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**California Public  
Utilities Commission**

**2006-2008 Energy Division Scenario Analysis Report**

**Prepared by Energy Division**

**May 4, 2010**

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## Introduction and Background

This report fulfills the requirements laid out in the “Performance Basis Protocol for Verifying Performance Basis Parameters” adopted by an Administrative Law Judge Ruling issued in R.01-08-028 on January 11, 2006<sup>1</sup> and the application of these parameters to the Risk/Reward Incentive Mechanism (RRIM) initially adopted in September 2007.<sup>2</sup> Energy Division conducted a comprehensive impact evaluation of the IOUs’ efforts to update estimates of and report on energy efficiency savings parameters. The evaluation methods, along with the parameters and aggregated savings results, are detailed in the Draft 2006-2008 Energy Efficiency Evaluation Report issued on April 15th, 2010.<sup>3</sup>

Energy Division was directed to prepare this report to present the earnings utilities are eligible to claim based on the current rules and procedures that define the RRIM process.<sup>4</sup> The results based on these rules are presented in Scenario 7 and reflect the IOUs’ achievements based on net evaluated energy savings. Additionally, the Energy Division was directed to prepare alternative scenarios to inform the RRIM proceeding per the Assigned Commissioner Ruling issued April 8, 2010.<sup>5</sup> In addition to Scenario 7, which is the only outcome consistent with current Commission policy, the results of eight additional scenarios and six sub-scenarios are presented in this document. Each scenario applies the calculations embedded in the RRIM Calculator, but uses adjusted assumptions about the energy savings inputs, goals, and costs. The scenarios presented as alternatives to Scenario 7 are provided as information only and are not endorsed by Energy Division as appropriate for determining shareholder earnings.

### 1. Summary of RRIM phase of Energy Efficiency proceeding

Beginning with the 2006-2008 program cycle, the Commission adopted a RRIM, which was intended to reward IOUs for the successful procurement of cost-effective energy efficiency programs and address an inherent utility bias towards supply-side procurement under cost-of-service regulation and investment in “steel in the ground” as a means of generating earnings for shareholders.

The RRIM seeks to align ratepayer and shareholder interests by creating “incentives of a sufficient level to insure that utility investors and managers view energy efficiency as a core part of the utility’s regulated operations that can generate meaningful earnings for

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<sup>1</sup> See “Administrative Law Judge’s Ruling Adopting Protocols for Process and Review of Post-2005 Evaluation, Measurement and Verification (EM&V) Activities, available at <http://docs.cpuc.ca.gov/PUBLISHED/RULINGS/52676.htm> .

<sup>2</sup> See D.07-09-043 at [http://docs.cpuc.ca.gov/published/FINAL\\_DECISION/73172.htm](http://docs.cpuc.ca.gov/published/FINAL_DECISION/73172.htm)

<sup>3</sup> Available at <http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/EM+and+V/2006-2008+Energy+Efficiency+Evaluation+Report.htm>

<sup>4</sup> D.07-09-043

<sup>5</sup> Commissioner Bohn Ruling <http://docs.cpuc.ca.gov/EFILE/RULINGS/116024.htm>

its shareholders.”<sup>6</sup> The incentive mechanism also aimed to protect ratepayers’ financial investment in energy efficiency, ensure that program savings are real and verified, and impose penalties for substandard performance.

The RRIM includes a Minimum Performance Standard (MPS), which is the minimum level of savings that IOUs must achieve relative to the Commission-adopted savings goal before accruing any earnings. IOU savings are based on overall portfolio performance, rather than the energy savings performance, of each individual measure and program. The IOUs must achieve a minimum of 80% of the savings goals for each of three individual savings metrics (MW, GWh, and MMTherms), *and* achieve a minimum of 85% of the savings goals, based on a simple average of the percentage achieved for each individual goal.<sup>7</sup>

If a utility meets the MPS and is eligible for shareholder incentive rewards, the specific amount is determined by applying a “shared savings rate” associated with a given level of goal achievement to the Performance Earnings Basis (PEB), which represents an estimate of the net benefits created by the utility portfolios.

As Figure 1 illustrates, earnings begin to accrue at a 9% sharing rate if the utility meets the individual thresholds and 85% of the Commission’s savings goals adopted in D04-09-060. If the utility meets 100% of the goals, earnings increase from 9% to 12%. Conversely, if utility portfolio performance falls to 65% of the adopted savings goals or lower, financial penalties begin to accrue. There are two penalty provisions and the greater of the two applies when savings fall to (or below) the 65% threshold. “Per unit” penalties are \$.05 per kWh, \$.45 per therm and \$25 per kW for each unit below the savings goal. Should performance fall below 50% of the savings goals, penalties associated with the cost-effectiveness guarantee are expected to become larger than per-unit penalties and shareholders are obligated to pay ratepayers back dollar-for-dollar for negative net benefits. There are no earnings penalties within what is called a “deadband” range of performance greater than 65% and less than 85% of goals achievement. The earnings and penalties are capped at \$450 million for all four IOUs.

Over the course of a three-year program cycle, there are two “progress payment” interim earnings claims from the IOUs, based on verified measure installation and cost reports combined with *ex ante* (pre-installation) performance estimates, with a final true-up claim to determine the level of net benefits (PEB) and MW, GWh and MMTherms savings produced by the portfolio over the three year period. Thirty percent of the interim claims are held back with their ultimate disbursement dependent upon the final true-up, which is based on *ex post* (after installation) performance review

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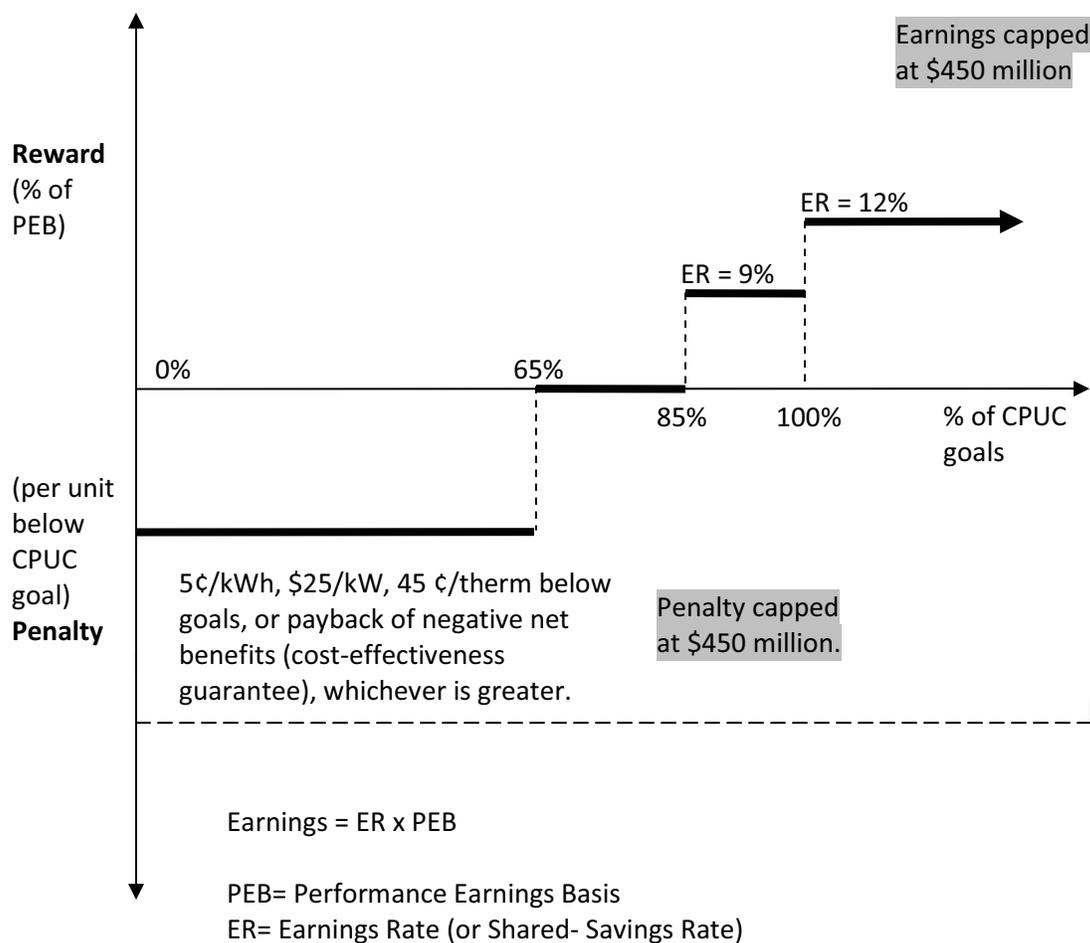
<sup>6</sup> D.07-09-043, available at [http://docs.cpuc.ca.gov/WORD\\_PDF/FINAL\\_DECISION/73172.PDF](http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/73172.PDF), as modified by D.08-01-042, available at [http://docs.cpuc.ca.gov/WORD\\_PDF/FINAL\\_DECISION/78370.PDF](http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/78370.PDF)

<sup>7</sup> In D.07-09-043, the Commission established an MPS of 80% for SoCalGas, because it is subject to a single goal (for MTherms) and consequently has less flexibility than the other IOUs in meeting an average MPS of 85%.

at the end of the three-year cycle. All of these claims are designed to be linked to the Energy Division’s Verification and Performance Basis Reports.

The Commission intended that the RRIM be used for the 2006-2008 and subsequent program cycles, and also envisioned that it be revisited in 2011. The Commission further indicated that changes to overall energy savings goals could result in a need for modifications to the RRIM.<sup>8</sup>

**Figure 1: Adopted Incentive Mechanism Earnings/Penalty Curve**



<sup>8</sup> D08-07-047, available at [http://docs.cpuc.ca.gov/WORD\\_PDF/FINAL\\_DECISION/85995.PDF](http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/85995.PDF).

## **2. The Minimum Performance Standard and Performance Earnings Basis**

### **2.1. Minimum Performance Standard Overview**

The RRIM earnings accrue if the utility meets or exceeds the MPS, a threshold of 85% of the Commission's savings goals (80% for SoCalGas). If the utility achieves 100% of the goals, the earnings rate increases as a reward for superior performance. The 85% and 100% threshold earnings rates, set at 9% and 12% respectively, are used to calculate a share of the Performance Earnings Basis (PEB), which determines the amount of shareholder incentives that the utilities will be eligible to collect in electric distribution or gas transportation rates. The PEB is an estimate of the benefits created by the utility portfolio minus the costs of the utility portfolio, measured in monetary terms.

In order to determine if the utility has met any of the MPS thresholds, each individual utility's total accomplished cumulative net annual GWh, MW, and MMTherms savings are calculated as a percentage of the utility-specific 2008 cumulative goals adopted in D.04-09-060. In addition to an average goal attainment for all the metrics (GWh, MW, and Therms), each individual metric alone has a threshold requirement.

The key threshold requirements for the 2006-2008 interim earnings claim from Decisions 07-09-043, 08-01-042, and 08-12-059 are:

- If the metric average is equal to or greater than 65% and below 85% of goal (80% for SoCalGas), and each individual metric is equal to or greater than 65% of goal, then there are no earnings and no penalties.
- If the metric average is equal to or greater than 85% (80% for SoCalGas) and below 100% of goal, and each individual metric is equal to or greater than 80% of goal, then the IOU can claim 9% of PEB in earnings.
- If the metric average is equal to or greater than 100% of goal and each individual metric is equal to or greater than 95% of goal, then the IOU can claim 12% of PEB in earnings.
- If any individual metric falls to or below 65% of goal, then penalties will be applied.
- If a utility continues to exceed the 65% of savings goals threshold for each individual metric on an ex post basis, it will not be required to pay back any interim incentives payments earned. However, if ex post results indicate a utility has dropped below 65% of savings goals for any individual metric, the utility must pay back any interim payments earned, and penalties will be assessed.

### **2.1.1. Components Included in the MPS Calculation**

The total accomplished GWh, MW, and MMTherms savings included in the MPS calculation are the sum of the following quantities:

1. **The 2006 - 2008 EE portfolio *evaluated* GWh, MW, and MMTherms savings accomplishments.**<sup>9</sup>
  - Installation rates for which samples of installations have been inspected by ED contractors to verify proper installation have been applied to all records included in an evaluation.
  - Unit energy savings were updated for which samples of projects have been inspected by ED contractors to measure in-situ savings have been applied to all records included in an evaluation. Interactive effects updates were also applied where applicable.
  - Net to gross ratios were updated for which participants have been interviewed by ED contractors to determine program influence have been applied to all records included in an evaluation.
  - Measure level parameters from the DEER 2008 update have been applied to records that did not have an alternative evaluation based estimate; this was mostly for Effective Useful Life parameter updates and interactive effects.
  - Where no evaluation update was available the measure level parameters are as reported in the utilities' 4<sup>th</sup> Quarter 2008 Report E3 spreadsheets.
  - Measure level parameters from the utilities' program tracking systems are used where the E3 spreadsheet line items represent aggregated measures that do not match the program tracking database line items.
2. **50% of the 2006-2008 *verified* savings attributed to pre-2006 Codes and Standards advocacy work.**
  - This quantity consists of savings originally estimated by the IOUs as attributable to the codes and standards advocacy program, adjusted by the change in construction rates, the time lag in construction completion, and the effective date of appliance standards.
3. **The 2004 and 2005 EE portfolio *evaluation adjusted* GWh, MW, and MMTherms savings accomplishments.**
  - If an evaluation was completed, ED used the realized savings from the evaluation report.

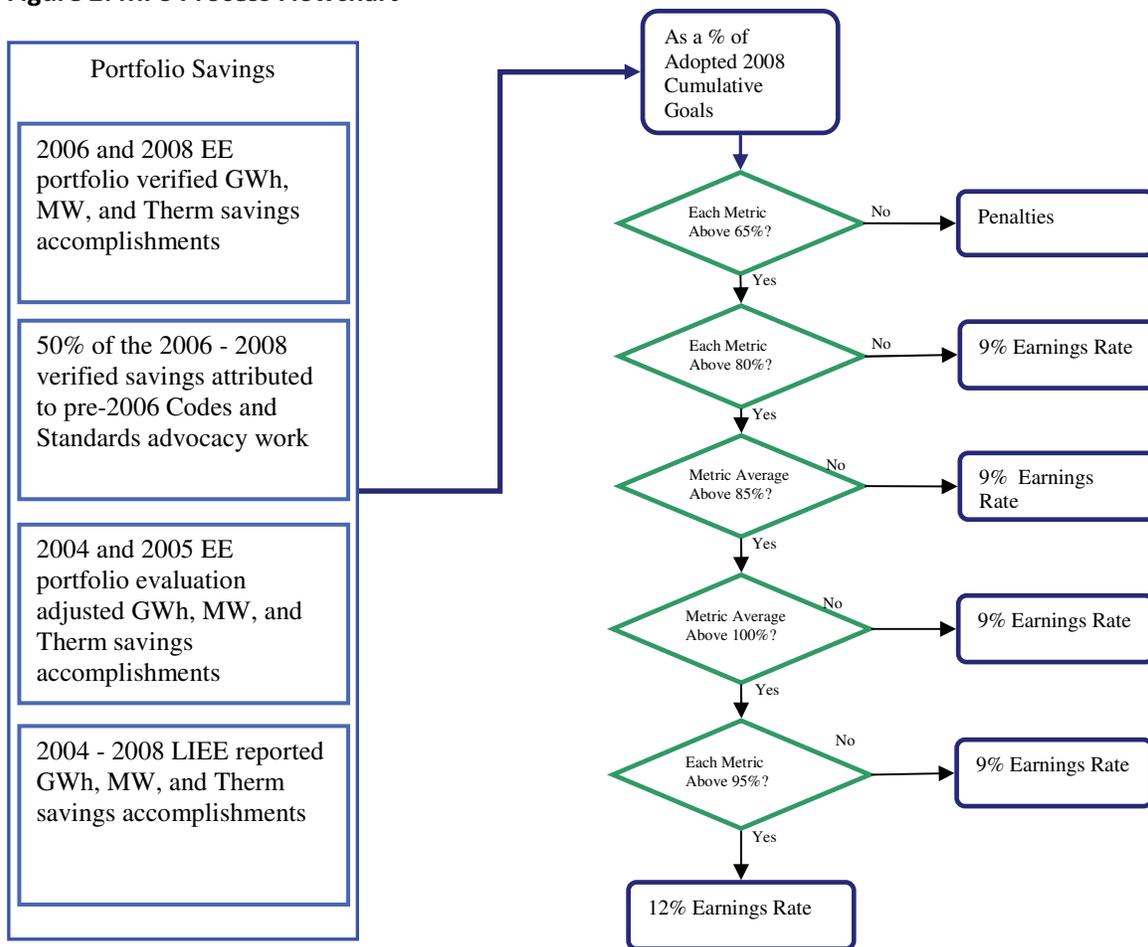
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<sup>9</sup> Details about which records and programs received these update types and the values that were applied can be found in Appendix C of the Draft 2006-2008 Energy Efficiency Evaluation Report. Available at: <http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/EM+and+V/2006-2008+Energy+Efficiency+Evaluation+Report.htm> .

- If the evaluation of the program was completed, but realized savings for every program element were not explicitly provided in the evaluation report, or large gaps in ex-ante savings were evident, Energy Division applied the net realization rate in the evaluation report to the filed net savings submitted in the final annual report for that program if disaggregated data was made available by the utilities, otherwise the workbooks available on EEGA were utilized.
  - If the evaluation of the program was complete, but a final evaluation report was not yet published, Energy Division used the draft realized savings from the evaluation.
  - If the evaluation was not complete, Energy Division used the filed savings in the annual report, if available in disaggregated form. Otherwise the final program workbooks posted on EEGA were used.
4. **The 2004 through 2008 Low Income Energy Efficiency (LIEE) program *evaluation adjusted* GWh, MW, and MMTherms savings accomplishments.**
- PY 2005 savings come from the 2005 LIEE evaluation report.
  - The savings data for 2004, 2006, 2007, and 2008 comes from IOU LIEE reports filed with the CPUC.

The MPS process is illustrated in Figure 2.

**Figure 2: MPS Process Flowchart**



## 2.2. Performance Earnings Basis Overview

The PEB is a representation of net program benefits. The PEB is calculated by combining two-thirds of the Total Resource Cost (TRC) net benefits and one-third of the Program Administrator Cost (PAC) net benefits. The TRC and PAC are cost-benefit analysis methodologies commonly used for evaluating utility sector Demand-Side Management programs. The TRC and PAC costs include program administrative costs. The TRC additionally includes the costs incurred by program participants. The TRC and PAC benefits include estimates of supply-side costs avoided by the implementation of energy efficiency programs.

### 2.2.1. Components Included in PEB Calculation

All program costs and benefits are included the PEB calculation, with a few exceptions. Commission policy excludes certain costs and benefits that are either used only for measuring the MPS thresholds, are not measured through the evaluation process, or are excluded in order to encourage desired program activities which do not produce

avoided cost benefits that can be directly measured and attributed. The following exceptions apply to the PEB costs and benefits:

1. The costs for the Emerging Technologies programs are not counted in the calculation of TRC and PAC costs.
2. The savings and costs attributed to pre-2006 Codes and Standards advocacy work are not counted in the calculation of TRC and PAC benefits.
3. The savings and costs for LIEE programs are not counted in the calculation of TRC and PAC costs or benefits.
4. The EE shareholder incentive earnings are not counted in the calculation of TRC and PAC costs.
5. Participant spillover, market effects, and most indirect impacts are not counted in the calculation of TRC and PAC benefits.
6. All other costs and avoided cost benefits are included the calculation of TRC and PAC net benefits.

### **2.3. Summary of the TRC and PAC Calculations**

The TRC and PAC net benefits are calculated as described in the Standard Practice Manual,<sup>10</sup> and as clarified in D.06-06-063<sup>11</sup> issued in R. 04-04-025, the 12/21/2006 ALJ Ruling<sup>12</sup> issued in R.06-04-010, and modified for a “free-rider-adjustment” in D.07-09-043 issued in R.06-04-010. The TRC and PAC tests, and their application to the PEB calculation, are described in the Energy Efficiency Policy Manual, Version 4.0.<sup>13</sup> In summary, the TRC and PAC tests convert electric and gas energy and electric demand savings to monetized avoided cost benefits, and produce (using program administrative costs and program participant costs) benefit/cost ratios and monetized net benefit values.

The TRC and PAC methodologies specify how EE portfolio costs and benefits are calculated. All costs and benefits are specified to be calculated as the sum of the cost and benefit for each measure installed within an EE cycle as a result of the utilities’ energy efficiency portfolio activities. The primary costs and benefits included in the TRC test are outlined in Figure 3. The PAC benefits are equal to the TRC benefits but the PAC costs do not include any participating customer costs.

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<sup>10</sup> Available at <http://www.cpuc.ca.gov/PUC/energy/electric/Energy+Efficiency/EM+and+V/> .

<sup>11</sup> [http://docs.cpuc.ca.gov/PUBLISHED/FINAL\\_DECISION/57756.htm](http://docs.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/57756.htm) .

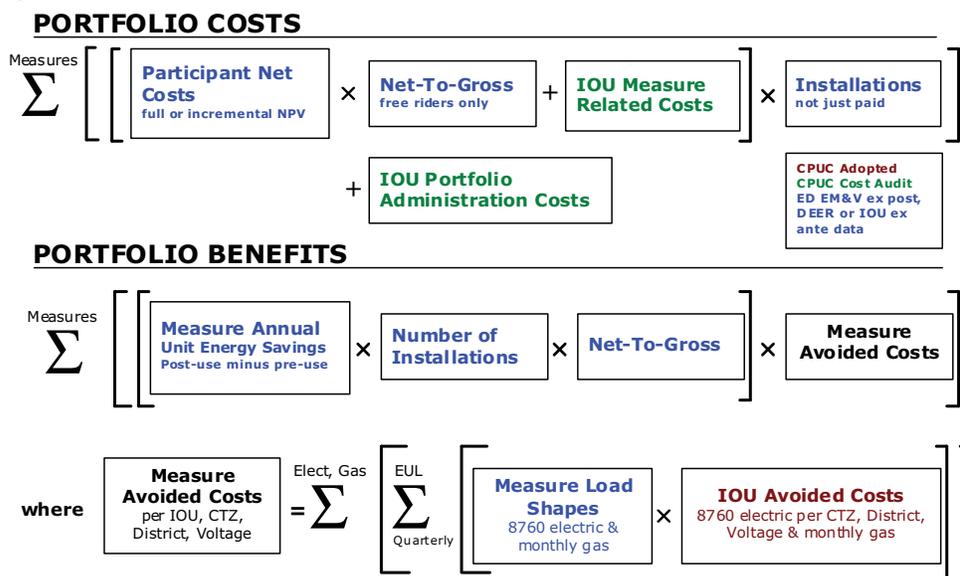
<sup>12</sup> <http://docs.cpuc.ca.gov/EFILE/RULINGS/63120.htm> .

<sup>13</sup> <http://docs.cpuc.ca.gov/EFILE/RULINGS/80684.htm> .

The TRC and PAC tests are calculated in a customized Excel spreadsheet known as the “E3 Calculator.” The E3 Calculator performs the TRC and PAC cost/benefit calculations using the following data.

1. **Avoided Costs** – The latest Commission adopted values, most recently updated by D.06-06-063.
2. **Portfolio Administration Costs** – The total costs incurred to implement the utility programs, including measure costs such as rebates and other incentives (mid/upstream incentives and direct install costs).
3. **Measure Data** – All the measure specific parameters used in the TRC calculation outlined in the 1/2/2007 ALJ Ruling<sup>14</sup> issued in R.06-04-010.

Figure 3: TRC Benefits and Costs



<sup>14</sup> <http://docs.cpuc.ca.gov/EFILE/RULINGS/63294.htm> .

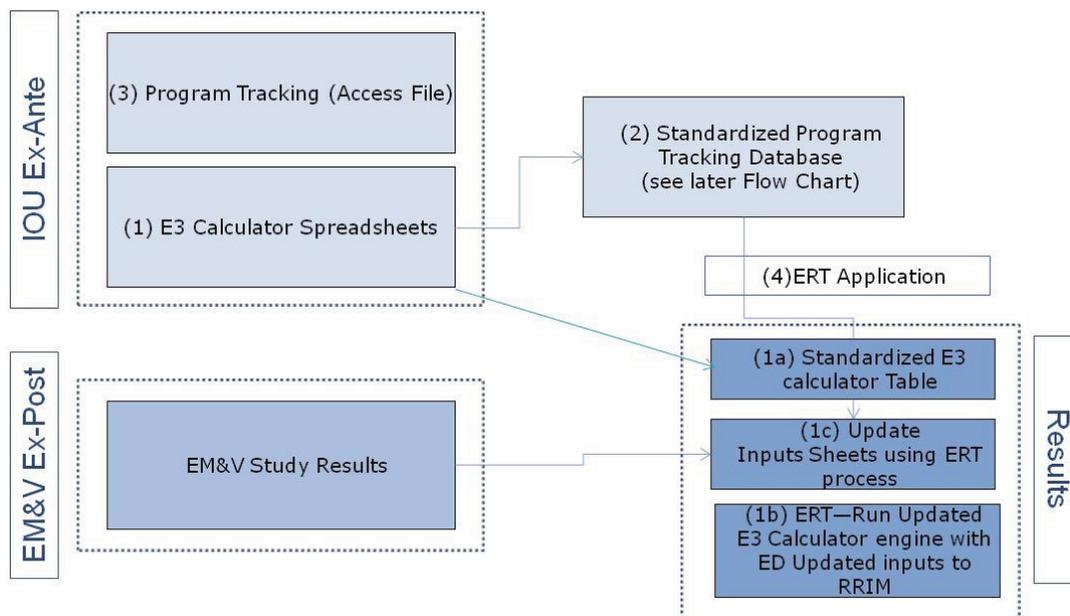
### 3. Overview of Data used to Calculate MPS and PEB

#### 3.1. 2006-2008 Energy Efficiency Data

The core of the 2006-2008 energy efficiency data was the evaluated results submitted to ED by the evaluation contractors. Evaluation contractors applied updates based on policy guidance from ED staff. The contractors submitted the data in the form of an ERT input file, processed via the ERT application, and outputs were used in the RRIM calculator tool (see Section 4.) The evaluation-based updates were made in relation to the specific records that were filed by the utilities via their program tracking data and reconciled with the E3 calculators. Further details about this process and the detailed data can be found in the Draft 2006-2008 Energy Efficiency Evaluation Report.

The Evaluation Reporting Tools (ERT) is the suite of tools and processes that work in concert to produce the final evaluated results of the 2006-2008 energy efficiency portfolio. The ERT was developed through the collaborative work of several technical advisors, professional programmers, and evaluation consultants (the ERT Team). The three core components of the ERT are described in this section: 1) The E3 Calculator engine, 2) The Standardized Program Tracking Database, and 3) The ERT Application. More detailed information can be found in Appendices H-N of the Draft 2006-2008 Energy Efficiency Evaluation Report. These components are represented in Figure 4 below:

**Figure 4. Evaluation Reporting Tools Diagram**



### **3.1.1. Standardized Program Tracking Database (SPTdb)**

Tracking data submitted by each of the IOUs is not in a consistent format. A standardized format for the data was developed as was a method to map the program tracking data to the E3 calculators. This dataset was developed in collaboration with the IOUs to enable analysis across the IOUs and the ability to map results to the E3 filed savings.

The Standardized Program Tracking Database (SPTdb) is an MS Access<sup>™</sup> database designed by Energy Division and its consultants to bring all IOU program tracking data together into a single, standardized table. (Figure 4, box 2). There is an SPTdb .mdb file for each utility (due to Access' 2GB size limit, PGE's data is broken up into two .mdb files). For detailed information on how the SPTdb was created please refer to the SPTdb Documentation found in Appendix I of the Draft 2006-2008 Energy Efficiency Evaluation Report.

### **3.1.2. E3 Calculators**

The E3 calculator is the official CPUC EE program cost-effectiveness tool used to calculate utility energy savings and total net benefits for energy efficiency programs and portfolios. Energy Division requires that E3 calculators be submitted quarterly by the IOUs, along with the corresponding IOU program tracking data. The savings and costs reported in the E3 calculators aggregate approximately 4.5 million IOU program tracking records down to approximately 21,000 E3 calculator lines. The E3 calculators are publicly available through the EEGA website.<sup>15</sup> The E3 calculator determines cost effectiveness (using the Total Resource Cost test), avoided costs and benefits, and additional data that is not present in IOU program tracking data such as ex-ante load shapes, ex-ante effective useful life (EUL), and ex-ante net-to-gross (NTGR). Generally, IOUs submit one E3 calculator (MS Excel workbook) per program or program element, totaling about 247 E3 calculator spreadsheets across the entire portfolio. This is reflected in Figure 4, box 1, and more detail about the E3 calculators can be found in the Draft 2006-2008 Energy Efficiency Evaluation Report.

### **3.1.3. ERT Application**

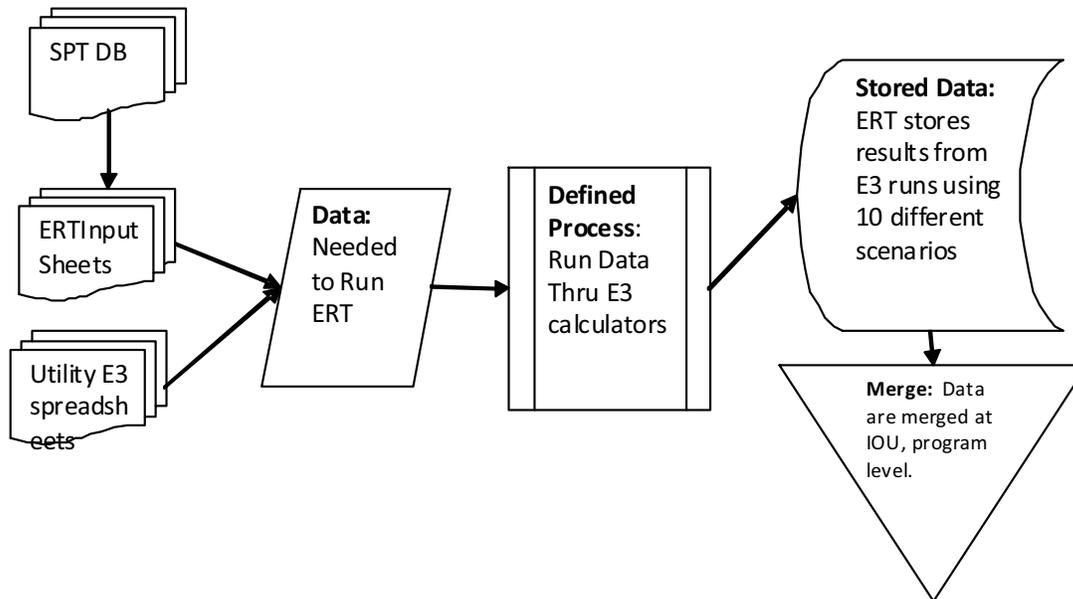
A relational database was developed to enable the systematic update of the utility reported savings parameters from the detailed program tracking database with evaluated results from measure specific or program evaluation results. This software tool allowed Energy Division to produce aggregate impacts by utility, program or technology. The ERT Application (Figure 4, box 4, presented in detail in Figure 5 below) is an MS Access<sup>™</sup> database that is designed to accept measure level evaluated results,

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<sup>15</sup> The IOUs report energy savings on a monthly, quarterly and annual basis to the EEGA website, <http://eeqa2006.cpuc.ca.gov/>.

process those results through the appropriate E3 engine, and aggregate the processed results under ten pre-defined scenarios.

**Figure 5. ERT Application**



### 3.1.4. ERT Input Sheet

The key source of evaluation and reported data is the ERT Input Sheet (Figure 4, box 1c). The ERT Input Sheet contains data fields provided in a specific format, as defined in the data specification file, “ERTE3Input 20100115.xls,” found in Appendix C of the Draft 2006-2008 Energy Efficiency Evaluation Report. The data fields are populated from a combination of sources including the Standardized Program Tracking Database, as well as the evaluation datasets. Each of the impact evaluation teams populated an ERT Input Sheet with data from each program that was included in the study designs for their respective evaluations.

Each contract group was responsible for submitting an input sheet for a certain number of programs. Typically these were the programs that they evaluated directly, and in some cases they were programs for which they had a high concentration of high impact measures or HIMs<sup>16</sup> that they had evaluated.

In total, the ERT application requires 75 data fields in order to calculate energy savings and net benefits. Thirty-five of those fields within the ERT Input Sheet are provided by the evaluation teams, while the 40 remaining fields are either automatically computed through programming code in the ERT application or are pulled from the IOU\_E3\_Claim table already housed within the ERT application.

<sup>16</sup> The high impact measure approach is discussed in more detail in the Draft 2006-2008 Energy Efficiency Evaluation Report.

### **3.1.5. Policy Direction for Updating IOU Claims (Decision Framework<sup>17</sup>)**

Energy Division (ED) staff was directed to address eight specific parameters in the evaluation of the 2006-2008 portfolio savings, per the *ALJ Ruling Adopting Protocols for Processes and Review of Post 2005 Evaluation Measurement and Verification (EM&V) Activities*, Attachment 2 “Performance Basis Protocol For Verifying Performance Basis Parameters And Joint Staff’s Reporting Schedule,” issued on January 11, 2006 in R.01-08-028 (“1-11-06 ALJ Ruling”). Subsequent Commission direction in D. 07-09-043 allows ED staff to utilize the following options in estimating program and portfolio impacts for the 2006-2008 program cycle:

1. Extrapolate findings from comparable programs to determine net resource benefits for programs that do not receive full impact evaluation; or
2. Accept reported savings values for programs that do not receive impact evaluation; or
3. Extrapolate savings findings from impact evaluations for comparable programs for some net resource benefit parameters and accept reported values for others; or
4. Apply a discount factor to savings or costs from programs that do not receive impact evaluation based upon historic impact evaluation results for comparable programs.

D. 08-01-042 (Ordering Paragraph 3, as modified by D.08-12-059, Ordering Paragraph 10) requires the application of the DEER ex ante updates. Applicable excerpts from these decisions can be found at the end of this section. Energy Division staff’s application of these Commission directives to update the IOU savings claims with the best available data from the evaluations and other sources to develop the final savings estimates is explained in the remainder of this section.

The following eight parameters were identified in the Performance Basis Protocol and basic direction for updating those parameters was provided in Attachment 2 of the ALJ Ruling:

- Verification of Measure Installations and Services Rendered – Program administrators report on the number of measure installations and associated program costs. The evaluations conducted of the 06-08 program cycle have included field and phone verification of measure installations for the majority of the programs and energy savings in the portfolios.

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<sup>17</sup> This document was presented to parties in an ERT workshop on December 2, 2009 and is included in the Draft 2006-2008 Energy Efficiency Evaluation Report Section 3.4.

- Program Costs – Program administrators are expected to report on the program cost estimates. The CPUC audited program costs for 2006 and 2007 and determined that all costs were allowable. The audit report for the 2008 program year is pending and will determine if there will be updates or adjustments made to utility reported program costs for the entire 2006-2008 cycle.
- Measure or Unit Energy Savings and Peak Demand Reductions - Verify the unit energy savings estimates used by program administrators by measure or end-use to develop program level savings estimates. The evaluations conducted of the 06-08 program cycle have included field based measurement of the largest programs and a majority of the key measures (High Impact Measures) generating the most energy savings in the portfolios.
- Program/Portfolio Energy Savings and Peak Demand Reductions – Energy Division includes in this report the gross and net savings for each program in the IOUs’ portfolios. The methods used to apply the technology specific evaluation results to programs are outlined in the “Decision Framework” (Section 3.4) and the documentation and justification for the values that were applied are presented in Appendix C.
- Load Factors and Daily Load Shapes – Energy Division estimated the peak load impacts in all the 2006-2008 evaluations using the Gross Demand Savings Protocols<sup>18</sup>. Evaluators used secondary load shape data or primary interval meter data to estimate peak savings depending on the level of rigor selected by the evaluation team.
- Incremental Measure Costs – Energy Division was not able to verify the IOU-reported estimates of incremental measure costs, and accepted the utility filed incremental measure cost data.
- Avoided Costs –Energy Division reviewed avoided costs in the E3 filed calculators for consistency with the avoided cost proceeding and did not modify these values in the final evaluation work.
- Expected Useful Lives/Technical Degradation Factors – Energy Division estimated survival functions and effective useful lives for measures that were forecast to be responsible for a significant proportion of the portfolio savings. These updates were published and used for both the 2006-2008 ex-ante update as well as the 2010-2012 planning.

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<sup>18</sup> See “California Energy Efficiency Evaluation Protocols” at [http://www.calmac.org/events/EvaluatorsProtocols\\_Final\\_AdoptedviaRuling\\_06-19-2006.pdf](http://www.calmac.org/events/EvaluatorsProtocols_Final_AdoptedviaRuling_06-19-2006.pdf).

- Net-to-Gross Ratios (NTGR)<sup>19</sup> – Energy Division estimated net-to-gross ratios for technologies and programs primarily through participant in depth interviews and surveys.

### **3.2. 2004-2005 EE Data**

#### **3.2.1. Methodology for compiling evaluated 2004-2005 savings**

Resource acquisition programs implemented in the 2004-2005 cycle were subject to impact evaluations. The utilities hired evaluation contractors in 2004 and final evaluation plans were approved by Energy Division staff. Program evaluations were conducted and the draft evaluation results were reviewed by the utilities, Energy Division staff, and Energy Division consultants. After considering input from all parties and making necessary revisions and edits, final evaluation reports were approved by Energy Division staff and posted on the California Measurement Advisory Council website ([www.calmac.org](http://www.calmac.org)), managed by the IOUs for the purpose of warehousing evaluation reports.

Each program evaluation was required to report realized annual electric and gas savings and demand reduction for 2004 and 2005 in an “Impact Reporting Table.” The Impact Reporting Table follows a standardized format and is included in each final evaluation report, with a few exceptions. Savings reported in these impact tables were the primary source of information on evaluated accomplishments for the 2004-2005 programs.

To compile the evaluated savings for 2004-2005, the following rules were employed:

- A. If an evaluation was completed, the realized savings from the evaluation report was used.
- B. If the evaluation of the program was completed, but realized savings for each program funding component (PGC or Procurement) were not explicitly provided in the evaluation report, or large gaps in ex-ante savings were evident, ED applied the net realization rate in the evaluation report to the filed net savings recorded in the annual reports, where disaggregated data was made available.<sup>20</sup>
- C. If the evaluation of the program was complete, but a final evaluation report was not yet published, Energy Division used the draft realized savings from the evaluation.

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<sup>19</sup> A ratio or percentage of net program impacts divided by gross or total impacts. Net to gross ratios are used to estimate and describe the free-ridership that may be occurring within energy efficiency programs. Free-ridership represents the portion of energy efficiency program participants who would have installed an energy efficiency measure even in the absence of an IOU program. See EE Policy Manual, Version 4.0, at <http://www.cpuc.ca.gov/NR/rdonlyres/F17E8579-3409-4089-8DE4-799832CF682E/0/PolicyRulesV4Final.doc>

<sup>20</sup> Available at [eega.cpuc.ca.gov](http://eega.cpuc.ca.gov). Click “View Public Reports,” check disclaimer box, click “view all programs” or select from menus, Annual reports did not include program-ID specific information for several of the programs in this list. Requests for disaggregated data were made to the utilities by Energy Division.

- D. If the evaluation was not complete, ED used the filed savings in the annual report, if available in disaggregated form; otherwise, final program workbook posted on EEGA was used.

### A - Programs with completed evaluations

Appendix B in the second verification report<sup>21</sup> provides a list of programs and links to all evaluation reports and workbooks that were used in this estimate of evaluated savings.

### B - Programs with completed evaluations that did not report realized savings

Annual savings for the programs in Table 1 were not specifically cited in the final evaluation reports, or significant gaps were identified during the review of the ex-ante savings reported in the evaluation and the utility filed savings. To allow evaluation-adjusted credit for these programs, the filed savings (included in the annual report) were adjusted by the net realization rates reported in the evaluations. The spreadsheet in Appendix C contains the entire calculations ED used to apply the realization rates in Table 1. Evaluation adjusted savings for SCE's Summer Initiative programs, which were missing from the draft verification report, were also added using the same approach.

**Table 1: Programs for which Realized Savings were not Explicitly Provided in the Evaluation**

Program ID	Utility	Funding	Program Name	Realization Rate Applied to Filed Savings	Source
1176-04	SCE-PROC	Proc	SW-MF Rebate	0.32 GWh 0.31 MW	Evaluation of the 2004-2005 Statewide Multifamily Rebate Program Evaluation – Vol 1. KEMA, March 16, 2007. Table 1-4 "Measured Savings" % of reported accomplishments, Net MW, GWh, Therms pg. 1-9
1509-04	SDG&E-PROC	Proc		0.15 Therms	
1261-04	SCE	PGC	Savings By Design	0.82 GWh <sup>22</sup> 0.67 MW	An Evaluation of the 2004-2005 Savings By Design Program; RLW Analytics, October 2008 Revision; Table 9 (PG&E Impact table) Table 10 (SCE Impact table)
1506-04 and 1127-04	PG&E	Proc & PGC		0.68 GWh 0.59 MW 0.50 therms	
1249-04	SCG	PGC		0.05 therms	
1325-04	SCE	PGC	Bakersfield Kern	Residential	PG&E 2004-05 Local Government Partnership Programs December 12, 2006; EcoNorthwest Bakersfield Kern Results - Table 30 and 32 (Residential); Table 50 and 52 (Commercial.)
1230-04	SCG	PGC	Partnership – SCE and SCG	0.79 GWh 0.69 MW Commercial 0.46 GWh 0.78 MW	
1520-04	SDG&E-PROC	Proc	Small Business Energy Efficiency	0.83 MW 0.49 GWh	
1377-04	SDG&E	Proc	Single-Family EE	Lighting	2004/2005 Statewide Residential Retrofit

<sup>21</sup> [http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/EM+and+V/081117\\_Verification+Report.htm](http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/EM+and+V/081117_Verification+Report.htm)

<sup>22</sup> Net realization rates were not provided in the SBD evaluation. Therefore, the adjustment factor in Table 1 was derived from the evaluation's impact reporting table by dividing the net ex-post savings by the gross ex-ante savings and applied to the gross program savings as reported in the EEGA workbook. Gross savings are not provided in the annual report, but net savings in the final EEGA workbooks and in the annual report were nearly identical. For Savings by Design only, the missing portion of ex-ante savings was credited to SCE and PG&E (see Appendix C for calculations).

Program ID	Utility	Funding	Program Name	Realization Rate Applied to Filed Savings	Source
1160-04	SCE	Proc	Rebates - SDGEPProc	0.47 GWh	Single-Family Energy Efficiency Rebate Evaluation, Itron, October 2, 2007. Page 11-10
			Single-Family EE	0.23 MW	
			Rebates - SCEProc	Non-Lighting	
1505-04	PG&E	Proc	Residential EE	0.52 GWh 0.51 MW 0.37 therms	
1453-04	SCE	Proc	Small Nonresidential Hard to Reach Program	0.48 GWh 0.75 MW	Evaluation of the SCE 2004-05 Small Business Energy Connection Program, April 2, 2007; EcoNorthwest Table ES-6

### C - Programs with only draft evaluation results

The impact evaluation report for the VeSM program has yet to be finalized, but draft savings results are available. This program represents less than 1% of the expected savings for the 2004-2005 cycle.

### D - Programs without completed evaluations

Four programs included in this analysis did not have a final or draft evaluation, for which ex-ante savings were adopted without adjustment. These were SCE's Small Business Lighting Campaign which was part of the summer initiative programs, and three of PG&E's pilot programs (Upstream Verified Charge and Airflow, Food Service, and Silicon Valley Leadership Group).

### 3.2.2. 2004-2005 Savings Results

Table 2 shows the results based on the rules outlined above. The full spreadsheet used to generate Table 2 is provided in Appendix D of the second verification report.<sup>23</sup> The first column represents the 2004-2005 cumulative savings that were filed by the utilities via workbooks posted on the EEGA website. The second column represents the cumulative savings provided in the evaluation reports, with the exceptions noted in the preceding text.

**Table 2: 2004-2005 Cumulative Savings Estimates**

	Ex-Ante EEGA Workbooks	Ex-Ante Annual Reports	[Draft VR] Ex-Post Evaluation Results	[Final VR] Ex- Post Evaluation Results
<b>PG&amp;E</b>				
GWh-Annual	1,736.40	1,741.4	907.04	1011.6
MW	335.5	356.9	193.58	216.8
MMTherm - Annual	44.1	44.7	18.35	19.1
% GWh Goal	<b>117%</b>	<b>117%</b>	<b>61%</b>	68%
% MW Goal	<b>104%</b>	<b>110%</b>	<b>60%</b>	67%
% MMTherm Goal	<b>225%</b>	<b>228%</b>	<b>94%</b>	100%

<sup>23</sup> [http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/EM+and+V/081117\\_Verification+Report.htm](http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/EM+and+V/081117_Verification+Report.htm)

	Ex-Ante EEGA Workbooks	Ex-Ante Annual Reports	[Draft VR] Ex-Post Evaluation Results	[Final VR] Ex- Post Evaluation Results
<b>SCE</b>				
GWh-Annual	1,923.10	2,296.9	1079.54	1,498
MW	579.7	529.4	204.87	270.5
% GWh Goal	<b>116%</b>	<b>139%</b>	<b>65%</b>	91%
% MW Goal	<b>174%</b>	<b>159%</b>	<b>61%</b>	81%
<b>SDG&amp;E</b>				
GWh-Annual	611.9	632.4	365.82	342.6
MW	115.5	121.3	63.98	59.3
MMTherm-Annual	8.9	3.6	4.40	4.5
% GWh Goal	<b>114%</b>	<b>118%</b>	<b>68%</b>	64%
% MW Goal	<b>115%</b>	<b>120%</b>	<b>64%</b>	59%
% MMTherm Goal	<b>247%</b>	<b>100%</b>	<b>122%</b>	126%
<b>SCG</b>				
MMTherm-Annual	26.1	26.3	11.1	11.1
% MMTherm Goal	<b>135%</b>	<b>136%</b>	<b>58%</b>	58%

### 3.2.3. Impact tables which include savings realized after 2005

A handful of programs have evaluation reported annual savings estimates that increase after 2005. This appears to be due to program extensions, late start-ups, and projects that were implemented after the 2005 programs closed. Table 3 lists the programs for which the evaluation reported annual savings estimates are realized after 2005.

In the comments presented by the utilities on the draft 1<sup>st</sup> Verification Report, several expressed concern that the statewide Energy STAR New Homes and Savings by Design programs were not included in the list on Table 3. They were not included because the impact tables in the evaluation for each of these programs did not include a ramp-up or ramp-down of savings. The annual savings were the same from 2004 - 2008.

There were no additional savings credited for Savings by Design or CA Energy STAR New homes for projects that may have been installed after 2005 but were not included in the May 2006 annual report (which includes commitments).

**Table 3: Programs for which Annual Evaluated Savings are Greater in 2006 than in 2005**

Programs	Utility	Funding	Program Name
1066-04	SCE	PGC	H&L Energy Savers - Performance4
1085-04	PG&E	PGC	Small Business Energy Alliance
1086-04	SCE	PGC	Small Business Energy Alliance
1487-04	SCG	PGC	ADM Mobile Energy Clinic

1285-04	SDG&E	PGC	B.E.S.T – SDREO
1301-04	SDG&E	PGC	San Diego Region Local Government Energy Efficiency
1311-04	SCE	PGC	Residential Duct Services
1327-04	SCG	PGC	Residential Duct Services
1381-04	SDG&E	PGC	Retrocommissioning Program
1500-04	SDG&E	PGC	Rebuild a Greener San Diego
1383-04	SDG&E	PGC	San Diego City Schools Retrofit Partnership
1320-04	SDG&E	PGC	Local Nonresidential Customer Energy Savings Bid
1121-04	PG&E	PGC	Standard Performance Contract – PGE
1347-04	SDG&E	PGC	Standard Performance Contract – SDGE
1240-04	SCE	PGC	Standard Performance Contract - SCE

For program evaluations in which the highest annual savings occurred after 2005 the annual savings reported after 2005, which includes all the savings attributable to 04-05 activities, are counted instead of the savings reported for 2005.

Note Table 4 for example. The cumulative annual savings for 04-05 activities is reported for Express Efficiency in the year 2005; for Residential Duct Services and SPC the total annual savings attributable to the 04-05 activities is achieved in 2006 and 2008 respectively. The savings counting toward the MPS are the highest annual savings reported in the evaluation impact tables.

**Table 4: Examples of Savings Realized After 2005**

				2004	2005	2006	2007	2008	2009
1133-04	PG&E	Express – PGE	MWh	30,137	<b>72,027</b>	72,027	71,867	58,655.52	36,403
1327-04	SCG	RDS	MWh	99	2,095	<b>2,181</b>	2,181	2,181	2,181
1121-04	PG&E	SPC – PGE	MWh	18,699	81,602	94,449	150,041	<b>150,371</b>	150,358

### 3.3. 2004-2008 Low Income Energy Efficiency Data

The LIEE data used to calculate the IOU portfolio savings for 2005 come directly from Table E3 of the “Impact Evaluation of the 2005 California Low Income Energy Efficiency Program Final Report.”<sup>24</sup> The savings data for 2004, 2006, 2007, and 2008 come directly from the IOU annual LIEE reports filed with the CPUC.<sup>25</sup> After analyzing the annual LIEE reported claims and the 2005 LIEE evaluation report, Energy Division concluded that the effort required to adjust the claimed savings using the 2005 LIEE evaluation report in a valid manner was not possible for this interim report.

Demand impacts were not required and therefore not reported for 2004 and 2005 LIEE programs. Energy Division staff extrapolated demand impacts for those years by calculating the average ratio of demand over energy impacts for 2006 and 2007, and used that ratio to estimate the 2004 and 2005 demand impacts. These same ratios

<sup>24</sup> Available at <http://www.liob.org/docs/LIEEPY05FinalReport1-10-08.pdf>.

<sup>25</sup> Available upon request.

were used to estimate 2008 demand impacts. Table 4 provides the savings numbers used for the LIEE programs.

**Table 5: 2004-2008 LIEE Program Savings**

PG&E	GWh	MW	MMTherms
<b>2004</b>	20.13	4.14	0.87
<b>2005</b>	24.68	4.59	1.03
<b>2006</b>	27.92	6.01	1.45
<b>2007</b>	27.55	5.41	1.21
<b>2008</b>	23.21	4.78	1.13

SCE	GWh	MW	MMTherms
<b>2004</b>	15.29	3.32	N/A
<b>2005</b>	18.00	2.92	N/A
<b>2006</b>	26.76	5.81	N/A
<b>2007</b>	21.14	4.59	N/A
<b>2008</b>	25.92	5.62	N/A

SDG&E	GWh	MW	MMTherms
<b>2004</b>	6.89	1.79	0.26
<b>2005</b>	4.64	0.80	0.15
<b>2006</b>	5.31	1.98	0.28
<b>2007</b>	4.43	0.65	0.22
<b>2008</b>	6.49	1.69	.32

SoCalGas	GWh	MW	MMTherms
<b>2004</b>	0.13	N/A	1.03
<b>2005</b>	0.38	N/A	0.71
<b>2006</b>	0.27	N/A	0.83
<b>2007</b>	0.00	N/A	0.89
<b>2008</b>			1.17

### 3.4. Pre-2006 Codes and Standards Advocacy

An Energy Division contractor performed a verification of the energy savings estimated to have resulted from the Pre-2006 Codes and Standards advocacy program. (The report is available on the CalMAC website<sup>26</sup>.) The verification for this report consisted of conducting the steps required in the Codes and Standards Evaluation Protocol including verifying unit savings, adjusting for market sales and building completions, adjusting for

<sup>26</sup> [http://www.calmac.org/publications/Codes\\_Standards\\_Vol\\_III\\_FinalEvaluationReportUpdated\\_04122010.pdf](http://www.calmac.org/publications/Codes_Standards_Vol_III_FinalEvaluationReportUpdated_04122010.pdf)  
[http://www.calmac.org/publications/CS\\_AppendicesUpdated\\_04-12-2010.pdf](http://www.calmac.org/publications/CS_AppendicesUpdated_04-12-2010.pdf)

Naturally Occurring Market Adoption, adjusting for compliance, and applying the attribution factors. The claimed and verified savings numbers are provided in Tables 6 through 8.

**Table 6: Verified and Claimed Codes and Standards Advocacy Electricity Savings, GWh**

Year	Utility	Claimed	Verified	% of Claimed
2006	PG&E	42.9	45.9	107%
	SDG&E	10.1	10.7	106%
	SCE	44.3	47.3	107%
	SCG	NA	NA	NA
2007	PG&E	42.7	57.9	136%
	SDG&E	10.0	13.5	135%
	SCE	44.1	59.7	135%
	SCG	NA	NA	NA
2008	PG&E	54.6	54.1	99%
	SDG&E	12.8	12.7	99%
	SCE	56.3	55.8	99%
	SCG	NA	NA	NA
2006-2008	PG&E	140.3	157.9	113%
	SDG&E	32.8	37.0	113%
	SCE	144.7	162.9	113%
	SCG	NA	NA	NA

**Table 7: Verified and Claimed Codes and Standards Advocacy Demand Savings, MW**

Year	Utility	Claimed	Verified	% of Claimed
2006	PG&E	12.1	9.0	74%
	SDG&E	2.8	2.1	75%
	SCE	12.4	9.3	75%
	SCG	NA	NA	NA
2007	PG&E	11.8	11.0	93%
	SDG&E	2.8	2.6	93%
	SCE	12.2	11.3	93%
	SCG	NA	NA	NA
2008	PG&E	14.2	10.6	75%
	SDG&E	3.3	2.5	76%
	SCE	14.7	10.9	74%
	SCG	NA	NA	NA
2006-2008	PG&E	38.1	30.6	80%
	SDG&E	8.9	7.2	81%
	SCE	39.3	31.5	80%
	SCG	NA	NA	NA

**Table 8: Verified and Claimed Codes and Standards Advocacy Natural Gas Savings, MMtherms**

Year	Utility	Claimed	Verified	% of Claimed
2006	PG&E	0.9	0.8	89%
	SDG&E	0.1	0.09	90%
	SCE	NA	NA	NA
	SCG	1.4	1.2	86%
2007	PG&E	0.8	0.8	100%
	SDG&E	0.1	0.09	90%
	SCE	NA	NA	NA
	SCG	1.3	1.2	92%
2008	PG&E	0.8	0.7	88%
	SDG&E	0.1	0.08	80%
	SCE	NA	NA	NA
	SCG	1.2	1.1	92%
2006-2008	PG&E	2.4	2.2	92%
	SDG&E	0.27	0.25	91%
	SCE	NA	NA	NA
	SCG	3.9	3.5	90%

### 3.5. 2006-2008 Audited Costs

The objectives of the CPUC's Utility Audit, Finance, and Compliance Branch's (UAFCB) audit were to (1) assess the utilities' accounting system and procedures related to the energy efficiency programs and determine if expenditures were properly recorded and reported to the Commission, (2) determine if the utilities' compliance with Commission directives and internal policies for customer enrollment, energy education, installation costs and measures, inspections, (3) assess the utilities' effectiveness in implementing its energy efficiency programs and ascertain that the utility had adequate processes in place between itself and its contractors, (4) ascertain that the utilities internal control and management oversight within the energy efficiency programs were properly in place and executed, and (5) review actions taken by the utilities' on prior audit recommendations and findings.

The UAFCB analyzed and reviewed documents provided by the utilities', randomly sampled selected project files for supporting documentation of eligibility, for evidence of measure installations, inspections and costs data. The UAFCB also conducted reviews of post-inspection reports, had several correspondence and interviews with utility management, and performed such other procedures as deemed necessary in the circumstances.

An audit of the utilities' 2006-2008 energy efficiency costs resulted in the allowance of all cost items. Although the audit report identified a number of potential problems, these were not significant enough to warrant adjustments to the utilities' cost claims.

The absence of disallowances means that the results of this audit will not have an impact on the calculation of the PEB. The TRC and PAC calculations are therefore conducted with utility reported cost provided in the E3 calculators. For purposes of this final true up, Energy Division used the utilities' reported costs for 2006-2008 in the PEB calculations.

Energy Division notes that "Incremental Measure Costs" or IMCs was one of the parameters that were to be updated per the January 11, 2006, ALJ Ruling in R. 01-08-028. For the final report, IMC was not updated in either the DEER update process or the financial and management audit process. The utilities were instructed to report *ACTUAL* incremental measures costs for custom measures in the September 5, 2005, ALJ Ruling in R. 01-08-028. Energy Division defaulted to the utility reported IMC values.<sup>27</sup>

Since there are two sides to the performance basis equation, savings and costs, and since Energy Division's efforts were more focused on the energy savings side of the equation, there remains the possibility that the utility reported incremental measure costs could either be higher or lower when compared to actual market conditions, resulting in a final performance basis that could either go up or down.

## **4. Calculation of Shareholder Incentives**

Energy Division developed a spreadsheet tool, the RRIM Calculator, to calculate the earnings or penalties for each utility using GWh, MW, and MMTh accomplishments and TRC & PAC net benefits from the VRT output and the savings from the other program efforts described in section 2.1.1. The RRIM Calculator is designed to calculate and track the 2006-2007 and 2008 interim incentives as well as the final three year cycle true-up.

### **4.1. Walk Through RRIM Calculator**

The narrative below describes the purpose, method, and source data for each step of the calculation for the first interim claim only. Example formulas are taken from various columns of the RRIM Calculator. The RRIM is provided as part of Appendix A.

#### **Savings Goals**

*Location on Spreadsheet:* Rows 8-10.

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<sup>27</sup> See Decision 10-04-004, which amended Decision 09-12-045 by deleting Ordering Paragraph 6, which had required Energy Division to complete an independent verification of the utilities' self-reported incremental measure costs in conjunction with the scheduled final 2010 true-up of Risk/Reward Incentive Mechanism earnings for the 2006-2008 cycle. Available at: <http://docs.cpuc.ca.gov/efile/RULINGS/116024.pdf>.

*Description:* The CPUC adopted GWh, MW, and MMTherms savings goals for 2008. The goals for GWh and MMTherms are cumulative as describe in section 6.3.1 of Decision 07-10-032.

*Source of Data:* Decision 04-09-060, Attachment 9.

**MPS Goals (80% of goal)**

*Location on Spreadsheet:* Rows 13-15.

*Description:* For each individual metric, the point above which the IOUs can claim earnings based on the PEB.

*Source of Data:* Calculated from Savings Goals

**Dead Band (65% of goal)**

*Location on Spreadsheet:* Rows 18-20.

*Description:* For each individual metric, the point above which the IOUs are not liable for payment of penalties.

*Source of Data:* Calculated from Savings Goals

*Functional Role in Spreadsheet:* Used to calculate the amount of penalties if penalties must be paid.

**EE Portfolio Savings (adjusted ex-ante)**

*Location on Spreadsheet:* Rows 24-26.

*Description:* The GWh, MW, and MMTherms accomplishments for 2006 - 2008 EE programs.

*Source of Data:* Sum of Annual Net GWh, Sum of Net Jul-Sept Pk (MW), and Sum of Annual Net Therms from the Output sheets of the E3 calculator output files produced by the ERT.

*Functional Role in Spreadsheet:* A component of what is used to determine the percentage of the adopted goal that was achieved.

**50% C&S Savings (adjusted ex-ante)**

*Location on Spreadsheet:* Rows 29-31.

*Description:* The estimated GWh, MW, and MMTherms accomplishments associated with the utilities' codes and standards advocacy work.

*Source of Data:*

Tables 3-5 in the *Statewide Utility Codes and Standards Program Interim Verification Report*

*Functional Role in Spreadsheet:* A component of what is used to determine the percentage of the adopted goal that was achieved.

#### **04-05 EM&V Adjusted EE Portfolio Savings**

*Location on Spreadsheet:* Rows 34-36.

*Description:* The GWh, MW, and MMTherms accomplishments for 2004 and 2005 EE programs. Expost numbers are used where available.

*Source of Data:* A mix of program level ex-post results, as reported in final 2004-2005 program evaluation reports, and 2004-2005 IOU reported accomplishments where ex-post results are not available.

*Functional Role in Spreadsheet:*

A component of what is used to determine the percentage of the adopted goal that was achieved.

#### **EM&V Adjusted LIEE Savings**

*Location on Spreadsheet:*

Rows 39-41.

*Description:* The GWh, MW, and MMTherms accomplishments for 2004 through 2007 LIEE programs. The savings data for the 2005 LIEE program come directly from the final 2005 LIEE Impact Evaluation completed in December 2007. Savings for 2006 and 2007 have not been adjusted to be consistent with the findings of the 2005 LIEE Impact Evaluation. Savings data for 2004 are directly from the IOUs' 2004 LIEE Annual Report.

*Source of Data:* A mix of program level ex-post results, as reported in final 2005 LIEE program evaluation report; 2004, 2006, and 2007 IOU reported accomplishments; and extrapolations of demand savings for 2004 and 2005.

*Functional Role in Spreadsheet:* A component of what is used to determine the percentage of the adopted goal that was achieved.

### **Total Savings**

*Location on Spreadsheet:* Rows 44-46.

*Description:* The sum of the GWh, MW, and MMTherms accomplishments for EE Portfolio Savings, 50% C&S Savings, 04-05 EM&V Adjusted EE Portfolio Savings, and EM&V Adjusted LIEE Savings.

*Functional Role in Spreadsheet:* Used to determine what percentage of the adopted goal was achieved.

### **MPS Individual Metric Performance**

*Location on Spreadsheet:* Rows 49-51.

*Description:* The percentage of the individual adopted GWh, MW, and MMTherms goals that are deemed accomplished.

*Functional Role in Spreadsheet:* Used to determine what percentage of the adopted goal was achieved for each individual metric (GWh, MW, and MMTherms)

### **MPS Average Metric Performance**

*Location on Spreadsheet:* Row 52.

*Description:* The percentage of the average adopted GWh, MW, and MMTherms goals that are deemed accomplished.

*Functional Role in Spreadsheet:* Used to determine what percentage of the adopted metric goal was achieved on average.

### **TRC Net Benefits and PAC Net Benefits**

*Location on Spreadsheet:* Rows 55-56.

*Description:* The Total Resource Cost and Program Administrator Cost avoided cost net benefits.

*Source of Data:* Benefit – Cost NPV for Program TRC (\$) and Program PAC (\$) from the Output sheets of the E3 calculator output files produced by the ERT.

*Functional Role in Spreadsheet:* Components of what is used to determine the Performance Earnings Basis for each IOU.

**PEB**

*Location on Spreadsheet:* Row 57.

*Description:* The Performance Earnings Basis. The metric adopted for measuring program performance. The metric is  $((2/3) * (\text{TRC net benefits})) + ((1/3) * (\text{PAC net benefits}))$ .

*Functional Role in Spreadsheet:* Used as a basis for determining the amount of IOU earnings or penalties.

**PEB at MPS Threshold**

*Location on Spreadsheet:* Row 58.

*Description:* The Performance Earnings Basis, adjusted to accommodate the rules established for meeting the MPS threshold. The result is zero if the metric average or any of the individual metrics are below the adopted thresholds.

*Functional Role in Spreadsheet:* Used as a basis for determining the amount of IOU earnings or penalties.

*Function of Excel Formulas:*

`=IF(AND(M49>0.65,M50>0.65,M51>0.65),M57,0)`

This formula sets the cell equal to the PEB if the thresholds for the individual metrics are greater than the adopted thresholds. If this condition is not met, the cell will equal zero.

**Earnings/Penalty Cap**

*Location on Spreadsheet:* Row 60.

*Description:* The three year earnings/penalties caps for each IOU adopted in D. 07-09-043.

*Functional Role in Spreadsheet:* Used to cap the total earnings.

**Earnings Rate**

*Location on Spreadsheet:* Row 62.

*Description:* The rate at which the IOU may earn on the PEB.

*Functional Role in Spreadsheet:* Used to determine the earnings rate.

*Function of Excel Formulas:*

=IF(AND(M49>0.65,M50>0.65,M51>0.65,M52<1,M58>0),0.09,(IF(OR(M58=0,M49<=0.65,M50<=0.65,M51<=0.65),0,(IF(AND(M49>=0.95,M50>=0.95,M51>=0.95),0.12,0.09))))))

This formula sets the cell to 9% if each metric is greater than 65% of the Commission-adopted savings goals. The cell is set to 12% if the individual metrics are equal to or greater than 95% of the Commission-adopted savings goals. If neither of these conditions is met, the cell will be equal to zero.

**Total Earnings**

*Location on Spreadsheet:* Row 64.

*Description:* The total individual earnings that may be claimed by each utility.

*Explanation of Formulas:*

=MINA(M62\*M58,M60)

This formula sets the cell to equal the Earnings Rate times the PEB at MPS Threshold, or the Earnings/Penalty Cap, whichever is lower.

**Penalties**

*Location on Spreadsheet:* Row 66.

*Description:* After all the required data are entered into the spreadsheet, the cell will be equal to “Yes” if penalties are required.

*Functional Role in Spreadsheet:* To indicate whether or not penalties are required for the utility and, if so, cause the spreadsheet to calculate penalties.

*Explanation of Formulas:*

=IF(OR(M49<0.65,M50<0.65,M51<0.65),"YES","NO")

This formula sets the cell to “YES” if any of the individual metrics are below 65%.

**Total Penalties**

*Location on Spreadsheet:* Row 68.

*Description:* The total individual penalties that should be assessed to each utility.

*Explanation of Formulas:*

=IF(M66="YES",'Authorized\_Payments'!E4+MAX(MIN(M58,0),((0.05\*(M18-M44))\*1000000+(0.45\*(M20-M46))\*1000000+(20\*(M19-M45))\*1000)), "No Penalty")

If there are penalties, this formula adds to the amounts already paid to the utilities.

## 5. Summary of Results

The results of the RRIM calculation are provided in the remaining tables in this document. Energy Division was also directed to prepare alternative scenarios to inform the RRIM proceeding per the Assigned Commissioner Ruling issued April 8, 2010.<sup>28</sup> The results based on current Commission policy are presented in Scenario 7 and reflect the incentive earnings that the utilities are eligible to claim in the final true up based on the Energy Division's Draft 2006-2008 Energy Efficiency Evaluation Report (i.e., utilities' achievement of the MPS and the estimated PEB), subtracting the interim payments that the Commission approved in Decision 08-12-059 and Decision 09-12-045.

**Table 9: RRIM Calculation Results from Scenario 7**

Utility	Authorized in D.08-12-059	Authorized in D.09-12-045	Earnings Rate	Max Earnings (PEB * Earnings Rate)	Final Earnings or Penalties
PGE	\$41,500,000	\$33,430,614	0%	\$ -	\$(74,930,614)
SCE	\$24,700,000	\$25,652,348	9%	\$ 26,058,596	
SDG&E	\$10,800,000	\$300,572	9%	\$ 2,450,743	
SCG	\$5,200,000	\$2,111,021	9%	\$ 592,585	

The results of the analysis described in this report and illustrated in Table 9 show that SCE, SDGE, and SCG should continue to earn at the 9% earnings rate for their performance over the 2006-2008 program cycle. However, since the total earnings at 9% is less than the amounts already paid to the utilities in D.08-12-059 and D.09-12-045, there are no additional payments.

PGE's demand savings fell below 65% of the goals; as a result, PGE is in penalties and would need to pay back \$74,930,614.

Several other scenarios are presented in the following tables that show a range of outcomes if the RRIM was based on assumptions other than current Commission policy of net evaluation results. These scenarios are outlined in the April 8 Assigned Commissioner ruling. The utility gross reported savings (Scenario 1) was not included as a scenario because it would have required changes to the E3 filed savings. The scenarios range from the utility claims, and incremental application of evaluation results from installation rates, to unit energy savings to net to gross ratios. These outcomes still use the RRIM calculations that are embedded in the original mechanism which means the earnings rate is dependent on the percent of savings goals that have been achieved. For each core scenario, three to five alternate outcomes are also presented that adjust the

<sup>28</sup> Commissioner Bohn Ruling <http://docs.cpuc.ca.gov/EFILE/RULINGS/116024.htm>

underlying policy assumptions that are currently in place for 2006-2008 and follow the table based on the current RRIM.

Each scenario includes a table showing the maximum earnings if:

- a) Shared saving rate is 9%
- b) Shared savings rate is 12%.
- c) Result based on 2006-2008 program cycle goals (just scenarios 1-7)
- d) Reduced therm goals by 22% for SDG&E and 26% for PG&E.
- e) 100% of Codes and Standards accomplishments are allowed.
- f) Costs of payments already made in the RRIM proceeding, and the results based on this assumption.

In addition, scenarios 8 and 9 show results based on 2006-2008 goals, and include additional results based on the following:

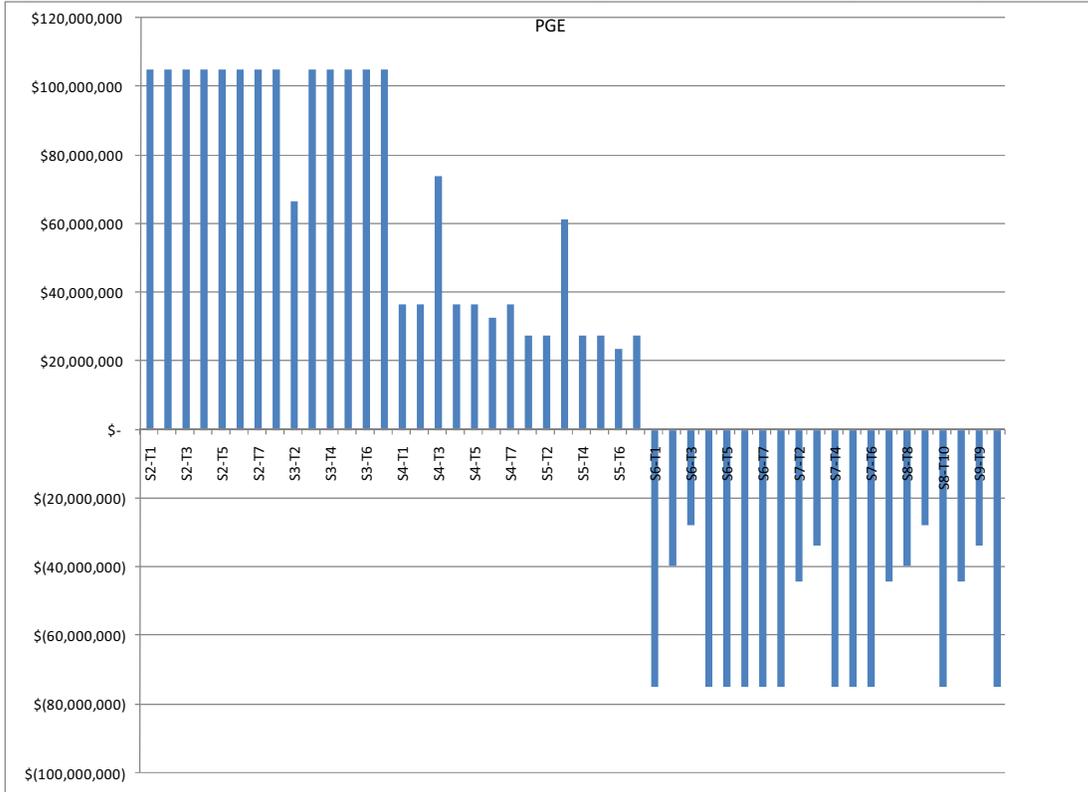
- a) Shared saving rate is 9%
- b) Shared savings rate is 12%.
- d) Reduced therm goals by 22% for SDG&E and 26% for PG&E.

Table 10 shows the earnings less the payments already made for the core scenarios, including Scenario 7, and whether or not the assumptions put the utility within penalties. The figures that follow the table show the range out outcomes for all scenarios and sub scenarios. The spreadsheet from which these were pulled will be made available to the public.

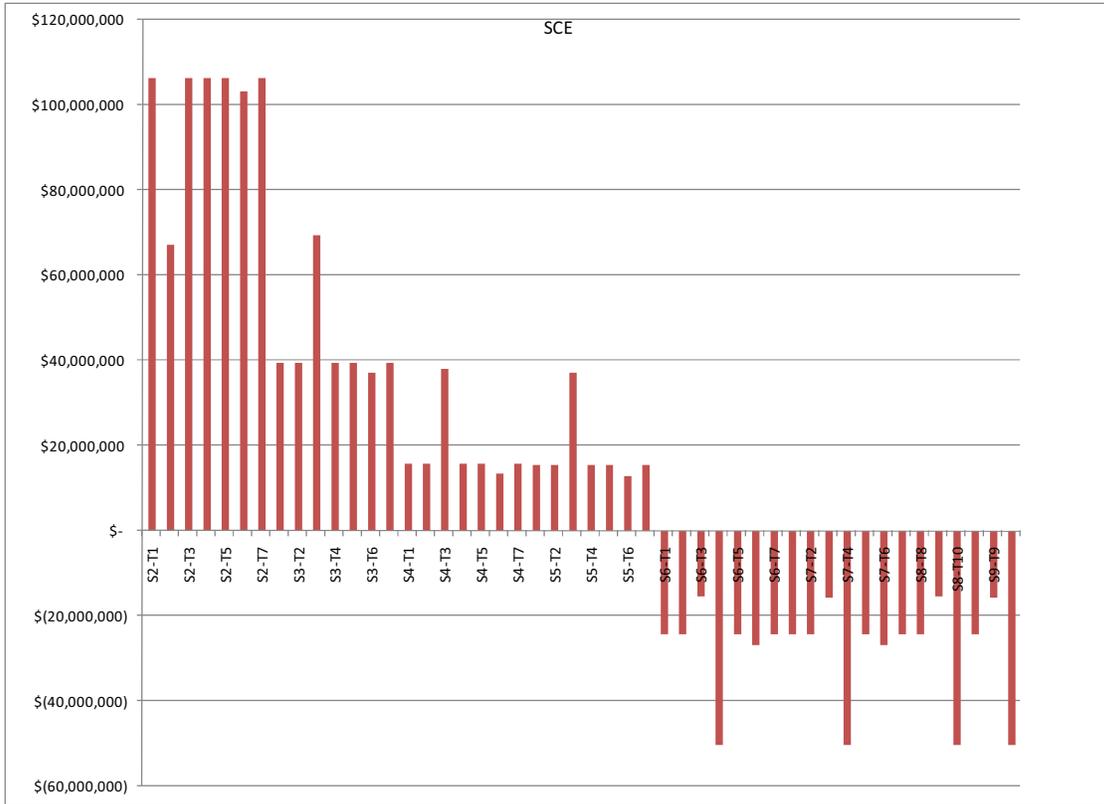
**Table 10. Summary Table of All Scenarios' Incentive Earning Results**

Tab	Scenario - Changes to Risk Reward Spreadsheet	MAXIMUM EARNINGS MINUS THE AMOUNTS ALREADY AUTHORIZED IN D.08-12-059 AND D.09-12-045						IN PENALTY		
		PGE	SCE	SDGE	SCG	Total	PGE	SCE	SDGE	SCG
S2-T1	Utility reported net savings - no change to RRIM	\$105,069,386	\$106,421,146	\$27,981,008	\$12,688,979	\$252,160,519				
S3-T1	S2 w/Installation rate adjustment - no change to RRIM	\$105,069,386	\$39,544,653	\$9,587,086	\$12,688,979	\$166,890,103				
S4-T1	Evaluated gross savings w/o interactive effects - no change to RRIM	\$36,588,899	\$15,855,354	\$(1,170,000)	\$(582,466)	\$50,691,788				
S5-T1	Evaluated gross savings w/ interactive effects - no change to RRIM	\$27,342,209	\$15,302,415	\$ (425,698)	\$(637,359)	\$41,581,567				
S6-T1	Evaluated net savings w/o interactive effects - no change to RRIM	\$(74,930,614)	\$(24,259,620)	\$(11,100,572)	\$(6,667,880)	\$(116,958,686)	YES		YES	
S7-T1	Evaluated net savings w/ interactive effects - no change to RRIM	\$(74,930,614)	\$(24,293,752)	\$(8,649,829)	\$(6,718,436)	\$(114,592,631)	YES			
S8-T8	Evaluated net savings w/o interactive effects- remove 2004-2005 goals and savings - use 9% earnings rate	\$(39,440,181)	\$(24,259,620)	\$(9,272,150)	\$(6,667,880)	\$(79,639,831)	YES	YES	YES	
S9-T8	Evaluated net savings w/ interactive effects- remove 2004-2005 goals and savings - use 9% earnings rate	\$(44,005,066)	\$(24,293,752)	\$(8,649,829)	\$(6,718,436)	\$(83,667,083)	YES	YES	YES	

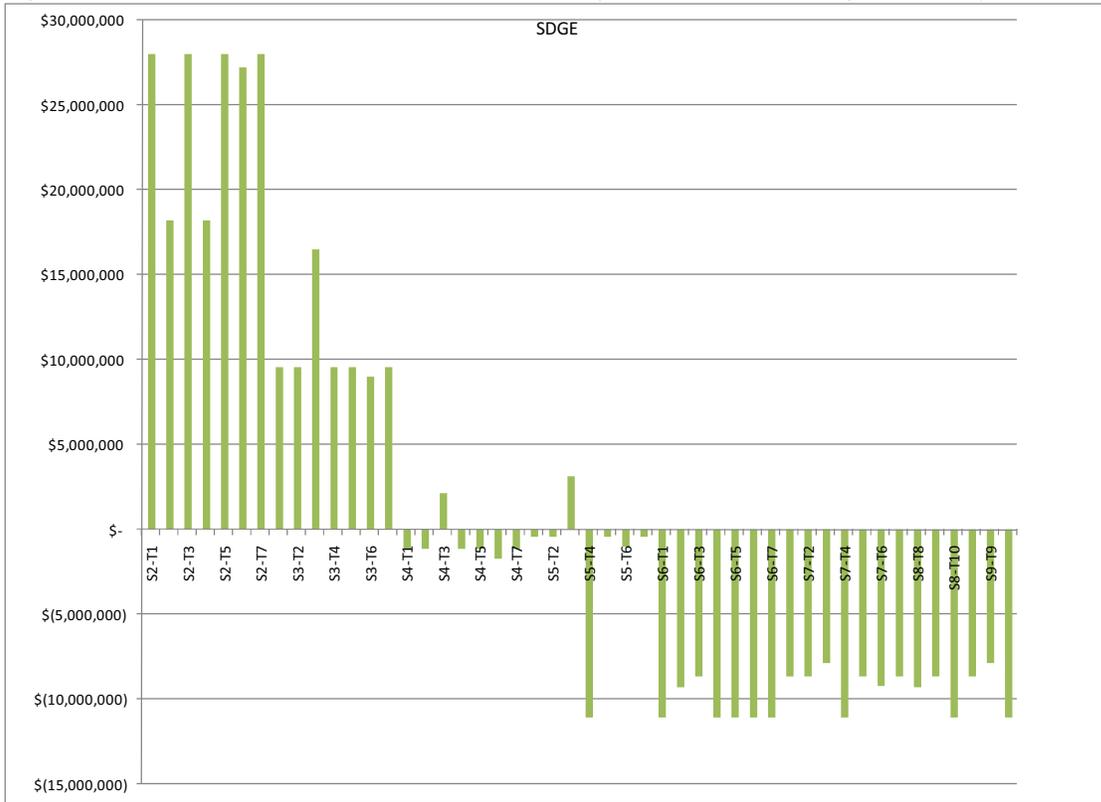
**Figure 6. Scenario Outcomes for Incentive Earnings (Maximum Earnings – Already Paid) PGE**



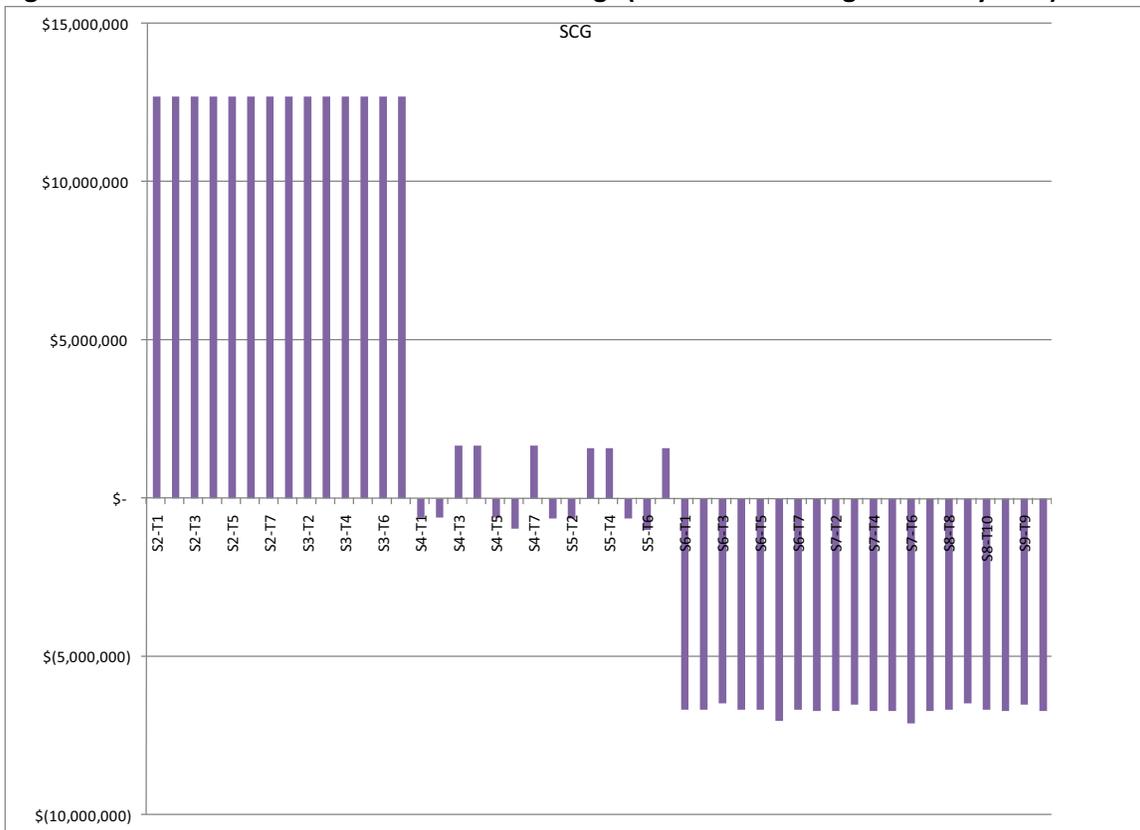
**Figure 7. Scenario Outcomes for Incentive Earnings (Maximum Earnings – Already Paid) SCE**



**Figure 8. Scenario Outcomes for Incentive Earnings (Maximum Earnings – Already Paid) SDGE**



**Figure 9. Scenario Outcomes for Incentive Earnings (Maximum Earnings – Already Paid) SCG**



**5.1. Scenario 1 – Utility Reported Gross Savings**

Utility reported gross saving are the IOU claimed savings based on their 4<sup>th</sup> quarter 2008 tracking database. These savings do not include an adjustment due to free-ridership because no net to gross ratio is applied, and do not include evaluation results.

This scenario was not completed because it required updates to the utility filed savings and would have required significant adjustments to the ERT.

**5.2. Scenario 2 – Utility Reported Net Savings**

Utility reported net savings are the IOU claimed savings based on the 4th quarter 2008 tracking database, with IOU reported net to gross ratios that were not updated with evaluation field research.

Table 11 Scenario 2 – Utility Reported Net Savings

	Third Earnings Claim (PY2006-2008 True-Up)				
	PG&E	SCE	SDGE	SoCalGas	Total
<b>Savings Goals</b>					
PY 2004-2008					
Total Cumulative Savings (GWH)	4,313.0	4,788.0	1,175.0	0.0	10,276.00
Total Peak Savings (MW)	936.0	1,006.0	223.0	0.0	2,165.00
Total Cumulative Natural Gas Savings (MMTh)	64.4	0.0	13.1	76.5	154.00
	0	0	0	0	
<b>MPS Goals (80% of goal)</b>					
Total Cumulative Savings (GWH)	3,450.4	3,830.4	940.0	0.0	8,220.80
Total Peak Savings (MW)	748.8	804.8	178.4	0.0	1,732.00
Total Cumulative Natural Gas Savings (MMTh)	51.5	0.0	10.5	61.2	123.20
	0.0	0.0	0.0	0.0	
<b>Dead Band (65% of goal)</b>					
Total Cumulative Savings (GWH)	2,803.5	3,112.2	763.8	0.0	6,679.40
Total Peak Savings (MW)	608.4	653.9	145.0	0.0	1,407.25
Total Cumulative Natural Gas Savings (MMTh)	41.9	0.0	8.5	49.7	100.10
<b>Achieved Savings Towards MPS</b>					
EE Portfolio Savings (adjusted ex-ante)					
PY 2006-2008					
Total Cumulative Savings (GWH)	5,251.1	3,897.7	850.4		9,999.17
Total Peak Savings (MW)	844.6	690.4	147.1		1,682.15
Total Cumulative Natural Gas Savings (MMTh)	66.2		6.8	66.6	139.67
50% C&S Savings (adjusted ex-ante)					
PY 2006-2008					
Total Cumulative Savings (GWH)	157.9	162.9	37.0		357.80
Total Peak Savings (MW)	30.6	31.5	7.2		69.30
Total Cumulative Natural Gas Savings (MMTh)	2.2		0.3	3.5	5.95
04-05 EM&V Adjusted EE Portfolio Savings					
PY 2004-2005					
Total Cumulative Savings (GWH)	998.2	1,497.9	342.6		2,838.67
Total Peak Savings (MW)	212.3	270.5	59.3		542.09
Total Cumulative Natural Gas Savings (MMTh)	19.1		4.5	11.1	34.71
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
<b>Total Savings</b>					
PY 2004-2008					
Total Cumulative Savings (GWH)	6,530.7	5,665.6	1,257.7	0.0	13,454.00
Total Peak Savings (MW)	1,112.5	1,014.6	220.5	0.0	2,347.63
Total Cumulative Natural Gas Savings (MMTh)	93.2	0.0	12.9	85.8	191.89
<b>MPS Individual Metric Performance</b>					
Percent of GWH Goal	151%	118%	107%	0%	131%
Percent of MW Goal	119%	101%	99%	0%	108%
Percent of MMTh Goal	145%	0%	98%	112%	125%
<b>MPS Average Metric Performance</b>					
	<b>138%</b>	<b>110%</b>	<b>101%</b>	<b>112%</b>	<b>121%</b>
<b>PEB</b>					
TRC Net Benefits	\$ 2,009,862,971	\$ 1,175,619,737	\$ 289,835,024	\$ 193,805,104	\$ 3,669,122,835
PAC Net Benefits	\$ 2,345,474,545	\$ 1,568,097,876	\$ 397,369,447	\$ 352,246,702	\$ 4,663,188,569
PEB	\$ 2,121,733,495	\$ 1,306,445,783	\$ 325,679,831	\$ 246,618,970	\$ 4,000,478,080
<b>PEB at MPS Threshold</b>	<b>\$ 2,121,733,495</b>	<b>\$ 1,306,445,783</b>	<b>\$ 325,679,831</b>	<b>\$ 246,618,970</b>	<b>\$ 4,000,478,080</b>
Earnings/Penalty Cap	\$ 180,000,000	\$ 200,000,000	\$ 50,000,000	\$ 20,000,000	\$ 450,000,000
<b>Earnings Rate</b>					
	12%	12%	12%	12%	
<b>Total Earnings</b>					
	\$ 180,000,000	\$ 156,773,494	\$ 39,081,580	\$ 20,000,000	\$ 395,855,074
<b>Penalties</b>					
	NO	NO	NO	NO	
<b>Total Penalties</b>					
	No Penalty	No Penalty	No Penalty	No Penalty	\$ -

**Table 12 Scenario 2 – Utility Reported Net Savings; Alternate outcomes a-d**

Tab	Scenario - Changes to Risk Reward Spreadsheet	MAXIMUM EARNINGS MINUS THE AMOUNTS ALREADY AUTHORIZED IN D.08-12-059 AND D.09-12-045						IN PENALTY			
		PGE	SCE	SDGE	SCG	Total	PGE	SCE	SDGE	SCG	
S2-T1	Utility reported net savings - no change to RRIM	\$105,069,386	\$106,421,146	\$27,981,008	\$12,688,979	\$252,160,519					
S2-T2	Utility reported net savings - use 9% earnings rate	\$105,069,386	\$67,227,772	\$18,210,613	\$12,688,979	\$203,196,750					
S2-T3	Utility reported net savings - use 12% earnings rate	\$105,069,386	\$106,421,146	\$27,981,008	\$12,688,979	\$252,160,519					
S2-T4	Utility reported net savings - remove 2004-2005 goals and savings	\$105,069,386	\$106,421,146	\$18,210,613	\$12,688,979	\$242,390,124					
S2-T5	Utility reported net savings - reduce SDGE/PGE therm goals	\$105,069,386	\$106,421,146	\$27,981,008	\$12,688,979	\$252,160,519					

		MAXIMUM EARNINGS MINUS THE AMOUNTS ALREADY AUTHORIZED IN D.08-12-059 AND D.09-12-045							IN PENALTY		
Tab	Scenario - Changes to Risk Reward Spreadsheet	PGE	SCE	SDGE	SCG	Total	PGE	SCE	SDGE	SCG	
S2-T6	Utility reported net savings - reduce net benefits by amount already paid	\$105,069,386	\$103,064,323	\$27,240,970	\$12,688,979	\$248,063,657					
S2-T7	Utility reported net savings - use 100% C&S Savings	\$105,069,386	\$106,421,146	\$27,981,008	\$12,688,979	\$252,160,519					

### **5.3. Scenario 3 – Verified Net Savings**

Verified net savings are the IOU claimed savings based on the 4th quarter 2008 tracking database, with IOU reported net to gross ratios that were not updated with evaluation field research, but the utility reported quantities are adjusted based on evaluated installation rates.

**Table 13 Scenario 3 – Verified Net Savings**

	Third Earnings Claim (PY2006-2008 True-Up)				
	PG&E	SCE	SDGE	SoCalGas	Total
<b>Savings Goals</b>					
PY 2004-2008					
Total Cumulative Savings (GWH)	4,313.0	4,788.0	1,175.0	0.0	10,276.00
Total Peak Savings (MW)	936.0	1,006.0	223.0	0.0	2,165.00
Total Cumulative Natural Gas Savings (MMTh)	64.4	0.0	13.1	76.5	154.00
	0	0	0	0	
<b>MPS Goals (80% of goal)</b>					
Total Cumulative Savings (GWH)	3,450.4	3,830.4	940.0	0.0	8,220.80
Total Peak Savings (MW)	748.8	804.8	178.4	0.0	1,732.00
Total Cumulative Natural Gas Savings (MMTh)	51.5	0.0	10.5	61.2	123.20
	0.0	0.0	0.0	0.0	
<b>Dead Band (65% of goal)</b>					
Total Cumulative Savings (GWH)	2,803.5	3,112.2	763.8	0.0	6,679.40
Total Peak Savings (MW)	608.4	653.9	145.0	0.0	1,407.25
Total Cumulative Natural Gas Savings (MMTh)	41.9	0.0	8.5	49.7	100.10
<b>Achieved Savings Towards MPS</b>					
PY 2006-2008					
<b>EE Portfolio Savings (adjusted ex-ante)</b>					
Total Cumulative Savings (GWH)	3,963.1	3,257.3	696.4		7,916.81
Total Peak Savings (MW)	657.2	588.8	124.2		1,370.21
Total Cumulative Natural Gas Savings (MMTh)	65.6		6.6	66.5	138.77
PY 2006-2008					
<b>50% C&amp;S Savings (adjusted ex-ante)</b>					
Total Cumulative Savings (GWH)	157.9	162.9	37.0		357.80
Total Peak Savings (MW)	30.6	31.5	7.2		69.30
Total Cumulative Natural Gas Savings (MMTh)	2.2		0.3	3.5	5.95
PY 2004-2005					
<b>04-05 EM&amp;V Adjusted EE Portfolio Savings</b>					
Total Cumulative Savings (GWH)	998.2	1,497.9	342.6		2,838.67
Total Peak Savings (MW)	212.3	270.5	59.3		542.09
Total Cumulative Natural Gas Savings (MMTh)	19.1		4.5	11.1	34.71
PY 2004-2008					
<b>EM&amp;V Adjusted LIEE Savings</b>					
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
PY 2004-2008					
<b>Total Savings</b>					
Total Cumulative Savings (GWH)	5,242.7	5,025.2	1,103.7	0.0	11,371.64
Total Peak Savings (MW)	925.1	913.1	197.6	0.0	2,035.70
Total Cumulative Natural Gas Savings (MMTh)	92.6	0.0	12.7	85.8	190.99
<b>MPS Individual Metric Performance</b>					
Percent of GWH Goal	122%	105%	94%	0%	111%
Percent of MW Goal	99%	91%	89%	0%	94%
Percent of MMTh Goal	144%	0%	97%	112%	124%
<b>MPS Average Metric Performance</b>	<b>121%</b>	<b>98%</b>	<b>93%</b>	<b>112%</b>	<b>110%</b>
<b>PEB</b>					
TRC Net Benefits	\$ 1,462,419,151	\$ 868,166,404	\$ 194,321,420	\$ 191,334,264	\$ 2,716,241,238
PAC Net Benefits	\$ 1,797,186,581	\$ 1,260,233,880	\$ 300,945,748	\$ 348,683,567	\$ 3,707,049,777
PEB	\$ 1,574,008,295	\$ 998,855,562	\$ 229,862,862	\$ 243,784,032	\$ 3,046,510,751
<b>PEB at MPS Threshold</b>	<b>\$ 1,574,008,295</b>	<b>\$ 998,855,562</b>	<b>\$ 229,862,862</b>	<b>\$ 243,784,032</b>	<b>\$ 3,046,510,751</b>
Earnings/Penalty Cap	\$ 180,000,000	\$ 200,000,000	\$ 50,000,000	\$ 20,000,000	\$ 450,000,000
<b>Earnings Rate</b>	<b>12%</b>	<b>9%</b>	<b>9%</b>	<b>12%</b>	
<b>Total Earnings</b>	<b>\$ 180,000,000</b>	<b>\$ 89,897,001</b>	<b>\$ 20,687,658</b>	<b>\$ 20,000,000</b>	<b>\$ 310,584,658</b>
<b>Penalties</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	
<b>Total Penalties</b>	<b>No Penalty</b>	<b>No Penalty</b>	<b>No Penalty</b>	<b>No Penalty</b>	<b>\$ -</b>

**Table 14 Scenario 3 – Verified Net Savings; Alternate outcomes a-d**

		MAXIMUM EARNINGS MINUS THE AMOUNTS ALREADY AUTHORIZED IN D.08-12-059 AND D.09-12-045						IN PENALTY			
Tab	Scenario - Changes to Risk Reward Spreadsheet	PGE	SCE	SDGE	SCG	Total	PGE	SCE	SDGE	SCG	
S3-T1	S2 w/Installation rate adjustment - no change to RRIIM	\$105,069,386	\$39,544,653	\$9,587,086	\$12,688,979	\$166,890,103					
S3-T2	S2 w/Installation rate adjustment - use 9% earnings rate	\$66,730,133	\$39,544,653	\$9,587,086	\$12,688,979	\$128,550,850					
S3-T3	S2 w/Installation rate adjustment - use 12% earnings rate	\$105,069,386	\$69,510,319	\$16,482,971	\$12,688,979	\$203,751,656					
S3-T4	S2 w/Installation rate adjustment - remove 2004-2005 goals and savings	\$105,069,386	\$39,544,653	\$9,587,086	\$12,688,979	\$166,890,103					
S3-T5	S2	\$105,069,386	\$39,544,653	\$9,587,086	\$12,688,979	\$166,890,103					

		MAXIMUM EARNINGS MINUS THE AMOUNTS ALREADY AUTHORIZED IN D.08-12-059 AND D.09-12-045						IN PENALTY			
Tab	Scenario - Changes to Risk Reward Spreadsheet	PGE	SCE	SDGE	SCG	Total	PGE	SCE	SDGE	SCG	
	w/Installation rate adjustment - reduce SDGE/PGE therm goals										
S3-T6	S2 w/Installation rate adjustment - reduce net benefits by amount already paid	\$105,069,386	\$37,027,035	\$9,032,057	\$12,688,979	\$163,817,457					
S3-T7	S2 w/Installation rate adjustment - use 100% C&S Savings	\$105,069,386	\$39,544,653	\$9,587,086	\$12,688,979	\$166,890,103					

#### **5.4. Scenario 4 – Evaluated Gross Savings (without interactive effects)**

Evaluated Gross Savings (without interactive effects) are utility reported savings updated with the evaluated installation rate and the evaluated unit energy savings that do not include interactive effects (+ and -) to estimate gross savings

Table 15 Scenario 4 – Evaluated Gross Savings (without interactive effects)

	Third Earnings Claim (PY2006-2008 True-Up)				
	PG&E	SCE	SDGE	SoCalGas	Total
<b>Savings Goals</b>					
PY 2004-2008					
Total Cumulative Savings (GWH)	4,313.0	4,788.0	1,175.0	0.0	10,276.00
Total Peak Savings (MW)	936.0	1,006.0	223.0	0.0	2,165.00
Total Cumulative Natural Gas Savings (MMTh)	64.4	0.0	13.1	76.5	154.00
	0	0	0	0	
<b>MPS Goals (80% of goal)</b>					
Total Cumulative Savings (GWH)	3,450.4	3,830.4	940.0	0.0	8,220.80
Total Peak Savings (MW)	748.8	804.8	178.4	0.0	1,732.00
Total Cumulative Natural Gas Savings (MMTh)	51.5	0.0	10.5	61.2	123.20
	0.0	0.0	0.0	0.0	
<b>Dead Band (65% of goal)</b>					
Total Cumulative Savings (GWH)	2,803.5	3,112.2	763.8	0.0	6,679.40
Total Peak Savings (MW)	608.4	653.9	145.0	0.0	1,407.25
Total Cumulative Natural Gas Savings (MMTh)	41.9	0.0	8.5	49.7	100.10
<b>Achieved Savings Towards MPS</b>					
EE Portfolio Savings (adjusted ex-ante)					
PY 2006-2008					
Total Cumulative Savings (GWH)	2,976.2	2,792.0	532.9		6,301.02
Total Peak Savings (MW)	465.9	482.4	93.8		1,042.03
Total Cumulative Natural Gas Savings (MMTh)	72.2		6.0	53.9	132.13
50% C&S Savings (adjusted ex-ante)					
PY 2006-2008					
Total Cumulative Savings (GWH)	157.9	162.9	37.0		357.80
Total Peak Savings (MW)	30.6	31.5	7.2		69.30
Total Cumulative Natural Gas Savings (MMTh)	2.2		0.3	3.5	5.95
04-05 EM&V Adjusted EE Portfolio Savings					
PY 2004-2005					
Total Cumulative Savings (GWH)	998.2	1,497.9	342.6		2,838.67
Total Peak Savings (MW)	212.3	270.5	59.3		542.09
Total Cumulative Natural Gas Savings (MMTh)	19.1		4.5	11.1	34.71
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
<b>Total Savings</b>					
PY 2004-2008					
Total Cumulative Savings (GWH)	4,255.7	4,559.9	940.2	0.0	9,755.84
Total Peak Savings (MW)	733.7	806.6	167.2	0.0	1,707.51
Total Cumulative Natural Gas Savings (MMTh)	99.2	0.0	12.1	73.1	184.35
<b>MPS Individual Metric Performance</b>					
Percent of GWH Goal	99%	95%	80%	0%	95%
Percent of MW Goal	78%	80%	75%	0%	79%
Percent of MMTh Goal	154%	0%	92%	96%	120%
<b>MPS Average Metric Performance</b>	<b>110%</b>	<b>88%</b>	<b>82%</b>	<b>96%</b>	<b>98%</b>
<b>PEB</b>					
TRC Net Benefits	\$ 1,105,132,987	\$ 566,717,499	\$ 66,562,539	\$ 16,066,000	\$ 1,754,479,025
PAC Net Benefits	\$ 1,507,051,125	\$ 1,073,488,409	\$ 197,894,005	\$ 192,153,172	\$ 2,970,586,711
PEB	\$ 1,239,105,700	\$ 735,641,136	\$ 110,339,694	\$ 74,761,724	\$ 2,159,848,253
<b>PEB at MPS Threshold</b>	<b>\$ 1,239,105,700</b>	<b>\$ 735,641,136</b>	<b>\$ 110,339,694</b>	<b>\$ 74,761,724</b>	<b>\$ 2,159,848,253</b>
Earnings/Penalty Cap	\$ 180,000,000	\$ 200,000,000	\$ 50,000,000	\$ 20,000,000	\$ 450,000,000
<b>Earnings Rate</b>	<b>9%</b>	<b>9%</b>	<b>9%</b>	<b>9%</b>	
<b>Total Earnings</b>	<b>\$ 111,519,513</b>	<b>\$ 66,207,702</b>	<b>\$ 9,930,572</b>	<b>\$ 6,728,555</b>	<b>\$ 194,386,343</b>
<b>Penalties</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	
<b>Total Penalties</b>	<b>No Penalty</b>	<b>No Penalty</b>	<b>No Penalty</b>	<b>No Penalty</b>	<b>\$ -</b>

**Table 16 Scenario 4 – Evaluated Gross Savings (without interactive effects); Alternate outcomes a-d**

Tab	Scenario - Changes to Risk Reward Spreadsheet	MAXIMUM EARNINGS MINUS THE AMOUNTS ALREADY AUTHORIZED IN D.08-12-059 AND D.09-12-045						IN PENALTY			
		PGE	SCE	SDGE	SCG	Total	PGE	SCE	SDGE	SCG	
S4-T1	Evaluated gross savings w/o interactive effects - no change to RRIIM	\$36,588,899	\$15,855,354	\$(1,170,000)	\$(582,466)	\$50,691,788					
S4-T2	Evaluated gross savings w/o interactive effects- use 9% earnings rate	\$36,588,899	\$15,855,354	\$(1,170,000)	\$(582,466)	\$50,691,788					
S4-T3	Evaluated gross savings w/o interactive effects - use 12% earnings rate	\$73,762,070	\$37,924,588	\$2,140,191	\$1,660,386	\$115,487,235					
S4-T4	Evaluated gross savings w/o interactive effects -	\$36,588,899	\$15,855,354	\$(1,170,000)	\$1,660,386	\$52,934,640					

		MAXIMUM EARNINGS MINUS THE AMOUNTS ALREADY AUTHORIZED IN D.08-12-059 AND D.09-12-045						IN PENALTY			
Tab	Scenario - Changes to Risk Reward Spreadsheet	PGE	SCE	SDGE	SCG	Total	PGE	SCE	SDGE	SCG	
	remove 2004-2005 goals and savings										
S4-T5	Evaluated gross savings w/o interactive effects - reduce SDGE/PGE therm goals	\$36,588,899	\$15,855,354	\$(1,170,000)	\$(582,466)	\$50,691,788					
S4-T6	Evaluated gross savings w/o interactive effects - reduce net benefits by amount already paid	\$32,842,368	\$13,337,737	\$(1,725,028)	\$(948,017)	\$43,507,060					
S4-T7	Evaluated gross savings w/o interactive effects - use 100% C&S Savings	\$36,588,899	\$15,855,354	\$(1,170,000)	\$1,660,386	\$52,934,640					

**5.5. Scenario 5 – Evaluated Gross Savings (with interactive effects)**

Evaluated Gross Savings (with interactive effects) are utility reported savings are updated with the evaluated installation rate and the evaluated unit energy savings that include interactive effects to estimate gross savings.

**Table 17 Scenario 5 – Evaluated Gross Savings (with interactive effects)**

	Third Earnings Claim (PY2006-2008 True-Up)				
	PG&E	SCE	SDGE	SoCalGas	Total
<b>Savings Goals</b>					
PY 2004-2008					
Total Cumulative Savings (GWH)	4,313.0	4,788.0	1,175.0	0.0	10,276.00
Total Peak Savings (MW)	936.0	1,006.0	223.0	0.0	2,165.00
Total Cumulative Natural Gas Savings (MMTh)	64.4	0.0	13.1	76.5	154.00
	0	0	0	0	
<b>MPS Goals (80% of goal)</b>					
Total Cumulative Savings (GWH)	3,450.4	3,830.4	940.0	0.0	8,220.80
Total Peak Savings (MW)	748.8	804.8	178.4	0.0	1,732.00
Total Cumulative Natural Gas Savings (MMTh)	51.5	0.0	10.5	61.2	123.20
	0.0	0.0	0.0	0.0	
<b>Dead Band (65% of goal)</b>					
Total Cumulative Savings (GWH)	2,803.5	3,112.2	763.8	0.0	6,679.40
Total Peak Savings (MW)	608.4	653.9	145.0	0.0	1,407.25
Total Cumulative Natural Gas Savings (MMTh)	41.9	0.0	8.5	49.7	100.10
<b>Achieved Savings Towards MPS</b>					
EE Portfolio Savings (adjusted ex-ante)					
PY 2006-2008					
Total Cumulative Savings (GWH)	2,998.8	2,933.4	554.0		6,486.30
Total Peak Savings (MW)	513.2	551.2	105.7		1,170.14
Total Cumulative Natural Gas Savings (MMTh)	47.4		3.4	53.9	104.68
50% C&S Savings (adjusted ex-ante)					
PY 2006-2008					
Total Cumulative Savings (GWH)	157.9	162.9	37.0		357.80
Total Peak Savings (MW)	30.6	31.5	7.2		69.30
Total Cumulative Natural Gas Savings (MMTh)	2.2		0.3	3.5	5.95
04-05 EM&V Adjusted EE Portfolio Savings					
PY 2004-2005					
Total Cumulative Savings (GWH)	998.2	1,497.9	342.6		2,838.67
Total Peak Savings (MW)	212.3	270.5	59.3		542.09
Total Cumulative Natural Gas Savings (MMTh)	19.1		4.5	11.1	34.71
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
<b>Total Savings</b>					
PY 2004-2008					
Total Cumulative Savings (GWH)	4,278.4	4,701.4	961.4	0.0	9,941.13
Total Peak Savings (MW)	781.0	875.5	179.1	0.0	1,835.62
Total Cumulative Natural Gas Savings (MMTh)	74.4	0.0	9.4	73.1	156.90
<b>MPS Individual Metric Performance</b>					
Percent of GWH Goal	99%	98%	82%	0%	97%
Percent of MW Goal	83%	87%	80%	0%	85%
Percent of MMTh Goal	115%	0%	72%	96%	102%
<b>MPS Average Metric Performance</b>					
	99%	93%	78%	96%	94%
<b>PEB</b>					
TRC Net Benefits	\$ 1,002,391,984	\$ 560,573,731	\$ 74,832,554	\$ 15,456,080	\$ 1,653,254,348
PAC Net Benefits	\$ 1,404,310,122	\$ 1,067,344,641	\$ 206,164,020	\$ 191,543,251	\$ 2,869,362,034
PEB	\$ 1,136,364,696	\$ 729,497,368	\$ 118,609,709	\$ 74,151,803	\$ 2,058,623,577
<b>PEB at MPS Threshold</b>	<b>\$ 1,136,364,696</b>	<b>\$ 729,497,368</b>	<b>\$ 118,609,709</b>	<b>\$ 74,151,803</b>	<b>\$ 2,058,623,577</b>
Earnings/Penalty Cap	\$ 180,000,000	\$ 200,000,000	\$ 50,000,000	\$ 20,000,000	\$ 450,000,000
<b>Earnings Rate</b>					
	9%	9%	9%	9%	
<b>Total Earnings</b>					
	\$ 102,272,823	\$ 65,654,763	\$ 10,674,874	\$ 6,673,662	\$ 185,276,122
<b>Penalties</b>					
	NO	NO	NO	NO	
<b>Total Penalties</b>					
	No Penalty	No Penalty	No Penalty	No Penalty	\$ -

**Table 18 Scenario 5 – Evaluated Gross Savings (with interactive effects); Alternate outcomes a-d**

MAXIMUM EARNINGS MINUS THE AMOUNTS ALREADY AUTHORIZED IN D.08-12-059 AND D.09-12-045										IN PENALTY				
Tab	Scenario - Changes to Risk Reward Spreadsheet	PGE	SCE	SDGE	SCG	Total	PGE	SCE	SDGE	SCG				
S5-T1	Evaluated gross savings w/ interactive effects - no change to RRIM	\$27,342,209	\$15,302,415	\$(425,698)	\$(637,359)	\$41,581,567								
S5-T2	Evaluated gross savings w/ interactive effects- use 9% earnings rate	\$27,342,209	\$15,302,415	\$(425,698)	\$(637,359)	\$41,581,567								
S5-T3	Evaluated gross savings w/ interactive effects - use 12% earnings rate	\$61,433,150	\$37,187,336	\$3,132,593	\$1,587,195	\$103,340,274								
S5-T4	Evaluated gross savings w/ interactive effects - remove 2004-2005 goals and savings	\$27,342,209	\$15,302,415	\$(11,100,572)	\$1,587,195	\$33,131,247			YES					
S5-T5	Evaluated	\$27,342,209	\$15,302,415	\$(425,698)	\$(637,359)	\$41,581,567								



**5.6. Scenario 6 – Evaluated Net Savings (without interactive effects)**

Evaluated Net Savings (without interactive effects) are utility reported savings updated with the evaluated installation rate and the evaluated unit energy savings that do not include interactive effects (+ and -) to estimate gross savings. In addition, the evaluated NTG ratios applied to estimate net savings.

Table 19 Scenario 6 – Evaluated Net Savings (with interactive effects)

	Third Earnings Claim (PY2006-2008 True-Up)				
	PG&E	SCE	SDGE	SoCalGas	Total
<b>Savings Goals</b>					
PY 2004-2008					
Total Cumulative Savings (GWH)	4,313.0	4,788.0	1,175.0	0.0	10,276.00
Total Peak Savings (MW)	936.0	1,006.0	223.0	0.0	2,165.00
Total Cumulative Natural Gas Savings (MMTh)	64.4	0.0	13.1	76.5	154.00
	0	0	0	0	
<b>MPS Goals (80% of goal)</b>					
Total Cumulative Savings (GWH)	3,450.4	3,830.4	940.0	0.0	8,220.80
Total Peak Savings (MW)	748.8	804.8	178.4	0.0	1,732.00
Total Cumulative Natural Gas Savings (MMTh)	51.5	0.0	10.5	61.2	123.20
	0.0	0.0	0.0	0.0	
<b>Dead Band (65% of goal)</b>					
Total Cumulative Savings (GWH)	2,803.5	3,112.2	763.8	0.0	6,679.40
Total Peak Savings (MW)	608.4	653.9	145.0	0.0	1,407.25
Total Cumulative Natural Gas Savings (MMTh)	41.9	0.0	8.5	49.7	100.10
<b>Achieved Savings Towards MPS</b>					
PY 2006-2008					
<b>EE Portfolio Savings (adjusted ex-ante)</b>					
Total Cumulative Savings (GWH)	1,753.3	1,867.2	349.1		3,969.70
Total Peak Savings (MW)	295.6	338.9	64.3		698.75
Total Cumulative Natural Gas Savings (MMTh)	34.7		4.1	31.9	70.67
<b>50% C&amp;S Savings (adjusted ex-ante)</b>					
Total Cumulative Savings (GWH)	157.9	162.9	37.0		357.80
Total Peak Savings (MW)	30.6	31.5	7.2		69.30
Total Cumulative Natural Gas Savings (MMTh)	2.2		0.3	3.5	5.95
<b>04-05 EM&amp;V Adjusted EE Portfolio Savings</b>					
Total Cumulative Savings (GWH)	998.2	1,497.9	342.6		2,838.67
Total Peak Savings (MW)	212.3	270.5	59.3		542.09
Total Cumulative Natural Gas Savings (MMTh)	19.1		4.5	11.1	34.71
<b>EM&amp;V Adjusted LIEE Savings</b>					
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
<b>Total Savings</b>					
Total Cumulative Savings (GWH)	3,032.9	3,635.2	756.5	0.0	7,424.53
Total Peak Savings (MW)	563.5	663.1	137.6	0.0	1,364.23
Total Cumulative Natural Gas Savings (MMTh)	61.6	0.0	10.2	51.1	122.89
<b>MPS Individual Metric Performance</b>					
Percent of GWH Goal	70%	76%	64%	0%	72%
Percent of MW Goal	60%	66%	62%	0%	63%
Percent of MMTh Goal	96%	0%	78%	67%	80%
<b>MPS Average Metric Performance</b>					
	75%	71%	68%	67%	72%
<b>PEB</b>					
TRC Net Benefits	\$ 322,007,392	\$ 174,418,991	\$ (3,340,655)	\$ (22,666,956)	\$ 470,418,772
PAC Net Benefits	\$ 538,999,657	\$ 520,919,614	\$ 67,628,696	\$ 66,771,953	\$ 1,194,319,920
PEB	\$ 394,338,147	\$ 289,919,199	\$ 20,315,795	\$ 7,146,013	\$ 711,719,154
<b>PEB at MPS Threshold</b>	<b>\$ -</b>	<b>\$ 289,919,199</b>	<b>\$ -</b>	<b>\$ 7,146,013</b>	<b>\$ 297,065,212</b>
Earnings/Penalty Cap	\$ 180,000,000	\$ 200,000,000	\$ 50,000,000	\$ 20,000,000	\$ 450,000,000
<b>Earnings Rate</b>	<b>0%</b>	<b>9%</b>	<b>0%</b>	<b>9%</b>	
<b>Total Earnings</b>	<b>\$ -</b>	<b>\$ 26,092,728</b>	<b>\$ -</b>	<b>\$ 643,141</b>	<b>\$ 26,735,869</b>
<b>Penalties</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>NO</b>	
<b>Total Penalties</b>	<b>\$ 74,930,614</b>	<b>No Penalty</b>	<b>\$ 11,100,572</b>	<b>No Penalty</b>	<b>\$ 86,031,186</b>

**Table 20 Scenario 6 – Evaluated Net Savings (with interactive effects); Alternate outcomes a-d**

Tab	Scenario - Changes to Risk Reward Spreadsheet	MAXIMUM EARNINGS MINUS THE AMOUNTS ALREADY AUTHORIZED IN D.08-12-059 AND D.09-12-045						IN PENALTY		
		PGE	SCE	SDGE	SCG	Total	PGE	SCE	SDGE	SCG
S6-T1	Evaluated net savings w/o interactive effects - no change to RRIM	\$(74,930,614)	\$(24,259,620)	\$(11,100,572)	\$(6,667,880)	\$(116,958,686)	YES		YES	
S6-T2	Evaluated net savings w/o interactive effects- use 9% earnings rate	\$(39,440,181)	\$(24,259,620)	\$(9,272,150)	\$(6,667,880)	\$(79,639,831)	YES		YES	
S6-T3	Evaluated net savings w/o interactive effects - use 12% earnings rate	\$(27,610,036)	\$(15,562,044)	\$(8,662,677)	\$(6,453,499)	\$(58,288,256)	YES		YES	
S6-T4	Evaluated net savings w/o interactive effects - remove 2004-2005 goals and savings	\$(74,930,614)	\$(50,352,348)	\$(11,100,572)	\$(6,667,880)	\$(143,051,414)	YES	YES	YES	
S6-T5	Evaluated net savings w/o interactive effects - reduce SDGE/PGE therm	\$(74,930,614)	\$(24,259,620)	\$(11,100,572)	\$(6,667,880)	\$(116,958,686)	YES		YES	



**5.7. Scenario 7 – Evaluated Net Savings (with interactive effects)  
[Current Commission Policy]**

Evaluated Net Savings (with interactive effects) are utility reported savings updated with the evaluated installation rate and the evaluated unit energy savings that include interactive effects to estimate gross savings. In addition, the evaluated NTG ratios are applied to estimate net savings.

Table 21 Scenario 7 – Evaluated Net Savings (with interactive effects)

	Third Earnings Claim (PY2006-2008 True-Up)				
	PG&E	SCE	SDGE	SoCalGas	Total
<b>Savings Goals</b>					
PY 2004-2008					
Total Cumulative Savings (GWH)	4,313.0	4,788.0	1,175.0	0.0	10,276.00
Total Peak Savings (MW)	936.0	1,006.0	223.0	0.0	2,165.00
Total Cumulative Natural Gas Savings (MMTh)	64.4	0.0	13.1	76.5	154.00
	0	0	0	0	
<b>MPS Goals (80% of goal)</b>					
Total Cumulative Savings (GWH)	3,450.4	3,830.4	940.0	0.0	8,220.80
Total Peak Savings (MW)	748.8	804.8	178.4	0.0	1,732.00
Total Cumulative Natural Gas Savings (MMTh)	51.5	0.0	10.5	61.2	123.20
	0.0	0.0	0.0	0.0	
<b>Dead Band (65% of goal)</b>					
Total Cumulative Savings (GWH)	2,803.5	3,112.2	763.8	0.0	6,679.40
Total Peak Savings (MW)	608.4	653.9	145.0	0.0	1,407.25
Total Cumulative Natural Gas Savings (MMTh)	41.9	0.0	8.5	49.7	100.10
<b>Achieved Savings Towards MPS</b>					
PY 2006-2008					
<b>EE Portfolio Savings (adjusted ex-ante)</b>					
Total Cumulative Savings (GWH)	1,766.0	1,958.9	364.0		4,088.80
Total Peak Savings (MW)	320.1	383.4	72.3		775.75
Total Cumulative Natural Gas Savings (MMTh)	22.3		2.7	31.9	56.85
<b>50% C&amp;S Savings (adjusted ex-ante)</b>					
PY 2006-2008					
Total Cumulative Savings (GWH)	157.9	162.9	37.0		357.80
Total Peak Savings (MW)	30.6	31.5	7.2		69.30
Total Cumulative Natural Gas Savings (MMTh)	2.2		0.3	3.5	5.95
<b>04-05 EM&amp;V Adjusted EE Portfolio Savings</b>					
PY 2004-2005					
Total Cumulative Savings (GWH)	998.2	1,497.9	342.6		2,838.67
Total Peak Savings (MW)	212.3	270.5	59.3		542.09
Total Cumulative Natural Gas Savings (MMTh)	19.1		4.5	11.1	34.71
<b>EM&amp;V Adjusted LIEE Savings</b>					
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
<b>Total Savings</b>					
PY 2004-2008					
Total Cumulative Savings (GWH)	3,045.5	3,726.8	771.3	0.0	7,543.62
Total Peak Savings (MW)	587.9	707.6	145.7	0.0	1,441.24
Total Cumulative Natural Gas Savings (MMTh)	49.2	0.0	8.7	51.1	109.07
<b>MPS Individual Metric Performance</b>					
Percent of GWH Goal	71%	78%	66%	0%	73%
Percent of MW Goal	63%	70%	65%	0%	67%
Percent of MMTh Goal	76%	0%	67%	67%	71%
<b>MPS Average Metric Performance</b>					
	70%	74%	66%	67%	70%
<b>PEB</b>					
TRC Net Benefits	\$ 271,286,448	\$ 174,039,744	\$ 3,574,029	\$ (23,228,693)	\$ 425,671,528
PAC Net Benefits	\$ 488,278,712	\$ 520,540,367	\$ 74,543,381	\$ 66,210,216	\$ 1,149,572,676
PEB	\$ 343,617,203	\$ 289,539,952	\$ 27,230,480	\$ 6,584,276	\$ 666,971,910
<b>PEB at MPS Threshold</b>	<b>\$ -</b>	<b>\$ 289,539,952</b>	<b>\$ 27,230,480</b>	<b>\$ 6,584,276</b>	<b>\$ 323,354,708</b>
Earnings/Penalty Cap	\$ 180,000,000	\$ 200,000,000	\$ 50,000,000	\$ 20,000,000	\$ 450,000,000
<b>Earnings Rate</b>	<b>0%</b>	<b>9%</b>	<b>9%</b>	<b>9%</b>	
<b>Total Earnings</b>	<b>\$ -</b>	<b>\$ 26,058,596</b>	<b>\$ 2,450,743</b>	<b>\$ 592,585</b>	<b>\$ 29,101,924</b>
<b>Penalties</b>	<b>YES</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	
<b>Total Penalties</b>	<b>\$ 74,930,614</b>	<b>No Penalty</b>	<b>No Penalty</b>	<b>No Penalty</b>	<b>\$ 74,930,614</b>

**Table 22 Scenario 7 – Evaluated Net Savings (with interactive effects); Alternate outcomes a-f**

		MAXIMUM EARNINGS MINUS THE AMOUNTS ALREADY AUTHORIZED IN D.08-12-059 AND D.09-12-045						IN PENALTY			
Tab	Scenario - Changes to Risk Reward Spreadsheet	PGE	SCE	SDGE	SCG	Total	PGE	SCE	SDGE	SCG	
S7-T1	Evaluated net savings w/ interactive effects - no change to RRIM	\$(74,930,614)	\$(24,293,752)	\$(8,649,829)	\$(6,718,436)	\$(114,592,631)	YES				
S7-T2	Evaluated net savings w/ interactive effects- use 9% earnings rate	\$(44,005,066)	\$(24,293,752)	\$(8,649,829)	\$(6,718,436)	\$(83,667,083)	YES				
S7-T3	Evaluated net savings w/ interactive effects - use 12% earnings rate	\$(33,696,550)	\$(15,607,554)	\$(7,832,914)	\$(6,520,908)	\$(63,657,926)	YES				
S7-T4	Evaluated net savings w/ interactive effects - remove	\$(74,930,614)	\$(50,352,348)	\$(11,100,572)	\$(6,718,436)	\$(143,101,970)	YES	YES	YES		

		MAXIMUM EARNINGS MINUS THE AMOUNTS ALREADY AUTHORIZED IN D.08-12-059 AND D.09-12-045							IN PENALTY		
Tab	Scenario - Changes to Risk Reward Spreadsheet	PGE	SCE	SDGE	SCG	Total	PGE	SCE	SDGE	SCG	
	2004-2005 goals and savings										
S7-T5	Evaluated net savings w/ interactive effects - reduce SDGE/PGE therm goals	\$ (74,930,614)	\$ (24,293,752)	\$ (8,649,829)	\$ (6,718,436)	\$ (114,592,631)	YES				
S7-T6	Evaluated net savings w/ interactive effects - reduce net benefits by amount already paid	\$ (74,930,614)	\$ (26,811,370)	\$ (9,204,857)	\$ (7,083,987)	\$ (118,030,828)	YES				
S7-T7	Evaluated net savings w/ interactive effects - use 100% C&S Savings	\$ (44,005,066)	\$ (24,293,752)	\$ (8,649,829)	\$ (6,718,436)	\$ (83,667,083)					

**5.8. Scenario 8 – Evaluated Net Savings (without interactive effects) and removing 2004-2005 Evaluated Net Savings**

Evaluated Net Savings (without interactive effects) are utility reported savings updated with the evaluated installation rate and the evaluated unit energy savings that do not include interactive effects (+ and -) to estimate gross savings. In addition, the evaluated NTG ratios are applied to estimate net savings. The savings and net benefits are compared to the 2006-2008 program cycle goals instead of the cumulative savings goals for 2004-2008 for determining MPS in the RRIM calculator.

**Table 23 Scenario 8 – Evaluated Net Savings (with interactive effects) and removing 2004-2005 Evaluated Net Savings**

	Third Earnings Claim (PY2006-2008 True-Up)				
	PG&E	SCE	SDGE	SoCalGas	Total
<b>Savings Goals</b>					
PY 2006-2008					
Total Cumulative Savings (GWH)	2,826.0	3,135.0	638.2	0.0	6,599.20
Total Peak Savings (MW)	613.0	672.0	122.3	0.0	1,407.30
Total Cumulative Natural Gas Savings (MMTh)	44.8	0.0	9.5	57.2	111.50
	0	0	0	0	
<b>MPS Goals (80% of goal)</b>					
Total Cumulative Savings (GWH)	2,260.8	2,508.0	510.6	0.0	5,279.36
Total Peak Savings (MW)	490.4	537.6	97.8	0.0	1,125.84
Total Cumulative Natural Gas Savings (MMTh)	35.8	0.0	7.6	45.8	89.20
	0.0	0.0	0.0	0.0	
<b>Dead Band (65% of goal)</b>					
Total Cumulative Savings (GWH)	1,836.9	2,037.8	414.8	0.0	4,289.48
Total Peak Savings (MW)	398.5	436.8	79.5	0.0	914.75
Total Cumulative Natural Gas Savings (MMTh)	29.1	0.0	6.2	37.2	72.48
<b>Achieved Savings Towards MPS</b>					
EE Portfolio Savings (adjusted ex-ante) PY 2006-2008					
Total Cumulative Savings (GWH)	1,753.3	1,867.2	349.1		3,969.70
Total Peak Savings (MW)	295.6	338.9	64.3		698.75
Total Cumulative Natural Gas Savings (MMTh)	34.7		4.1	31.9	70.67
50% C&S Savings (adjusted ex-ante) PY 2006-2008					
Total Cumulative Savings (GWH)	157.9	162.9	37.0		357.80
Total Peak Savings (MW)	30.6	31.5	7.2		69.30
Total Cumulative Natural Gas Savings (MMTh)	2.2		0.3	3.5	5.95
04-05 EM&V Adjusted EE Portfolio Savings PY 2004-2005					
Total Cumulative Savings (GWH)					0.00
Total Peak Savings (MW)					0.00
Total Cumulative Natural Gas Savings (MMTh)					0.00
EM&V Adjusted LIEE Savings PY 2006-2008					
Total Cumulative Savings (GWH)	78.7	73.8	16.2		168.73
Total Peak Savings (MW)	16.2	16.0	4.3		36.54
Total Cumulative Natural Gas Savings (MMTh)	3.8		0.8	2.9	7.51
<b>Total Savings</b>					
PY 2006-2008					
Total Cumulative Savings (GWH)	1,989.9	2,104.0	402.4	0.0	4,496.23
Total Peak Savings (MW)	342.4	386.4	75.8	0.0	804.58
Total Cumulative Natural Gas Savings (MMTh)	40.6	0.0	5.2	38.3	84.13
<b>MPS Individual Metric Performance</b>					
Percent of GWH Goal	70%	67%	63%	0%	68%
Percent of MW Goal	56%	57%	62%	0%	57%
Percent of MMTh Goal	91%	0%	55%	67%	75%
<b>MPS Average Metric Performance</b>	<b>72%</b>	<b>62%</b>	<b>60%</b>	<b>67%</b>	<b>67%</b>
<b>PEB</b>					
TRC Net Benefits	\$ 322,007,392	\$ 174,418,991	\$ (3,340,655)	\$ (22,666,956)	\$ 470,418,772
PAC Net Benefits	\$ 538,999,657	\$ 520,919,614	\$ 67,628,696	\$ 66,771,953	\$ 1,194,319,920
PEB	\$ 394,338,147	\$ 289,919,199	\$ 20,315,795	\$ 7,146,013	\$ 711,719,154
<b>PEB at MPS Threshold</b>	<b>\$ 394,338,147</b>	<b>\$ 289,919,199</b>	<b>\$ 20,315,795</b>	<b>\$ 7,146,013</b>	<b>\$ 711,719,154</b>
Earnings/Penalty Cap	\$ 180,000,000	\$ 200,000,000	\$ 50,000,000	\$ 20,000,000	\$ 450,000,000
<b>Earnings Rate</b>	<b>9%</b>	<b>9%</b>	<b>9%</b>	<b>9%</b>	
<b>Total Earnings</b>	<b>\$ 35,490,433</b>	<b>\$ 26,092,728</b>	<b>\$ 1,828,422</b>	<b>\$ 643,141</b>	<b>\$ 64,054,724</b>
<b>Penalties</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>NO</b>	
<b>Total Penalties</b>	<b>\$ 74,930,614</b>	<b>\$ 50,352,348</b>	<b>\$ 12,227,442</b>	<b>No Penalty</b>	<b>\$ 137,510,404</b>

**Table 24 Scenario 8 – Evaluated Gross Savings (with interactive effects) and removing 2004-2005 Evaluated Net Savings; Alternate outcomes a-d**

		MAXIMUM EARNINGS MINUS THE AMOUNTS ALREADY AUTHORIZED IN D.08-12-059 AND D.09-12-045						IN PENALTY			
Tab	Scenario - Changes to Risk Reward Spreadsheet	PGE	SCE	SDGE	SCG	Total	PGE	SCE	SDGE	SCG	
S8-T8	Evaluated net savings w/o interactive effects- remove 2004-2005 goals and savings - use 9% earnings rate	\$(39,440,181)	\$(24,259,620)	\$(9,272,150)	\$(6,667,880)	\$(79,639,831)	YES	YES	YES		
S8-T9	Evaluated net savings w/o interactive effects - remove 2004-2005 goals and savings - use 12% earnings rate	\$(27,610,036)	\$(15,562,044)	\$(8,662,677)	\$(6,453,499)	\$(58,288,256)	YES	YES	YES		
S8-T10	Evaluated net savings w/o interactive	\$(74,930,614)	\$(50,352,348)	\$(11,100,572)	\$(6,667,880)	\$(143,051,414)	YES	YES	YES		

	MAXIMUM EARNINGS MINUS THE AMOUNTS ALREADY AUTHORIZED IN D.08-12-059 AND D.09-12-045						IN PENALTY		
Tab	PGE	SCE	SDGE	SCG	Total	PGE	SCE	SDGE	SCG
Scenario - Changes to Risk Reward Spreadsheet effects - remove 2004-2005 goals and savings - reduce SDGE/PGE term goals									

**5.9. Scenario 9 Evaluated Net Savings (with interactive effects)  
and removing 2004-2005 Evaluated Net Savings**

Evaluated Net Savings (with interactive effects) are utility reported savings updated with the evaluated installation rate and the evaluated unit energy savings that include interactive effects (+ and -) to estimate gross savings. In addition, the evaluated NTG ratios are applied to estimate net savings. The savings and net benefits are compared to the 2006-2008 program cycle goals instead of the cumulative savings goals for 2004-2008 for determining MPS in the RRIM calculator.

**Table 25 Scenario 9 – Evaluated Gross Savings (with interactive effects) and removing 2004-2005 Evaluated Net Savings**

	Third Earnings Claim (PY2006-2008 True-Up)				
	PG&E	SCE	SDGE	SoCalGas	Total
<b>Savings Goals</b>					
PY 2006-2008					
Total Cumulative Savings (GWH)	2,826.0	3,135.0	638.2	0.0	6,599.20
Total Peak Savings (MW)	613.0	672.0	122.3	0.0	1,407.30
Total Cumulative Natural Gas Savings (MMTh)	44.8	0.0	9.5	57.2	111.50
	0	0	0	0	
<b>MPS Goals (80% of goal)</b>					
Total Cumulative Savings (GWH)	2,260.8	2,508.0	510.6	0.0	5,279.36
Total Peak Savings (MW)	490.4	537.6	97.8	0.0	1,125.84
Total Cumulative Natural Gas Savings (MMTh)	35.8	0.0	7.6	45.8	89.20
	0.0	0.0	0.0	0.0	
<b>Dead Band (65% of goal)</b>					
Total Cumulative Savings (GWH)	1,836.9	2,037.8	414.8	0.0	4,289.48
Total Peak Savings (MW)	398.5	436.8	79.5	0.0	914.75
Total Cumulative Natural Gas Savings (MMTh)	29.1	0.0	6.2	37.2	72.48
<b>Achieved Savings Towards MPS</b>					
PY 2006-2008					
<b>EE Portfolio Savings (adjusted ex-ante)</b>					
Total Cumulative Savings (GWH)	1,766.0	1,958.9	364.0		4,088.80
Total Peak Savings (MW)	320.1	383.4	72.3		775.75
Total Cumulative Natural Gas Savings (MMTh)	22.3		2.7	31.9	56.85
<b>50% C&amp;S Savings (adjusted ex-ante)</b>					
PY 2006-2008					
Total Cumulative Savings (GWH)	157.9	162.9	37.0		357.80
Total Peak Savings (MW)	30.6	31.5	7.2		69.30
Total Cumulative Natural Gas Savings (MMTh)	2.2		0.3	3.5	5.95
<b>04-05 EM&amp;V Adjusted EE Portfolio Savings</b>					
PY 2004-2005					
Total Cumulative Savings (GWH)					0.00
Total Peak Savings (MW)					0.00
Total Cumulative Natural Gas Savings (MMTh)					0.00
<b>EM&amp;V Adjusted LIEE Savings</b>					
PY 2006-2008					
Total Cumulative Savings (GWH)	78.7	73.8	16.2		168.73
Total Peak Savings (MW)	16.2	16.0	4.3		36.54
Total Cumulative Natural Gas Savings (MMTh)	3.8		0.8	2.9	7.51
<b>Total Savings</b>					
PY 2006-2008					
Total Cumulative Savings (GWH)	2,002.6	2,195.6	417.2	0.0	4,615.33
Total Peak Savings (MW)	366.9	430.9	83.8	0.0	881.59
Total Cumulative Natural Gas Savings (MMTh)	28.3	0.0	3.8	38.3	70.30
<b>MPS Individual Metric Performance</b>					
Percent of GWH Goal	71%	70%	65%	0%	70%
Percent of MW Goal	60%	64%	69%	0%	63%
Percent of MMTh Goal	63%	0%	40%	67%	63%
<b>MPS Average Metric Performance</b>					
	65%	67%	58%	67%	65%
<b>PEB</b>					
TRC Net Benefits	\$ 271,286,448	\$ 174,039,744	\$ 3,574,029	\$ (23,228,693)	\$ 425,671,528
PAC Net Benefits	\$ 488,278,712	\$ 520,540,367	\$ 74,543,381	\$ 66,210,216	\$ 1,149,572,676
PEB	\$ 343,617,203	\$ 289,539,952	\$ 27,230,480	\$ 6,584,276	\$ 666,971,910
<b>PEB at MPS Threshold</b>	<b>\$ 343,617,203</b>	<b>\$ 289,539,952</b>	<b>\$ 27,230,480</b>	<b>\$ 6,584,276</b>	<b>\$ 666,971,910</b>
Earnings/Penalty Cap	\$ 180,000,000	\$ 200,000,000	\$ 50,000,000	\$ 20,000,000	\$ 450,000,000
<b>Earnings Rate</b>					
	9%	9%	9%	9%	
<b>Total Earnings</b>					
	\$ 30,925,548	\$ 26,058,596	\$ 2,450,743	\$ 592,585	\$ 60,027,472
<b>Penalties</b>					
	YES	YES	YES	NO	
<b>Total Penalties</b>					
	\$ 74,930,614	\$ 50,352,348	\$ 11,972,232	No Penalty	\$ 137,255,194

**Table 26 Scenario 9 – Evaluated Gross Savings (with interactive effects) and removing 2004-2005 Evaluated Net Savings; Alternate outcomes a-d**

		MAXIMUM EARNINGS MINUS THE AMOUNTS ALREADY AUTHORIZED IN D.08-12-059 AND D.09-12-045						IN PENALTY		
Tab	Scenario - Changes to Risk Reward Spreadsheet	PGE	SCE	SDGE	SCG	Total	PGE	SCE	SDG E	SC G
S9-T8	Evaluated net savings w/ interactive effects- remove 2004-2005 goals and savings - use 9% earnings rate	\$(44,005,066)	\$(24,293,752)	\$(8,649,829)	\$(6,718,436)	\$(83,667,083)	YES	YES	YES	
S9-T9	Evaluated net savings w/ interactive effects - remove 2004-2005 goals and savings - use 12% earnings rate	\$(33,696,550)	\$(15,607,554)	\$(7,832,914)	\$(6,520,908)	\$(63,657,926)	YES	YES	YES	
S9-T10	Evaluated net savings w/ interactive effects - remove 2004-2005 goals and savings - reduce SDGE/PGE therm goals	\$(74,930,614)	\$(50,352,348)	\$(11,100,572)	\$(6,718,436)	\$(143,101,970)	YES	YES	YES	

(END OF APPENDIX)