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 (November 20, 2009)

POST-WORKSHOP REPLY COMMENTS OF THE NATIONAL HOME PERFORMANCE COUNCIL ON DEMAND-SIDE COST-EFFECTIVENESS ISSUES

October 25, 2012

Kara Saul Rinaldi
Executive Director
National Home Performance Council
1620 Eye Street NW
Washington, DC 20006
Telephone: 202-276-1773
Facsimile: 202-747-7725
Email: kara.saul-rinaldi@nhpci.org

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 (November 20, 2009)

POST-WORKSHOP REPLY COMMENTS OF THE NATIONAL HOME PERFORMANCE COUNCIL ON DEMAND-SIDE COST-EFFECTIVENESS ISSUES

The National Home Performance Council (NHPC) respectfully submits these Post-Workshop Reply Comments on Demand-Side Cost-Effectiveness Issues in this rulemaking. These Reply Comments are timely filed and served pursuant to the Commission's Rules of Practice and Procedure, the Administrative Law Judge's (ALJ's) Ruling issued on August 14, 2012 (August 14 ALJ's Ruling), and the ALJ's Ruling sent by electronic mail to the service list on October 4, 2012, extending the due date for Reply Comments to October 25, 2012. To facilitate this filing, NHPC has also this same day filed a Motion for Party Status in R.09-11-014.

I. INTRODUCTION

The National Home Performance Council (NHPC) is a national, non-profit, 501c3 organization that works with federal and state government agencies, utilities, contractors, manufacturers, energy efficiency advocates and others on efforts to advance residential energy efficiency. NHPC has researched and analyzed the best practices for design and application of cost-effectiveness tests.

To that end, NHPC released a report during the National Association of Regulatory Commissioners (NARUC) at its July 2012 meeting entitled *Best Practices in Energy Efficiency Program Screening: How to Ensure that the Value of Energy Efficiency is Properly Accounted For* ("Best Practices Report"). This report was authored by Synapse Energy Economics and

identifies the best practices available for screening energy efficiency resources in order to capture and assess the full value of those resources.[1]

The Best Practices Report has been referenced in the Post-Workshop Opening Comments of multiple parties, including the Natural Resources Defense Council (NRDC) and the Division of Ratepayer Advocates (DRA). In these Reply Comments, NHPC responds to positions taken by these and other parties relative to best practices and the Best Practices Report.

II.
NHPC POSITION IN REPLY TO OPENING COMMENTS OF OTHER PARTIES

A. The Opening Comments of Multiple Parties Focus on "Best Practices."

In their October 1 Post-Workshop Opening Comments, NRDC, Pacific Gas and Electric Company (PG&E), and the California Energy Efficiency Industry Council (CEEIC) all stated their support for the use of some "best practices" to ensure that policymakers and consumers understand and take into consideration the full range of benefits provided by home performance and energy efficiency programs when determining their cost-effectiveness.[2] NHPC strongly agrees and supports the need for a suite of best practices and supports their comments encouraging their use.

California has been a leader in encouraging improved consumer energy efficiency, and the California Standard Practice Manual (CSPM) released by this Commission and the California Energy Commission (CEC) is the primary reference point for all states advancing utility cost-effectiveness tests. Unfortunately, the tests outlined by the CSPM are not consistently implemented, and these inconsistencies frequently prevent a balanced evaluation of the program or portfolio under consideration. The CSPM provides five different tests that represent five

[1]The "Best Practices Report" can be found at: http://www.nhpci.org/images/NHPC_Synapse-EE-Screening_final.pdf

[2] NRDC Post-Workshop Opening Comments, at pp. 2-12; PG&E Post-Workshop Opening Comments, at pp. 3-30; CEEIC Post-Workshop Opening Comments, at pp. 6-8.

different perspectives; the most widely used is the Total Resource Cost Test (TRC). The TRC aims to account for the costs and benefits of a demand-side program from the perspective of the participant, the utility, and society.

Yet, because the costs are easier to measure since they are tangible, they are often more complete than the benefits, which are often intangible and hard to quantify. This imbalance has led to strong energy efficiency programs not scoring well on the test. This is a problem with national implications, because states look to the CSPM as they attempt to review and revise their procedures. This issue is particularly urgent right now as many energy efficiency and home performance programs that began with funding from that American Recover and Reinvestment Act (ARRA) are hoping to make the next step forward as ratepayer funded programs. However, despite their successes, these programs cannot pass a cost-effectiveness test if their benefits are not fully accounted for.

The Total Resource Cost (TRC) is the most widely used test and, because it is usually not being applied properly, it is failing high-quality, highly regarded programs. Not only are non-energy benefits not included in many tests, but the entire cost to homeowner is included as an energy efficiency program cost (even if part of the cost would have been incurred even if the energy efficiency program never existed, such as with a furnace replacement for example). If a program or, in the case of California, a portfolio fails the test, a public utilities commission may decide not to fund the energy efficiency programs.

One of the primary considerations in the screening of energy efficiency programs is to ensure that the programs will reduce energy costs to consumers. Energy bill reductions can come from reduced rates or from reduced demand. Residential energy efficiency programs reduce demand while also advancing additional public policy goals such as addressing air

quality, climate change, national security and job creation. Furthermore, these programs reduce costs to the utilities in the system operation. The policy goals are benefits, as are the avoided costs and bill reductions – but not all of these benefits are included in the test making the tests inconsistent with their value to the commission, the utility and the consumers. Ideally, the test includes all the benefits as well as all the costs, including the goals of the initiatives.

The term "cost-effective" provides the image of a good deal. However, it is impossible to know the worth of a deal with incomplete information on the costs and benefits. Home performance programs are a prime example of energy efficiency market transformation programs where the many benefits are not all easily calculated. Builders and contractors frequently note that "comfort" and "indoor air quality" are among the top reasons for homeowners to choose energy efficient designs and retrofits. Policymakers often note the benefits of "environmental protection" and "national security" as a reason for advancing energy efficient homes. And utilities see benefit from energy efficiency by avoiding the costs of future "environmental regulation" and "capacity" requirements. Yet, in many circumstances, many if not all of these and other non-energy benefits are missing from the TRC calculation.

In these circumstances, NHPC urges the Commission to consider the Best Practices Report in its efforts to resolve the issues of this proceeding. Further, while this report will inform the Commission, NHPC also recommends that the Commission consider requesting a paper with a similar scope but with a California focus to provide direct guidance on these crucial issues in the California context.

B. On the Issue of Avoided Energy Costs, NHPC Agrees with the Positions Taken by NRDC and DRA in their Post-Workshop Opening Comments.

Energy efficiency programs reduce or eliminate the need for many costs, energy is a clear and easily measurable one. As NRDC notes in its comments, energy efficiency is and should be

considered as a replacement for conventional generation.[3] When energy efficiency is displacing supply-side resources, it is saving the utility direct cost for energy procurement. Importantly, energy efficiency programs like those that advance home performance retrofits provide permanent base-load reductions that avoid long-term generation and infrastructure needs. NHPC supports the DRA's position that the Commission should "strive to estimate the costs avoided by demand-side programs as accurately and as consistently with actual supply-side costs as possible."[4] As noted, accuracy and transparency are crucial to understanding the true avoided costs.

C. NHPC Supports PG&E's Response on Avoided Capacity Costs.

Across the country, utilities have built power plants to meet anticipated generation needs, building to peak. As demand increases, utilities have the option to meet their rising capacity needs either through the construction of new power plants or through increased development of energy efficiency. The avoided costs of building new power plants should be included in the cost effectiveness test for energy efficiency programs and measure.

For these reasons, NHPC supports PG&E's response to Question 1 on avoided capacity costs as follows:

> "[The] value of generation capacity in any given year is related to prevailing market conditions and is reflected in the forward curve for generation capacity. This forward curve should be used to estimate avoided generation capacity costs and should be applied across all the demand-side resources in any given year."[5]

As a kilowatt saved is the same as a kilowatt created in terms of meeting capacity, energy efficiency deserves equivalent market benefits in any cost-estimate. Thus, NHPC recommends

[3] NRDC Post-Workshop Opening Comments, at p. 2.
[4] DRA Post-Workshop Opening Comments, at p. 8.
[5] PG&E Post-Workshop Opening Comments, at p. 3

that the Commission indeed replace anticipated generation needed with energy efficiency and that tests reflect this beneficial resource shift.

D. NHPC Agrees with NRDC's Conclusion on Avoided Compliance Costs.

Energy efficiency reduces numerous environmental pollutants as a result of the reduction in fossil fuel use for energy generation. Many of these pollutants are regulated by the EPA, the state, or under consideration for regulation. The Federal Clean Air Act, Clean Water Act, and Resource Conservation and Recovery Act apply regulations that will affect utilities, as will California's AB32. Nationally, the costs of compliance with regulations that are scheduled to come into effect in the coming years are typically not incorporated into avoided costs. Measures to meet compliance or the penalties for falling out of compliance may instead result in future rate increases. It is important for California to incorporate and account for all costs anticipated in the future in the TRC. These costs and risks for costs are avoided with the advancement of energy efficiency and reduced production and combustion. These benefits should also be included in cost benefits analysis.

Section 3.1.5 of the August 14 ALJ's Ruling asks: "After 2013, will there still be a need for an additional GHG avoided cost adder beyond the California carbon allowance price?"[6] In response, NRDC concludes in its comments that an adder will still be needed going forward.[7] NHPC agrees.

However, NHPC disagrees with TURN that the adder will not be needed.[8] NHPC believes that such an approach will be required if the future costs of GHG emissions are modeled and not observed. Further, there may be the need to adjust through the "adder" if the forward energy prices do not include the carbon allowance costs.

[6] August 14 ALJ's Ruling, at p. 6.
[7] NRDC Post-Workshop Opening Comments, at p. 4.
[8] TURN Post-Workshop Opening Comments, at p. 9.

E. TURN's Conclusion on Avoided T&D Costs Is Incorrect.

As the Best Practices Report notes, and many of the parties have referenced in their Opening Comments, generating facilities are often located far from their customers and require costly transmission and distribution systems to move power to their customers. Energy losses are common and occur at each transition of energy, from transmission system, to lines, to substations, to transformers to distribution lines. By reducing the load through demand-side measures, energy efficiency avoids these line losses.

NHPC disagrees with TURN's position in its Opening Comments that these costs are not avoided by energy efficiency. NHPC maintains that avoided energy loss and the cost associated from them should be incorporated in the benefits of energy efficiency in a cost-effectiveness test.

F. NHPC Generally Supports NRDC's Approach on Discount Rates.

NHPC supports NRDC's general arguments that the appropriate discount rates for the TRC should reflect the considerations of risk and the time value of money.[9] Both considerations suggest that the appropriate discount rate should be lower than the WACC. Development of energy efficiency involves significantly less risk than other supply-side resources, and thus the cost of the resources necessary to develop the demand-side resource should be correspondingly lower. Further, the fact that the TRC looks at the global perspective of all ratepayers, rather than the utility, suggests that the Commission should consider use of a "societal" rate, such as Treasury Bond rates, as recommended in the comments of the California Energy Efficiency Industry Council. NHPC, however, disagrees with TURN that the appropriate discount rate is the full utility cost of capital.[10]

[9] NRDC Post-Workshop Opening Comments, at p. 7.
[10] TURN Post-Workshop Opening Comments, at p.13.

G. NRDC's Position on the Appropriate Cost-Effectiveness Test(s) Is Generally Acceptable, with Certain Conditions.

While NHPC generally agrees with the position taken by NRDC on cost-effectiveness tests, NHPC disagrees with NRDC and other respondents that the TRC is the *most* appropriate test. Because the Societal Cost Test provides the broadest and most encompassing evaluation of a portfolio or program, NHPC's position is that it is, in theory, the most appropriate test for evaluating the costs and benefits of an energy efficiency portfolio. Of course, evaluations inevitably involve policy as well as strictly economic considerations.

However, NHPC agrees with the general principle, stated by NRDC and other parties, that the very similar TRC test is also a theoretically appropriate cost-effectiveness test, in that it seeks to address the broad question of whether the cost of producing the demand-side resource through a given program is less than the lowest-cost alternative, or, in other words, whether the portfolio results in a net benefit to the utility and ratepayers considered together.[11] However, as NRDC observes, as a result of the challenges involved in quantifying many of the costs and benefits, in practice the TRC is difficult to implement accurately. Because many of the most significant benefits are more difficult to issue than the costs, California's implementation of the TRC is systematically skewed, in that it costs are incorporated to a greater degree than benefits.

NHPC supports NRDC's recommendation that the Commission address this problem by developing methodologies to "balance" the TRC. NRDC's primary proposal for achieving this balance is inclusion of consideration of non-energy benefits, or NEBs either through quantification of the additional non-energy-related benefits that a participant enjoys, or by removal of the proportion of the total participant cost attributable to non-energy benefits.[12]

[11] NRDC Post-Workshop Opening Comments, at pp. 9-10.
[12] NRDC Post-Workshop Opening Comments, at pp.10-11.

NHPC supports this approach, with the important qualification that the concept of non-energy benefits should be expanded to include all costs and benefits generated by the program in addition to savings in the energy provided by the utility. These costs and benefits, which can be grouped together by the term "other program impacts," include a) a broad range of benefits to participants, the utility, and ratepayers as a whole; b) non-energy-related *costs*, such as the cost of training personnel to use energy efficient equipment; and c) savings in all fuels, including bulk fuels and fuels not provided by the sponsor utility. CEEIC's Opening Comments provide a useful list of many of the most significant other program impacts.[13]

NHPC agrees in principle with NDRC's position that both the PAC and TRC (or SCT) tests should be used to evaluate demand-side programs, on the grounds that each provides a different and important perspective on the program.[14] However, NHPC's position is that if the TRC cannot be implemented in a way fully consistent with its underlying principles, that is, if it cannot be implemented in a way that provides a full comparison of all relevant costs and benefits, then the results will be skewed and, as a consequence, misleading. *Accordingly, if all relevant costs and benefits cannot be incorporated into the TRC test, NHPC recommends use of the PAC test as the primary test.* The PAC has the virtue of being relatively simple and inexpensive to administer, at least in comparison with the TRC, and addresses the significant question of the relative cost of energy resources from the utility perspective.

In the long run, NHPC's position is that demand- and supply side resources should be considered on an equal basis, and utility decisions regarding use of one resource as opposed to another should be driven by which resource enables the utility to meet its energy and capacity

[13] CEEIC Post-Workshop Opening Comments, at pp. 6-7.
[14] NRDC Post-Workshop Opening Comments, at p.11.

needs at the lowest cost. The TRC and other cost-effectiveness tests are applied only to supply-side resources, effectively constituting a barrier that no other resource has to clear.

Accordingly, NHPC recommends elimination of the tests over the long run in favor of treatment of energy efficiency and other demand-side programs as fully comparable to other resources. Further, because these issues are complex, NHPC strongly endorses NRDC's recommendation that a working group of experts be convened to review and propose recommendations for improving current cost-effectiveness test screening methodologies.

H. NHPC Shares the Positions Taken by NRDC on Net-to-Gross Ratio and Spillover, Rebound Effect, and Ratepayer Impact Measure.

NHPC agrees strongly with NRDC's position that the current assumption that NEBs can be addressed through an application of a net-to-gross ratio is a misleading conflation of two different issues.[15] The net-to-gross calculation should be focused to determine the extent of free ridership in the program, while NEBs quantify benefits in addition to energy savings. Typically, a large proportion of program participants are not free riders, and many or most of these non-free riders may enjoy a range of significant non-energy benefits. While recognizing that the issue of spillover is being addressed in a separate proceeding, it is important to make the general point that, in keeping with the principle that the TRC should be applied consistently, spillover should be quantified and included in the TRC. NHPC, therefore, agrees with this point, as made in PG&E's Post-Workshop Opening Comments.[16]

NHPC also strongly supports the recommendation advanced by NRDC regarding the rebound effect. Specifically, the economy-wide rebound effect should not be included in the

[15] NRDC Post-Workshop Opening Comments, at pp. 11-12.
[16] PG&E Post-Workshop Opening Comments, at p. 27.

cost-effectiveness methodology and the Commission should focus first on higher priority adjustments to the cost-effectiveness test process in California.[17]

Finally, NHPC agrees with NRDC's position that the Ratepayer Impact Measure (RIM) test is not an effective test for screening purposes because it does not take into account long-term rate impacts, and thereby fails to account for demand-side programs' potential to reduce rates over the long term.[18] An additional, related problem with the RIM is that it provides little or no indication as to whether a rate impact would be negligible or significant. In recognition of the significant of NRDC's observation that customers are concerned with bills, not rates, NHPC recommends further research on the actual rate and bill impacts of demand-side program.

As PG&E notes in its Post-Workshop Opening Comments, the RIM test may be useful for consideration of programs in which there is a "a societally significant difference between participants and nonparticipants (such as income) that could lead to a perception of unfairness."[19] A specific example might involve a program accessed primarily by high-income households. NHPC believes that it is important to address such issues to the extent they arise, but recommends that detailed studies of specific programmatic rate and bill impacts would provide a much better analytical understanding of the problems and potential solutions involved in such instances than would the methodologically flawed RIM test.

III.
CONCLUSION

NHPC greatly appreciates the opportunity to submit these comments to the Commission. NHPC has been working for nearly two years with stakeholders from across the country to

[17] NRDC Post-Workshop Opening Comments, at pp.12.
[18] NRDC Post-Workshop Opening Comments, at p.13.
[19] PG&E Post-Workshop Opening Comments, at p.28

address the growing challenges that conventional forms of cost-effectiveness tests are creating for energy efficiency—including but by no means limited to home performance programs.

NHPC applauds the work of the Commission, the staff, and the stakeholders for undertaking this detailed process. California has been a leader in energy efficiency and the originator of the cost-effectiveness tests. NHPC looks forward to working with the Commission, the staff and the stakeholders to arrive at fair and balanced testing that allows for all costs and benefits of energy efficiency programs to be incorporated in program and portfolio planning.

Respectfully submitted,

October 25, 2012

/s/ KARA SAUL RINALDI
Kara Saul Rinaldi

Kara Saul Rinaldi
Executive Director
National Home Performance Council
1620 Eye Street NW
Washington, DC 20006
Telephone: 202-276-1773
Facsimile: 202-747-7725
Email: kara.saul-rinaldi@nhpci.org