputs. Using different discount rates for various inputs of the cost tests is likely to be quite complicated. These topics would also benefit from further discussion with experts within and outside of California as noted above.

B. The consumer discount rate should not be used in any cost-effectiveness analysis for energy efficiency. (Q19)

Consumer discount rates should not be considered for any part of the CPUC's cost-effectiveness analysis of the efficiency portfolio. Doing so would essentially limit the scope of the efficiency efforts to actions customers are already taking. One of the very purposes of the efficiency programs is to overcome the market barrier that arises from consumers' use of high discount rates in investment decisions, and the gap between those high rates on the demand side and the lower rates used in utility and private supply-side investments in power plants and other infrastructure. Moreover, as noted above, the CPUC's cost-effectiveness analysis of efficiency opportunities should take the perspective of society and utility customers as a whole, and use discount rates that are appropriate in the context of resource investment decisions that last many decades.

IV. Updates (Section 3.4 in the Ruling)

A. The Commission should set up a schedule to periodically assess whether updated data is available for assumptions; however the approach to cost-effectiveness should remain consistent. (Q 21-22)

NRDC recommends that the Commission regularly update the input assumptions used in

the cost-effectiveness tests that are likely to change over time (e.g., natural gas costs, GHG costs, etc.) Regularly updating the data will ensure the Commission has the most up-to-date avoided cost inputs, which is critical for accurate resource planning. These check-ups should occur at regular intervals (e.g., every three years) or be aligned with other regulatory schedules (e.g., the long-term procurement proceeding-LTPP). The process should be initiated through a ruling that highlights the potential areas needing updates with a proposal from Energy Division. Parties would then comment on the proposal and have the opportunity to discuss the proposal if needed through workshops (or working groups if the updates are not straightforward and require additional deliberation). Since many of the updates (e.g., natural gas prices, etc) were established in a decision, the Commission would ultimately need a decision to make modifications.

While we see value in periodically reviewing variable inputs, we urge staff to take sufficient time (as it is currently doing) to determine the best approach and establish key inputs that will remain consistent over a longer time frame (e.g., discount rate). While it is reasonable to check in on all assumptions periodically to ensure that the tests and assumptions remain in line with Commission direction, these inputs should not be subject to modification as often as those inputs that change as markets change.

V. Consistency Across Demand-Side Proceedings (Section 3.5 in the Ruling)

A. There should be one framework for cost-effectiveness, but each demand side management (DSM) approach requires unique inputs. (Q23)

NRDC recommends that the Commission ensure there is one consistent framework across all demand-side management cost-effectiveness methodologies (i.e., the cost tests for all DSM options should include avoided cost inputs, a discount rate, etc.). However, as parties and staff expressed at various workshops, the inputs needed to properly assess the resources might be different (e.g., the inputs for the avoided costs for demand response or renewables might be different than efficiency).

B. The Commission should continue to address cost-effectiveness in each DSM proceeding and establish a process to update inputs that are consistent across all DSM options. (Q24)

NRDC recognizes that there are various inputs that will periodically need updating across all DSM proceedings (e.g., GHG, natural gas prices, etc.). NRDC's preference is to continue addressing cost-effectiveness within the respective DSM proceeding (i.e., updates to efficiency-specific inputs should occur in the general efficiency proceeding). However, we recommend that

the Commission establish a regularly scheduled cross-proceeding meeting to address any matters that apply to all DSM options (perhaps aligned with updating inputs as described above). If there is a need for modifications that apply across proceedings, the ALJs in each proceeding could issue a joint ruling to solicit comment and/or present a proposal. Modifications could then be approved through one decision that applies to all proceedings.

Alternatively, the Commission could open one cross-DSM proceeding that addresses only those items that are consistent across offerings. However, NRDC strongly recommends that if the Commission chooses to do so, that proceeding must have a very clear scope to ensure that is not duplicative of other efforts being pursued in concurrent proceedings.

VI. Standard Practice Manual Tests (Section 3.6 in the Ruling)

A. The Commission should ensure that the full benefits of efficiency are accounted for in the TRC test, and use both the PAC and the TRC tests to determine the cost-effectiveness of efficiency investments. (Q25, Q28, Q30, Q34-36)

NRDC understands the inclination to move to the PAC to determine the cost-effectiveness of energy efficiency investments, given the current problems in applying the TRC that under-value efficiency. That may be an option for the near-term while the CPUC works on improving use of the TRC test to properly value efficiency. However, we strongly recommend that the Commission, stakeholders, and experts attempt to align the inputs for the TRC so that it can be properly applied, before giving up on the TRC and using only the PAC.

The Commission should prioritize improving the application of the TRC

Many parties and experts note that the TRC test is a *theoretically* appropriate cost-effectiveness test to apply to efficiency programs since it takes the perspective of all utility customers. However, the current *application* of TRC test is not balanced (e.g., free riders are calculated but not spillover and all costs are included but not all benefits)⁸ and does not ultimately lead to Commission action that ensures the least cost energy resource for customers.⁹ Rather, this imbalance results in under-valuing efficiency, which directly leads to regulatory decisions that favor the dirtier and more costly resources.¹⁰

To ensure the Commission is accurately assessing the value of proposed efficiency

⁸ Synapse Report p.15 and Section 4.1

⁹ Eckman, T. "Some Thoughts on Treating Energy Efficiency as a Resource," Electricity Policy.com, May 2011.

¹⁰ Marty Kushler and Chris Neme "Is It Time to Ditch the TRC?" ACEEE 2010 Summer Study on Energy Efficiency in Buildings

<http://neep.org/uploads/EMV%20Forum/Steering%20Committee%20Notes/CNeme_ACEEE_Paper_for_SC%20Notes.pdf>

projects, we recommend that the Commission use the expertise across the country to tease out the two options presented in the Ruling when developing a proposal.¹¹ As discussed in more detail below, both options are plausible but they each result in unique challenges. Regardless, the main goal of the Commission during this exercise should be to ensure the TRC is well balanced and properly applied.

Consider including a NEB adder to address the imbalance of the TRC costs and benefits

As discussed at the September 2012 workshop, it might be somewhat more feasible to determine the specific non-energy costs and omit those from the TRC calculation than it would be to quantify the qualitative non-energy benefits. However, if the Commission decides to pursue the “energy only” approach, there will be a need for additional studies to tease out the non-energy costs for the various programs to determine the appropriate costs that should be eliminated.¹² While this should be somewhat straightforward for those products that have comparable models where the added cost of the efficiency improvement is the only difference in cost between models, there are a number of products and strategies where such a comparison is not readily available.¹³ In addition, this will be extremely challenging (if not impossible) to do for new or innovative projects, which could potentially deter the design and pursuit of such programs.

The other option is for the Commission to include the non-energy benefits associated with the projects. NRDC prefers this approach since it more accurately represents the full value of the programs, including the NEBs that are relevant to utility customers (such as comfort, property value, reduced water use, etc.).¹⁴ This approach also allows for the full consideration of all factors in decision making. The TRC takes the perspective of the utility customers therefore the benefits to all customers (including benefits that only apply to customers participating in the programs) should be accounted for. Including such benefits in the TRC will not automatically result in higher incentive payments for participating customers - as was voiced as a concern at the September 2012 workshop - but rather would better value investment in such programs, which would further advance the goals of the Commission.

Since California would have to invest substantial research time and money to determine a

¹¹ We suggest that the CPUC consult with experts across the country, including the Northwest Regional Technical Forum, the Consortium for Energy Efficiency, and ACEEE as the Commission develops a proposal.

¹² Marty Kushler and Chris Neme “Is It Time to Ditch the TRC?” ACEEE 2010 Summer Study on Energy Efficiency in Buildings

<http://neep.org/uploads/EMV%20Forum/Steering%20Committee%20Notes/CNeme_ACEEE_Paper_for_SC%20Notes.pdf

¹³ Most notably with upgrade programs that include windows, insulation, and other building shell improvements.

¹⁴ Synapse Report, p.33

numerical input for NEBs to include in the TRC, NRDC recommends that the Commission instead look to other states for methods to address this issue. States across the country have addressed this issue by calculating quantifiable NEBs (e.g., water savings) and/or by including a simple adder to account for NEBs. An adder would be preferable to the CPUC's current exclusion of all NEBs, since the value of these NEBs is not zero, but the resources to quantify non-quantifiable NEBs (e.g., comfort) could be too great.¹⁵

Continue using both the PAC and TRC tests to assess efficiency programs

NRDC further supports continuing to use both the PAC and TRC since these two tests tell the Commission, administrators, and stakeholders very different information about the portfolio of efficiency programs being proposed. The PAC is concerned with utility resource investments, while the TRC provides an assessment of the full cost of the programs on all utility customers. Therefore, it is critical that the Commission continue to use both tests to ensure important information is not overlooked.

Invite experts to discuss options prior to presenting a proposal

We understand the challenges associated with updating the TRC are great and suggest that related questions and options presented in the Ruling be discussed in a targeted working group prior to developing a proposal for updating the current methodology.¹⁶ As noted above, NRDC recommends the Commission invite experts from across the country to *fix* the use of the TRC. A working group that is tasked with deliberating and resolving key issues with applying the TRC to efficiency programs would be an effective way of developing a proposal for party consideration. Other options, such as applying different tests for different types of programs or modifying the primary cost-effectiveness test should be explored only if the CPUC determines that it will be unable to fix the use of the TRC.

B. Net-to-gross and non-energy benefits should be determined through different processes and one does not inform the other. (Q26)

Question 26 in the Ruling states: "Currently, in energy efficiency cost-effectiveness calculations, the effect of NEBs is intended to be minimized by applying the net-to-gross ratio to the participant costs." As discussed at the September 2012 workshop, identifying NEBs is not an accurate assessment of whether or not a participant would have acted without the utility

¹⁵ E.g., Maine and NYSERDA include quantifiable NEBs. States like Colorado, Iowa, the Northwest, Pennsylvania, and Washington use an "adder."

¹⁶ For example Q30, Q34-Q36.

intervention. In addition, results from net-to-gross studies should not be used to determine the value of non-energy benefits to customers. Not only are these topics extremely different, but survey questions and evaluation techniques would need to be designed specifically to address the question at hand.

To determine the net-to-gross (NTG) ratio, surveys should be designed to determine *whether or not* the participant would have acted without the incentive. If the incentive was in fact the tipping point to get the customer to take action, the number of or weighting of the other motivations behind the action are irrelevant. On the other hand, determining the NEBs should focus surveys and evaluations on figuring out what value efficiency programs bring to customers in addition to energy savings (not motivation per se). These are two extremely different questions and must be addressed individually.

C. The economy-wide rebound effect should not be included in the cost-effectiveness methodology and the Commission should pursue higher priority modifications before focusing on measure or customer specific rebound effect. (Q31)

At the September 2012 workshop, the question was raised whether or not there needed to be a method to address the rebound effect in the updated cost-effectiveness calculations. As we previously commented, the economy-wide rebound effect has been shown to be minimal in the worst case scenario and result in greater savings than expected in the best case scenario.¹⁷ Therefore, the Commission should not include the economy-wide in the cost-effectiveness methodology.

Furthermore, while the measure, program, and customer segment specific rebound effect may be great than zero for particular applications and customer segments, the current studies do not present sufficient analysis upon which to include a value in the cost-effectiveness methodology. Including rebound would undoubtedly require substantial resources to determine what value to use, which will detract attention from focusing on priority cost-effectiveness improvements (e.g., more accurately valuing the benefits of efficiency).

If the Commission decides to pursue the inclusion of measure level or customer segment rebound effects in the cost-effectiveness methodology, we urge the Commission to do so with caution. Providing more energy services to customers is not necessarily a negative thing and in particular, doing so is a key part of some programs (such as with low income customers). If the

¹⁷ NRDC “Reply comments of NRDC on ALJ Ruling on Updates and Adjustments to EE Avoided Cost Inputs and Methodology,” November 7, 2011. p.5. See also: http://switchboard.nrdc.org/blogs/smartinez/breaking_the_link_between_ener.html

Commission continues to pursue this topic, we urge that the implications of doing so be carefully considered so that key desired programs are not inadvertently undermined. We therefore urge the Commission to address the key priority issues first (i.e., ensuring proper application of the TRC and including all benefits of efficiency), before spending resources to address possible rebound effects.

D. The Ratepayer Impact Measure (RIM) test is not useful to determine investments in energy efficiency programs. (Q33)

The RIM test is specifically used to assess whether non-participating customers are made worse off from other customers' efficiency investments. However, it takes an extremely narrow perspective of assessing the impact on *rates* only. As the Commission and stakeholders are well aware, customers pay bills, not rates, and the CPUC should be focused solely on providing the most efficient and affordable energy services, not on providing the lowest rates.

Furthermore, by focusing only on short-term rate impacts, the RIM test eliminates many highly cost-effective efficiency measures that, if adopted, will reduce customers' energy bills, lower overall energy costs, and, by avoiding the cost of new generation, may also reduce rates over the long term. Furthermore, this perspective also ignores related benefits that these programs provide to the non-participants and society as a whole. Both our economy and environment are better off when total energy bills and total energy sales are reduced through energy efficiency.

We appreciate and support protecting customers from undue costs. However, there are more effective ways of doing so than using the RIM test, which has the unfortunate potential to significantly constrain investments in energy efficiency. This not only leaves significant cost-effective opportunities untapped, but it also results in substantially fewer energy saving opportunities for customers, to ensure rates (not bills) are unaffected. Therefore, the Commission should not use RIM to determine the cost-effectiveness of programs or to determine what level of investment should be authorized.

VII. Conclusion

NRDC appreciates the opportunity to offer these comments. We recognize the hard work of staff and urge the Commission to invite experts to address these issues to support staff's efforts. By promoting the working group model described above, the state can start to incorporate collaborative means to resolve as many issues as possible when developing a proposal, which can be further refined through formal comments. We look forward to working with the Commission, staff, and stakeholders to figure out the best approach to assessing the cost-effectiveness of energy

efficiency programs.

Dated: October 1, 2012

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Lara Ettenson", with a long horizontal flourish extending to the right.

Lara Ettenson
Director, California Energy Efficiency Policy