Decision _____

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

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

DECISION REGARDING THE RISK/REWARD INCENTIVE MECHANISM EARNINGS TRUE-UP FOR 2006-2008

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APPENDIX A – Adopted Assumptions for Assessing Risk/Reward Incentive Mechanism True-Up

DECISION REGARDING THE RISK/REWARD INCENTIVE MECHANISM EARNINGS TRUE-UP FOR 2006-2008

1. Introduction

This decision resolves the final true-up of Risk/Reward Incentive Mechanism (RRIM) earnings for the 2006-2008 cycle for savings achieved due to energy efficiency programs administered by Pacific Gas and Electric Company, Southern California Edison Company, San Diego Gas & Electric Company, and Southern California Gas Company (the IOUs). As adopted in Decision (D.) 07-09-043, RRIM offers financial incentives or penalties as a function of utility success in achieving and surpassing adopted energy savings goals.

In this decision, we complete the true-up of these interim awards, and determine if additional incentive earnings are due, or if penalties apply. The IOUs have already been awarded interim incentive earnings for the 2006-2008 cycle totaling $143.7 million.[1] These amounts were awarded as incentives based on interim review of the IOUs' achievements of energy efficiency savings during 2006-2008. Based on the true-up results reviewed herein, and summarized in Appendix A, we determine that the IOUs' 2006-2008 energy savings achievements are sufficient to qualify for retention of previously awarded incentive amounts, but not outstanding enough to qualify for further incentive earnings increases. Accordingly, the previous interim awards constitute final payment for the 2006-2008 cycle.

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[1] A first interim installment was awarded in D.08-12-059, and a second installment was awarded in D.09-12-045. Together, these interim payments total $143.7 million.

We make this determination based upon consideration of savings accomplishments that have been independently evaluated by the Commission's Energy Division in comparison to adopted savings goals. We have calculated incentive earnings to recognize some measure of cumulative savings goals, to incorporate 100% of savings from pre-2006 Codes and Standards Advocacy Programs and to reduce therm savings goals for relevant interactive effects.

Even though no additional earnings are awarded for 2006-2008 activities, the IOUs will retain previously awarded incentives totaling $143.7 million, in recognition of their energy efficiency achievements.[2] The incentive mechanism reinforces our strong commitment to the goal of declining overall future per capita electricity consumption in California for the IOUs. Moreover, we do not address herein what incentives earnings may be awarded for energy efficiency achievements accomplished during 2009, or how incentives earnings may apply for the 2010-2012 program cycle. We defer those matters to a subsequent decision in this proceeding, recognizing the need for timely resolution of those issues.

We opened this rulemaking, recognizing the contentious character of the prior proceeding to determining incentive earnings.[3] This controversy has continued unabated. When applied, the RRIM methodologies for assessing

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[2] In D.05-09-043 and D.05-11-011, the Commission approved portfolios of energy efficiency programs for the 2006-2008 cycle in the amount of $2.2 billion.

[3] This rulemaking is the successor to Rulemaking (R.) 06-04-010, our inquiry into post-2005 energy efficiency policies, programs, evaluation, measurement and verification (EM&V), and related issues. We issued a number of decisions in R.06-04-010 on topics ranging from energy efficiency goals (e.g., D.08-07-047) to the RRIM.

incentive earnings have proven to involve complexities that are not as easily or as timely resolved as was originally contemplated.

In this proceeding, we sought to develop a new framework for the determination of 2006-2008 energy efficiency incentives.[4] We have repeatedly encouraged parties to pursue settlement discussions of these protracted issues, but the resulting efforts to seek resolution have not been successful. We have also explored possible alternative policy assumptions to streamline the derivation of incentive amounts while maintaining the integrity of the process.

Although certain parties propose alternative approaches to simplify the calculation, we must reject proposals that conflict with the fundamental principle that only real and independently verifiable program-related net benefits qualify for incentives, as stated in D.07-09-043:

> Ratepayers will only be required to share net benefits with shareholders to the extent that those net benefits actually materialize, based on Energy Division's EM&V results. (D.07-09-043 at 12.)

Consequently, the true-up of incentive earnings must be based upon net benefits that have been evaluated independently by the Energy Division. We continue to believe, however, that the Commission should pursue reforms to the existing mechanism to design incentives to help achieve the Commission's energy efficiency goals through approaches designed to avoid the protracted controversy over technical methodologies that have characterized the RRIM process. We intend to address needed reforms in the prospective redesign of the RRIM in the next phase of this proceeding.

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[4] Order Instituting Rulemaking (OIR) 09-01-019 at 5.

2. Procedural Background

This phase of the proceeding finalizes the true-up of incentives (or penalties) for achievements in energy efficiency savings for the 2006-2008 cycle. Previous interim incentive earnings for the 2006-2008 cycle were awarded in Decision (D.) 08-12-059 and D.09-12-045, respectively. Parties participating in the proceeding, in addition to the Investor-owned Utilities (IOUs),[5] were the Division of Ratepayer Advocates (DRA), The Utility Reform Network (TURN), Natural Resources Defense Council (NRDC), and Women's Energy Matters (WEM). The record developed for this phase of the proceeding consists of written comments by parties, together with work products produced by the Commission's Energy Division, namely, the Energy Efficiency Evaluation Report and the Scenario Analysis Report. The record also includes the scenario analysis presented by the IOUs in filed comments. The IOUs filed supporting calculations on July 16, 2010, identifying assumptions utilized in their scenario.

As discussed in D.07-09-043, the Risk/Return Incentive Mechanism (RRIM) earnings claims process was originally expected to be ministerial. Incentive earnings were to be awarded based on the Energy Division's independent evaluation of savings accomplishments. Substantive earnings claim issues were to be resolved through adopted procedures for vetting of the Energy Division Evaluation, Measurement, and Verification (EM&V) Reports. Under circumstances where disposition of EM&V issues might require more than ministerial action under General Order 96-B, Energy Division was to prepare a

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[5] The IOUs are Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E), Southern California Edison Company (SCE), and Southern California Gas Company (SoCalGas or SCG).

Commission resolution. In D.08-12-059, the Commission revised this procedure stating that:

> Beginning with the draft verification report that was issued on November 18, 2008 and going forward, we will require that Energy Division issue these reports via draft resolution for consideration and adoption by the Commission before those reports are used to determine incentive payments or penalties under the RRIM. This direction applies to both the verification reports used to assess interim claims as well as those used for the final true-up. These resolutions should include detailed information regarding the underlying assumptions used and supporting documentation that provides the basis for those assumptions. (D.08-12-059 at 21.)

Pursuant to the schedule for the true-up phase of this proceeding set in D.09-12-045, the Energy Division issued its 2006-2008 draft Energy Efficiency Evaluation Report on April 15, 2010, culminating nearly three years of field-based evaluation research. The Report was issued in final form on July 9, 2010, incorporating corrections and responses to parties' comments.

The Final Energy Division Evaluation Report identified the IOUs' energy efficiency savings, but did not address the calculation of RRIM earnings. Accordingly, since RRIM earnings were not addressed, no resolution was issued in connection with the Report's issuance. We have considered the Energy Division's evaluated results, however, within the record of this proceeding, incorporating parties' comments on the process and results of the Energy Division Report.

On April 8, 2010, an Assigned Commissioner's Ruling (ACR) outlined a process to develop the record for this true-up of incentive earnings using the Evaluation Reporting Tools/Database (ERT). Parties filed comments in response to the ACR on April 20, 2010. A subsequent ACR, issued on May 4, 2010,

provided for comments on the Energy Division Scenario Analysis Report which set forth incentive earnings and/or penalties calculations under a range of scenario assumptions. Parties filed comments in response to this ACR on May 18, 2010, and reply comments on June 11, 2010. The IOUs presented a separate scenario analysis in their comments and filed supporting calculations underlying their scenario proposal on July 16, 2010. DRA filed comments on these supporting calculations on July 26, 2010. The IOUs filed a response on August 2, 2010.

In D.09-12-045, the Commission also directed parties to convene a settlement conference "to enter into further settlement discussions to seek agreement on a 2010 final true-up of incentive earnings for each utility that reasonably ties incentives to actual performance consistent with the policies adopted in [D.09-12-045]."

In this regard, the Commission stated that:

> …while the Final Performance Report may provide a context for settlement discussions, we encourage parties to explore the possibility of a 2010 true-up settlement based upon simplified assumptions or metrics not necessarily tied to the detailed and minute level of calculations embodied in the Final Performance Basis Report for the 2006-2008 cycle. In this manner, the schedule for comments and adoption of the Final Performance Basis Report may proceed on a separate, but related track to the schedule for a settlement, or related dispute resolution processes to determine the final 2010 true-up of incentive amounts for each utility. (D.09-12-045 at 72.)

A settlement conference was convened on June 27, 2010, but no settlement was reached. The parties filed a further round of comments on July 9, 2010 with reply comments on July 23, 2010. The record in this proceeding thus establishes a basis for consideration of data in the Energy Division Report, along with the

various RRIM earnings scenario analyses, and parties' comments in evaluating how to resolve the RRIM earnings true-up.

3. Principles Governing the RRIM True-Up Process

As a basis for finalizing the incentive true-up, we apply the principles that have been adopted in designing the RRIM. As adopted in D.07-09-043, the RRIM offers incentives to encourage the IOUs to meet and exceed Commission goals for energy efficiency savings, and to extend California's commitment to making energy efficiency the highest energy resource priority. Incentives are earned as a function of the IOU's success in achieving adopted energy savings goals. Conversely, if the IOU fails to achieve at least minimally acceptable energy efficiency savings, the IOU receives no RRIM earnings, and may incur a penalty.

Incentives are earned as a shared percentage of the net cost savings achieved due to deployment of energy efficiency measures, designated as the performance earnings basis (PEB). The shared savings rate varies depending upon the extent of success in meeting or exceeding adopted goals. Maximum limits on incentive earnings and penalties for all IOUs were capped at $450 million for the 2006-2008 cycle.

In D.07-09-043, we prescribed a process to update, and verify the *ex ante* (pre-installation) assumptions of energy efficiency savings[6] as programs are implemented during three-year program cycles. First, the utilities report the number and type of measures installed and services rendered, along with associated program costs. This reporting was to occur during the first quarter of each year covering the prior year's accomplishments.

Next, Energy Division and its contractors review this information, conduct field research, and release reports evaluating the costs of installations and estimate related savings achieved. Program costs were validated through an audit conducted by the Commission Audit Division. Verification reports were to be released annually during the month of August following the end of each calendar year.[7]

At the end of the program cycle, the Energy Division evaluation results were to be used to true-up the *ex ante* estimates of savings with respect to the number and type of measures installed, and with the associated program costs. Other parameters that were evaluated with respect to measure savings include:

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[6] *Ex ante* refers to assumed energy savings associated with a particular energy efficiency measure or equipment prior to installation. Thus, *ex ante* refers to using program metric assumptions based on past program performance. *Ex ante* measurement relies on engineering estimates or the results of *ex post* savings measurement (e.g., load impact studies) from previous program years or other program experience. (See D.05-04-051 at 35.)

[7] See *ALJ Ruling Adopting Protocols for Process and Review of Post-2005 EM&V activities*, January 11, 2006. Energy Division's Verification Report schedule was modified by Administrative Law Judge (ALJ) ruling on January 2, 2007. For the 2006-2008 program cycle, verification of 2006 installations and program costs were combined with the report on 2007 accomplishments. Both were released concurrently.

(1) per-unit energy savings and peak demand reductions, (2) expected useful lives for installed measures/equipment and (3) net-to-gross (NTG) ratios.[8]

Energy Division and its consultants evaluate these parameters on an *ex post* (post- installation) basis with a variety of field research methods. A true-up of portfolio savings and PEB for the full program cycle was to be based on the parameters evaluated by Energy Division.

The RRIM provides opportunities for earnings (or risk of penalties) at interim points for each three-year program cycle.[9] Under the adopted process,[10] each IOU is eligible for two interim incentive installments, and a final true-up. Interim RRIM earnings were based on savings achievements measured using *ex ante* assumptions subject to a holdback of a portion of the claim, pending *ex post* true-up.

In December 2008, the IOUs received a first installment of RRIM earnings for 2006-2007 mid-cycle performance. In D.09-12-045, the IOUs received a second installment for the 2006-2008 program cycle. The total interim incentive payments totaled $143.7 million, as set forth below:

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[8] NTG ratios are used to discount savings associated with program to reflect the existence of "free riders," that is, customers who would have installed the energy efficiency measure or equipment without the utility's financial incentive (e.g., rebate). NTG ratios are estimated at the start of program implementation, and EM&V studies are designed to evaluate those ratios on an *ex post* (post-installation) basis, using control groups and statistical regression analyses, among other approaches.

[9] D.08-01-042, citing D.07-09-043 Conclusion of Law 7 at 212.

[10] See D.07-09-043, Conclusion of Law 7 at 212, and Attachments 6 and 7.

Interim 2006-2008 RRIM Earnings Previously Awarded

Utility	First Installment (Authorized in D.08-12-059) [A]	Earnings Rate Used For Second Installment	Maximum Earnings (PEB * Earnings Rate) [B]	Maximum Earnings less 35% holdback [C]	2nd Installment of Interim Earnings [C]-[A]	Holdback Amount Subject to Final True-Up [B] – [C]
PG&E	$41,500,000	12%	$115,277,868	$74,930,614	$33,430,614	$40,347,254
SCE	$24,700,000	12%	$77,465,151	$50,352,348	$25,652,348	$27,112,803
SDG&E	$10,800,000	12%	$17,077,803	$11,100,572	$300,572	$5,977,231
SCG	$5,200,000	12%	$11,247,724	$7,311,021	$2,111,021	$3,936,703

The interim EM&V reports produced by Energy Division have been the subject of considerable controversy. Due to delays associated with the first interim report, the first installment of RRIM incentives was based on IOU self-reported results subject to a 65% hold back. Although we utilized self-reported utility claims, we did so only because the First Verification Report was not available in time. The holdback of 65% reflected increased uncertainties associated with self-reported claims.

The Commission upheld the validity of the Energy Division Second Interim Verification Report in D.09-12-045 in determining the dollar value of energy savings subject to the RRIM calculation for the second interim claim. The Commission formally adopted the Energy Division Second Verification Report by resolution on October 15, 2009. The resolution incorporated reference to Verification Report's extensive log of corrections to modeling tools and inputs[11] and itemized responses to criticisms or comments posed by stakeholders.[12]

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[11] See Second Verification Report, Section 8.2.

[12] *Id.*, Section 9.2.

The second installment of incentive earnings was based on net benefits measured by the Energy Division Verification Report, with additional adjustments for following factors:

(1) Both positive and negative interactive savings effects were applied;

(2) The cumulative effects of 2004-2005 savings goals were excluded;

(3) Savings goals were adjusted for interactive effects that were not originally considered in setting 2006-2008 goals;

(4) A shared savings rate of 12% was used by applying the IOUs' original unmodified *ex ante* assumptions in comparing the IOUs' reported savings achievements relative to Commission goals;

(5) The NTG ratio applied for savings attributable to SCE's residential lighting program was adjusted to reflect SCE's specific implementation approach to this program; and

(6) The realization rate applied to SDG&E's Energy Savings BID program and SoCalGas' Local Business Energy Efficiency program was adjusted to reflect the unique nature of those programs as compared to more generic statewide programs.

4. Framing of the Issues for the True-Up

As a framework for determining the true-up of incentive earnings for the 2006-2008 cycle, parties raise two fundamental disputes: (1) the amount of assumed net dollar benefits subject to the incentive calculation, and (2) the applicable percentage allocation of those benefits to be shared between ratepayers and shareholders. Based on these differences, parties disagree as to whether the IOUs are entitled to additional incentive earnings, or whether penalties apply.

The assigned Commissioner circulated a range of incentive earnings scenarios as set forth in the Energy Division "Scenario Analysis Report" (provided by ACR dated May 4, 2010).

This Report illustrated the sensitivity of RRIM earnings over a range of different policy assumptions calculated utilizing the ERT.[13] Each scenario incorporated variations showing incentive impacts assuming:

a) shared savings rate of 9%;
b) shared savings rate of 12%;
c) results compared to 2006-2008 goals;
d) reduced therm goals by 22% for SDG&E and 26% for PG&E;
e) recognition of 100% of savings from Codes and Standards (C&S) Advocacy accomplishments; and
f) Inclusion of interim RRIM awards as additional program costs.

These assumptions were highlighted to illustrate the effects of various policy disputes previously at issue in interim incentive proceedings. The scenarios drew data from different sources utilizing the ERT as a template, including Energy Division evaluation findings, along with the IOUs' self-reported data.

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[13] The ERT is a combination of tools and processes that work in concert to calculate 2006-2008 energy efficiency portfolio performance results.

The ERT core features were used to compile and evaluate alternative scenarios and resulting RRIM earnings based upon changes to key parameters. The ERT aggregates and reports efficiency savings performance at the level of measure group, program, and total portfolio. Based on specified parameter assumptions, the ERT generated scenario runs showing corresponding RRIM earnings.

The RRIM earnings calculated under these scenarios range from less than $1 million to almost $400 million. The scenarios can be grouped into the following general categories:

(1) Scenarios S2 and S3 -- "Utility Reported Net Savings"

These scenarios apply *ex ante* values for all key parameters and exclude updating based on EM&V evaluation studies. These scenarios result in total earnings of either about $400 million (all S2 results) or around $300 million (S3 results with updated installation rates). Scenario S2 calculates the results using IOU-reported net savings based on their 4th quarter tracking database, with IOU-reported net-to-gross ratios without updating for evaluation field research. Scenario S3 utilizes a similar data set as Scenario S2, but with IOU-reported quantities adjusted based on evaluated installation rates.

(2) Scenarios S4 and S5 -- "Evaluated Gross Savings"

These scenarios use key parameters updated based on Energy Division's evaluation studies of installation rates and energy savings, but exclude Energy Division's evaluated NTG ratios. These scenarios result in total earnings around $200 million, though the two sub-scenarios using a 12% sharing rate result in earnings of about $250 million.

(3) Scenarios 6 through 9 -- "Evaluated Net Savings"

These scenarios apply *ex post* savings as evaluated by the Energy Division yielding total shareholder incentive earnings of about $29 million for all the utilities for the 2006-2008 cycle. These scenarios replace *ex ante* utility parameter values with evaluated *ex post* results based on the most recent studies conducted under the EM&V protocols. None of these scenarios result in earnings higher than about $85 million. The sub-scenarios that use a 9% rate result in total incentives of about $30 million, while the use of the 12% sharing rate results in earnings of about $80 million. Scenario 7 shows incentive earnings for all three utilities as $29,101,924. Since the Commission has already authorized $143.7 million in interim RRIM payments, and since there is no

> claw back provision, no further RRIM awards would be due. However, Scenario 7 calculates that PG&E accomplished less than 65% of its demand savings goal, which would place PG&E into the penalty zone, resulting in the refund of previous incentive payments of $74 million.[14]

TURN, DRA, and WEM argue that the incentive true-up should be determined utilizing the Energy Division evaluation of net savings. The IOUs and NRDC, however, oppose the Energy Division findings as the basis for measuring energy efficiency savings. They criticize the Energy Division Report and the measurement studies that formed the basis for its findings on evaluated savings.

The IOUs and NRDC argue that the net savings used in the true-up should instead carry forward the *ex ante* assumptions previously used in the 2005 Database for Energy Efficiency Resources (DEER) for certain key parameters.

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[14] In its July 9, 2010 comments, DRA claims that the Energy Division penalty calculations for PG&E are understated, and offers corrected values. DRA points out that the PG&E penalty amount calculated by the Energy Division only includes repayment of the interim incentives, rather than the per unit penalty established in D.07-09-043 where energy utility savings are less than 65%. Energy Division calculated that PG&E only achieved 60% of its megawatt (MW) Goal. Applying the penalty of $25,000/MW to PG&E's deficit of 32 MW yields a penalty of more than $800,000. Energy Division also calculates that PG&E achieved only 63% of its MMtherm (MMTh) goal. Applying the per-unit penalty would result in a penalty of $450,000. DRA argues that these goal shortfalls should result in additional penalties of $1.25 million.

Moreover, on Table 23, page 96, the Energy Efficiency Draft 2006-2008 Report calculates that SCE also fell short of its MW Goal at 64%. Using the per unit penalty formula established in D.07-09-043, a penalty of $175,000 would result. DRA notes that SDG&E is calculated as achieving only 37% of its MMTh Goal. At this level D.07-09-043 requires a dollar-for-dollar payback of negative net benefits. Thus, DRA argues that all three energy utilities should repay their interim incentive payments and be subject to penalties as well.

The IOUs argue that incentives should apply using a 12% shared savings rate, while TURN, DRA, and WEM support the use of a 9% shared savings rate, as calculated by the Energy Division based on the RRIM formula. NRDC recommends that the shared savings rate be based on the RRIM formula using a final savings calculation that is reviewed and approved by the Commission.

DRA and TURN contend that the Energy Division Evaluation Report utilizes the most up-to-date and independently verified parameters of energy efficiency savings achievements. DRA argues that ignoring these results or engaging in after-the-fact lowering of goals defeats the purpose of the incentive mechanism to align the interest of shareholders and ratepayers by rewarding innovative and effective performance in achieving the Commission's goals. If the IOUs are rewarded for results that do not achieve the Commission's energy efficiency goals, DRA argues the incentive mechanism loses its value to promote optimal performance. DRA and TURN thus support use of the Energy Division's adjusted results in the Evaluation Report for calculating incentives for 2006-2008. DRA and TURN point out that the Energy Division, unlike the IOUs, has no financial interest in the outcome of the incentives calculation and is therefore the most unbiased source of information. DRA argues that if other assumptions are used to calculate incentives, the shared savings rate established in D.07-09-043 should be lowered to reflect the decreased risk shareholders face by using lowered goals or less accurate parameter measures.

On the basis of Evaluation Report data, Energy Division made the following calculation of RRIM earnings for the 2006-2008 cycle (identified as: "Scenario 7" in the Scenario Analysis Report:[15]

Utility	Performance Earnings Basis	Earnings % Rate	RRIM Total Earnings	(Penalties)
PG&E				($74,930,614)
SCE	$299,294,334	9%	$26,936,490	
SDG&E	$28,365,487	9%	$2,552,894	
SoCalGas	$8,423,204	9%	$758,088	

The Energy Division evaluation results show positive earnings for SCE, SDG&E, and SoCalGas. Since the interim incentives previously awarded for each of these IOUs exceed the final totals, however, no additional incentive earnings would be due. For PG&E, the Energy Division findings indicate a penalty of $74.9 million was incurred because evaluated PG&E MW savings fell below the 65% minimum performance standard (MPS) threshold level.

The IOUs claim that reliance on the Energy Division Evaluation Report as the basis for RRIM earnings would diverge from adopted EM&V protocols. The IOUs claim that the Energy Division Report results are not independently verified based on adopted EM&V protocols and are not consistent with the Commission policy of independent verification.

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[15] Although Scenario 7 applied a 9% shared savings rate in completing incentive earnings, a 0% rate should have been applied based upon the achieved percentages of savings goals assumed. Scenario 7 calculates that each IOU achieved less than 85% of its savings goals. Pursuant to D.08-12-059, Ordering Paragraph 4, a 0% rate applies under this assumption.

The IOUs claim that the Energy Division evaluation has many technical deficiencies and cannot be relied upon to assess IOU achievements for the 2006-2008 cycle. Among the claimed shortcomings, the IOUs complain of inappropriate sample sizes, low confidence intervals, self-reported NTG ratios, and generally poor measurement execution.[16]

The IOUs propose that instead of the Energy Division *ex post* evaluations for certain specified measures at least, incentive earnings should be quantified by applying the *ex ante* values, that were assumed at the time that the 2006-2008 program cycle funding was initially established, as reflected in the 2005 DEER. The IOUs claim that the 2005 DEER values are the only ones that have been properly vetted and accepted. The IOUs nonetheless propose the use of updated data, however, for computing avoided costs and greenhouse gas (GHG) adders.

The IOUs and NRDC argue that the Energy Division evaluation studies completed in 2008 and 2009 are not reliable sources of certain key parameters, such as NTG ratios. In the interests of compromise, however, the IOUs accept certain assumptions in the Energy Division Report except as detailed below. The IOUs seek a final installment of RRIM earnings based upon their own proposed calculation scenario, arguing that their calculation produces an appropriate outcome given the current policy and intent of the Commission. The IOUs' calculation scenario uses the Energy Division's Final Evaluation Report as a foundation, but applies different assumptions for factors that the Joint IOUs consider to be errors in the Energy Division Report. The Joint IOU Scenario thus:

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[16] The Energy Divison's responses to claimed technical deficiencies are discussed in Section 5.2 below.

- applies a 12% shared savings rate in accordance with D.09-12-045 (citation included above);
- does not compare energy savings against 2004-2008 cumulative goals;
- includes 100% of the savings from 2006-2008 C&S activities; and
- applies *ex ante* values for NTG ratios, Expected Useful Life (EUL), In-Service Rates (ISR) for upstream-delivered Compact Fluorescent Light bulbs (CFLs), and Interactive Effects as found in the 2005 DEER.[17]

Based on these assumptions, the Joint IOUs seek an additional $112.3 million in RRIM earnings. When added to the $143.7 million previously awarded, the IOU proposal for an additional $112.3 million would result in cumulative RRIM awards for 2006-2008 totaling $256 million, summarized as follows:

(Dollars in Millions)

Utility	PEB	Earnings %	Total 2006 – 2008 Earnings	Interim RRIM Earnings	Final True-Up Payment
PG&E	$1,146.7	12%	$137.6	$75	$62.6
SCE	752.5	12%	90.3	50.4	39.9
SDG&E	128.3	12%	15.4	11.1	4.3
SoCalGas	106.7	12%	12.8	7.3	5.5
Totals			$256.1	$143.7	$112.3

[17] The IOU Scenario accepts the Energy Division evaluated results for remaining parameters including (1) Unit Energy Savings (UES), (2) Installation rates (except for upstream CFLs), (3) Incremental Measure Costs (IMC), (4) Load Shapes, (5) Residential/Non-Residential split for upstream CFLs, (6) Realization Rates, (7) Program Costs, (8) Makeup of PEB: TRC/PAC split, and (9) Goals.

Because the Joint IOU Scenario was not pre-defined within the ERT, the IOUs customized the ERT to run their scenario. The ERT allows users to run some aspects of the IOU scenario, including *ex ante* NTG ratios, *ex ante* effective useful lives, and *ex post* unit energy savings. However, to include *ex ante* in-service rates for upstream delivered CFLs, the IOUs modified the ERT Input Sheets to reflect the *ex ante* values, while retaining the *ex post* installation rate values for all other measures. Similar customization was required to address *ex ante* interactive effects.

PG&E attempted to modify the ERT to include these interactive effects in calculating earnings under the IOU scenario. As an electric utility, therm interactive effects were not included in SCE's *ex ante* estimates, therefore SCE ran its "with interactive effects" scenario and removed all therm benefits from the ERT. Upon running the scenario through the ERT, the IOUs applied an average factor to the net resource benefits to estimate the affect of increasing the GHG adder to $30 a ton.

5. Discussion

5.1. Summary Findings Regarding the True-Up of Incentive Earnings

In finalizing the 2006-2008 true-up, we are guided by the following fundamental principles:

1. Promotion of the Commission's energy efficiency goals;
2. Incentive methodologies should be applied in a fair, transparent, and conceptually consistent manner; and
3. Ratepayers should pay incentives only for real and verifiable energy efficiency savings.

Accordingly, we evaluate the parties' disputes in terms of the Commission's adopted goals and principles for administering the 2006-2008 energy efficiency program portfolios and the related RRIM earnings. Our task is to true-up the interim calculations of incentive earnings for the 2006-2008 cycle, and thereby determine whether additional earnings are due, or whether penalties apply. As a basis for evaluating whether the interim RRIM earnings awards warrant further adjustment as a final true-up, we must identify (a) a reasonable measure of energy savings accomplishments subject to incentive rewards; and (b) an appropriate percentage allocation of the identified cost savings between ratepayers and IOU shareholders.

Since parties could not reach consensus on a reasonable basis to simplify the calculation of energy savings achievements, we rely upon the record that has been developed to assess a reasonable outcome consistent with adopted Commission goals and policies.

As discussed below, we cannot rely upon the outdated *ex ante* assumptions from the 2005 DEER, as proposed by the IOUs and NRDC, as a performance basis for the true-up of energy cost savings achieved. The Commission has repeatedly stated that these *ex ante* estimates are too outdated to be used as final determinants of energy efficiency accomplishments justifying incentive awards. Instead, the Commission intended that *ex ante* assumptions would be trued up with updated *ex post* evaluations that are designed to determine the savings achieved in the program period. The EM&V process is the vehicle established by the Commission for measuring success (or failure) in achieving energy efficiency accomplishments and cost savings for purposes of incentive awards.

We appreciate that the Energy Division evaluation process has been extremely contentious, resulting in considerable disagreement over estimates of

energy savings achievements, and the resulting incentive payments due. Unlike expenditures for energy resources that are measured through arms-length transactions, energy savings cannot always be as easily quantified. To calculate cost savings associated with energy efficiency measures, it is necessary to develop assumptions as to relevant parameters based on surveys, sampling, and extrapolation of estimates over extremely large volumes of data points. Because of the sensitivity of the assumptions to performance results as applied in the incentive formula, we carefully consider the process used to assess energy savings achievements for purposes of the incentive true-up.

As discussed below, based on the record developed, the true-up must be finalized in conformance with adopted Commission policy utilizing *ex post* updates of key parameters in quantifying the energy efficiency savings. The *ex post* evaluations of key parameters performed by the Energy Division team provide the only reasonable performance basis for evaluating energy savings subject to the incentive true-up.

While the IOUs continue to disagree with multiple minute details of data points underlying various Energy Division figures, we conclude that the overall Energy Division evaluation was produced with professional care. The evaluation's overall results are within a range of reasonableness to approximate energy savings performance subject to the incentive calculation.

Moreover, it is not necessary to find one single point estimate of exact energy savings in order to finalize the 2006-2008 true-up as long as we identify a reasonable approximation of energy efficiency savings that falls within the range of values for which no additional RRIM awards or penalties are due. Additional earnings awards for any IOU would be due only if its 2006-2008 performance was so outstanding that the MPS exceeded the deadband and that the RRIM

earnings exceeded the $143.7 million already awarded. Likewise, RRIM penalties would be due only if we determined that 2006-2008 savings performance fell below the 65% MPS threshold for one or more relevant metrics. Within these upper and lower bounds, variations in the range of energy efficiency performance results do not yield any changes in the RRIM calculation of additional awards or penalties.

We hereby conclude that the IOUs' performance metrics fall within the range that produces no change in the previously authorized amounts of interim awards. We conclude that the estimated results summarized below constitute a reasonable approximation of IOU net energy efficiency savings for the 2006-2008 cycle. Because the achieved energy efficiency savings for each relevant MPS metric fall below 85% (or 80% for SoCalGas) but above 65% of adopted goals, a 0% shared savings rate applies. We summarize the calculation of the total 2006-2008 energy savings as a percentage of adopted goals, as follows:

Percent of Goal Achieved	PG&E	SCE	SDG&E	SoCalGas	Total
GWH Goal	77%	77%	72%	-	77%
MW Goal	66%	70%	75%	-	69%
MMTh Goal	115%	-	66%	75%	87%

These assumptions reflect Performance Earnings Basis (PEB) amounts drawn from the Energy Division Scenario Analysis Report, and reflect Energy Scenario 7, variation T-7, with additional adjustments as summarized in Appendix A. For the calculations of the PEB, we utilize the updated evaluated findings of the Energy Division with respect to installation rates, unit energy savings, and NTG ratios, incorporating interactive effects. Our assumptions

used to calculate the MPS differ somewhat from the assumptions used by Energy Division in its Scenario 7 MPS calculations.

We incorporate 100% of the savings from pre-2006 Codes and Standards Advocacy Programs. We also adjust savings goals for interactive effects with associated reductions in therm goals in accordance with D.09-05-037 as described in more detail below in the discussion of interactive effects. We also include some recognition of 2004-2005 data in assessing cumulative goals. As a result of these adjustments, savings accomplishments are sufficient to not accrue any penalties under the RRIM formula.

Under this set of assumptions, positive incentive earnings apply to each of the IOUs, but the incentive amounts are below the total of interim earnings previously awarded. The Energy Division Scenario 7 analysis calculated a 63% MPS applicable to PG&E's MW savings goal, which falls below the 65% threshold for penalties. By applying somewhat different assumptions in comparison to the Energy Division analysis, our adjusted MPS calculations place each IOU above the penalty zone. These results reasonably illustrate a plausible set of assumptions for approximating IOU performance for purposes of evaluating whether additional RRIM earnings or penalties are due. The assumptions and the supporting calculations of earnings underlying this scenario are set forth in Appendix A. Because no penalties apply, and because the IOUs are not otherwise required to refund previously awarded interim incentive payments,[18] the IOUs will simply retain previous awards with no further adjustments.

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[18] See D.08-01-042, Ordering Paragraph 2(b).

For the reasons discussed below in further detail, however, we conclude that the IOUs' proposal for additional RRIM earnings is based upon unsupported assumptions regarding energy savings achievements, and therefore is denied.

By relying upon outdated ex ante assumptions to derive claimed energy efficiency savings, the IOUs calculate inflated values for incentive payments. The IOUs' proposal would require ratepayers to fund additional incentive payments for 2006-2008 program activities in addition to the interim payments that they have already funded. The payment of incentive earnings constitutes a cost to ratepayers that reduces the overall cost-effectiveness of energy efficiency programs. Any additional incentive payments would simply reduce the programs' cost-effectiveness without providing any offsetting value to ratepayers.

The Energy Division presented an evaluation of the 2006-2008 programs' cost effectiveness, excluding the costs of funding shareholder incentive payments. The 2006-2008 cost-effectiveness program results for each IOU, as evaluated by the Energy Division, are summarized below, expressed as in terms of benefit-to-cost (B/C) ratios.[19] The summary below demonstrates how the B/C ratio is impacted by the payment of the $143.7 million interim incentives previously awarded and how the B/C ratio would be further impacted by additional incentive payments of $112.3 million, as the IOUs propose.

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[19] See the Final Energy Division Evaluation Report, Table 32 at 126. The Energy Division benefit-to-cost ratios measured benefits in terms of the net present value of avoided costs of supply-side resources avoided, and measured costs as the net present

Footnote continued on next page

Utility	Benefit-to-Cost Ratios (Excluding Interim RRIM Payments)	(Net of Interim RRIM Payments)	Net of Interim and IOU-Proposed Payments
PG&E	1.17	1.09	1.03
SCE	1.19	1.12	1.09
SDG&E	1.02	0.98	0.96
SoCalGas	0.90	0.86	0.84
Statewide Average	1.14	1.07	1.03

As summarized above, the Energy Division calculated an overall statewide B/C ratio of 1.14, representing an additional 14 cents of benefits for every dollar of ratepayer investment. Yet, the payment of additional incentives in addition to previous interim payments would reduce the overall statewide B/C ratio to only 1.03, and for individual IOUs, the B/C ratio would drop below 1.0. Consequently, the payment of additional incentive earnings would cause an erosion in the B/C ratio, as tabulated above. For SDG&E and SoCalGas, the B/C ratio drops below 1.0. Consequently, the IOUs' proposal claiming additional incentive payments is not justified.

5.2. Role of the Energy Division Evaluation in the True-Up

The Energy Division Final Evaluation Report of 2006-2008 energy efficiency savings performance was finalized in accordance with adopted Commission processes. The Report found that California ratepayers'

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value of the costs of the programs to participants plus non-rebate costs incurred by program administrators.

$2.1 billion investment in energy efficiency resulted in over 6,000 Gigawatthours (GWh), 80 million therms, and over 1100 MW in annual energy savings over the 2006-2008 cycle.[20] These accumulated savings represent approximately 3.2% of electricity and 1% of the natural gas sold in 2008. The reported savings were evaluated through field work to verify energy efficient technologies installed and the related savings attributable to the programs. In total, the evaluations for any given parameter directly assessed the majority of the *ex ante* claimed savings. Evaluations of measure installations accounted for 77% of kilowatt-hour (kWh) savings. Evaluations of unit energy savings accounted for 86% of kWh savings. Evaluations of load shapes covered 80% of kW savings and evaluations of NTG ratios covered 90% of kWh savings.

Energy Division focused limited evaluation resources on measuring gross savings from the end-use measures or technologies that dominated portfolio savings, i.e., high-impact measures (HIM), and on estimating net savings attributable to programs with the highest savings from installed technologies. The IOUs claim that HIM methodology developed point estimates for certain measures and then applied them to similar measures across the portfolio. They further claim that the shift in methodology to evaluation of HIMs represents an untested divergence from longstanding and commonly accepted EM&V protocols without the opportunity for public review. In addition, the IOUs claim that the evaluated results were not properly translated into earnings projections,

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[20] The Energy Division Final Report used an updated E3 calculator that corrected the error for natural gas therm savings as identified by SDG&E in its Petition to Modify D.09-12-045 filed on February 19, 2010. Because we incorporate this correction into our true-up, the referenced Petition to Modify D.09-12-045 is rendered moot.

as the ERT itself was systematically flawed such that it produced earnings estimates with no statistical confidence.

We conclude that the Energy Division's HIM focus was reasonable, and allowed for a more efficient use of Energy Division resources, allowing for approximately 85% of the reported kWh, kW and therms to be included in the direct evaluation of gross savings. The claim that values from the HIM evaluations were applied without respect to program design, customer, or delivery strategies is inaccurate as illustrated in Energy Division's report.[21] The HIM approach went beyond a program-by-program evaluation by ensuring that the majority of the portfolio savings were subject to evaluation review. The error bound for the net savings estimates for GWh, MW, and MMTherms were added to Energy Division's final evaluation report, Section 4.3. Across the IOUs, the error bounds are ±6% for electricity, ±4% for peak, and ±11% for natural gas at the 90% confidence interval. Results are specific to each IOU and category.[22]

The IOUs claim that the findings in the Energy Division Report are unreliable, lack transparency, and have not been subject to an adequate public review process. PG&E, for example, claims that given the breadth of the evaluation, the time provided for review and comment on EM&V evaluations was too short. PG&E claims that critical data needed to conduct a comprehensive review was not made available in a timely fashion, which

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[21] Section 3.4 of the Energy Division Report states that less than 1% of any parameter estimate received an update that was not directly evaluated and in cases where they were, the program design, customer, and delivery strategies were considered by professional evaluators.

[22] See Energy Division Report, Table 19 at 88.

foreclosed the possibility of robust analysis. Consequently, PG&E believes the process did not provide for the free exchange among stakeholders as contemplated by the Commission in D.07-09-043.

We disagree with IOUs' allegations that the work product and review process to produce the Energy Division report was not reasonably vetted, or that its results are unreliable for use in the true-up. We conclude that stakeholders have had a fair opportunity to review and comment on the Energy Division Report and underlying assumptions. PG&E complains that the deadlines for public review imposed by the Energy Division were too short. Yet, the schedule incorporated the deadlines that the Commission had set in D.09-12-045 for completion of the true-up. If any party believed that additional time was needed for review of the Energy Division evaluations, they could have formally requested an extension in the schedule adopted in D.09-12-045 to allow more time for completion of the true-up.[23] Instead of seeking additional time for a review period, the IOUs waited until the Energy Division report was released to raise scheduling problems in comments filed in this proceeding. Even then, instead of seeking more time to review Energy Division findings, the IOUs proposed that the Commission ignore the Energy Division findings.

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[23] Although the IOUs object that the review process for the final true-up evaluation was done too quickly, their complaint during the first interim Energy Division evaluation that the production of the report was too slow. If the IOUs want expedited resolution of their RRIM earnings claims, then they must be willing to live with expedited schedules for review of pertinent data.

The Energy Division Report necessarily encompasses review of a large number of records that reflect considerable technical complexity and detail. The Commission established a process by which evaluation studies must be posted for public comment prior to finalizing the results. Energy Division followed protocols for vetting adopted in D.07-09-043, characterized as:

> …a specific and adequate process by which parties can submit questions, concerns and comments to both Energy Division and evaluation contractors. Conferences and the submission of written comments based on conferences, allow parties to participate in the process by raising and discussing issues. This takes place in formulating the several reports before they are finalized: the draft Verification Report, the draft final evaluation reports, and the draft Final Performance Basis Report. Our belief is that any concerns the parties may have can be resolved through such a process. (See D.07-09-043 at 129.)

We find that Commission-adopted protocols for stakeholder input and vetting have been followed.[24] Energy Division circulated requests for technical participation from parties, provided draft materials, held several meetings to discuss technical issues, provided opportunities for comments, and responded in writing, explaining how assumptions were applied in developing and measuring performance results.[25] Energy Division changed or updated numbers where comments were found to have merit.

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[24] See e.g., ALJ Ruling on process protocols dated January 11, 2006, in R.01-08-028 and January 2, 2007, in R.06-04-010.

[25] See e.g., Evaluation Report, Appendix O for a compilation of comments and responses.

The Energy Division contractors provided updates to installation rates (how many technologies were installed and operating), unit energy savings (savings for any given technology), and NTG ratios (a factor used to adjust savings to account for the influence of the program) where evaluation updates were available. Several parameters, primarily cost data, were part of the data set but were not updated with evaluation results.[26]

The Energy Division adhered to strict timelines and a rigorous public review process. Stakeholders were provided opportunities to comment on the evaluation plans. Consultant reports were published at different times in 2007 and 2008, and the Energy Division's final report was released for public comment in December 2009. Results from the impact evaluations were posted for public review and comment in December 2009 in detailed technical reports, and were also presented in public webinars. The Energy Division Report included voluminous and detailed point-by-point responses to stakeholders' questions and claimed errors. The public comment period generated approximately 1,700 comments, all of which were addressed by the Energy Division and its evaluation contractors. The reports were finalized in February 2010. Summaries of these report findings are included in the Energy Division report, and the final reports were posted on the California Measurement and Advisory Council (CALMAC) website.

The IOUs claim the Energy Division results are non-transparent and utilize values without references to sources, and that methodologies lack actual

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[26] The updates applied, the source of the update, and the justification of the values were provided by each group, and presented in Appendix C of the Energy Division Report.

documentation. The IOUs claim various technical errors in the processes utilized by the Energy Division in evaluations of savings.

The claimed errors involve various technical details often involving minute and arcane details as to how the Energy Division consultants conducted surveys, extrapolated samples, and used data in calculating the various savings measures. We recognize that there is room for debate about judgments made in conducting surveys and extrapolating results to estimate *ex post* measures. We find, however, Energy Division's work product reflects professional standards of care and there is no justification for the IOUs' dismissal of the Energy Division work product.

The Energy Division managed a budget of $97 million, representing one of the largest energy efficiency impact evaluations in the world, which was implemented by leading evaluation professionals. The focus of its studies was to verify IOU self-reported energy savings and identify energy savings that would not have likely occurred in the absence of the program. The Energy Division report adopts the findings of numerous individual EM&V studies of the performance of various individual energy efficiency programs in the IOUs' portfolios for the 2006-2008 cycle. The studies form the foundation for updates to the utility *ex ante* savings assumptions used to estimate portfolio and program savings and cost effectiveness, and provide information for program improvements and future estimates.

The Energy Division Report synthesizes three years of program implementation and evaluation and presents the final outcomes of multiple billions of dollars in ratepayer investments. The Energy Division Report incorporates multiple attachments of data and tools that allowed for detailed review by stakeholders. Most pieces (i.e., Contractor Reports, Decision

Framework and ERT) have been introduced to the public in advance of the Energy Division report release. The largest and most complex portion of the data (over 4 million tracking records) was provided by the IOUs and standardized in collaboration with Energy Division consultants over the course of a three-year period.

For purposes of assessing whether further incentive earnings are warranted, we conclude that the Energy Division evaluation provides an acceptable framework. It is not necessary here to address the universe of stakeholders' voluminous and minutely detailed technical issues. It is sufficient to observe that the voluminous and comprehensive compendium of responses to criticisms or comments set forth in appendices to the Energy Division Report is generally responsive to the technical issues raised by stakeholders.

5.3. Use of *Ex Ante* versus *Ex Post* Measures for Measuring Savings

The 2006-2008 energy efficiency cost savings used to determine final incentive earnings varies significantly depending on how key parameters are quantified. Parties disagree, in particular, concerning the appropriate values for the NTG ratio, expected useful lives, in-service installation rates. The IOUs and NRDC advocate using *ex ante* values from the 2005 DEER for certain key values. The Energy Division Evaluation Report calculated updated *ex post* values for these measures. A key factor contributing to the differences between *ex ante* and *ex post* savings is the much lower than expected impact of interior screw lighting measures, as they made up a significant portions of the portfolio, adjustments to NTG ratios, installation rates, and unit energy savings based on the Energy Division evaluation all contributed to these impacts.

As noted by Energy Division, the goals for the last two program cycles (i.e., 2004-2005 and 2006-2008), were developed from analyses conducted in 2002-2004. As a result, significant variances exist between the savings estimates from the Energy Division *ex post* evaluation and the assumptions underlying the original *ex ante* assumptions used to develop the Commission's efficiency goals. In the aggregate, utility self-reported energy savings during 2006-2008 were claimed at the level of 151% of the adopted goals. By contrast, the Energy Division evaluation found that energy savings equal to only 62% of the adopted goals. Similarly, utility self-reported demand savings for 2006-2008 were claimed to be 122% of the goals, but the Energy Division evaluation found demand savings amounting to only 55% of goals.

We conclude that the IOUs proposal to measure cost savings based on *ex ante* assumptions from the 2005 DEER for key parameters is unsupported, and conflicts with the Commission's policy concerning how the incentive earnings are to be trued up.

In D.05-04-051, the Commission adopted principles requiring *ex post* updates "as a general policy" in the true-up of energy efficiency savings for programs implemented in 2006 and beyond, requiring:

> A true-up of *ex ante* (pre-installation) assumptions for program participation (e.g., types and number of measures or equipment) with actual participation verified on an *ex post* basis, i.e., during and after program implementation.
>
> A true-up of *ex ante* program costs assumptions with actual expenditure levels.
>
> As a general policy, *ex post* evaluation of per unit kWh, kW, and therm savings through load impact studies. An exception to the general policy may be appropriate for measures and/or programs for which there are well-established *ex ante* values with

> a high degree of confidence, and low external sources of variability that could influence the energy savings.
>
> Persistence studies will not be tied to the performance basis, but shall still be performed to inform future planning. This policy shall be revisited and revised, as appropriate, if there is evidence at a future date that the results of persistence studies are significantly different from the *ex ante* estimates.

In accordance with these requirements, Energy Division developed updated, end user adoption rates, and per unit savings levels through evaluations and other research conducted since the original goals were developed. One of the key principles underlying the design of the RRIM as adopted in D.07-09-043 was that key parameters were to be trued up based on updating of net energy savings based on actual *ex post* load impact studies, and subject to independent verification. In D.07-09-043, we expressly stated:

> …[P]otential earnings for the 2006-2008 program cycle start at $176 million if all four utilities achieve the minimum performance threshold of 85%, which in turn would deliver approximately $1.9 billion in net benefits. That is, if the utilities *actually produce net benefits of $1.9 billion* (based on verified costs and resource savings) when they reach 85% of the savings goals, then their shareholders will receive $175 million of those net benefits under the shared-savings structure we adopt today. (D.07-09-043 at 10, emphasis added.)

Failure to incorporate updates to the *ex ante* parameters in evaluating performance relative to goals thus conflicts with the Commission's express assumption that *ex ante* parameters were subject to *ex post* updating. To ignore updates would create a perverse incentive as explained in D.07-09-043 which states that:

> an approach that fails to true-up savings and net benefits (PEB) accomplishments based on the results of final load impact studies

> creates a perverse incentive for utility managers to promote exaggerated savings assumptions during the planning process. This is because the utility knows that it can get progress payments based on these inflated estimates that are not returnable when the final true-up reveals lower load impacts. (D.07-09-043 at 121.)

Accordingly, if the IOU's *ex ante* assumptions were not subject to updates, a perverse incentive would result. The IOU could thereby receive RRIM progress payments without being accountable as to whether actual savings materialized as measured by *ex post* data. Assessing savings based upon *ex post* parameters neutralizes this perverse incentive consistent with our conditions for accepting the original *ex ante* assumptions.

The *ex post* savings were to be independently evaluated by the Commission's Energy Division.[27] In D.05-01-055, we mandated that the Energy Division take responsibility for managing and contracting for all EM&V studies. This mandate marked a shift in the responsibility from the utilities to Commission staff and helped ensure unbiased results by having a neutral party overseeing the EM&V process. This process ensures that incentives are awarded based on independently evaluated, real savings, and that customers fund incentives only for real and verifiable savings. Energy Division has access to the experience and expertise of evaluation contractors throughout the processes for developing the research and data to estimate interim and final earnings claims.

Yet the proposal of the IOUs would disregard independent *ex post* evaluations by simply applying outdated *ex ante* assumptions to savings calculations. The Commission has previously recognized the importance of

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[27] D.07-09-043 at 4.

independent verification and evaluation in ensuring that ratepayers get value commensurate with their energy efficiency investment, that programs are well designed, and that energy efficiency is considered a reliable resource comparable to supply side resources.[28] The Energy Division Report is the only source in the record that offers an independent assessment of performance-based earnings from a neutral perspective.

We previously rejected requests by the IOUs to remove the requirement for updates of key parameters in assessing RRIM earnings. In denying the IOUs' earlier request to retreat from the updating of parameters, we explained in D.08-12-059:

> At this point we do not think it would be reasonable to remove, in part or in whole, the requirement that the *ex ante* assumptions used to assess interim claims be updated. This updating is part and parcel of the balance that was struck in D.08-01-042 between providing utilities the ability to book interim rewards without the uncertainty that they would have to return these interim amounts after the fact, and limiting the risk to ratepayers of overpayment. (D.08-12-059 at 19.)

We reiterated the importance of this principle in D.09-12-045 where we relied upon updated assumptions in the Energy Division verification studies as the basis for the cost savings used to allocate incentive awards. By not updating *ex ante* assumptions, we are left with an outdated basis for measuring cost savings and associated incentive payments. We have previously stated that the earnings true-up would reflect updated assumptions in the DEER, as noted in D.08-01-042:

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[28] D.05-01-055 at 112.

> Updating measure load impacts using the DEER database prior to the payout of interim claims in 2008 and 2009 should help to mitigate the risk of extremely large swings in earnings (positive or negative) at the final earnings true-up, which serves the interests of both utility shareholders and ratepayers. (D.08-01-042 at 17.)

Accordingly, the use of *ex post* updates of key parameters is in accordance with Commission policy and produces the most reasonable basis for the true-up. As discussed further below, we address more specifically the issues raised concerning *ex post* updates in the context of the shared savings rate and the specific key parameters in dispute.

5.4. Shared Savings Percentage Rate for the True-Up

We apply a 0% shared saving rate in calculating the true-up of 2006-2008 RRIM earnings. The RRIM formula applies different shared savings percentages depending on the extent that adopted savings goals are met or exceeded. Parties disagree as to the shared savings percentage that applies for allocating savings for the true-up. The dispute over whether to update key *ex ante* parameters implicates the calculation of the MPS formula and thus the extent to which the IOUs are deemed to meet savings goals. The IOUs believe a 12% shared savings rate applies for computing the earnings true-up, and claim that use of a lower shared savings rate contradicts Commission policy.

TURN and DRA argue, however, that the shared savings rate should be based on the evaluated results of the Energy Division Report. The Energy

Division evaluation computes that the IOUs did not achieve 100% of their goals, and consequently Energy Division's calculations apply a 9% rate.[29]

If the Commission rejects the Energy Division's Report in favor of awarding incentives using *ex ante* assumptions, DRA and TURN argue that the shared savings rate established in D.07-09-043 should be lowered. They argue in favor of reducing the shared savings rate in the event that unverified parameters or lowered goals are applied to maintain the risk/reward balance established when the 9%/12% percentages were originally adopted. They argue that a reduced percentage allocated to investors would compensate for the modified expectations that programs would be independently verified.

We disagree with the IOUs' claim that the Commission has prejudged that a 12% shared savings rate must automatically apply in finalizing the true-up. The Commission applied the 12% rate for interim payments based on interim figures, but did not mandate any specific rate for the true-up.

Under the adopted RRIM formula, each IOU is eligible for awards by meeting a specified percentage of adopted savings goals. Within a 65%-85% deadband, no incentives apply, for achieving savings between 85% and 100% of adopted goals, utility investors earn 9% of the total cost savings.[30] For savings exceeding 100% of goals, investors earn 12% of the total cost savings. For

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[29] As noted above, DRA calculates additional penalties under the RRIM formula beyond those Energy Division calculates. Also, although the energy Division assumed a 9% rate, the RRIM formula calls for a 0% rate under the MPS values computed.

[30] D.08-01-042, Ordering Paragraph 2(b) modified the previous requirement for savings above an 85% MPS (80% for SoCalGas) to qualify for a 9% rate. D.08-12-059 restored the earnings deadband in which a 0% rate applies for savings between 65% and 85% of adopted goals (or 80% for SoCalGas).

performance below 65% of goals, a shareholder penalty is incurred. Entitlement to a 12% rate applies only where 100% or more of goals were achieved. Based on the adopted RRIM formula applied to the savings accomplishments as evaluated in this decision, we determine that a 0% rate is the appropriate metric to apply.

Moreover, even if we were to accept the IOUs' scenario assumptions, the IOUs' own claimed MPS metrics would still fall short of the 100% average MPS required for a 12% shared savings rate, except for PG&E. A 9% rate would apply for SoCalGas. A 0% rate would apply for SCE and SDG&E since their individual MPS metrics did not achieve at the 85% level in all instances.

The IOUs' scenario assumptions produce the following MPS results:

MPS Individual Metric Performance	**PG&E[31]**	**SCE[32]**	**SDG&E[33]**	**SCG[34]**
Percent of GWH Goal	111%	90%	78%	0%
Percent of MW Goal	81%	80%	76%	0%
Percent of MMTh Goal	152%	0%	65%	89%
MPS Average Metric Performance	114%	85%	73%	89%

The IOUs claim that the Commission predetermined in D.09-12-045 that the true-up must use a 12% rate. In computing the second installment of interim RRIM payments in D.09-12-045, it is true that a shared savings rate of 12% was

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[31] PG&E Supporting Data, filed July 16, 2010 Attachment 1.

[32] SCE Supporting Data, filed July 16, 2010 Attachment A.

[33] San Diego Gas & Electric Company and Southern California Gas Company Supporting Data, filed July 16, 2010, (SDG&E/SoCalGas Supporting Data), Attachments.

[34] SDG&E/SoCalGas Supporting Data, Attachments.

used, by assuming that 100% of goals were achieved based on the same *ex ante* assumptions originally used in developing savings goals. We concluded in D.09-12-045 that because adopted savings goals had not been revised to reflect updated data since their adoption, the interim incentive claim should be assessed by comparing adopted goals with performance results that likewise did not reflect updated data.

Although we applied a 12% rate for the interim installment of earnings, we did not state in D.09-12-045 that a 12% shared savings rate must be applied for the RRIM earnings true-up. We merely stated that the goals should be evaluated for true-up purposes based on the same assumptions used to develop the goals. In this decision, we apply that principle based upon a consideration of all of the relevant assumptions adopted by the Commission regarding the purpose and use of *ex ante* values.

When the savings goals for the 2006-2008 cycle were formulated in D.04-09-060, we expressly did *not* intend that subsequent performance would be measured by freezing *ex ante* assumptions. To the contrary, we stated that:

> Our adopted EM&V protocols and reporting requirements will establish the extent to which *ex ante* versus *ex post* measurement and verification will be required by program administrator(s) to demonstrate program performance, and how they will be required to report such performance. (Footnote 29 of D.04-09-060 at 32.)

The goals were all established based on assumptions concerning how subsequent performance would be measured to ascertain whether (or to what degree) the goals were met and RRIM earnings were justified. The Commission's stated assumption underlying the 2006-2008 energy efficiency

goals was that program implementation would *not* be static, but continually adjusted. The Commission stated:

> As discussed in this decision [D.05-09-043], we expect that the portfolio plans (including the measures offered) will be adjusted continually throughout the program cycle in response to market feedback and other information. It is therefore unrealistic on the part of third-party bidders and other stakeholders to expect that once the compliance phase is complete, there will be no changes to the program offerings or the budgets allocated to them. Instead, those program offerings and budget allocations will change over time, and in this instance, some of those changes may be necessitated by improvements in our valuation of avoided costs, in our definition of peak savings and the other refinements we discuss in this decision. (D.05-09-043 at 109.)

In D.05-09-043, we further stated:

> Accordingly, we put the utilities and all interested parties on notice that we will use the common definition of peak load reductions, improvements to avoided cost methodology and refinements to the E3 calculator that are developed through the process described above to assess the performance basis of the 2006-2008 portfolio and programs. We will also incorporate adopted improvements to the consistency in underlying load shape data and the methods by which that data is translated into peak savings estimates into the E3 calculators. The EM&V protocols being developed in a separate phase of this proceeding will identify how and when this load impact data should be trued-up to calculate performance basis for the 2006-2008 program cycle, per our direction in D.05-04-051. (D.05-09-043 at 143.)

This same theme, upholding the validity of updates in assumptions, was repeated in implementing the RRIM in D.07-09-043 where we stated:

> Our adopted MPS reflects our assessment of how sizable these savings must be before any earnings should be awarded. Our adopted deadband range establishes the level of portfolio energy

> savings we find to be unacceptably low, thereby triggering the start of penalties. However, these design parameters lose meaning if the true-up adjustment does not fully reflect the final EM&V results. (D.07-09-043 at 119.)

In characterizing the development of savings goals for use in assessing performance and awarding incentives, the Commission stated in D.07-09-043 that:

> There are significant unknowns at the time of portfolio and program planning with respect to how the market will respond and the level of load impacts that will be achieved on an *ex post* (post-installation) basis even under this "expected case" of portfolio performance. As a result, as the utilities work with their expanded number of energy efficiency partners and receive market feedback and EM&V evaluation results, they must quickly and efficiently incorporate new information into their program designs and aggressively pursue all potential avenues for cost-effective energy efficiency throughout the program cycle. The challenges that utilities face in achieving the savings goals should be recognized in the adopted MPS threshold. (D.07-09-043 at 27.)

Therefore, incorporated within the savings goals was the recognition of uncertainty in whether the assumed goals could be achieved. The adopted goals expressly assumed the ongoing role of active IOU management updating in response to new information in achieving savings "*throughout the program cycle*." (D.07-09-043 at 27.) In adopting the 2006-2008 savings goals, the Commission expressly acknowledged the limitations regarding the underlying *ex ante* parameter estimates, stating:

> With respect to the energy (GWh and therm) savings associated with the portfolios, the risk that the portfolios will not meet these goals revolve around uncertainties in key input assumptions. These include, in particular, estimates of the number of program participants, the fraction of those likely to be

> free riders (reflected in NTGs) and the estimated useful lives associated with certain lighting measures. (D.05-09-043 at 96-97.)

As explained above, the IOUs would have a perverse incentive to inflate *ex ante* assumptions if there was to be no accountability for achievements of savings goals based on subsequent measurement updates. To the contrary, the 12% rate was intended to reflect:

> …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. At the same time, we should weigh and consider differences in the risk/reward profile of utility resource choices in applying the comparable earnings benchmark to our incentive mechanism. In addition, consideration should be given to the level of performance expected in return for higher and higher earnings potential. Moreover, these considerations should be balanced by a sense of what is "fair" to ratepayers in terms of the return on their investment in energy efficiency. (D.07-09-043 at 102-103.)

If the Commission applied a 12% rate irrespective of independent evaluations as to whether the IOU actually attained to the goals, we would thus undermine the incentive value of the mechanism, as stated in D.07-09-043:

> Our adopted deadband range establishes the level of portfolio energy savings we find to be unacceptably low, thereby triggering the start of penalties. However, *these design parameters lose meaning if the true-up adjustment does not fully reflect the final EM&V results*. (D.07-09-043 at 119, emphasis added.)

In D.04-09-060, in setting savings goals, we emphasized that the utilities must stretch their capabilities aggressively to achieve the goals, stating:

> In order to meet our objective, the annual and cumulative numerical goals for energy savings *must* be aggressive, that is,

> they must "stretch" the capabilities and efforts of all those involved in program planning and implementation. At the same time, these stretch goals need to reflect a pace for increasing program efforts that is achievable, so that the savings goals can also be relied upon for resource planning and procurement purposes. (D.04-09-060 at 22.)

By simply assuming savings goals are achieved using *ex ante* parameters, we would eviscerate the challenge for the IOUs to "stretch" to meet the goals. In similar fashion, in D.07-09-043, we stated that:

> …for the 2006-2008 program cycle alone, the $2.2 billion in energy efficiency investments is projected to produce over *$2.7 billion in net benefits* (resource benefits minus portfolio costs). This benefit is only a "potential" return on ratepayers' investment because realizing it requires portfolio management that must be more innovative, aggressive and motivated to "mine deeper" for cost-effective energy savings than ever before in California's history. (D.07-09-043 at 11.)

The IOUs would not be motivated to "mine deeper" to achieve goals with no financial consequences for failing to achieve *ex post* savings. Thus, the Commission did not intend that the 12% rate be simply a nominally satisfied default, but deliberately set challenging energy efficiency goals for the IOUs' 2006-2008 programs. In D.07-09-043, the Commission intended that the 12% rate apply only for *superior* performance, stating:

> …earnings that approach comparable supply-side levels should be awarded at a level of *superior* performance, that is, performance that is significantly greater than the forecasted level of savings or net benefits expected from the authorized energy efficiency portfolio. Using the supply-side comparability benchmark in conjunction with achievement of superior performance is consistent with our discussion of the role of financial incentives in D.06-02-032, our decision on a procurement incentive framework. There we referred to "financial rewards to [investor-owned utility] shareholders for

> *superior achievement* in procurement particularly [greenhouse gas]-friendly resources" based on performance benchmarks that are specific to each resource. (D.07-09-043 at 106 (citing D.06-02-032 at 27, emphasis added.)

Consistent with our review of Commission policy, the shared savings rate should conform to the adopted RRIM formula. Since our evaluated findings are that savings goals were achieved between the 65% and the 85% level, only a 0% savings rate is applied, in accordance with D.08-12-059, Ordering Paragraph 4. We thus disagree with the IOUs' claim that use of a rate lower than 12% is contrary to Commission policy.

5.5. Specific Policy Assumptions Used to Calculate the True-Up

5.5.1. Updates to NTG Ratios

In the context of energy efficiency programs, the NTG ratio measures the effects of "free riders," i.e., participants who would have undertaken an energy efficiency activity even absent a utility program.[35] While the NTG ratio does not change the measurement of gross savings from all energy efficiency investments, the savings attribution does impact the cost-effectiveness calculations, and the basis for allocating the gross savings between the utility programs and other impacts. In this section, we explain in more detail the basis for our reliance on the Energy Division *ex post* update of NTG ratios for purposes of measuring net savings.

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[35] For example, an NTG ratio of 0.80 indicates that 80% of total participants are not free riders.

In D.07-09-043, we designed the RRIM to limit incentive awards only to savings that directly result from utility programs, and excluding savings attributable to "free riders." Applying the NTG adjustment to program savings, in turn, motivates the utilities to direct energy efficiency dollars to achieve results that would not otherwise have occurred as a factor in determining what energy efficiency programs to pursue. Likewise, ratepayers only pay incentives for savings that were achieved as a direct result of funded programs.

Parties' disagreements concerning the NTG ratio constitutes a major difference in RRIM earnings results. There are two separate disputes regarding the use of the NTG ratio: (1) whether the NTG ratio should be updated at all during the 2006-2008 cycle, and (2) if so, what updated figures should apply.

The IOUs argue that there should be no updating of the NTG numbers. They contend that the Commission should use *ex ante* utility data from the 2005 DEER. The *ex ante* figure are based on self-reported numbers generally dating back from the 1990's (Scenarios S2 and S3). Another possible alternative would be to simply use gross savings and forgo the whole issue of attribution altogether (Scenarios S4 and S5).

The IOUs argue that the RRIM calculation should apply the utility-reported *ex ante* NTG values. The IOUs argue that both the rationale and methodology behind the updated NTG values in the Energy Division Report are not supportable.

The Commission's policy has been to calculate incentives with updated NTG ratios, stating that utilities will be *encouraged* to pursue more cost effective programs. However, the IOUs disagree that basing incentives on updated NTG ratios encourages pursuit of cost-effective programs. The utilities complain that the updated NTG numbers are 1) untimely, 2) unreliable, and 3) send the wrong

incentive to the utility. They argue that NTG ratios have been updated *after* the programs have been implemented, thereby eliminating the opportunity for utilities to change their approach to maximize energy savings attributable to their programs. Rather than being a tool to encourage cost-effective investments in energy efficiency programs, they argue, the application of *ex post* NTG ratios in incentive calculations has become contentious, with parties arguing after-the-fact whether customers were motivated by utility programs to install energy efficiency measures.

PG&E claims that in the final performance evaluation, many of the NTG ratios were estimated based upon inadequate sample size, insufficient survey response levels, and excessive delays in surveying customers regarding their motivation for participation in energy efficiency programs.

We recognize that judgments may differ in estimating the effects of free ridership, and acknowledge that any measure of the NTG can at best only be an approximation. Yet, by simply advocating perpetuation of the 2005 DEER assumptions, the IOUs fail to offer any better approximation of NTG values compared to the Energy Division Evaluation Report. The IOUs have not justified perpetuating outdated 2005 DEER NTG ratio assumptions for the true-up of incentive earnings.

Measurement of NTG ratios has caused particular controversy both because evaluation methods depend on customer behavior survey results and because positive impacts in market transformation – for example, greater consumer awareness of the benefits of CFLs – will reduce utility savings eligible

for incentive earnings.[36] We have previously recognized that measuring NTG ratios is inherently difficult. For example, we acknowledged in D.08-12-059 the utilities'

> …concerns expressed regarding the robustness of assumptions and updates thereof used to assess utility performance under the incentive mechanism. For example, the net-to-gross ratio has engendered substantial controversy throughout this proceeding. This can be largely attributed to the inherent difficulty in developing a robust number that quantifies the level of energy efficiency measure deployment that would have occurred in the absence of utility programs. Unlike many of the other parameters used in assessing program performance, which lend themselves to sampling methodologies and direct measurement, estimates of the net-to-gross ratio rely on surveys in which upstream and downstream program participants are asked to assess the impact of utility programs on their behavior or that of their customers. (D.08-12-059 at 20-21.)

Studies that evaluate NTG ratios ask customers deploying energy efficiency measures to recall whether their decision to adopt such measures, sometimes more than a year before, was directly attributable to utility programs. The fact that NTG ratios are difficult to measure, however, does not justify ignoring NTG effects in calculating savings used to determine incentive awards. The importance of NTG measurement in relation to incentives for performance should not be minimized merely because NTG measurement is not an exact

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[36] The NTG for CLFs is one of the key parameters that has changed, as consumer demand for CFLs has increased due to the combined impacts of utility rebate programs, supply growth and price declines from large retailers such as WalMart, and greater public awareness of the impact of climate change and its relation to electricity production.

science and is difficult to measure. If the IOUs earn incentives on energy savings that would have occurred even without their programs, the incentive mechanism loses its effectiveness as a tool to achieve energy efficiency goals, and to reduce GHG emissions. Likewise, ratepayers are charged for payment of incentive earnings for no valid purpose.

The controversy over key parameters, most notably NTG ratios, was discussed in D.05-09-043, which authorized 2006-2008 programs. D.05-09-043 cautioned that "[s]pecific sensitivities around the NTG ratio assumptions indicate that the proposed portfolios may not meet the cumulative 2006-2008 energy (GWh) savings targets."[37] The Commission found some risk that the portfolio plans may not meet the Commission-adopted GWh and therm energy savings goals, due to uncertainties over free ridership assumptions and the useful life estimates associated with certain lighting measures, among others.

The Commission directed that NTG ratios used for planning purposes would be "further addressed through *ex post* true-up of these ratios in performance basis evaluation, consistent with our direction in D.05-04-051."[38] In recognition of the uncertainty as to whether the assumptions underlying the achievement of savings goals were realistic, the Commission did not direct that those assumptions remain frozen throughout the 2006-2008 cycle for incentive purposes. Instead, we stated:

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[37] D.05-09-043 at 56. See, generally, the discussion concerning the Case Management Statement at 53-56.

[38] *Id.* at 167, Findings of Fact No. 7.

> Our decision today on how best to bound the uncertainty associated with this key savings parameter for planning purposes is predicated on the expectation that NTGs *will* in fact be adjusted (trued-up) on an *ex post* basis when we evaluate actual portfolio performance. We believe that this is entirely consistent with the resolution of threshold EM&V issues in D.05-04-051. (D.05-09-043 at 97.)

Consistent with this directive, therefore, the NTG ratio used for determining the final incentive true-up cannot simply perpetuate the stale *ex ante* assumptions advocated by the IOUs. Instead, consistent with our directives, the true-up must reflect *ex post* updates of the percentage of total savings actually attributable to the expenditure of program dollars.

The IOUs argue that requiring *ex post* true-up of NTG ratios could skew program designs by unduly emphasizing utility performance instead of broader energy efficiency goals irrespective of utility attribution. We conclude that the alternative is less desirable, namely requiring ratepayers to fund incentive payments for energy efficiency results that occurred independent of the utility's efforts.

The IOUs note that the 2004/2005 Statewide Residential Retrofit Single-Family Energy Efficiency Rebate Evaluation (Itron Report), which provided NTG values for upstream lighting measures was published October 2, 2007. The Itron Report showed that NTG numbers for lighting were closer to 0.62, rather than the 0.80 assumed by IOUs.

The IOUs argue that the NTG updates in the Energy Division Verification Report occurred too late in the 2006-2008 cycle to enable the IOUs to make meaningful mid-course adjustments in program funding in response to the updated NTG ratio. By way of example, for PG&E programs, allocations of incentives to upstream lighting manufacturers/distributors must be made at

least 120 days prior to the movement of the products into the marketplace. Therefore, the IOUs argue that the October 2007 report allowed little time for adjustments to program delivery and implementation to take hold during the 2006-2008. They argue therefore, it is inappropriate to apply these NTG values to the entire 2006-2008 program cycle for purposes of awarding incentives.

We disagree that program administrators were unable to adapt programs during the 2006-2008 cycle as a result of the timing of the release of the Energy Division findings in October 2007. The preliminary results of the EM&V studies of the 2004-2005 programs were well-known to the IOUs throughout the 2006-2008 period, as there were numerous stakeholder meetings and discussions before the evaluation report was finalized in October of 2007. One of the reasons that the results of these studies were delayed was the continued opposition of the IOUs to the preliminary results.

At the time we established the goals for energy efficiency savings for the 2006-2008 cycle, the IOUs already had notice that the assumed NTG ratio used to derive savings goals had to be refined. (See D.05-09-043 at 98). Moreover, to the extent that free-ridership and spillover effects occur independently of any direct control of the IOU, the specific timing of Energy Division findings would not impact IOUs' management actions with respect to program administration.

In D.05-09-043, in identifying the *ex ante* assumptions for NTG underlying the 2006-2008 savings goals, we acknowledged the uncertainty regarding the validity of the assumed NTG as basis for calculating savings accomplishments attributable to the utility program. Yet, we did not call for simply perpetuating those assumptions and ignoring updated improved NTG measures in measuring 2006-2008 performance.

Consequently, the IOUs were on notice since as early as September 2005 that *ex post* NTG ratios would be used to true-up energy efficiency savings.[39] The IOUs were not required simply to wait for the Energy Division update before taking any action to adjust their program management. There was no reason why the program administrators could not adapt program changes prior to the release of the Energy Division NTG findings.

The IOUs also criticize the reliance on self-reporting as a survey tool to estimate NTG ratios. As explained by Energy Division, however, the self reporting approach implemented in the evaluations to estimate NTG ratios is a widely-used and well-established means of measuring attribution and has in fact been implemented on numerous occasions by the IOUs. Energy Division's "Net to Gross Working Group" was convened early in the evaluation process to ensure consistency in survey methods and design and scoring algorithms. Additionally, Energy Division technical advisors drafted NTG supporting documents that provide detailed explanation of the use of the self reporting approach in these evaluations and address questions of potential bias.

Thus, we find the NTG ratios estimated in the Energy Division Evaluation Report to be reasonable as the basis for attributing program savings. We find no reliable basis to accept the NTG ratio in the 2005 DEER for the true-up of incentives. In summary, we rely on the Energy Division update of net-to-gross ratios as a reasonable measure for assessing the RRIM earnings true-up.

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[39] See Assigned Commissioner's Ruling (in R.06-04-010) Addressing Net-To-Gross Ratio True-Up and Methodology for Lighting Programs in the 2006-2008 Energy Efficiency Portfolios, filed October 5, 2007 at 2, September 2, 2005. Administrative Law

Footnote continued on next page

5.5.2. Effective Useful Life Estimates

The effective useful life (EUL) is an "estimate of the median number of years that the measures installed under the program are still in place and operable."[40] The IOUs' proposed scenario would exclude the EUL from the 2008 DEER update of energy savings measures, but instead use 2005 *ex ante* EUL values for calculating RRIM earnings for 2006-2008 performance. The IOUs propose not to update the EUL either for the final true-up.

The IOUs claim that the Energy Division report produces faulty results by calculating savings based upon updated estimates for EULs. The IOUs argue that because the updated EUL estimates were not released until late 2008, they had no opportunity to modify their 2006-2008 program design. The IOUs further claim that the updated EUL estimates were technically flawed and did not rely upon EM&V studies or best practices, but instead were based on new, un-vetted, and nontransparent engineering simulation models. The IOUs claim that the EUL estimate for residential CFLs was modified based on insufficient sample sizes. The IOUs claim that Energy Division did not specifically study EULs in their 2006-08 evaluation, and thus cannot corroborate the DEER 2008 updates.

D.08-01-042 mandated updates to DEER parameters, including EULs, to limit the risk of overpayment of IOUs' interim claims. The Energy Division thus incorporated updates to EULs, accepted comments from parties and made adjustments as appropriate. Prior to the DEER update, the EUL for residential

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Judge Ruling (in R.01-08-028) on EM&V Protocol Issues, Appendix 3 (NTG would be trued-up with a final report at the end of the program cycle).

[40] The California Evaluation Framework, TecMarket Works, June 2004 at 418.

indoor CFLs failed to reflect usage patterns associated with those CFLs and led to shorter lamp life than the rated life.[41] After considering available studies and other evidence, the Energy Division adjusted the EUL for indoor residential CFLs to reflect usage patterns associated with indoor residential CFLs.

We find the Energy Division process in preparing EUL updates to conform to Commission protocols and to be reasonably justified for purposes of the earnings true-up. These estimates are superior to the 2005 DEER estimates supported by the IOUs and NRDC.

5.5.3. Upstream CFL In-Service Rates (ISR)

The IOUs argue that the Commission should apply the 2005 DEER *ex ante* ISR values for CFLs delivered upstream for purposes of measuring final performance-based RRM earnings. The IOUs argue that the utilization of an *ex ante* ISR value is appropriate as it resembles how the program was operated. Since CFLs are often sold (and rebated) in multi-packs, there may be instances where customers do not install all of the purchased CFLs right away, but eventually install all of the purchased CFLs. Since utility programs incurred the CFL costs within the 2006-2008 program cycle, the IOUs believe it is appropriate to provide the PEB credit in the 2006-2008 true-up (consistent with where the program costs were incurred) and provide MPS credit in the year where those CFLs are eventually installed. Conversely, the IOUs believe they should receive MPS credit in 2006-2008 for those CFLs that were purchased as a result of the 2004-2005 program, but not installed until 2006. The IOUs claim this approach is

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[41] See October 10, 2008 Energy Division EUL Comments and Response to posted at http://www.energydataweb.com/cpuc/ at 2.

consistent with the Commission's stated intent to use CFLs to fill the cumulative goal gap created from CFLs dying faster than the EUL assumption used to set the goals.

The Energy Division approach applies a first-year installation rate to upstream CFLs, giving the utilities no credit for bulbs *purchased* in 2006 or 2007, but *installed* in 2008. The IOUs complain that the Energy Division report thus ignores the effects of deferred installation of stored bulbs after the bulbs in place burned out. The IOUs claim that measures like CFLs need a dynamic model for installation rate determination to identify the full effects of the program. They argue that the Energy Division approach is not in conformance with EM&V best practices, and should not be used for incentive earnings purposes.

NRDC likewise recommends that the Commission "take a close look at the final upstream lighting evaluation report," and suggests that "there are significant issues with the evaluation of this program." (NRDC at 4.)

We conclude that the Energy Division ISR measurement methodology is consistent with Commission policy. Accordingly, the 2006-2008 impact evaluations only credited the IOUs for impacts associated with measures installed and operable within IOU service territories by year-end 2008. As stated in D.05-04-051:

> …for these reasons we will require that the savings and resource benefits associated with installations completed in a given year, regardless of the year in which any given installation was funded, will be counted towards the performance basis for that program cycle. Nonetheless, we will require the IOUs to report and track both installation and commitments for each program year. This information will be useful for resource planning purposes and

> enable us to link program activities with a particularly funding cycle, as needed. (D.05-04-051 at 54.)

PG&E also claims that the CFL residential ISRs modeled in the Upstream Lighting Program are unreasonably low. PG&E disagrees with the updating of the assumptions regarding the split between residential versus nonresidential usage of upstream CFLs. The Energy Division Report updated the assumed usage from 90% residential and 10% nonresidential to 94% residential and 6% nonresidential. This adjustment reduced the total assumed kW and kWh savings derived from upstream CFLs given the higher peak and total use intensity for nonresidential CFLs. PG&E claims that more research is needed as a basis to ascertain a more reliable split between residential and nonresidential CFLs.

As previously discussed in D.09-12-045, we can not validate the claim of 90%/10% installation split assumption for upstream CFLs sold, for the following reasons:[42]

a. There are likely to be significant differences between the 1994 programs, lighting products, and purchasing patterns compared to 2006-2008.

b. The extent to which the 1994 consumer mail-in survey data contains possible self-selection bias is not known.

c. Whether or not the 1994 consumer mail-in survey data were drawn from a random and representative sample of customers cannot be ascertained.

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[42] See Second Verification Report at 72-73.

d. Customer survey data collected between 2004 and 2007 as part of the upstream lighting program evaluations suggest that the proportion of commercial customer purchases is likely to be between 3% and 7%.

e. Preliminary data from 2006-2007 in-store intercept surveys suggest that the volume of CFLs purchased by nonresidential customers from retail channels is about 2%, but the data do not appear representative and conclusive at this time.

f. Surveys of recipients of CFLs given away at the events organized by IOUs in 2006-2007 show that 1–2% of CFLs given away are installed in nonresidential premises.[43]

g. The number of commercial building sockets which can receive CFLs (data available from the Commercial End Use Survey database) combined with the fraction of likely upstream commercial purchasers (in D above) does not appear to support more than 2-5% of the 2006-2007 upstream CFLs volume (>50,000,000 bulbs) being installed in non-residential buildings.

According to the Energy Division report, the relevant data sources strongly suggest that nonresidential installations of CFLs sold through upstream programs are less than 10%. We rely upon the Evaluation Report's assumed split between residential and commercial CFL usage rather than the 90/10 split which is based on a 1994 mail-in survey of customers. The 90/10 split assumed by utilities has not been justified given: (1) the potentially significant differences between programs, lighting products and purchasing patterns in 1994 as compared to 2006-2007; and (2) more recent customer survey data indicating that

[43] See Appendix A5.

the percentage of nonresidential CFL purchases, and information about the number of commercial sockets available for CFL installation.[44] The more recent information reviewed by Energy Division regarding the likely distribution of CFLs between the residential and nonresidential sector is more reliable than a 15-year-old study that supports a 90/10 assumption.

D.08-01-042 mandated updates to DEER parameters, including EULs, as part of a package to limit the risk of overpayment of utilities' claims. After considering available studies and other evidence, the Energy Division adjusted the EUL for indoor residential CFLs to reflect usage patterns associated with indoor residential CFLs. We find the use of the Energy Division updates to be appropriate for use in the true-up.

5.5.4. Treatment of 2004-2005 Cumulative Goals

The Energy Division Scenario Analysis Report calculates incentive earnings based on cumulative goals starting from 2004, compared with alternative impacts from excluding cumulative 2004-2005 goals. The direction provided in D.07-09-043, Ordering Paragraph 4(b) called for interim incentive claims to be evaluated on a "cumulative-to-date" basis. As further explained in D.07-10-037:

> For any given year, cumulative savings represents the savings in that year from all previous measure installations (and reflecting any persistence decay that has occurred since the measures were installed) plus the first-year savings of the measures installed in that program year. (D.07-10-037 at 77.)

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[44] CPUC Energy Efficiency 2006-2007 Final Verification Report at 58-59.

Our rules on cumulative savings goals were first developed in D.04-09-060 to ensure the IOUs focus on long-term savings, as opposed to those with short-term payback and short expected useful lives. We elaborated on this principle in D.07-10-037, which stated:

> Under the risk/reward mechanism's MPS, the utilities are further motivated to avoid excessive reliance on short-lived measures. Therefore, it does not work to the utilities' advantage to focus exclusively on measures with short lives (or low persistence of savings over time) because doing so creates the savings shortfall illustrated above, making it harder to meet the MPS. For example, if an energy efficient light with an expected life of five years was installed in 2004, it will remain in service producing savings throughout 2006-2008, after which it will reach the end of its life and need to be replaced with like-savings in 2009. (D.07-10-037 at 77.)

The IOUs, however, take issue with the inclusion of 2004-2005 data in measuring cumulative goals in deriving incentive earnings for the 2006-2008 cycle. In D.09-05-037, the Commission found that 2004-2005 data is not directly reconcilable with 2006-2008 evaluation results. Consequently, cumulative savings for purposes of the prospective program cycle were defined to exclude the 2004-2005 data. (D.09-05-037 at 57.)

The Commission likewise concluded in D.09-12-045 that "[f]or the purposes of measuring interim incentive earnings for the 2006-2008 cycle, we agree that it is appropriate to exclude the effects of cumulative goals starting from 2004, as reflected in the Verification Report." (D.09-12-045 at 66.) The IOUs argue that the same principle of excluding the cumulative effects of the 2004-2005 program cycle should apply for determining incentive earnings in the final 2006-2008 true-up.

As explained in D.09-05-037, although we excluded 2004-2005 data in the calculation of cumulative savings for the 2010-2012 cycle, we did not reverse our policy of comparing results against cumulative goals. As stated in D.09-05-037, cumulative savings are a critical element of our overall strategy to create long-term, lasting savings through ratepayer investments. Without the cumulative savings goals, we cannot ensure that energy efficiency programs will produce benefits comparable to investments in power plants.

Although we excluded 2004-2005 data in measuring cumulative goals for the 2010-2012 cycle, we did not decide how 2004-2005 data should be treated in defining the cumulative savings for the final 2006-2008 true-up. The treatment of 2004-2005 data for the 2006-2008 true-up likewise does not set any precedent as to the treatment of cumulative goals on a prospective basis as previously addressed in D.09-05-037.

For purposes of RRIM earnings formula, the recognition of 2004-2005 data in cumulative goal measurement has an effect on the MPS, which determines the applicable shared savings rate, or whether earnings penalties apply. If the MPS drops to 65% or less, a penalty applies.

By excluding 2004-2005 data in measuring cumulative goals through 2008, the MPS is above the penalty zone for all IOUs except SDG&E. The penalty calculation for SDG&E is highly sensitive to assumptions concerning the inclusion of 2004-2005 data in measuring cumulative goals. For SDG&E, the MPS for MMTh savings would drop to only 62%, based on the RRIM formula as calculated excluding 2004-2005 data. Alternatively, by including 2004-2005 data in the cumulative goals, the MPS metrics for all IOUs, including SDG&E is above the 65% penalty zone. Including as little as 10% of 2004-2005 data in

the calculation of MMTh cumulative goals increases SDG&E's MPS from 62% to 66%, which is above the penalty threshold.

At a 62% MPS level, a penalty would apply for SDG&E in the amount of $11 million. At a 66% MPS level, however, no penalty would apply. The variance between the 62% and 66% MPS is an earnings "cliff" whereby a small change in the MPS creates a precipitous drop in earnings due to a penalty.

In contrast to this anomaly, a more stable measure of RRIM earnings results by measuring cumulative savings with at least some recognition of 2004-2005 data. For example, even if we define cumulative goals to include as little as 10% of the effects of 2004-2005 goals and savings, the MPS for SDG&E increases to 66%, which is outside the penalty zone. Inclusion of more than 10% of 2004-2005 goals and savings in calculating cumulative results would further increase the MPS for SDG&E. The effects for SDG&E of including differing percentages of 2004-2005 therm goals and savings are illustrated below:

Percent of 2004-2005 Goal and Savings data included	0%	1%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%
SDGE Therm MPS	62%	63%	64%	66%	67%	68%	70%	71%	72%	73%	74%	75%
MMTherm Goal	7.1	7.2	7.3	7.49	7.7	7.8	8.0	8.2	8.4	8.6	8.7	8.9
MMTherm Savings	4.4	4.5	4.7	4.9	5.1	5.4	5.6	5.8	6.0	6.3	6.5	6.7

Even though the 2004-2005 data is not directly comparable to 2006-2008 data, including some recognition of 2004-2005 data in measuring cumulative goals is not unreasonable. To the extent the RRIM earnings calculation does not change over a range of MPS values, however, it is not necessary to identify an exact amount of 2004-2005 data to recognize in the calculation of cumulative goals.

We conclude that including no more than 10% of the 2004-2005 data in the calculation of cumulative goals is a sufficiently conservative measure to avoid overstating SDG&E's MPS. At the same time, by providing some recognition of 2004-2005 data, we continue to highlight the principle that goals should be evaluated on a cumulative basis, consistent with the principles articulated in D.07-10-037.

For purposes of finding that no penalties apply to SDG&E, it is sufficient to conclude that the inclusion of at least 10% of 2004-2005 data in the calculation of cumulative goals does not overstate the MPS. On this basis, we conclude that SDG&E's achievement of MMTh goals on a cumulative basis for 2006-2008 was above the penalty zone. Accordingly, no penalties apply for the 2006-2008 true-up.

5.5.5. Savings From Codes and Standards (C&S) Advocacy Programs

The IOUs argue that the Commission's policy rules for energy efficiency state that 100% of verified savings from pre-2006 C&S Advocacy Programs shall count towards the energy savings goals, minimum performance standards and performance earnings basis for the 2006-2008 and 2009-2011 program cycles.

The ERT assumptions utilized by the Energy Division, however, did not reflect any net benefits associated with any C&S activity initiated within the 2006-2008 program cycle.

In D.09-12-045, the Commission accepted the non-inclusion of such C&S benefits for interim claims because information was not yet available for incorporation into the savings calculations. The Commission thus concluded that "since the requisite data will be incorporated for purposes of the 2010 true-

up, the utilities will be made whole for the effects of any updated data that may change the incentive earnings amount." (D.09-12-045 at 64-65.)

The IOUs claim that omission of this information in the Energy Division's calculations systematically undercounts the benefits associated with the utility 2006-2008 programs. In accordance with the Commission's directive, the IOUs argue that the savings used to compute RRIM earnings should include 100% of the efficiency savings and net benefits from the aforementioned C&S.

We find it reasonable to include 100% of the savings from pre-2006 C&S Advocacy Programs for purposes of the true-up. In D.10-04-029, the Commission determined that it is appropriate to count 100% of these savings toward achievement of the 2010-2012 cumulative goals. This determination was based on the finding that: "…better technical data about savings is now available as compared to when the original 50% determination was made in D.05-09-043, including Evaluation Protocols and elimination of concerns about double-counting and base case forecasts." (D.10-04-029 at 46.) While D.10-04-029 was issued in the context of the 2010-2012 program cycle, the rationale expressed therein supports counting 100% of all C&S savings toward 2006-2008 goals as well. This is especially true since the 2006-2008 savings will likely be used to measure progress towards the 2010-2012 cumulative savings goals. Inclusion of 100% of the savings is consistent with our statement in D.09-12-045 that the IOUs would be made whole in the true-up for recognition of all C&S savings.

5.5.6. Assumptions Regarding GHG Reductions

The calculation of net cost savings from energy efficiency measures includes recognition of the reduction in GHG emissions. The Energy Division

report included recognition of the avoided cost benefits due to GHG reductions at the rate of $12 per ton averaged over time.

The IOUs propose instead that the avoided cost benefits for GHG reductions should be valued at $30 per ton. In the EM&V Decision, the Commission directed Energy Division to update the avoided cost GHG adder to $30 per ton. The updated avoided costs that were approved by the Commission were based on the 2008 Market Price Referent (MPR). The IOUs argue that since the 2008 MPR represented the best available information on GHG prices as of 2008, the $30 per ton figure should be used to evaluate the benefits associated with the utilities' 2006-2008 energy efficiency portfolios. The IOUs believe this update would represent the most appropriate estimation of program benefits and should be utilized for RRIM earnings purposes.

DRA points out, however, that D.10-04-029, which authorized the GHG value of $30 per ton of CO2, was issued April 8, 2010, more than a year after the 2006-2008 program cycle ended. Since the updated GHG number was intended to apply to the EM&V process for 2010-2012 energy efficiency portfolios, DRA argues that the updated value is not applicable to the measurement of 2006-2008 program results.

DRA calculates that the total GHG Adder amounts to $32,008,464 for the four IOUs. DRA argues that there is no evidence that the Commission intended to reward the IOUs with such an unreasonably large amount of incentive dollars based solely on the revaluation of the GHG Adder. DRA notes that the change to a $30 per ton value did not add a single GWH, MW or MMTh in savings to the energy efficiency results of the IOUs. DRA finds it inconsistent that the IOUs oppose updates for NTG, EUL, and support the use of *ex ante* interactive effects and *ex ante* installation rates for CFLs delivered via upstream channels, yet want

to use an updated GHG value that does not apply to the 2006-2008 program cycle.

We shall utilize the Energy Division value of $12 per ton for purposes of valuing GHG reduction for the 2006-2008 true-up. This value represents the amount in effect during the 2006-2008 cycle and therefore is relevant for purposes of the true-up of net benefits. The $30 per ton GHG value was intended to apply to post-2008 programs, and thus does not properly apply to the 2006-2008 program cycle.

5.5.7. Treatment of Interactive Effects

Historically, the energy savings profile of a given efficiency measure has been considered in isolation. The impact of installing a single CFL, for instance, is estimated as the difference in its own energy consumption and that of the incandescent bulb it is assumed to replace. However, in some cases, measures have systems impacts, or "interactive effects," which are not captured by baseline comparisons along a single parameter. Some energy efficiency measures, for example, produce less heat than the measure they replace. Depending on factors, including where they are installed, certain energy efficiency measures may increase the need for heating or decrease the need for air conditioning.

The Energy Division reviewed available studies and produced scenario calculations to incorporate interactive effects for both residential and commercial measures for a number of lighting and appliance measures, resulting in negative therm impacts and positive kWh demand impacts for select measures. The data underlying the Commission's currently adopted goals, however, do not reflect these assumptions regarding interactive effects. For comparison, the Scenario

Analysis Report also showed the savings impacts assuming exclusion of all interactive effects.

In D.09-05-037, we affirmed that interactive effects affect net energy savings and are thus appropriate for incorporation into the DEER update, stating that:

> It is of paramount importance to maintain the analytical rigor of our methodologies to count savings. Compromising the technical integrity of our counting methodologies is tantamount to compromising the reliability of energy efficiency as a resource. Given the priority energy efficiency holds in our loading order, we are duly committed to reflecting our best knowledge regarding savings in DEER. (D.09-05-037 at 21.)

We also recognized, however, how interactive effects can have a significant effect on assumed savings achievement, particularly for the dual-fuel utilities, PG&E and SDG&E. In D.09-05-037, we determined the adjustment that was appropriate to reduce 2009-2011 therm goals to recognize the applicable interactive effects, but we did not separately address in that proceeding how the utilities' therm goals for the 2006-2008 cycle should be adjusted for interactive effects. Because interactive effects, particularly those experienced by dual-fuel gas and electric utilities, had not been considered in previously adopted energy efficiency goals, we found it reasonable in D.09-05-037 to make adjustments to SDG&E and PG&E's goals for therm savings for purposes of their 2009-2011 gross savings goals. Drawing from the Energy Division Verification Report's analysis of 2006-2007 data, we thereby reduced the adopted 2009-2011 therm savings goals for PG&E by 26% and for SDG&E by 22%.

We concluded in D.09-12-045 that the issue of whether to apply the full 26% reduction to PG&E's 2006-2008 therm goals for purposes of computing

2006-2008 RRIM earnings would be addressed in this true-up. Consistent with the reduction in 2009-2011 therm goals, as adopted in D.09-05-037, it is reasonable to make a reduction in 2006-2008 goals to recognize interactive effects that were not reflected in the originally adopted goals. Accordingly, for purposes of evaluating the IOUs' achievements, we adjust the goals for therm savings by 38% for PG&E and 35% for SDG&E to recognize interactive effects not originally reflected in adopted goals.[45]

6. Assignment of Proceeding

John A. Bohn is the assigned Commissioner, and Thomas R. Pulsifer is the assigned ALJ for this proceeding.

7. Comments on Proposed Decision

The proposed decision of ALJ Pulsifer (Proposed Decision) in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commission's Rules of Practice and Procedure. Comments were filed on October 18, 2010 and reply comments were filed on October 25, 2010. We have taken the comments into account, as appropriate in finalizing this decision.

Findings of Fact

1. In D.07-09-043, the Commission adopted the RRIM to encourage achievement of Commission-adopted energy efficiency goals, and to extend California's commitment to making energy efficiency the highest energy resource priority.

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[45] The calculation of 38% and 25% goal reductions reflect the updated data calculations in the Energy Division Report, Table 26.

2. The RRIM was designed to rely upon independent evaluation of energy savings by the Energy Division Reports which were to serve as the basis for interim and final incentive payments, as warranted.

3. The process established for utilities to qualify for incentive earnings to meet and exceed Commission-adopted energy efficiency savings goals has proven to be quite controversial, both because of disputes about methodologies used in calculating energy efficiency savings accomplishments and the sensitivity of incentive earnings to differences in the savings calculation methodologies.

4. The IOUs have already been awarded two interim incentive payments for the 2006-2008 cycle, totaling $143.7 million.

5. Outstanding disputes as to the final true-up amount of incentive payments relate to assumptions regarding (a) the total net cost savings subject to incentive earnings, and (b) the applicable percentage share of the net savings to be assigned as incentive earnings.

6. Although challenges have been raised regarding the transparency of the process for review and verification of data underlying the Energy Division evaluation of energy efficiency savings accomplishments, the Energy Division has followed Commission-established protocols for the vetting of the evaluated findings.

7. While the details of various measures used to estimate *ex post* parameters of savings measures may be subject to differences of professional judgment, no party has demonstrated that the overall evaluation produced by Energy Division should be disregarded.

8. The calculation of the 2006-2008 earnings true-up amounts vary significantly depending upon whether assumed energy savings are derived

using unmodified *ex ante* values, versus updated *ex post* measures for key parameters.

9. Even though the estimating processes used by Energy Division to derive the *ex post* update of relevant parameters requires professional judgment, the resulting calculations of energy efficiency achievements represent a reasonable approximation of savings for purposes of assessing whether, or to what extent, an adjustment to previous interim awards of RRIM earnings is warranted.

10. The use of unmodified *ex ante* parameters drawn from the 2005 DEER for purposes of deriving savings achievements subject to the 2006-2008 incentive earnings true-up produces inaccurate measures of savings and incentives to the extent that more accurate updates are ignored.

11. The IOUs were not constrained from making adjustments in the administration of programs throughout the 2006-2008 cycle as a result of the timing of the Energy Division's finalization of updated NTG ratios.

12. While the Energy Division's *ex post* updates can be useful in planning the design of future energy efficiency portfolios, the timing of the publication of Energy Division updates did not constrain utility management from making appropriate adjustments in program priorities or funding throughout the 2006-2008 cycle.

13. Under the adopted RRIM formula, each IOU is eligible for a shared savings percentage that varies depending on the degree of success in achieving energy efficiency savings in relation to a "minimum performance standard."

14. Based on the use of the Energy Division *ex post* evaluated energy efficiency savings results for the 2006-2008 cycle, the resulting amounts of incentive earnings are zero based on the assumptions as set forth in Appendix A.

15. Based on the use of the 2005 DEER values for designated parameters as set forth in the IOUs' proposed scenario, and applying a 12% sharing rate, the resulting calculation of incentive earnings total $256 million, which would represent $112.3 million in additional true-up payments.

16. The values set forth in Appendix A constitute a reasonable approximation of energy efficiency savings derived in accordance with Commission policies for use in calculating the incentive formula covering the 2006-2008 program cycle.

17. Based on the assumptions in Appendix A, no additional RRIM earnings are due. Likewise, because each of the IOUs exceed minimum required performance thresholds, no penalties are due.

18. Under the provisions of the RRIM formula, the IOU achievements equal less than 85% of goals, thereby resulting in application of a 0% shared savings rate.

19. The calculations of RRIM incentives set forth in Appendix A apply 0% of the evaluated net benefits as determined in the Energy Division evaluation report. The MPS reflects the following additional adjustments: (a) a threshold amount of 10% of 2004-2005 cumulative goals and savings are included; (b) interactive effects are adjusted to reduce therm goals by 25% for SDG&E and 38% for PG&E; and (c) 100% of savings from pre-2006 C&S Advocacy Programs are included.

20. Although in D.09-05-037 the Commission found that 2004-2005 data is not directly reconcilable with 2006-2008 results, it is still reasonable to include some amount of 2004-2005 cumulative savings for purposes of the earnings true-up, consistent with the Commission's policy of measuring cumulative goals.

21. Because interactive effects experienced by dual-fuel gas and electric utilities were not considered in previously adopted energy efficiency goals,

in D.09-05-037, the Commission adjusted SDG&E and PG&E's goals for therm savings for purposes of 2009-2011 gross savings goals. A corresponding adjustment to 2006-2008 therm goals provides a consistent treatment for purposes of the true-up.

22. In D.10-04-029, the Commission determined that it is appropriate to count 100% of these savings toward achievement of the 2010-2012 cumulative goals. This determination was based on the finding that better technical data about savings is now available as compared to when the original 50% determination was made in D.05-09-043. That same determination supports the recognition of 100% of C&S advocacy savings for deriving the MPS for the 2006-2008 true-up.

23. The payment of incentive earnings constitutes a cost to ratepayers that reduces the overall cost-effectiveness of energy efficiency programs.

24. Any additional incentive payments would reduce the 2006-2008 programs' cost-effectiveness without providing any offsetting value to ratepayers, reducing the overall statewide benefit-to-cost ratio to only 1.03, based upon Energy Division evaluated results.

25. The incentive earnings calculations in Appendix A provide a reasonable basis to determine whether any of the IOUs are due additional incentive payments for the 2006-2008 cycle, or whether penalties are owed.

26. Because the incentive earnings calculated for each IOU in Appendix A are less than the interim incentive amounts already awarded, the IOUs are not eligible for any additional incentive earnings for purposes of the 2006-2008 true-up.

27. Because each of the IOUs' achievements for each relevant metric is above 65% of adopted goals based on the earnings scenario in Appendix A, no penalties apply for purposes of the 2006-2008 true-up.

28. Because the IOUs are not required to refund interim incentive payments where no penalties apply pursuant to D.08-01-042, the interim incentive payments of $143.7 million constitute the IOUs' final incentive earnings compensation for the 2006-2008 cycle.

Conclusions of Law

1. The final true-up of incentive earnings for the 2006-2008 cycle should be evaluated based upon the assumptions and resulting calculations of incentive earnings set forth in Appendix A.

2. Adopted Commission policy calls for finalizing the true-up of 2006-2008 incentive earnings based upon consideration of *ex post* updates of relevant parameter measures as evaluated by the Energy Division and its consultants.

3. The reliance on the *ex ante* assumptions for finalizing the calculation of net energy savings subject to the incentive calculation would not be consistent with express Commission policies that call for *ex post* updates to be applied in the true-up of incentive savings.

4. Ratepayers are only required to share net benefits with shareholders through the incentive mechanism to the extent that those net benefits actually materialize, based on Energy Division's independently evaluated results.

5. Parties have been provided a fair opportunity to participate in the public review of the Energy Division Evaluation Report.

6. Based on a reasonable approximation of IOU savings accomplishments for the 2006-2008 cycle, as set forth in Appendix A, the IOUs are not eligible for any additional incentive payments for the 2006-2008 pursuant to adopted RRIM formulas and protocols.

7. The incentive earnings calculated based on the assumptions set forth in Appendix A balance the goals of fostering energy efficiency achievements while protecting ratepayers from paying for incentives that have not been earned.

8. The 2006-2008 RRIM true-up should be finalized in accordance with the ordering paragraphs as adopted below.

9. Since the Energy Division finalized calculations of the PEB as reflected in Appendix A of this decision incorporates correction of the E3 calculator used to determine natural gas energy efficiency benefits as referenced in the SDG&E's Petition to Modify D.09-12-045 filed February 19, 2010, that filing is hereby rendered moot and should be dismissed.

O R D E R

IT IS ORDERED that:

1. The true-up of Risk/Reward Incentive Mechanism Savings for the 2006-2008 program cycle is hereby concluded. The previously awarded interim incentive earnings awarded in Decision (D.) 08-12-059 and D.09-12-045 constitute the final and complete resolution of payments due Pacific Gas and Electric Company, San Diego Gas & Electric Company, Southern California Edison Company, and Southern California Gas Company for the 2006-2008 cycle. No additional earnings and no penalties shall be authorized for the 2006-2008 cycle.

2. The Commission shall separately address in a subsequent decision in this proceeding whether, or subject to what conditions incentive payments and/or penalties may be due for 2009, 2010, or for future years.

3. In view of the corrections incorporated in the Energy Division Evaluation Report and as reflected in Appendix A of this decision, the Petition to Modify

D.09-12-045, filed by San Diego Gas & Electric Company is rendered moot and hereby dismissed.

4. This proceeding shall remain open for consideration of issues relating to prospective modifications to the Risk/Reward Incentive Mechanism.

This order is effective today.

Dated _____, at San Francisco, California.

APPENDIX A

Adopted Assumptions for Assessing Risk/Reward Incentive Mechanism True-Up

The following assumptions shall apply for evaluating whether or to what extent any utility is entitled to additional earnings or to penalties pursuant to the final true-up of 2006-2008 Risk/Reward Incentive Mechanism (RRIM) results:

1. Use Energy Division's calculation of the Performance Earnings Basis utilizing the Energy Division ex post evaluation of savings.
2. Apply 100% of savings from Pre-2006 Codes and Standards Advocacy Programs.
3. Include a threshold level of 10% of 2004-2005 goals and savings in measuring cumulative results.
4. Reduce MMTherm goals by 25% for SDG&E and 38% for PG&E to recognize interactive effects in accordance with D.09-05-037.
5. Apply a 0% shared savings rate since the calculation of the Minimum Performance Standard (MPS) for each utility lies between 65% and 85% of adopted goals.

The table on the next page demonstrates that all of the IOUs savings performance falls between 65% and 85% of adopted goals, computed with the assumptions stated in Appendix A.

The calculated RRIM earnings total zero based on a 0% shared savings rate applied to the Energy Division evaluated Performance Earnings Basis.

The table below shows the effects of including different levels of 2004-2005 goals and savings in calculating cumulative goals for SDG&E. As illustrated, inclusion of as little as 10% of 2004-2005 goals and savings results in a 66% MPS for SDG&E, whereby no penalties apply. This hypothetical calculation illustrates the sensitivity of the incentive calculation to small changes in assumptions regarding 2004-2005 data.

Percent of 2004-2005 Goal and Savings data included	0%	1%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%
SDGE Therm MPS	62%	63%	64%	66%	67%	68%	70%	71%	72%	73%	74%	75%
MMTherm Goal	7.1	7.2	7.3	7.49	7.7	7.8	8.0	8.2	8.4	8.6	8.7	8.9
MMTherm Savings	4.4	4.5	4.7	4.9	5.1	5.4	5.6	5.8	6.0	6.3	6.5	6.7

Calculation of RRIM Earnings Using Assumptions Listed on the Preceding Page

Energy Efficiency RRM Table 2006-2008

	Third Earnings Claim (PY2006-2008 True-Up)				
	PG&E	SCE	SDGE	SoCalGas	Total
Savings Goals			PY 2004-2008		
Total Cumulative Savings (GWH)	2,974.7	3,300.3	691.9		**6,966.88**
Total Peak Savings (MW)	645.3	705.4	132.4		**1,483.07**
Total Cumulative Natural Gas Savings (MMTh)	29.7		7.5	59.1	**96.35**
MPS Goals (80% of goal)					
Total Cumulative Savings (GWH)	2,260.8	2,508.0	510.6		**5,279.36**
Total Peak Savings (MW)	490.4	537.6	97.8		**1,125.84**
Total Cumulative Natural Gas Savings (MMTh)	22.2		5.7	45.8	**73.68**
Dead Band (65% of goal)					
Total Cumulative Savings (GWH)	1,836.9	2,037.8	414.8		**4,289.48**
Total Peak Savings (MW)	398.5	436.8	79.5		**914.75**
Total Cumulative Natural Gas Savings (MMTh)	18.1		4.6	37.2	**59.87**
Achieved Savings Towards MPS					
EE Portfolio Savings (adjusted ex-ante)			PY 2006-2008		
Total Cumulative Savings (GWH)	1,765.9	1,962.7	364.0		**4,092.61**
Total Peak Savings (MW)	320.0	384.1	72.3		**776.48**
Total Cumulative Natural Gas Savings (MMTh)	22.3		2.7	31.9	**56.85**
50% C&S Savings (adjusted ex-ante)			PY 2006-2008		
Total Cumulative Savings (GWH)	315.8	325.8	74.0		**715.60**
Total Peak Savings (MW)	61.2	63.0	14.4		**138.60**
Total Cumulative Natural Gas Savings (MMTh)	4.4		0.5	7.0	**11.90**
04-05 EM&V Adjusted EE Portfolio Savings			PY 2004-2005		
Total Cumulative Savings (GWH)	99.8	149.8	34.3		**283.87**
Total Peak Savings (MW)	21.2	27.0	5.9		**54.21**
Total Cumulative Natural Gas Savings (MMTh)	1.9		0.5	1.1	**3.47**
EM&V Adjusted LIEE Savings			PY 2004-2008		
Total Cumulative Savings (GWH)	123.5	107.1	27.8		**258.35**
Total Peak Savings (MW)	24.9	22.3	6.9		**54.10**
Total Cumulative Natural Gas Savings (MMTh)	5.7		1.2	4.6	**11.56**
Total Savings			PY 2004-2008		
Total Cumulative Savings (GWH)	2,305.0	2,545.4	500.0		**5,350.43**
Total Peak Savings (MW)	427.4	496.4	99.6		**1,023.38**
Total Cumulative Natural Gas Savings (MMTh)	34.3		4.9	44.6	**83.79**
MPS Individual Metric Performance					
Percent of GWH Goal	77%	77%	72%		77%
Percent of MW Goal	66%	70%	75%		69%
Percent of MMTh Goal	115%		66%	75%	87%
MPS Average Metric Performance	**86%**	**74%**	**71%**	**75%**	**78%**
PEB					
TRC Net Benefits	$ 183,655,686	$ 183,794,126	$ 4,709,036	$ (21,389,766)	$ 350,769,083
PAC Net Benefits	$ 400,647,951	$ 530,294,749	$ 75,678,388	$ 68,049,143	$ 1,074,670,231
PEB	$ 255,986,441	$ 299,294,334	$ 28,365,487	$ 8,423,204	$ 592,069,465
PEB at MPS Threshold	**$ 255,986,441**	**$ 299,294,334**	**$ 28,365,487**	**$ 8,423,204**	**$ 592,069,465**
Earnings/Penalty Cap	$ 180,000,000	$ 200,000,000	$ 50,000,000	$ 20,000,000	$ 450,000,000
Earnings Rate	**0%**	**0%**	**0%**	**0%**	
Total Earnings	$ -	$ -	$ -	$ -	$ -
Penalties	NO	NO	NO	NO	
Total Penalties	No Penalty	No Penalty	No Penalty	No Penalty	$ -

(END OF APPENDIX A)