BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Examine the Commission's Energy Efficiency Risk/Reward Incentive Mechanism	R.09-01-019 (Filed January 29, 2009)

REPLY COMMENTS OF THE UTILITY REFORM NETWORK ON PROPOSED SCENARIOS AND ASSUMPTIONS FOR CALCULATING 2006-2008 ENERGY EFFICIENCY PROGRAM RESULTS

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1 Procedural Background and Summary

The procedural history leading up to these comments is somewhat more convoluted, and more relevant, than is typically the case.

The Commission established a process for the true-up of shareholder incentives under the Risk/Reward Incentive Mechanism ("RRIM") first authorized in D.07-09-043. The Commission authorized parties to submit comments on the Energy Division's final 2006-2008 Draft Evaluation Report[1] on May 17th and reply comments on June 1st.[2] The three IOUs submitted (but did not file) comments on the Evaluation Report to the Energy Division on May 17th, consisting of over a hundred pages of detailed criticisms, as well as attachments including the previous comments provided to Energy Division on the original impact evaluation studies released in November and December 2009.

On April 8, 2010 the Assigned Commissioner issued a Ruling detailing the true-up process. In this Ruling, Commissioner Bohn directed Energy Division to issue a separate "Scenario Analysis Report" which would show potential utility earnings calculated using a number of different scenarios in the Evaluation Reporting Tool ("ERT").[3] The ACR requested comments on April 20, 2010 concerning the

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[1] Hereinafter referred to as the "Evaluation Report."
[2] D.09-12-045, Appendix B.
[3] The nine scenarios primarily reflected the difference between using *ex ante* parameters, using evaluated *ex post* parameters, or using evaluated *ex post* parameters for metrics aside from NTGR (i.e. installation rates, expected useful life, unit energy savings).

appropriateness of the scenarios and any additional potential scenarios. The utilities used this opportunity primarily to argue against using verified and updated ("evaluated") values for net-to-gross ratios ("NTGR") and other parameters used to calculate the energy and demand savings from different programs and measures.[4] TURN recommended incorporating three additional scenarios to address cost inflation and historical interim incentive payments.

On May 4, 2010 the Assigned Commission issued another Ruling which included the Energy Division's Scenario Analysis Report and requested parties to comment on the merits of the various scenarios and the validity of the underlying assumptions. Pursuant to this schedule, the utilities filed comments on May 18th which largely mimicked their previously filed April 20th comments.[5]

However, the utilities attached to the May 18th comments on the Scenario Analysis Report their comments on the 2006-2008 Evaluation Report (submitted to Energy Division on May 17th). The utilities used their criticisms of the ERT as a pretext to attach their voluminous attack on the 2006-2008 Evaluation Report so as to get it into the official "record" of this proceeding.

On May 21, 2010 the ALJ issued a Ruling providing parties an opportunity to reply to the comments submitted on May 18. TURN cannot here respond to all of the detailed arguments concerning the Evaluation Report which the utilities appended to their

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[4] The four IOUs jointly filed comments on April 20, 2010.
[5] PG&E and SCE filed jointly on May 18, 2010, and SDG&E and SoCalGas jointly filed. However, the utility arguments are almost identical. Thus, TURN collectively refers to the "utilities" in discussing their arguments.

comments on the Scenario Analysis Report. We thus respond only generally to the utility arguments, and explain how most of the claimed problems and errors have already been vetted through the stakeholder review process used by Energy Division to solicit input over the past two years. The Commission should only consider the utilities' comments in the context of the various submissions and responses publicly available on the "energydataweb" website. The Commission should rely closely on its own staff for information concerning the accuracy of the utility claims.

TURN continues to recommend that the Commission use the evaluated numbers (Scenario 7) as the basis of the earnings true-up. In the following sections we discuss in detail why the *ex ante* numbers – especially the default 0.80 NTGR for lighting – are based on old studies that have much less reliability or validity than the 2006-2008 evaluation studies. We also summarize the stakeholder review process that resulted in the release of the Draft 2006-2008 Evaluation Report. Most fundamentally, the Commission can ensure the integrity of California's energy efficiency programs only by firmly supporting the independent measurement and evaluation process that it established to separate program management and program evaluation.

2 The Biggest Issue in this True-Up Is That the Utilities Should Never Have Relied on the 0.80 Default NTGR Value, Adopted in 2000, for the Upstream Lighting Program

The utilities concerted attack on the Draft Evaluation Report and the various evaluation studies is designed to mask the underlying reality that utility performance in 2006-2008 was substantially poorer than claimed. One of the primary reasons for the

poor performance was the utility focus on promoting the sale of compact fluorescent light bulbs (CFLs).

The utilities take pride in collectively rebating over 95 million CLFs during 2006-2008 through the upstream lighting program. These bulbs account for about 56% of utility energy savings from all energy efficiency activities. The vast majority of CFLs (over 90%) were for the residential market.

Unfortunately, the evaluation studies for the 2006-2008 programs indicate that the California "market" for CFLs, especially through big box outlets, had already been so changed that about half of those CFL bulbs would have been bought by customers anyway, even without the upstream rebates to manufacturers.

The utilities now take the position that the NTGR numbers from the 2006-2008 evaluation studies are "unreliable" and that the Commission should instead use "utility-reported *ex ante* NTG values." NRDC likewise recommends that the Commission use *ex ante* NTG ratios because "estimates of net-to-gross (NTG) ratios are inherently subjective and difficult to substantiate."[6] NRDC also suggests taking a close look at the final upstream evaluation report. To their credit, however, NRDC cautions that their recommendation "should not be taken as evidence that we believe that the ex ante estimates are accurate."[7]

TURN agrees with much of what the NRDC stated concerning the difficulties in measuring NTGR. However, we cannot understand why NRDC would prefer that the

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[6] NRDC, April 20, 2010, p. 2.
[7] NRDC, April 20, 2010, p. 4.

Commission rely on the *ex ante* NTGR numbers, given that the new numbers are a more accurate description of reality. Despite the hundreds of pages attacking the NTGR calculations, it is telling that neither the utilities nor NRDC make any mention of the methodologies used to calculate the *ex ante* NTGR numbers. One wonders why the utilities did not demonstrate how the old methodologies were superior and more accurate.

PG&E and SDG&E used 0.80 as the *ex ante* net-to-gross ratio for the upstream lighting program. SCE updated its NTGR to a slightly lower value of 0.75. As the Commission explained in D.05-09-043, the 0.80 net-to-gross ratio was the default value authorized in the Energy Efficiency Policy Manual.[8] The first version of the Energy Efficiency Policy Manual, adopted in November 2001, stated:

> Program proposals should use the applicable NTGRs listed below. If a program is not listed below, or if a proposed program design deviates substantially from past design of related programs, program proposals may utilize a default NTGR of 0.8 until such time as a new, more appropriate, value is determined in the course of program evaluation. All existing programs not listed below shall also use a default value of 0.8.[9]

This language was repeated in the 2003 Version 2 of the Energy Efficiency Policy Manual. But Version 3 of the Energy efficiency Policy Manual, applicable to post-2005 programs, indicated that NTGRs should come from the DEER, and the Commission established a process for updating the DEER as part of the EM&V process.[10] The

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[8] See, D.05-09-043, *mimeo.* at 53-54, citing to 0.80 as the default value authorized in the Energy Efficiency Policy Manual.
[9] D.01-11-066, *mimeo.* Attachment 1, p. 22-23 (Energy Efficiency Policy Manual, version 1).
[10] See, D.05-04-051, *mimeo.* Attachment 3, p. 9-10. Also citing to the EM&V process established in D.05-01-055.

Commission had not authorized the use of 0.80 as a default value for programs in 2006-2008.

What was the basis of the 0.80 default value for NTGR, used by PG&E and SDG&E for their upstream lighting programs?[11] Was 0.80 based on more accurate studies or analyses? Research into the historical origins of this number provides very interesting information demonstrating that 1) the utilities knew as early as 2000 that 0.80 was likely too high for an upstream rebate program, and 2) the underlying field methodologies used to derive 0.80 were quite similar to the methodologies used in the revealed preference analyses of the final evaluation of the 2006-2008 upstream lighting program.[12]

The 0.80 default value was based on an average of numerous EM&V studies of programs implemented during 1994-1999. The Commission ordered the utilities to develop better NTGR numbers in 2000:

> The Pacific Gas and Electric Company (PG&E), Southern California Edison Company (Edison), San Diego Gas & Electric Company (SDG&E), and the Southern California Gas Company (SoCalGas) shall jointly collect data on freeriders, review field studies and gathered information, including the final XENERGY Study on the nonresidential SPC program scheduled to be completed this year, and jointly with interested stakeholders, after conducting a public process, develop net-to-gross (NTG) ratios to be used for Program Year (PY) 2001 programs. If there is credible evaluative measurement of the NTG ratio for

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[11] SCE adjusted its NTGR *ex ante* value downward to 0.75. See, Upstream Lighting Evaluation Report, p. 225, Table 5 (*revised)*.

[12] KEMA, Inc., Final Evaluation Report: Upstream Lighting Program, February 8, 2010 (hereinafter "Upstream Lighting Evaluation Report"), available on the CALMAC website.

> individual programs, the utilities shall use that data for PY2001. If there is only more generalized data, the utilities shall use a default ratio for PY2001.[13]

In response to this directive, the parties held four days of workshops in September of 2000. The results are detailed in a CALMAC Workshop Report dated September 25, 2000. [14] This report describes the basis for the consensus to use 0.80 as a default value applicable to upstream incentive programs:

> The utilities comprehensively reviewed all relevant impact evaluations covering program years 1994 through 1999 in order to obtain NTGRs by program and end use. Each program element for program year (PY) 2000 was then correlated and mapped into nine program types, based on the information in the applications. To the extent that program elements were similar to one of the nine program types, the historical NTGRs were used. When there was little or no similarity to any of the program types, a default NTGR was used of 0.80. The default NTGR is the average NTGR, weighted by net kWh impacts, across all utilities (except SoCalGas) and across all years (1994 through 1999).[15]

The first conclusion that one can draw from the CALMAC report is that the utilities knew right away that the 0.80 default NTGR was likely too high for an upstream rebate program.

The CALMAC report explains that the default value of 0.80 was applied to a program in 2001 only if that program did not resemble a program conducted in 1994-

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[13] D.00-07-017, Ordering Paragraph #7, pp. 249-250.
[14] CALMAC Public Workshops on PY 2001 Energy Efficiency Programs, September 25, 2000, p. 6. (hereinafter "CALMAC Workshop Report"). This report can be accessed on the CALMAC searchable database as study "SDG0218.01". (Put study ID number in the search text field.) The Report provides complete detail regarding all prior NTGR studies in Appendix C1.
[15] CALMAC Workshop Report, p. 6.

1999. Starting in 1999 and 2000, the Commission and the utilities emphasized market transformation, as opposed to resource acquisition, programs. This transition presented a challenge with respect to using old NTGR numbers:

> The main challenge to using historical NTGRs estimated for information and rebate programs **targeted to individual customers** is that PY2001 programs are designed as **market transformation programs** targeted to a variety of market actors (e.g., manufacturers, distributors, retailers, etc.) in a particular market (e.g., commercial HVAC).[16]

The CALMAC Workshop Report notes that programs conducted in 1994-1999 could be classified as energy management services, rebate or standard performance contract programs. PY 2001 included an "upstream incentives" program. Because this program could not be mapped onto a historical program type, it was assigned the default NTGR of 0.80.

Of the almost one hundred evaluation studies conducted for program years 1994-1999, absolutely **zero** measured the NTGR for an "upstream lighting" program. This is because upstream rebates are the prototypical market transformation program, which attempts to change an entire market rather than influence individual purchasing decisions through an individual rebate.

TURN does not fault the utilities for pursuing an upstream rebate market transformation program for CFLs. For low-cost measures such as CFLs, an upstream rebate program makes more sense than individual rebates. However, such a program will

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[16] CALMAC Workshop Report, September 25, 2000, p. 27 (emphasis added).

almost by definition result in more freeriders, especially if focused on big box retail outlets. [17] The consensus in 2000 was to use the average of all evaluation study results for new programs that did not correspond to historical programs. However, this consensus was based on the explicit knowledge that such an average represented "a reasonable forecast" for the "next generation of DSM programs. There was no indication that parties considered the 0.80 default value as an accurate forecast for upstream incentive programs.

What TURN does fault the utilities for is their continued and willful use of 0.80 as an NTGR, despite the knowledge that it was based on research conducted on individual rebate programs and standard performance contract programs. The utilities were not unaware of this problem, as the explicit language in D.05-09-043 fully explained. TURN also faults the utilities for spending more and more money on upstream lighting rebates, despite the evidence that this program had very high free ridership.

The second main conclusion from the CALMAC study is that the underlying methodologies employed in 1994-1999 were not that different, and certainly no better, than the methodologies used in 2006-2008. The CALMAC Workshop Report identifies the methodologies used in the different evaluation studies.[18] The primary methodology was self-reports, which are essentially customer survey responses.

It is instructive to compare the methods used in the 1994-1999 studies with those utilized by the 2006-2008 Upstream Lighting Program Evaluation impact study. The

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[17] Big box outlets such as Wal-Mart were already increasing the availability and driving down the price of CFLs via their "sell 100 CFLs" campaign in 2007.
[18] Most of the studies relied on the SR (self report) methodology.

Upstream Evaluation Report identifies three primary methodologies used to calculate the NTGR:[19]

- The self-report method (both manufacturer and supplier) which used survey responses. Interviews with shoppers who had just made a lighting purchase are called "revealed preference" self-reports, while random interviews with consumers asking about hypothetical purchasing decisions are called "stated preference" self-reports.
- Four econometric modeling methods which used regression analyses based on retailer shelf surveys and the (revealed preference) self-report survey data.
- A 'market-based' method that used regression modeling with data from 1,034 stores in different parts of the country to evaluate differences in sales between areas with and without CFL programs.

The self-report method used primarily in the 1994-99 studies is the same methodology as the consumer self-report method based on actual purchases (i.e. revealed preference surveys) used in the Upstream Lighting Program. The Upstream Lighting Evaluation Report explains at length how it used the three different methodologies and professional judgment to select one point value for NTGR. The evaluators favored the modeling based on revealed preference surveys.[20] However, the revealed preference

[19] Upstream Lighting Evaluation Report, Sec. 2.3.
[20] Upstream Lighting Evaluation Report, p. 53.

models produce NTGRs significantly below 0.50.[21] Thus, it appears that the evaluators increased the NTGR value by using other data. Only the 'supplier self-report' surveys produced higher NTGR numbers. The Upstream Lighting Report explains why suppliers (i.e. the manufacturers benefitting from the rebates) are likely to overestimate the impact of the rebates on CFL sales.[22]

If today's revealed preference methodology suffers from any inherent accuracy problems, the same is true of the 1990's studies which used similar consumer self-report survey instruments. The main difference is that the surveys conducted to evaluate the 1994-1999 programs were controlled by the utilities, and that ***none*** of the programs during that time frame corresponded directly to the upstream lighting program, since the rebate programs at that time were mostly downstream rebate programs (customer-specific rebate). The 2006-2008 evaluation studies discussed in the Upstream Lighting Evaluation Report provide exact information on the number of participants surveyed by different store type, provide statistical analyses to test the robustness of the numbers, and use several other methodologies to come up with the best possible number based on multiple analyses.

The plain fact is that despite any potential shortcomings, the NTGR results from the 2006-2008 evaluation studies are more robust and based on sounder methods than the *ex ante* numbers. The Commission should not allow the utilities' complaining to drown out this central and undisputed fact.

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[21] Upstream Lighting Evaluation Report, Table 23, p. 49. See, also, Tables 107 and 109 regarding the regression and simple contrast model results.
[22] Upstream Lighting Evaluation Report, p. 24-25.

The utilities knew as far back as 2000 that the 0.80 default NTGR was likely to be entirely unreliable for the upstream lighting program. TURN has already discussed at length that the utilities were explicitly put on notice at the time the Commission authorized their programs in D.05-09-043 that they should pay attention to the problem of free ridership.[23] The utilities completely ignored this advice, most likely because CFLs provided the biggest "bang for the buck" in terms of gross savings and thus utility profits, choosing instead to double their emphasis on CFLs.[24] Rather than redirecting utility programs toward more difficult tasks such as saving air conditioning peak demand, the utilities hoped to claim significant gross savings from CFLs, thus benefitting from customer behavior without having to deliver incremental net energy savings.

President Peevey put the utilities on notice in January of 2005 that they must improve their ability to adopt energy efficiency programs to the changing market place:

> In order to meet their goals, the utilities absolutely must become more nimble and innovative when it comes to delivering energy savings to their customers. If this happens, then we will be on the right path. If this does not happen, I will be the first on this Commission to propose that we find a different administrative option by the end of this next three-year program cycle.[25]

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[23] See, D.05-09-043, *mimeo.* at 53-56. TURN discussed this issue in Section 4.1 of our May 18th comments.
[24] R.08-07-021 TURN Comments on the Utilities' Supplemental Filings of July 2, 2009, July 17, 2009, TURN Table 9 Shifting CFL Portfolio Share: CPUC Approved & IOUs Reported 2006-08 Portfolios, p. 19.
[25] Peevery Concurrence to D.05-01-055, January 27, 2005.

Rather than heeding the repeated warnings of the Commission, the utilities blindly pursued their bottom-line incentives at the expense of robust energy efficiency programs. We hope the Commission does not reward the utilities for this intransigence.

3 Response Concerning Scenarios in the Scenario Analysis Report

The focus of the May 18th comments was supposed to be an evaluation of the merits of the various scenarios considered in the Scenario Analysis Report. The utilities provided four criticisms of the scenario assumptions. Additionally, the utilities claimed that Scenarios 6 through 9 did not conform to Commission directives.

3.1 Validity of Scenarios 6-9

The Joint Utilities argue that Scenarios 6 through 9 are "inconsistent with the explicit direction in the April 8 ACR."[26] TURN, on the other hand, agreed with the Scenario Analysis Report which identified Scenario 7 as "the only outcome consistent with current Commission policy."

The Joint Utilities' argument is based on an erroneous reading of the plain language of the April 8 ACR, which directed Energy Division to develop different scenarios and indicated that the final true-up may be based on scenarios "not necessarily" tied to the Final Performance Basis Report. While this certainly suggests that the Commission may change its policy regarding the final evaluation, it in no way negates the fact that Scenario 7 reflects the assumptions embodied in the decisions establishing the RRIM mechanism and the last decision authorizing the second interim payment.

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[26] Joint Utilities, May 18, 2010, p. 7.

The Commission is still faced with a choice. As TURN explained in Section 1.2 of our May 18 comments, if the Commission uses the standards of "integrity" and "transparency" to evaluate the scenarios, rather than merely "simplicity" and "expediency," then it should find that Scenario 7 is the appropriate Scenario upon which to base the earnings true-up.

3.2 Response to Scenario Assumptions

The Joint utilities provide several additional comments on scenario assumptions.

The Joint utilities argue that the Commission has adopted a shared savings rate of 12% for the true-up. TURN does not dispute that the Commission stated that it was reasonable to use unmodified *ex ante* parameter values for purposes of determining the sharing rate. TURN believes that this choice was arbitrary and filed an application for rehearing on this issue. However, if such a calculation would show a 12% sharing rate for the true-up, TURN would agree that this sharing rate most closely reflects Commission policy.

The Joint Utilities argued that the scenarios should exclude 2004-2005 cumulative goals for the true-up. TURN suggests that Energy Division should evaluate the validity of this claim.

The Joint Utilities argued that 100% of the net benefits from Codes and Standards activity in 2006-08 should count towards the goals and should be included in the PEB calculation, pursuant to version 4 of the Energy Efficiency Policy Manual. It is correct that the current version of the Energy Efficiency Policy Manual, adopted by an Assigned Commissioner's Ruling in August of 2008, changed the historical policy of counting

C&S savings only towards accomplishment of the goals. TURN has not had adequate time to review the nature of this policy change to determine whether an ACR, rather than a Commission decision, was an appropriate means of enacting such a change.

The Joint Utilities lastly argue that the avoided GHG adder value should be updated, based on the language in the April 2010 decision concerning EM&V for 2009-2012. TURN notes that the entire premise of the Scenario Analysis Report was to calculate various earnings based on different assumptions, without arguing about the actual value of the parameters (whether the *ex ante* numbers of the evaluated *ex post* numbers. TURN suggests that the recommendation to update the GHG adder falls precisely into the realm of argument concerning specific parameter values. If the Commission chooses to entertain such arguments, TURN suggests that there are a number of other values and parameters that could be adjusted to better reflect current knowledge and policies.

4 Response Concerning the April 15 Evaluation Report

The utilities provided extensive comments criticizing the 2006-2008 Final Evaluation Report issued on April 15, 2010. TURN will not attempt to respond in detail to all of the technical issues raised by the utilities. We provide some general comments that illustrate that most of the utility complaints have been fully and adequately vetted and that the utilities fail to show that the actual results would be materially different even if some of their changes are adopted. TURN provides a few examples to illustrate this general point. Given that about 56% of claimed energy savings were due to the CFL sales

subsidized by the Upstream Lighting Program, we focus our examples on the evaluation studies related to the Upstream Lighting Program.

4.1 Substantive Issues

The utilities and NRDC provided various substantive criticisms of the 2006-2008 Evaluation Report. Most of these criticisms address either 1) the values of the net-to-gross ratios ("NTGR") calculated for various programs and markets from the evaluation studies, or 2) the values of various parameters resulting from the evaluation studies of the Upstream Lighting Program, including net-to-gross, installation rates, expected useful life and unit energy savings. Many of these issues were already covered in Section 4 of TURN's May 18th opening comments, and we will not repeat all those arguments.

4.1.1 The Utilities Criticisms Have Been Fully Vetted and Addressed by the EM&V Contractors and Energy Division

The utilities' voluminous comments would lead the casual reader to conclude that the Draft Evaluation Report is riddled with problems that have not been addressed and that cause significant inaccuracies. Nothing could be farther from the truth.

TURN has participated in the public stakeholder review process facilitated by Energy Division. Various consultant reports were released in 2008 and 2009. Energy Division released its first 2006-2008 Verification Report on February 5, 2009 and the second 2006-2008 Verification Report on October 15, 2009. Eleven primary impact evaluation studies focusing on high impact measures formed the basis of the numbers

used in the final Draft Final Evaluation Report.[27] These evaluation studies were released in November and December 2009. The utilities and other stakeholders had the opportunity to comment on these draft reports.

It is TURN's belief - based on our participation in this process, a review of various documents and conversations with Energy Division – that the vast majority of the criticisms now leveled at the Draft Final Evaluation Report reiterate comments that the utilities have previously submitted to the Energy Division and the evaluating consultants.

The individual final impact evaluation reports include a summary of the comments and the evaluator responses from the consultants. For example, Appendix D to the Final Upstream Lighting Program Evaluation Report consists of approximately seventy pages of detailed comments and responses. In some cases, the evaluator acknowledges problems and has changed or added text in the evaluation report. In most instances the evaluator response explains the technical details of the methodology and provides specific references to the text.

In their filed comments the utilities and NRDC generally complain about the methodologies used to determine net-to-gross ratios ("NTGR") for various programs, including the upstream lighting program. For example, in their May 17 comments PG&E claims that the NTGR analyses "often employed arbitrary adjustments and produced

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[27] See, Draft Evaluation Report, Tables 14 and 15, at pp. 11-13, detailing the evaluation teams and the evaluation reports.

unverifiable results."[28] PG&E then goes on to criticize the inadequate sample size, insufficient response levels, and long delays in surveying customers.

TURN already responded to criticisms of the NTGR numbers in Section 4.1 of our May 18th comments and in Section 2 above. Some of PG&E's criticisms are pure hype, since a small sample size is entirely appropriate for certain programs with small participation numbers.[29] More to the point, Appendix D of the Final Upstream Evaluation Report includes numerous pages of comments addressing "NTGR" issues. The evaluators provided responses that explain and justify the various methodologies and inputs, or edit text to clarify limitations. It is apparent from these responses that the assumptions and methodologies of the upstream lighting report are well-grounded and supported.[30] The Commission staff and their consultants had the benefit of weighing both sides of the debate in reaching their conclusion regarding the appropriate numbers to select for the net-to-gross ratio.

But the comments submitted in December 2009 and January 2010 were only the tail end of a longer process. The planning and methodologies for these reports were the subject of extensive stakeholder review. While the final reports are presented on the CALMAC website, one can get a sense of the stakeholder review process by perusing the

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[28] "Comments of PG&E on the Draft Energy Efficiency Evaluation Report," May 17, 2010, p. 3. (Attached to the Joint PG&E and SCE Comments filed on May 18.)
[29] As an aside, the Upstream Lighting Program explains that there were 18 surveys of manufacturers, representing 91% of all CFL shipments. (Upstream Lighting Evaluation Report, p. 22.) TURN does not know whether this corresponds to the "18 firms" figure that PG&E referred to when they complained about small sample sizes.
[30] Section 2 above further addresses the issue of revealed preferences modeling.

"Public Document Area for CPUC Energy Division Contracts" established to facilitate the public review process.[31]

This "energydataweb" public website identifies approximately forty topics for review and comment, addressing various markets, programs and/or studies. Each topic may contain various related documents and comments submitted on those documents. For example, the topic "Residential Retro and CFL Market Effects"[32] contains about seventy documents posted in 2008, 2009 and 2010. Twenty-six of these documents were open to public comments. Most of the initial documents pertained to the design of survey instruments and methodologies. Other documents provided interim results. For example, the "Draft CFL Market Effects Interim Report" was posted on January 30, 2009 and was open to comments until April 1, 2009. The top document provides detailed responses to sixty-nine comments (some with subparts) submitted by SDG&E, PG&E, SCE, TURN and DRA.

Moreover, various issues were addressed during the course of the interim evaluations. The draft 2006-2007 Verification Report was first released on November 18, 2008. In response to workshop and written comments the Energy Division made various adjustments and responses.[33] Likewise, the 2006-2008 Verification Report contains over one hundred detailed responses and adjustments made in response to IOU comments on

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[31] The website address is http://www.energydataweb.com/cpuc/ .
[32] Due to the large impact of the parameters associated with the CFL program, TURN focuses attention on studies related to CFLs and the upstream lighting program.
[33] See, 2006-2007 Verification Report, February 5, 2009, Section 8, p. 73-113, Appendix P: Comments on Draft Report and Appendix Q: DEER Comments and Responses.

the draft report.[34] Several of the responses and adjustments are still relevant, as the following two examples illustrate:

> Comment #114: Net-to-Gross studies use controversial methodologies to estimate results.
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> Response: ED disagrees with the commenter. Evaluations have been used to develop NTGR values for more than a decade, and as with any estimations relating to accomplishments there is expected to be a variation around the point estimate value that is adopted as the average or typical value. The single point esimates are based on the most reliable methodology available at the time. The net-to-gross methodology documentation, Draft 2006-2007 Ex Ante Net-to-Gross Ratio Update, was posted as part of the public review and comments process.

> Comment # 44: Insufficient Sample Size
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> Response: For ARP, the Residential contractor proposed a sample of 70 (in order to meet 90/10 using absolute precision) for each of the three program measures (recycled refrigerators, recycled freezers and recycled room air conditioners) for each utility. The sample sizes were decreased fro both recycled freezers and recycled room air conditioners due to their limited participation in the program (13.8 and 0.02% of SCE's total ARP energy savings, respectively, through Q4 2007). The survey quota for recycled freezers was lowered to 30 for each utility. This value provided 90/10 at the recycled freezers across the three IOUs. In any case, the 90/10 requirement would have applied to appliances overall not to a specific appliance.

Obviously, TURN cannot respond in these comments to each of the detailed issues included in the utility attachments. However, the Commission specifically authorized this EM&V process in D.07-09-043. The Commission provided the largest amount of funding for EM&V probably ever in the entire world to evaluate the 2006-08

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[34] 2006-2008 Verification report, October 15, 2009, Tables 8.3 ("Other Changes Made In Response to IOU Comments") and 8.4 ("ED Responses to Parties' Comments).

programs.[35] The Commission created a process through which the utilities and other parties could provide input to Energy Division.

The Commission can and should rely on Energy Division staff for advice and analysis. It is true that Energy Division has been assigned a more active role in the energy efficiency EM&V process.[36] The Commission can and should confirm with appropriate staff to determine whether the concerns raised by the utilities have been previously addressed.

If there are concerns that have not been previously addressed, TURN is not opposed to further workshops or other processes to ensure a reliable and accurate result. However, it is the other parties – the utilities and NRDC – that have consistently sought to rush this process. If any additional work is necessary, those parties should not be allowed to then complain if a final decision is delayed beyond year end.

While the IOUs throw lots of mud at the actual evaluation studies and the results of the ERT, they do not provide any estimate of the importance of these errors. In other words, do these problems materially impact the quantification of utility results and incentives? Are much better numbers available? TURN suggests that the utilities did not provide any such quantification because even if the evaluation results are adjusted to use

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[35] Evaluation Report, p. x (""Additionally, Energy Division staff completed one of the largest energy efficiency evaluation impact evaluations in the world, managing a budget of $97 million spread across 23 technical contracts with strict timelines and rigorous review process.")

[36] In D.05-01-055 the Commission held that it was desirable to separate the administration and implementation of programs from the administration of program evaluation in order to minimize conflicts of interest and ensure EM&V credibility. See, *especially,* D.05-01-055, *mimeo.* at 10, 81.

a different number within the range of statistical uncertainty, the overall results would not be hugely different. The utilities real goal is to revert back to the *ex ante* numbers derived from studies conducted in the 1990's. These numbers have not had nearly the level of scrutiny of the current studies.

4.2 Procedural Criticisms

Some of the utilities' complaints focus on the public review process established when the Commission put Energy Division in charge of overseeing EM&V. These criticisms are interrelated to certain substantive issues in dispute.

The utilities complain that the final versions of the eleven evaluation reports were released in November and early December 2009, and comments were required by January 4, 2010. Normally, TURN would be extremely sympathetic to this complaint, as we know how difficult it is to prepare such massive responses within a short time frame that spans the holidays.

In this case, however, the old common law doctrine of 'unclean hands' overcomes our natural sympathies. Energy Division took a few months longer than planned to issue their first interim evaluation report in 2008. The utilities then argued that the Commission should not wait a few months to authorize earnings. The result was that the Commission relied on self-reported utility values in D.08-01-045. Whenever accuracy has threatened timely annual payments, the utilities and NRDC have urged that expediency trump accuracy. The utilities cannot now complain they did not have enough time to review the draft evaluation impact reports. The expedited schedule was in response to their own push for timely earnings payments.

The 'unclean hands' doctrine applies to several other "criticisms" leveled by the utilities. The utilities complain that evaluation results were not released early enough for them to make program changes.[37] The utilities also complain that the switch to an analysis based on high impact measures resulted in small sample sizes, inadequate evaluation times and other errors.[38]

TURN agrees that the timing of the evaluation studies conducted for 2006-2008 was not optimal. Much of the blame, however, rests squarely with the utilities themselves. Their programs and budgets were authorized in September of 2005.[39] The programs were not extremely different from those the utilities had already managed in 2004 and 2005, though the budgets were dramatically increased. However, the utilities were extremely slow to ramp up their activities. The utilities spent more than half of their three-year budget in the final year of the program. The Draft Evaluation Report notes that "most of the energy savings were achieved in the last year of the program implementation as a result of the slow ramp up of the programs and the time needed to develop large projects."[40]

In recognition of the fact that IOU portfolio managers and program implementers need timely access to market information to perform their responsibilities the Commission authorized the IOUs to manage a limited subset of evaluation studies

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[37] See, for example, Joint Utilities, April 20, 2010, p. 9.
[38] See, for example, SCE's Comments on Draft 2006-2008 Evaluation Report, May 17, 2010, p. 4-5.
[39] See, D.05-09-043. TURN notes that in contrast, previous programs were often authorized only after the start of the program year.
[40] Draft 2006-2008 Evaluation Report, p. 3.

concerning process and early impact market valuation.[41] Indeed, 43 out of 45 EM&V reports posted on the CALMAC site between 1/1/2006 and 11/30/2009 were process and market evaluation reports. However, only 10% of those reports were produced in 2006 and 2007, meaning that the vast majority of the utility-controlled reports that were supposed to guide their program work were not done until 2008 or 2009, obviously too late to impact program design for 2006-2008.

The fact that the utilities were slow to start their programs also limited the ability of Energy Division's EM&V contractors to obtain representative samples for certain programs. By definition, the evaluators had to perform most of their field work in 2009 for programs that did not get rolling until 2008.[42] In such a situation it is difficult to obtain an ideal sample size of stratified program participants.

4.3 Use of Verified EM&V Results

TURN finds especially troubling the position of the utilities that the Evaluation Report should not be used for program planning purposes, irrespective of the outcome of the incentive calculation.[43] This position is not only counter to explicit Commission directive, but threatens to upset the integrity of the energy efficiency activities that are integral to the success of California's greenhouse gas reduction strategies.

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[41] See, D.05-01-055, Finding of Fact 52 and 53.
[42] See, Draft 2006-2008 Evaluation Report, p. 4 ("The fact that a majority of the savings occurred in the last year of the program cycle created particular challenges with respect to drawing representative samples early in the program cycle, and resulted in much of the field measurement occurring in 2009.")
[43] See, for example, Comments of PG&E and SCE on ED Scenario Runs, May 18, 2010, Attachment "PG&E Comments on ED's Final Draft Evaluation Report," May 17, 2010, p. 3.

The Commission had envisioned that the utilities would use the "best available information at the time the 2010-2012 activity is starting" for purposes of planning and reporting program accomplishments in 2010-2012.[44] The 2006-2008 Evaluation Report recommended that "results from the evaluations should be used for improving savings estimates and informing program design in the 2010-2012 cycle and beyond."

The 2010-2012 programs are modeled on the same measures and technologies that formed the basis of the 2006-2008 programs. The savings estimates derived from the 2006-2008 EM&V studies should be used to develop the *ex ante* parameters for 2010-2012.[45] The utility 2010-2012 portfolios are already only marginally cost-effective using the IOUs preferred assumptions and parameter values. TURN is extremely concerned that we will see a repeat of the lackluster performance of 2006-2008. In the short term this performance has been overshadowed by the demand reductions due to the economic recession. In the long term, however, energy efficiency programs will never deliver their full potential if the utilities continue to fight against using the best available data.

The utilities want nothing less than to return to the process in place during the 1990's, when EM&V activities were controlled by the utilities, with oversight provided

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[44] D.09-09-047, Conclusion of Law 26.

[45] See, D.09-09-047, p. 37 (Establishing a process to "freeze" the *ex ante* data inputs. The process of freezing of the ex ante data for the 2010-2012 program cycle is not yet complete, in large part due to the IOUs' recalcitrance in complying with the November 18, 2009 ALJ Ruling in A.08-07-021 ("Regarding Non-Deer Measure Ex Ante Values") adopting Energy Division's November 3, 2009 required document that details the requirements and procedures for the IOUs to submit non-DEER measure workpapers for ED's review and approval.)

only when DRA hired contractors to review utility performance in the Annual Earnings Assessment Proceedings. But by then the EM&V studies had been completed.

In October of 1991 researchers at the NRRI noted the following:

> An important question for state commissions centers on who should verify the energy savings. It would be imprudent for commissions to accept the utility's estimates without reviewing them, particularly when savings are tied to pecuniary incentives funded by general ratepayers.[46]

Utility control of EM&V was a bad idea twenty years ago. It is a bad idea now. This Commission took the critical step of removing performance measurement from the hands of those whose profit is based on the measurement. It would be a tragic misstep to now repudiate those results just because they indicate utility profits are not as large as the IOUs hoped for.

5 Response to Criticisms of the ERT

The utilities claim that the ERT spreadsheet tool "strewn with systematic errors" and cannot be relied on for incentive calculations. In addition to a few specific criticisms, they point to 'hundreds' of "E3 Calculator FALSE" errors within the spreadsheet.

TURN simply recommends that the Commission consult with Energy Division regarding the validity of these claims. It is our understanding that most of the utilities' issues have already been addressed and fixed, and that the only remaining potential issue is that the ERT improperly included the program costs for Emerging Technologies. These costs should be excluded per direction in D.07-09-043.

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[46] Rau, Narayan S, et al., "Methods to Quantify Energy Savings from Demand-Side Management Programs: A Technical Review," National Regulatory Research Institute, October 1991, p. iv.

6 Conclusion

The utilities throw a lot of mud at the 2006-2008 Final Evaluation Report and the Scenario Analysis Report. There are a few technical changes that need to be corrected by Energy Division. However, the utilities' fundamental premise – that the *ex ante* values based on evaluation studies of the 1994-1999 programs are more accurate – is pure nonsense and subterfuge. The 2006-2008 evaluation studies possibly form the most accurate analysis of energy efficiency program results in the world.

The Commission explicitly warned the utilities in January and October of 2005 to become more nimble and to review the suspect net-to-gross ratios. The utilities absolutely disregarded this advice in a relentless pursuit to maximize profits, rather than long-term incremental energy savings. To reward the utilities by providing them with any additional earnings payments (when the verified data show they have already been overpaid!) would be a travesty for ratepayers and the environment.

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Respectfully submitted,

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