

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Reform the Commission's
Energy Efficiency Risk/Reward Incentive Mechanism

Rulemaking 12-01-005
(Filed January 12, 2012)

**POST-WORKSHOP COMMENTS OF THE NATURAL RESOURCES DEFENSE
COUNCIL (NRDC) ON INCENTIVE REFORM ISSUES FOR 2013-14**

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I. INTRODUCTION AND SUMMARY

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 post-workshop comments pursuant to the "Administrative Law Judge's Ruling Setting Schedule for Post-Workshop Comments," (ALJ Ruling) issued September 5, 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 incorporates by reference, but does not repeat, our proposal for a new efficiency incentive mechanism outlined in our July 16, 2012 comments.¹ In these post-workshop comments, we focus on providing the numerical details for NRDC's proposed mechanism, the rationale for those figures, and responses to other parties' proposals. NRDC's recommendations are summarized as follows:

- The Commission must align its financial regulation of the utilities with its policy priorities to make efficiency the top priority resource.
- The efficiency incentive mechanism should spur utilities to achieve maximum lifecycle energy savings cost-effectively, using NRDC's proposed approach summarized in Table 1. Figure 1 illustrates the general design of the energy and demand savings component of NRDC's proposal.
- The CPUC should define the magnitude of the potential earnings opportunity using the

¹ *Comments of the Natural Resources Defense Council (NRDC) on the Administrative Law Judge's Ruling Calling for Comments on Incentive Reform Issues*, R.12-01-005, July 16, 2012.

five criteria that the Commission established in D.07-09-043, and apply the cap at a high level of performance to encourage greater energy savings.

- NRDC recommends a cap of \$188 million for 2013-14 (for all 4 utilities over both years), which balances the criteria the CPUC established in D.07-09-043 while remaining conservative.
- Potential earnings under all parties' proposals are much lower than comparable supply-side earnings and average efficiency incentives nationwide.
- NRDC strongly urges the CPUC to reject TURN's proposal to incentivize utilities to spend money rather than to save energy. TURN's proposal would not eliminate contention over incentives or EM&V.
 - NRDC opposes TURN's proposal to make program spending on rebates and financing a threshold for the incentive mechanism. Optimal program design to maximize customer participation should not be constrained by the incentive mechanism.
- NRDC makes the following changes and clarifications to our proposed incentive mechanism submitted on July 16, 2012:
 - The CPUC should lock-down on an ex-ante basis any metric that can be locked down, but should also include savings from programs that need ex-post analysis such as behavioral programs.
 - NRDC recommends that the CPUC fix all net-to-gross (NTG) ratios on an ex-ante basis (including NTG ratios for the Custom program) for purposes of the incentive mechanism. If the CPUC does not fix all NTG values ex-ante, then NRDC recommends that the Commission adopt our incentive mechanism but scale earnings based on *gross* lifecycle savings.
 - Since there is limited time to adopt a mechanism before 2013, NRDC urges the CPUC to postpone consideration of our July 16th recommendations to (i) lift or eliminate the cap on effective useful lives and (ii) change the accounting approach for codes and standards savings to the 2015 cycle.
 - Interactive effects for single "fuel" utilities that result in "negative total savings" should be addressed by subtracting any associated "negative earnings" from that utility's total earnings.
 - NRDC's proposed earnings mechanism for demand reductions would scale based on "lifecycle demand" savings, calculated by multiplying the annual demand savings by the electric portfolio's average effective useful life, in order to further encourage demand-saving measures that provide long-lasting savings.
 - The earnings and/or penalties should be subject to simple annual assessments, without any holdbacks or true-ups, and caps should apply to the full two-year cycle.

Table 1: Summary of NRDC’s Proposed Incentive Mechanism for 2013-14

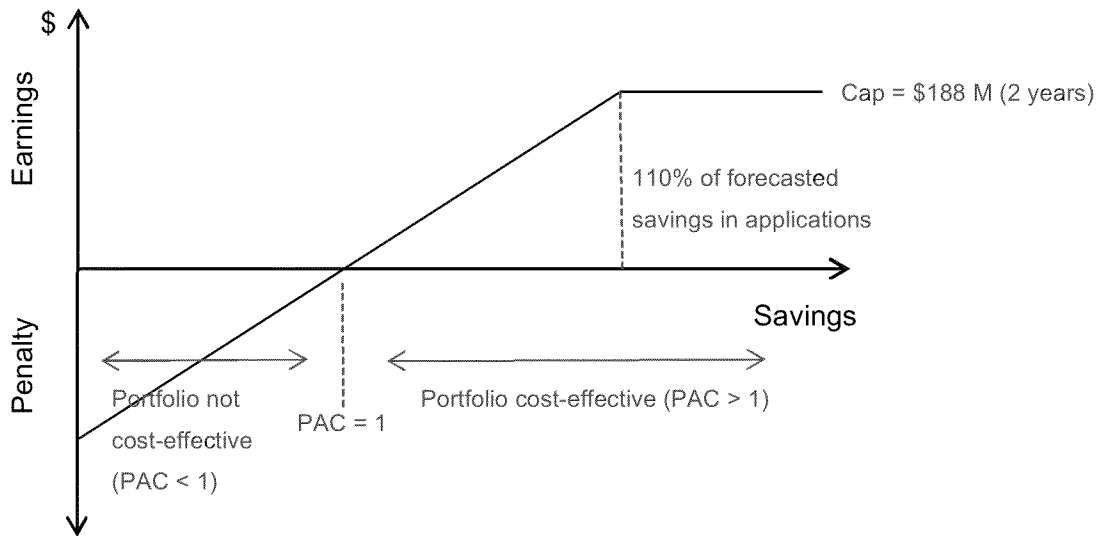
Goal:	To spur the utilities to capture all cost-effective energy savings, including deeper, more comprehensive, and longer-lasting savings.
Cap (for all 4 utilities over both years):	\$188 million
Sub-caps (for all 4 utilities over both years):	\$89 million for codes and standards savings \$125 million for electric energy savings \$42 million for electric demand savings \$30 million for natural gas savings \$9 million for performance metrics
Threshold:	PAC (including earnings) > 1
Potential Earnings:	
Energy & Demand Savings	<p>“Earnings Targets at 110% of Projected Performance”:²</p> <ul style="list-style-type: none"> • Electric energy: \$113 million • Electric demand: \$38 million • Natural gas: \$27 million <p>Earnings = 2.5% of electric energy earnings target (\$) per 1,000 GWh lifecycle + 1.5% of electric demand earnings target (\$) per 100 MW lifecycle + 1% of natural gas earnings target (\$) per 10 MMTh lifecycle³</p>
Performance Metrics	<ul style="list-style-type: none"> • \$9 million for increasing whole home retrofit projects with deep savings
Potential Penalties:	Cost-effectiveness guarantee
Assessing Performance:	<ul style="list-style-type: none"> • Net lifecycle energy and demand savings from programs and codes and standards⁴ • All ex-ante values (including NTG), with ex-post updates only for: (i) installations, (ii) program costs, (iii) any programs or components of programs that require ex-post analysis in order to count savings (such as behavioral programs)
Timing:	Annual earnings/penalty assessment

² Note that these earnings targets are lower than the sub-caps on each category to allow some flexibility in earnings among categories.

³ This equation is expressed as a percent of target earnings for each metric to make it easy for the CPUC to adjust the magnitude of the earnings opportunity, if desired. Using NRDC’s proposed “earnings targets,” this equation becomes: Earnings (\$M) = \$0.0028M / lifecycle GWh + \$0.0056M / lifecycle MW + \$0.0266 / lifecycle MMTh.

⁴ “Lifecycle demand” savings calculated as annual demand savings multiplied by the electric portfolio average effective useful life.

Figure 1: Illustration of NRDC’s Proposed Incentive Mechanism’s Energy and Demand Savings Component



II. POLICY OBJECTIVES

A. The Commission Must Align Its Financial Regulation of the Utilities With Its Policy Priorities

As regulated businesses, the utilities’ business models are defined by the CPUC: the Commission’s regulations determine the opportunities utilities have to earn profits for shareholders (which are currently only available for supply-side resources). These regulations create strong financial incentives, which must be aligned with the Commission’s policy priorities in order for the CPUC to achieve its goals of achieving all cost-effective energy efficiency, through deeper, more comprehensive, and longer lasting savings.

The Utilities’ Business Should Be Providing Energy Services, Not Energy Commodities

A hundred years ago, regulators structured utilities’ financial incentives in a manner that encouraged them to be commodity providers and to focus on selling more and more energy and putting more and more “steel in the ground.” Although the CPUC recognized decades ago that most customers do not care about energy commodities (i.e., how many kWh or therms they use) but rather the *energy services* (i.e., light, heat and working gadgets) they receive, TURN once

again asserts that utilities are in the commodity business, and argues that it is inefficient to allow profits from both selling a commodity and not selling it. (TURN, p. 6) The Commission must not undo decades of progress at advancing utilities' focus on providing energy services rather than commodities.

Defining the utilities' "business" is a critical threshold issue to design appropriate incentive regulations. As a regulator charged with pursuing the public interest, the CPUC has focused on policy priorities that would provide the *energy services* that customers actually care about, in an affordable and reliable manner, rather than focusing on commodities. The very fact that the state has made energy efficiency the first priority energy resource (not to mention prioritizing demand response and distributed generation) shows that the CPUC is focusing on the *energy services* that customers want. Returning to an approach focused solely on selling commodities would take the state back to the 1960s. We strongly urge the CPUC not to turn back the clock and instead to continue to advance the recent decades' progress at creating a business model based on meeting customers' energy service needs affordably and reliably.

The CPUC Must Define the Utilities' Business Model to Prioritize Efficiency and Other Preferred Resources

TURN also argues that asking utilities to do efficiency puts them "in a position of acting against their own interests," and that "energy efficiency is simply not part of the utility's core business." (TURN, pp.12, 32) If efficiency is not part of the utilities' core business today, then it is specifically because the CPUC's financial regulations have not made it part of their core business. Simply put, as regulated businesses, the utilities are in whatever business the CPUC tells them to be in. Arguing that incentives for efficiency are inappropriate because it's not part of the utilities' core business today is circular logic; efficiency *should be* part of the utilities' core business to meet customers' energy service needs, and incentives for efficiency are needed precisely to *make* it part of the utilities' core business.

The CPUC has made tremendous progress over the last decade in adopting policies that prioritize efficiency and other demand-side resources that can best meet customers' energy service needs. It is time for the CPUC's financial regulation of the utilities to catch up to those policies, so that both the CPUC's policy goals and financial incentives for the utilities provide the same message about the state's loading order of resources.

B. The Efficiency Incentive Mechanism Should Spur Utilities to Achieve Maximum Lifecycle Energy Savings Cost-Effectively

Any incentive mechanism must be designed to meet specific policy objectives. When the Commission adopted the last efficiency incentive mechanism, its primary objective was to maximize benefits and minimize costs – in other words to maximize *net economic benefits* for customers. As such, the shared savings approach was designed to do just that. However, the Commission’s overarching policy priorities for energy efficiency have changed over the past decade. At the August 20, 2012 workshop, there appeared to be general consensus among the parties that the CPUC’s current overarching objectives are to capture all cost-effective energy savings, including deeper, more comprehensive, and longer-lasting savings.⁵ NRDC supports this increased focus on maximizing long-term energy savings in a cost-effective manner, which is consistent with the statewide effort to cut greenhouse gas (GHG) emissions. The Commission’s decision on a new incentive mechanism should first clearly define its overarching policy objectives and then carefully design the mechanism to spur the utilities to excel at meeting these objectives. The incentive mechanism should be a tool layered on top of the Commission’s policies to enable greater success.

Maximizing Energy Savings Cost-effectively Leads to a Different Outcome Than Maximizing Net Economic Benefits, Which Must be Considered in the Design of an Incentive Mechanism

There are important differences between the Commission’s current policy objectives to capture all cost-effective energy savings, including deeper, more comprehensive, and longer-lasting savings, and its prior objective to maximize net economic benefits. The key difference is between maximizing the *energy savings* in “cost-effective energy savings,” and maximizing the *cost-effectiveness* of “cost-effective energy savings;” in other words, maximizing energy savings while keeping the portfolio benefit-cost ratio above 1, versus maximizing the net economic benefits. In the former approach, the state gets more energy savings, stronger support for market transformation, pollution reductions and avoided power plants and other infrastructure; at the same

⁵ See D. 12-05-015, pp. 10-11, and the “Administrative Law Judge’s Ruling Calling for Comments on Incentive Reform Issues,” issued June 15, 2012, p. 3.

time, the net economic benefits will be lower because portfolio design will focus more towards achieving the longer-term policy vision and capturing all savings up to the point where the portfolio would become non-cost-effective.⁶ In contrast, the latter approach of maximizing net economic benefits gets the state higher economic benefits but lower energy savings and less support for longer-term policy objectives, as the policy guides away from any measure or program that is not cost-effective (even if it may be in the future).

The following hypothetical example illustrates the difference in outcomes between a shared savings mechanism and the new incentive mechanism NRDC has proposed to spur long-lived savings.

Measure A provides relatively high short-term savings: 100 kWh / year over 5 years.

- Lifecycle savings = 500 kWh
- Cost = 1.5 c/kWh
- Net benefits = \$32 (using 8% discount rate, assuming measure saves \$10/yr)

Measure B provides lower but longer-term savings: 50 kWh / year over 20 years

- Lifecycle savings = 1000 kWh
- Cost = 3.1 c/kWh
- Net benefits = -\$6 (using 8% discount rate, assuming measure saves \$5/yr)

Acquiring two of Measure A yields the same lifecycle savings as one of Measure B. However, there are large differences in terms of the relative advantage in pursuing the two measures depending on whether lifecycle savings or net benefits is the key metric:

- Acquiring 1000 kWh of savings with Measure A yields \$64 in net benefits compared to -\$6 for Measure B. Measure A is a clear winner and B a clear loser if net benefits is used as the key metric.
- It would only cost 3 c to get the 1000 kWh of savings with Measure A compared to 3.1 c to get the savings with Measure B. Using lifecycle savings as the key metric, Measure A is still a better deal than Measure B, but it is close and Measure B could still provide earnings.

In this hypothetical example, there is still a relative advantage to acquire two of Measure A instead of Measure B, but it's quite a small advantage under the lifecycle savings approach, whereas in the net benefits approach it's the difference between a measure that adds or subtracts earnings. This example illustrates how NRDC's proposed approach to base earnings on lifecycle energy savings

⁶ It's important to note that such a portfolio can include a mix of cost-effective and non-cost-effective measures, but some of the measures that are currently not cost-effective may become cost-effective in the future thanks to the programs and therefore may provide more economic benefits over the long-term.

will better spur the CPUC’s objectives to maximize savings through deeper, more comprehensive and longer-lasting savings.

Energy Upgrade California (EUC) provides a prime example of how an emphasis on cost-effectiveness leads to a different outcome than an emphasis on lifecycle savings. Under the CPUC’s current cost-effectiveness approach, EUC is not cost-effective (and therefore provides negative net economic benefits). Under the Commission’s prior policy guidance (much of which is still in place), which explicitly directed the utilities to pursue “the most cost-effective energy efficiency resource programs first”⁷ and awarded earnings based on net economic benefits, such a program would be considered a “burden” on the portfolio – inconsistent with the Commission’s guidance and decreasing any potential earnings. This provides a disincentive for some of the programs the Commission most wants to support. The Commission recognizes the strategic importance of building an industry to do comprehensive home retrofits and the potential for significant long-term savings. As such, developing the EUC program is a high priority and the effort fits squarely within the objective of maximizing savings, including deeper, longer-lasting and comprehensive approaches. NRDC’s proposed new incentive mechanism, discussed below, would provide a better approach to ensure that efforts like EUC are encouraged, by designing the mechanism to explicitly align with the current policy goals.

III. EARNINGS CAP & MAGNITUDE OF POTENTIAL EARNINGS

As NRDC discussed in our July 16th comments, the CPUC should define the magnitude of the potential earnings opportunity using the five criteria the Commission established in D.07-09-043.⁸ Any particular formula or approach for determining an earnings cap is less important than whether the magnitude of the cap is reasonable. The five criteria established in D.07-09-043 offer valuable perspectives that the Commission should consider in evaluating whether any specific cap proposal is reasonable.

⁷ CPUC, *Energy Efficiency Policy Manual*, Version 4.0 (August 2008), p. 4.

⁸ D.07-09-043, Finding of Fact 92.

A. The Commission Should Evaluate Proposed Earnings Caps Against Specific Benchmarks Based on the Criteria Adopted in D.07-09-043.

To evaluate proposals against the criteria adopted in D.07-09-043 for determining the earnings opportunity, the Commission should look at specific benchmarks that relate to the criteria. The criteria from D.07-09-043 are included below in *italics* followed by proposed benchmarks:

(a) *What level of earnings will balance the level of potential penalties under the mechanism and offset existing financial and regulatory biases in favor of supply-side procurement.*

- Suggested benchmark: Supply-side comparable earnings

PG&E and SCE provided estimates of supply-side comparable earnings in their July 16th comments. Using that information, we estimate that statewide supply-side comparable earnings for the 2013-14 portfolio are approximately \$370 million.⁹ This may be a conservative value, since it appears to be calculated using an assumption of 25% utility ownership and 75% PPAs (in contrast to the Commission's prior assumption in D.07-09-043 of a 50%-50% split).

(b) *What level of earnings potential will provide a clear signal to utility investors and shareholders that achieving and exceeding the Commission's savings goals (and maximizing ratepayer net benefits in the process) will create meaningful and sustainable shareholder value.*

- Suggested benchmark: Percent of average pre-tax profits

One way to assess what would provide a "clear signal" to utility investors is what would move the needle on shareholder earnings. From 2006-2011 the utilities' average annual income before taxes was \$4 billion per year.¹⁰ Two percent of \$4 billion is \$80 million per year. For the two-year cycle for 2013-14, that would be \$160 million. One percent is likely the minimum to simply be noticed.

⁹ SDG&E and SoCalGas did not provide estimates of supply-side comparable earnings on July 16th. However, they provided estimates in February 2012 comments for the 2010-12 portfolio, which amounted to approximately 4% of the statewide value. As such, we simply added 4% to the PG&E and SCE figures to estimate a statewide value.

¹⁰ Utilities' Annual Earnings Reports, Consolidated Statements of Income.

(c) Differences in the risk/reward profiles of utility resource choices in applying the comparable earnings benchmark to the incentive mechanism.

- Suggested benchmark: Qualitative evaluation of the appropriate adjustment to supply-side comparable earnings to account for differences in risk profiles

In prior comments, NRDC discussed the rationale for a moderate reduction to supply-side comparable earnings to account for differences in risk profiles between efficiency and supply-side resources. In particular, factors that tend to increase risk and would justify higher earnings include the fact that efficiency “is not as readily ‘deployed’ as supply-side resources, since it involves customer-side appliance changes, arrangements with manufacturers and distributors, etc.” as the Commission explained in D.07-09-043,¹¹ and efficiency earnings have been much less predictable than supply-side earnings as the Commission’s policies have changed dramatically over time. On the other hand, factors that tend to decrease risk and would justify lower earnings include the fact that shareholder capital is not at risk unless the portfolio is not cost-effective, and the use of ex-ante metrics. On balance, as we discussed in prior comments, these factors indicate that a moderate reduction in supply-side comparable earnings is warranted.

(d) The level of performance expected in return for higher and higher earnings potential.

- Suggested benchmark: Level of performance when the cap becomes binding

In general, the harder it is to reach an earnings cap, the larger the cap should be. Conversely, a smaller cap on earnings may be appropriate if it is easy to reach. But since the purpose of an incentive mechanism is to spur excellent performance at meeting the Commission’s objectives, NRDC recommends setting a larger cap, on balance, with the expectation of high levels of performance. At the same time, the cap should serve the purpose of ensuring any potential earnings remain within reasonable expectations.

- Suggested benchmark: Comparison to other states (relative to the level of performance)

¹¹ D.07-09-043, p. 105

According to ACEEE’s latest survey of efficiency incentives in various states, caps range from 5% to 20% of program spending, and average 12% to 13%.¹² (Most of these states award incentives based on performance at saving energy and lowering customer bills, not based on how much money is spent; the comparison of incentives as a percent of spending is simply to provide a consistent point of comparison across states.) Of course, California’s has been, and aspires to continue being, a nationwide leader on energy efficiency, which would imply that California’s cap should be at the upper end of the range.

(e) What is “fair” to ratepayers in terms of the return on their investment in energy efficiency.

- Suggested benchmark: Percent of forecasted net benefits retained by customers

The 2013-14 portfolios are expected to provide approximately \$1.4 billion in net benefits.¹³ To be “fair” to customers, they should retain a significant majority of the net economic benefits from the programs.

- Suggested benchmark: Is the efficiency portfolio cost-effective?

The cost of the energy efficiency portfolio, including any earnings, should remain cost-effective. In other words, customers should always be better off from investments in efficiency than if utilities had invested in alternative resources.

B. NRDC Recommends a Cap of \$188 Million for 2013-14 (For All 4 Utilities Over Both Years), Which Balances the Criteria the CPUC Established in D.07-09-043 While Remaining Conservative.

In NRDC’s July 16th comments, we calculated a \$188 million earnings cap based on adjustments to the shared savings mechanism that we recommended in prior comments, but reserved the right to reevaluate our proposed cap. Having evaluated the cap against the benchmarks discussed above, NRDC continues to recommend the \$188 million cap for all four

¹² ACEEE, *Carrots for Utilities: Providing Financial Returns for Utility Investments in Energy Efficiency*, U111, January 2011, p. 10.

¹³ This calculation uses the sum of two-thirds TRC and one-thirds PAC, consistent with the prior Performance Earnings Basis.

utilities over both years (2013-14), because it balances the Commission's criteria while remaining quite conservative. NRDC recognizes the benefits of beginning with a relatively conservative cap in 2013-14 to help reduce controversy and ensure the new mechanism is working as expected; it may be appropriate for the CPUC to increase the cap in future cycles as it requires the utilities to accomplish harder and harder goals.

Table 2 evaluates NRDC's proposed cap against the benchmarks discussed above, alongside PG&E and TURN's proposals. Gray cells denote areas where a particular proposal does not meet the specific benchmark. This illustrates that NRDC's proposal is conservative, as it is lower than the benchmarks in several areas. It also illustrates that TURN's proposal is low by nearly every standard, as it only meets one of the benchmarks.

**Table 2: Comparison of Earnings Cap Proposals and Benchmarks
Based on Criteria from D.07-09-043**

	Benchmark	PG&E	NRDC	TURN
Proposed Cap (\$millions)		~\$245 ¹⁴	\$188	\$103
Supply-side comparable earnings (\$millions)	\$370	Lower	Lower	Lower
Percent of average pre-tax profits	>1%	3%	2%	1%
Risk adjustment relative to supply-side comparable	Moderate reduction	33%	50%	72%
Performance level when cap becomes binding	Good performance	50% above net benefits	10% above projected energy savings (20-30% above CPUC goals)	N/A (When budget is spent)
Comparison to other states (% of spending)	> 12% to 13%	13% of budget	10% of budget	5% of budget
Percent of forecasted net benefits retained by customers	Customers retain significant majority	82%	87%	93%
Is the efficiency portfolio cost-effective?		Yes; shared savings	Yes; cost-effectiveness guarantee	Unclear ¹⁵

C. The CPUC Should Set the Cap at a Level That Will Encourage Good Performance.

Table 3 compares PG&E, NRDC and TURN’s proposals with the cap and expected earnings at 100% of goals that the CPUC adopted in D.07-09-043 for 2006-08. All parties’ proposals would offer lower annual earnings for 2013-14 than the CPUC’s expectations for the 2006-08 mechanism. This table also illustrates that although the proposals have somewhat significant differences in the proposed cap levels, the proposed likely earnings for reaching the

¹⁴ PG&E proposed a formula for determining the cap, based on 7% of 150% of the net economic benefits (using the PAC test) and 3% of the non-resource budget. \$245 million is NRDC’s estimate based on this formula and the data from the utility applications.

¹⁵ TURN’s proposal does not appear to require the portfolio to be cost-effective for the utilities to earn rewards, only that they spend money (with a particular portion going to customer incentives).

CPUC’s goals have much less variation. *Therefore, the primary difference between the proposals is whether they would offer a greater earnings opportunity if the utilities significantly exceed the Commission’s goals.* NRDC recommends that the CPUC use the incentive mechanism to spur excellent performance, and to set the cap significantly above the level of potential earnings at 100% of goals.

Table 3: Comparison of Proposed Annualized Caps and Expected Earnings Levels with D.07-09-043’s Mechanism for 2006-08

	2006-08 Annual Average Expected in D.07-09-043	PG&E proposal	NRDC proposal	TURN proposal
Cap (\$millions)	\$150	\$123	\$94	\$51
Percent reduction from D.07-09-043	N/A	18%	37%	66%
Earnings at CPUC goals (\$millions)	\$108	\$60 ¹⁶	\$78	\$51
Percent reduction from D.07-09-043	N/A	44%	28%	52%

D. Potential Earnings Under All Proposals Are Much Lower Than Supply-Side Earnings and Average Efficiency Incentives Nationwide

Comparison to Supply-Side Earnings

In opening comments, TURN asserts that “supply-side equivalence is **not** the appropriate proxy for incentives for energy efficiency activities.” (TURN, p. 4, emphasis in original) Although comparable supply-side earnings should not be *the only proxy*, it is one of several appropriate benchmarks that the CPUC should consider in setting the cap, as we discussed above. TURN presents a graph with earnings from other types of incentive mechanisms, but its selective choice of earnings opportunities is misleading. (TURN, p. 10) One might infer from looking at TURN’s graph that the utilities’ earnings are in the tens of millions of dollars range, when in fact

¹⁶ PG&E’s proposal is a 7% shared saving of the PAC net benefits (excluding non-resource costs) plus 3% of the non-resource budget costs. (PG&E, Attachment A) Assuming that non-resource costs are 15% of PAC costs and that the PAC net benefits begin at zero at 50% of goal and increase linearly to the forecasted PAC net benefits at forecasted levels of savings, the PAC net benefits (excluding non-resource costs) at 100% of goals is \$1.6 billion. 7% x \$1.6 billion + 3% x \$280 million = \$112M + \$8M = \$120M / 2 years = \$60 million per year.

annual earnings are in the *billions* of dollars. TURN's figure omits the primary earnings opportunity that the CPUC provides on supply-side resources.

If the CPUC is serious about putting efficiency on a level playing field with supply-side resources or, indeed, making efficiency the *top* priority resource, then the magnitude of earnings on these other competing resources is absolutely relevant to the question of how large an earnings opportunity is appropriate for efficiency. As we discussed above, a conservative estimate of the statewide supply-side comparable earnings for the 2013-14 efficiency portfolio is approximately \$370 million. All of the proposals for efficiency earnings before the CPUC would be capped at considerably less than that value.

Comparison to Other States

TURN's opening comments claim that other states provide lower efficiency incentives, but examined only three states (and the District of Columbia). ACEEE's nationwide survey of efficiency incentive mechanisms found that the average incentive earned is 10% to 11% of spending.¹⁷ All of the proposals before the CPUC (including PG&E, NRDC and TURN's noted above) would provide expected earnings to reach the CPUC's goals ranging from 3% to 4% of budgets, and therefore would be very conservative compared to this national average.

Since California is trying to "push the envelope" on efficiency and remain a nationwide leader, one would expect California's earning opportunity to be at the upper end of the range nationally. NRDC has proposed a conservative approach for 2013-14, and we urge the CPUC to consider increasing the earnings opportunity in future cycles as it seeks to ensure that its financial incentives truly make efficiency the top priority resource.

IV. NRDC'S PROPOSED INCENTIVE MECHANISM

In our July 16th comments, NRDC provided a summary of our proposed mechanism and why it best meets the criteria that the CPUC should use to evaluate incentive frameworks. We incorporate by reference but do not repeat the summary of our proposed framework here, and instead focus on the numerical details of our proposal. Table 1 and Figure 1, above, summarize the key elements of NRDC's proposal, and the rationale for each element is described below.

¹⁷ ACEEE, *Carrots for Utilities: Providing Financial Returns for Utility Investments in Energy Efficiency*, U111, January 2011, p. 10.

A. Derivation of the Numerical Elements of NRDC's Proposed Incentive Mechanism

NRDC developed the detailed numerical elements of our proposed incentive mechanism summarized above based on the following steps and rationales.

Step 1: Divide Cap Into Energy/Demand Savings and Performance Metrics

NRDC urges the Commission to allocate most of the potential earnings opportunity created by the incentive mechanism to reward performance based on its top priority objective: energy and demand savings. Other performance metrics should provide added emphasis in key areas that meet the criteria described in our July 16th comments, but must be sized reasonably in relation to the size of the efforts that they are influencing.

NRDC recommends that 95% of the earnings cap (\$179 M) go to the energy and demand savings portion of the mechanism and 5% (\$9 M) go to performance metrics. This is a reasonable split since we only propose one performance metric below for the 2013-14 cycle, and the potential earnings for any specific program should remain a reasonable fraction of its budget.

Step 2: Divide Energy/Demand Savings Earnings Target Into Electric & Natural Gas

NRDC proposes that the potential earnings for saving energy and demand be split among the electric and natural gas categories based on their contribution to the total portfolio's economic TRC benefits. This results in 85% of the energy and demand savings target (\$151 M) for electric and 15% (\$27M) for natural gas.¹⁸

Step 3: Divide Electric Portion into Energy and Demand

NRDC proposes that 75% of the electric earnings target (\$113 M) be allocated to encourage electric energy savings and 25% (\$38 M) go to electric demand savings, based on an estimate of how much each contributes to average avoided costs.¹⁹

¹⁸ The proposed portfolios for 2013-14 estimate TRC benefits from electric savings and natural gas savings of \$3.26 billion and \$0.59 billion, respectively. Therefore, approximately 85% of the total TRC benefits is from electric savings and 15% is from natural gas savings.

¹⁹ To estimate the contribution of energy vs demand savings to the total avoided costs, we took the ratio of the T&D and capacity avoided costs to the entire avoided costs from *Energy Efficiency Avoided Costs 2011 Update*, Attachment A to R.09-11-014, *Administrative Law Judge's Ruling Seeking Post-Workshop Comments on Demand-Side Cost-Effectiveness Issues*, August 14, 2012, Figure 4. Note that this data is for Climate Zone 13 (e.g., Fresno) in 2017, therefore the statewide average would likely yield a lower ratio for capacity relative to energy.

Step 4: Specify the Margin Above Forecasted Performance at Which Each Earnings Target Will Be Reached

NRDC urges the CPUC to encourage excellent performance at levels well above the CPUC’s goals. In their applications, the utilities projected energy and demand savings at 11% to 20% beyond the Commission’s goals.²⁰ NRDC recommends designing the incentive mechanism to reach the earnings target at 10% beyond forecast performance, which is about 20% to 30% more than the CPUC goals.

Step 5: Specify the Linear Function to Determine Earnings

As discussed in our July 16th comments, the earnings for energy and demand savings in NRDC’s proposal would be the sum of three functions that increase linearly up to the earnings target for each metric at 110% of forecasted performance.

Each of the three linear earnings functions has the following simple formula:

$$\text{Actual Earnings} = \text{Earnings target} \times \frac{\text{Savings}_{\text{actual}}}{(110\% \times \text{Savings}_{\text{projected}})}$$

NRDC used the projected savings data presented in Table 4 to calculate the linear functions.

Table 4: Projected Energy and Demand Savings for 2013-14²¹

	PG&E	SCE	SoCal Gas	SDG&E	Total
Net Lifecycle Electric Savings (GWh)	13,699	19,030	58	3,971	36,758
Net “Lifecycle” Demand Savings (MW)	2,151	3,318	36	662	6,128
Net Lifecycle Natural Gas Savings (MMTherms)	344	N/A	560	31	935

Using this data produces the following earning equation:

$$\text{Earnings} = 2.5\% \text{ of electric energy earning target (\$) per 1,000 GWh lifecycle} + 1.5\% \text{ of electric demand earning target (\$) per 100 MW lifecycle} + 1\% \text{ of natural gas earning target (\$) per 10 MMTh lifecycle}$$

²⁰ Aggregate savings are projected to be 120% of GWh goals, 111% of MW goals, and 120% of MMTh goals.

²¹ Net lifecycle electric energy and natural gas savings data, and net annual electric demand savings data, was provided by each utility in response to NRDC’s data request, July 2012. NRDC calculated the forecasted net “lifecycle demand” savings by multiplying the net annual electric demand savings for each utility by the electric portfolio average EUL (calculated by dividing the portfolio’s net lifecycle electric energy savings by the net annual electric energy savings). Appendix A provides the relevant data NRDC used in this calculation.

As discussed above, in Steps 2 and 3, NRDC proposes the following the earnings targets (at 110% of forecasted performance):

- Electric energy: \$113 million
- Electric demand: \$38 million
- Natural gas: \$27 million

Using these earnings targets, the total earnings equation becomes:

$$\text{Earnings (\$M)} = \$0.0028\text{M} / \text{lifecycle GWh} + \$0.0056\text{M} / \text{lifecycle MW} + \$0.0266 / \text{lifecycle MMTh.}$$

Step 6: Set Sub-Caps

NRDC recommends that the mechanism include sub-caps for each of the different savings metrics, and for codes and standards savings as discussed in our July 16th comments. Sub-caps for the three savings metrics (GWh, MW and therms) are warranted in order to ensure that the utilities maintain focus on all three metrics and do not seek to expand earnings solely by focusing on one at the expense of the others. At the same time, some flexibility is warranted.

We recommend that the sub-caps be set 10% higher than the target earnings level, as detailed in Table 5. The sum of the sub-caps is therefore greater than the overall cap on the energy and demand savings component of NRDC’s proposed earnings mechanism, which provides some flexibility in earnings among categories but ensures that the utilities maintain a focus on all three categories.

Table 5: Proposed Sub-Caps on Energy and Demand Saving Earnings (\$millions for 2013-14)

Electric Energy	Electric Demand	Natural Gas	Sum	Overall cap on energy/demand savings component
\$125	\$42	\$30	\$196	\$179

As NRDC discussed in our July 16th comments, a sub-cap on potential earnings from codes and standards savings can be useful to ensure that potential earnings associated with those savings stay within expectations. In our earlier comments, we proposed a change in the accounting method for codes and standards savings. Since the CPUC has little time to adopt a new incentive mechanism for 2013-14 before the end of the year, we recommend continuing to use the current

accounting method for codes and standards savings for 2013-14 and considering the new approach NRDC proposed for 2015 and beyond.

Using the current accounting approach, codes and standards savings are expected to account for approximately 10% to 30% of the portfolio lifecycle savings. Codes and standards savings are extremely cost-effective and the utilities should be encouraged to maximize them whenever possible. Therefore for 2013-14, we recommend a simple sub-cap on earnings from codes and standards savings at half the potential earnings from energy and demand savings, or \$89 million.

B. Proposed Performance Metrics

In NRDC's July 16th comments, we recommended that the CPUC consider supplementing the core incentive mechanism focused on achieving energy and demand savings with performance metrics that are (i) limited in number, (ii) distinct from the energy and demand savings goals, (iii) quantifiable, and (iv) outcome-oriented. NRDC recommends that the Commission adopt one performance metric for the comprehensive whole home retrofit program for 2013-14, and consider adding another for the new construction programs for the cycle beginning in 2015. This would enable the Commission to "start small" with these performance metrics to verify that they are effective and avoid the problems the CPUC encountered with "milestone" incentives a decade ago.

NRDC Supports a Performance Metric for Energy Upgrade California Advanced Projects

NRDC supports TURN's proposal for a performance metric to help further accelerate the Energy Upgrade California (EUC) whole home retrofit program in concept. If properly designed, such a metric can meet the criteria noted above; in particular, the EUC program's emphasis on comprehensive, deep retrofits helps meet the CPUC's priority objectives and may not be sufficiently incentivized by the energy and demand savings component of our proposed incentive mechanism because the EUC program's savings are currently much more expensive than other programs using the CPUC's existing approach to cost-effectiveness. However, NRDC does not support TURN's proposal to focus the performance metric on projects in hotter climate zones. It appears that the suggested focus on hotter climate zones is a proxy for projects with greater

savings, so it would be simpler and more direct to focus on spurring projects with significant savings regardless of climate zone.

EUC is already divided into Basic and Advanced options, which provides a simple way to target the performance metric towards the projects that have more comprehensive approaches and deeper savings. NRDC recommends that the performance metric encourage continued growth in EUC Advanced projects. For example, the incentive could begin once a utility exceeds a certain number of EUC Advanced projects, and scale up linearly to the earnings target once the utilities achieve 110% of the projects projected in their applications.

NRDC Recommends a Performance Metric for New Construction Programs in the Future

New construction programs meet the criteria noted above for performance metrics because they advance priority policy objectives that cannot be sufficiently achieved through the “energy and demand savings” part of NRDC’s recommended incentive mechanism since they (i) help avoid lost opportunities that are not valued as part of the simple lifecycle savings assessment, (ii) provide deep, comprehensive, and long-lasting savings, and (iii) are essential to reach the state’s Zero Net Energy new construction goal. In addition, under the CPUC’s current cost-effectiveness approach, the residential new construction programs are not cost-effective and are therefore disadvantaged relative to other programs.

The key goals for the new construction performance metric should be to reach as many new construction projects as possible, and to secure savings as far beyond Title 24 requirements as possible. Therefore, the earnings mechanism for new construction programs should be structured as:

- Earnings = Base earnings at threshold x (1+ percent of total new construction square footage reached) x (1+ average percent beyond Title 24), where:
 - Base earnings at threshold = Earnings begin at a “base level” once a utility’s program reaches a certain percent of new construction square footage.
 - Percent of total new construction square footage reached = square footage of projects in efficiency program / square footage of all projects in utility service territory
 - Average percent beyond Title 24 = the weighted average percent savings of all projects relative to Title 24 requirements

To implement such a mechanism, the CPUC would need to determine whether it can

obtain reliable and objective sources of data on the total square footage of new construction projects in each utility's service territory that would be available within 6 months of the end of each year. In addition, the CPUC would need to specify the minimum penetration rate of the programs to meet the threshold and the base earnings level. NRDC has not had adequate time to develop a proposal for the numerical details of such a mechanism. Therefore, we recommend that the CPUC consider and further develop this proposal for the cycle beginning in 2015.

TURN's Proposal for an HVAC Performance Metric Is Premature

It appears that TURN's proposed metric focused on air conditioning would incentivize a program that is not currently offered nor proposed (i.e., rebates for residential central AC distributors). NRDC recommends that the Commission, utilities and parties first discuss and decide on the merits and design of such a program before considering an incentive performance metric. In addition, NRDC's proposed incentive mechanism focused on energy and demand savings would encourage measures that provide long-lived demand savings like air conditioning, so it is unclear that such a program would need a separate performance metric (or meet the criteria we discussed above).

C. Changes and Clarifications to NRDC's July 16th Pre-Workshop Comments

NRDC continues to recommend that the CPUC adopt the new incentive mechanism we proposed in our July 16th comments, with the additional numerical details described above. As a result of discussions with parties at and following the CPUC's workshop about the various incentive approaches under consideration, NRDC provides the following clarifications and changes to our proposal.

Use Ex-Ante Metrics Wherever Possible, But Include Savings From Programs That Require Ex-Post Analysis

As we discussed in our July 16th comments, NRDC recommends that the CPUC lock-down as many metrics as possible on an ex-ante basis in order to make the mechanism's operation predictable and less controversial. We noted that all values should be ex-ante, with ex-post updates only for actual installations and program costs. However, there are programs or components of programs where some level of ex-post analysis is essential in order to count any

savings (not just to inform future ex-ante values). For example, behavioral programs, some components of the Custom program, and new construction rates and appliance sales for codes and standards savings all require the development of ex-post values.

Therefore, we recommend that the CPUC lock-down on an ex-ante basis any metric that can be locked down, but also include savings from programs that require ex-post analysis as well. For example, the ex-post savings from behavioral programs should be included in the savings that are “counted” for purposes of the incentive mechanism. For the Custom program, all possible values that can be locked down ex-ante, including net-to-gross ratios, should be fixed ex-ante.²² Of course, ex-post evaluation for metrics that are locked down should continue in order to inform the development of future ex-ante values.

Fix All Net-to-Gross Values Ex-Ante, Or Else Use Gross Savings for the Incentive Mechanism

NRDC recommends that the CPUC adopt our proposed incentive mechanism that scales earnings based on net lifecycle savings, with all net-to-gross (NTG) ratios fixed ex-ante (including NTG ratios for the Custom program). However, if the CPUC does not lock down all net-to-gross values ex-ante, then NRDC recommends that the Commission adopt our incentive mechanism but scale earnings based on *gross* lifecycle savings.²³ Net-to-gross ratios are perhaps the most subjective of the EM&V metrics, so the CPUC should avoid the use of ex-post NTG ratios in order to reduce controversy, simplify the mechanism, and ensure all implementers are focused on maximizing savings in a collaborative manner rather than trying to “prove” they exclusively “caused” savings. Appendix B provides NRDC’s proposed earnings calculation using gross savings if the CPUC decides to take that approach.

Elements of NRDC’s Recommendations to Postpone to the 2015 Cycle

In NRDC’s July 16th comments, we recommended that the CPUC (i) lift or eliminate the cap on effective useful lives and (ii) change the accounting approach for codes and standards savings to eliminate the need for “attribution” studies and instead limit the potential earnings through other means. Since the CPUC has little time to adopt a new incentive mechanism for

²² Since custom projects are, by definition, customized, and some are complex system upgrades that don’t lend themselves to typical per measure energy savings calculations, estimating energy savings will require some ex-post verification in some cases.

²³ Note that this would be gross savings for programs but would still include net savings from codes and standards.

2013-14, and ex-ante values need to be firmly locked down at the start of the cycle, we recommend that the CPUC consider these two changes for the cycle beginning in 2015 rather than the 2013-14 cycle.

Interactive Effects Should Be Addressed For All Utilities

The possibility exists for a single “fuel” utility to have negative savings in one category due to interactive effects. Unlike the prior shared savings approach, our recommended incentive mechanism does not automatically account for interactive effects for these single “fuel” utilities. Therefore, we recommend that the CPUC account for interactive effects for any utility that qualifies for earnings by subtracting any “negative earnings” (due to negative total savings from interactive effects) from that utility’s earnings. This would not be a penalty. Instead, it would simply reduce potential earnings to account for interactive effects for single “fuel” utilities just as earnings would automatically be adjusted under this mechanism for dual “fuel” utilities.

Demand Savings Should be Included on a “Lifecycle” Basis

The concept of lifecycle savings normally only applies to energy savings. Demand savings are normally only denoted by annual savings, but we propose to use “lifecycle demand” savings in calculating the incentive mechanism in order to further encourage the utilities to reach the CPUC’s goal of securing long-lasting savings. “Lifecycle demand” savings would be calculated by multiplying the annual demand savings by the electric portfolio’s average effective useful life, in order to further advantage demand-saving measures that provide long-lasting savings. (The electric portfolio’s average effective useful life would be calculated by dividing the lifecycle electric energy savings by the annual electric energy savings.)

Annual Assessments with a Cap on the Full Cycle

NRDC recommends that the earnings and/or penalties be subject to simple annual assessments, without any holdbacks or true-ups. NRDC’s proposal is a simplified mechanism that “locks down” as many appropriate metrics as possible, so we expect that the CPUC could complete the necessary verification for each program year by the following year without the need for a true-up process at the end of the cycle (as was required with the prior shared savings approach’s reliance on full ex-post EM&V). In addition, the earnings caps and sub-caps proposed

above would apply to the full two-year cycle (rather than setting annual caps) in order to allow for the first-year ramp-up that has been necessary for the last several cycles.

V. NRDC'S RESPONSE TO OTHER PARTIES' PROPOSALS

A. NRDC Strongly Urges the CPUC To Reject TURN's Proposal to Incentivize Utilities To Spend Money Rather Than To Save Energy

TURN proposed an incentive mechanism with two primary components: (i) half of the earnings opportunity would reward utilities for spending money on efficiency programs (with no link to overall performance at achieving the CPUC's goals) and (ii) the other half would reward performance on two specific programs. NRDC appreciates TURN's efforts to simplify the incentive mechanism dramatically. However, TURN's approach over-simplifies to the point that it sacrifices key objectives for an incentive mechanism – in particular, it fails to incentivize good performance and instead rewards spending customers' money.

TURN recognizes that its proposal for a cost-plus mechanism “may not be as ‘ideal’” as an approach based on savings, but argues that it will “likely be more practical.” (TURN, p. 18) But the CPUC must not prioritize ease of implementation over effectiveness of achieving the CPUC's policy goals. As the ALJ Ruling of June 15, 2012 noted, the first criteria Energy Division proposed for considering incentive mechanisms is:

“Effective and Strategic

The mechanism must uniformly and effectively achieve the Commission's energy efficiency policy goals of producing reliable energy savings, accomplishing the California Energy Efficiency Strategic Plan objectives, and reducing energy consumption necessary to achieve Greenhouse Gas emissions reduction goals.” (ALJ Ruling, p. 9)

TURN's proposal for an incentive mechanism primarily focused on how much money the utilities spend on energy efficiency is neither effective nor strategic. Worse yet, it would incentivize the one thing that the CPUC should *not* want the utilities to do: simply spend money. The CPUC must ensure that the incentive mechanism spurs the outcome that it desires – in this case energy savings – rather than an undesirable one.

B. TURN's Proposal Would Not Eliminate Contention

TURN argues for eliminating any link between energy savings and the incentive mechanism in order to reduce contention. However, incentivizing spending money will likely simply breed contention down the road. TURN's proposal would essentially give the utilities moderate earnings as long as they spend money, regardless of whether they do a good job or bad job at meeting the CPUC's goals. It is unrealistic to think that parties will not argue about whether the utilities did a good enough job to warrant earnings in such an approach. By not delineating between good, adequate, and poor performance up-front, TURN's proposal would simply delay the controversy to after the fact; in addition, it would quite likely increase the level of controversy, as parties debate what level of performance the CPUC should have considered good enough.

Eliminating the Link Between EM&V and Incentives Will Not Reduce Contention Over EM&V

At the workshop, TURN and other parties suggested that eliminating the link between EM&V and incentives would reduce or even eliminate the contention over EM&V. NRDC strongly disagrees. The reason the contention continues is two-fold and we note that both challenges are well within the ability and authority of the Commission to fix. First, the CPUC has so far failed to provide an adequate collaborative approach or public process to address and resolve the disputes. Second, the evaluation process has focused excessively on the incentive mechanism rather than the main purposes the CPUC specified for evaluation (i.e., to improve programs and rely on efficiency as a resource).²⁴

The EM&V values are important for numerous reasons, including estimating the available savings potential, designing programs to capture that potential, and estimating the impact of energy savings on future demand and the resulting need for procurement of other resources, among others. These are critical issues that require EM&V values to be fully vetted through a transparent public process. Eliminating a link between EM&V and incentives will do nothing to reduce the contention over EM&V for these many other critical purposes, and will only handicap the incentive mechanism's ability to be effective. Instead, in order to reduce the level of contention over EM&V, NRDC strongly urges the CPUC to establish a collaborative process to

²⁴ See D.10-10-033 Appendix A, p.48, for a discussion of the CPUC's five core objectives for EM&V: (1) savings measurement and verification, (2) program evaluation, (3) market assessment, (4) policy and planning support, and (5) financial and management audit.

review, discuss, and resolve EM&V issues going forward.

C. NRDC Urges the CPUC to Reject TURN's Proposal to Make Program Spending on Rebates and Financing a Threshold for the Incentive Mechanism

TURN proposes a threshold for earnings to begin when at least 50% of spending goes to incentives, rebates and financing, arguing that it will “provide an incentive to maximize participation and lower up-front measure costs.” (TURN, p. 2, 23-24) While NRDC agrees with TURN's desire to maximize participation, we strongly urge the CPUC not to attempt to change the details of how programs are designed through the incentive mechanism; program design issues should be addressed through the up-front approval process. In addition, in many cases there may be more effective ways to overcome the barriers that customers face than by emphasizing only rebates or financing. For example, information, availability of products in stores, contractor knowledge and training, technical assistance, direct installation, etc, have all been shown to be effective in various market sectors at increasing participation; it would be inappropriate for the CPUC to guide programs away from other approaches that might be more effective through the incentive mechanism. Moreover, a key purpose of the EM&V process is to continuously improve program design to increase participation. The Commission should continue to use the EM&V and up-front program approval process to guide details of program design where necessary, rather than setting an arbitrary constraint on program design through the incentive mechanism.

D. NRDC Agrees With TURN That Energy Upgrade California is Appropriate to Promote with a Performance Metric, But Potential Earnings Should Be Lower

As discussed above, NRDC supports in concept TURN's proposal for a performance metric to accelerate the EUC program. However, TURN's proposed earnings opportunity of \$25 million for the program is too high for the 2013-14 cycle. The EUC program budget is approximately \$80 million for the two years, so TURN's proposed earnings would be about 30% of the budget for that one program. NRDC recommends that the CPUC begin with lower levels of potential earnings on program-based performance metrics - that are reasonable in relation to the program budgets - and ensure that the performance metrics are clearly specified and work as

intended. If the performance metric is successful for 2013-14, then the CPUC should consider increasing it for the 2015 cycle as the program grows.

E. NRDC Disagrees with PG&E and SDG&E's Recommendations to Continue A Modified Shared Savings Mechanism, Unless the CPUC Is Unable to Adopt a New Mechanism for 2013-14 In a Timely Manner

PG&E and SDG&E both recommended variations to the CPUC's prior shared savings incentive mechanism for 2013-14. Such an approach would continue the Commission's current approach of prioritizing cost-effectiveness above other objectives, which creates some barriers to achieve the policy direction the CPUC is heading (to maximize savings through deeper, more comprehensive and longer-lasting savings) as we discussed above. NRDC urges the CPUC to adopt an incentive mechanism based on lifecycle savings rather one that emphasizes net benefits (like the shared saving mechanism).

In NRDC's July 16th comments, we urged the Commission to place a high premium on establishing an incentive mechanism for the 2013-14 portfolio cycle "to coincide with the start" of the cycle as the CPUC intends. NRDC recommends that the CPUC adopt the new incentive mechanism we have proposed, however, if the Commission is unable to make a timely decision on it then we would support simply modifying the prior shared savings mechanism for 2013-14 and adopting the new approach for the cycle beginning in 2015.

VI. CONCLUSION

NRDC urges the CPUC to make energy efficiency the state's top priority energy resource both in name and in practice by adopting an incentive mechanism for efficiency. We urge the Commission to adopt the new incentive mechanism NRDC proposes in these comments and our July 16th comments, in order to spur efficiency efforts to maximize savings cost-effectively, in a manner that encourages deeper, more comprehensive, and longer-lasting savings. NRDC urges the CPUC to meet its goal of adopting a mechanism for the 2013-14 cycle by the end of this year, to coincide with the start of the program cycle so that it can be most effective in spurring excellent performance.

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Dated: October 1, 2012

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Devra Wang". The signature is written in a cursive style with a prominent underline.

Devra Wang
Director, California Energy Program
Natural Resources Defense Council

Appendix A: Net Energy and Demand Savings Data Used In Calculating Earnings Formula

NRDC used the data in Appendix A to develop the proposed earnings equation discussion above.

Table A1: Projected Net Energy and Demand Savings for 2013-14²⁵

Row			PG&E	SCE	SoCal Gas	SDG&E	Total
1	Forecasted Net Lifecycle Savings for 2013-14 (GWh)		13,699	19,030	58	3,971	36,758
2	Forecasted Net Annual Savings for 2013-14 (GWh)		1,641	1,811	4.58	400	3,857
3	Electric portfolio average EUL	Row 1 / Row 2	8.3	10.5	12.7	9.9	9.5
4	Forecasted Net Annual Demand Savings for 2013-14 (MW)		258	316	3	67	643
5	Forecasted Net Lifecycle Demand Savings for 2013-14 (MW)	Row 3 x Row 4	2,151	3,318	36	662	6,128
6	Forecasted Net Lifecycle Savings for 2013-14 (MMTherms)		344	N/A	560	31	935

²⁵ Net lifecycle electric energy and natural gas savings data, and net annual electric demand savings data, was provided by each utility in response to NRDC’s data request, July 2012. NRDC calculated the forecasted net “lifecycle demand” savings by multiplying the net annual electric demand savings for each utility by the electric portfolio average EUL (calculated by dividing the net lifecycle electric energy savings by the net annual electric energy savings).

Appendix B: NRDC’s Proposed Incentive Mechanism Scaled Using Gross Savings

If the CPUC opts to not lock down all NTG values ex-ante as we recommend, then NRDC urges the Commission to scale earnings using gross savings. (Note that this would be gross savings for programs, but savings for codes and standards would continue to be net.) NRDC provides our proposed earnings formula based on gross savings below, using the data in Table B1.

Table B1: Projected Gross Energy and Demand Savings for 2013-14²⁶

Row			PG&E	SCE	SoCal Gas	SDG&E	Total
1	Forecasted Gross Lifecycle Savings for 2013-14 (GWh)*		18,667	23,067	166	5,899	47,799
2	Forecasted Gross Annual Savings for 2013-14 (GWh)		2,128	2,183	N/A	568	4,897
3	Electric portfolio average EUL	Row 1 / Row 2	8.8	10.6	12.7**	10.4	9.8
4	Forecasted Gross Annual Demand Savings for 2013-14 (MW)		351	380	7	86	824
5	Forecasted Gross Lifecycle Demand Savings for 2013-14 (MW)	Row 3 x Row 4	3,080	4,010	93	891	8,069
6	Forecasted Gross Lifecycle Savings for 2013-14 (MMTherms)		569	N/A	809	94	1,472

* Includes program savings reported as gross and savings from codes and standards reported as net.

**Based on the EUL calculated in Table A1 using net data.

Using this gross savings data produces the following earning equation to replace the equation described in Step 5 in our comments:

$$\text{Earnings} = 1.9\% \text{ of electric energy earning target (\$) per 1,000 GWh gross lifecycle} + 1.1\% \text{ of electric demand earning target (\$) per 100 MW gross lifecycle} + 0.6\% \text{ of natural gas earning target (\$) per 10 MMTh gross lifecycle}$$

²⁶ Gross lifecycle electric energy and natural gas savings data, and gross annual electric demand savings data, was collected from the utilities’ applications and information provided by each utility in response to NRDC’s data request, September 2012. NRDC calculated the forecasted gross “lifecycle demand” savings by multiplying the gross annual electric demand savings for each utility by the electric portfolio average EUL (calculated by dividing the gross lifecycle electric energy savings by the gross annual electric energy savings).

As discussed in Steps 2 and 3, NRDC proposes the following the earnings targets (at 110% of forecasted performance):

- Electric energy: \$113 million
- Electric demand: \$38 million
- Natural gas: \$27 million

Using these earnings targets, the total earnings equation would become:

$$\text{Earnings (\$M)} = \$0.0022\text{M} / \text{gross lifecycle GWh} + \$0.0043\text{M} / \text{gross lifecycle MW} + \$0.0169 / \text{gross lifecycle MMTh.}$$