Joint Utility  
Low Income Energy Efficiency Program,  
2005 Costs and Bill Savings   
Report

Final Report

**Report Date:**

April 26, 2006

This page is intentionally blank.

**Table of Contents**

Page

1 Executive Summary 1

2 Introduction 3

2.1 Background to the Bill Savings Method 4

2.2 Costs 4

2.3 Bill Savings 5

2.3.1 Energy Savings Sources 5

2.3.2 Life Cycle Bill Savings – General Formula 6

2.3.3 Specifics of Calculations and Variables 7

2.4 Consistency with AEAP 11

3 Analysis of Program Cost and Bill Saving Results 13

3.1 Data Presented in this Report 13

3.2 Overall Results by Program Year and Utility 14

3.2.1 Year-to-Year Differences by Utility 16

3.2.2 Year-to-Year Differences Across Service Area 19

3.3 Overall Comment on Bill Savings Comparisons 22

4 Detailed Tables 23

4.1 Program Costs 23

4.2 Detailed Life Cycle Bill Savings 36

Appendix A – Implementation Rates 67

Appendix B – Program Cost Percents 71

Appendix C – Memo on Public Workshops 74

Appendix D – Typical Non-Energy Benefits 90

**Table of Exhibits**

Page

Exhibit 1.1 Summary of Bill Savings to Cost Ratios by Service Area 1

Exhibit 1.2 Summary of Average Per Home Life Cycle Bill Savings by Service Area 1

Exhibit 2.1 Past Bill Savings Reports 3

Exhibit 2.2 Energy Sources by Program Year 6

Exhibit 2.3 Estimation of Bill Savings 7

Exhibit 2.4 Energy Rates Used for Bill Savings Calculations 8

Exhibit 2.5 Updated EULs 9

Exhibit 2.6 EULs Used in Bill Savings Calculations 10

Exhibit 3.1 Summary of Reported Cost Elements by Utility 13

Exhibit 3.2 Results Summary by Utility 15

Exhibit 3.3 Results Summary Across Utility 16

Exhibit 3.4 Number of Homes Treated by Year by Utility 17

Exhibit 3.5 Percent Difference between PY2005 and PY2004 17

Exhibit 3.6 Average Number of Installed Refrigerators per Treated Home 18

Exhibit 3.7 Change in Measure Installation Rates and Per Home Life Cycle Bill Savings, by Utility 2004 to 2005 19

Exhibit 3.8 Analysis by Service Area, Combined SCE and SoCalGas 19

Exhibit 3.9 Graph of Bill Savings to Cost Ratio by Service Area 20

Exhibit 3.10 Graph of Bill Savings per Home by Service Area 20

Exhibit 3.11 Bill Savings to Cost Ratio with Modified Energy Rates 21

Exhibit 3.12 Per Home Savings with Modified Energy and Refrigerator Implementation Rates 22

Exhibit 4.1 PG&E Table TA 7.2 – Program Year 2003 24

Exhibit 4.2 PG&E Table TA 7.2 – Program Year 2004 25

Exhibit 4.3 PG&E Table TA 7.2 – Program Year 2005 26

Exhibit 4.4 SCE Table TA 7.2 – Program Year 2003 27

Exhibit 4.5 SCE Table TA 7.2 – Program Year 2004 28

Exhibit 4.6 SCE Table TA 7.2 – Program Year 2005 29

Exhibit 4.7 SDG&E Table TA 7.2 – Program Year 2003 30

Exhibit 4.8 SDG&E Table TA 7.2 – Program Year 2004 31

Exhibit 4.9 SDG&E Table TA 7.2 – Program Year 2005 32

Exhibit 4.10 SoCalGas Table TA 7.2 – Program Year 2003 33

Exhibit 4.11 SoCalGas Table TA 7.2 – Program Year 2004 34

Exhibit 4.12 SoCalGas Table TA 7.2 – Program Year 2005 35

Exhibit 4.13 PG&E Life Cycle Bill Savings– Program Year 2003 37

Exhibit 4.14 PG&E Life Cycle Bill Savings– Program Year 2004 40

Exhibit 4.15 PG&E Life Cycle Bill Savings– Program Year 2005 43

Exhibit 4.16 SCE Life Cycle Bill Savings– Program Year 2003 46

Exhibit 4.17 SCE Life Cycle Bill Savings– Program Year 2004 48

Exhibit 4.18 SCE Life Cycle Bill Savings– Program Year 2005 51

Exhibit 4.19 SDG&E Life Cycle Bill Savings– Program Year 2003 53

Exhibit 4.20 SDG&E Life Cycle Bill Savings– Program Year 2004 56

Exhibit 4.21 SDG&E Life Cycle Bill Savings– Program Year 2005 59

Exhibit 4.22 SoCalGas Life Cycle Bill Savings– Program Year 2003 61

Exhibit 4.23 SoCalGas Life Cycle Bill Savings– Program Year 2004 63

Exhibit 4.24 SoCalGas Life Cycle Bill Savings– Program Year 2005 65

This page is intentionally blank.

# Executive Summary

This report presents the results of applying the accepted methodology for determining costs and bill savings estimates of the Low Income Energy Efficiency (LIEE) program in compliance with Decision (D) 01-12-020, Ordering Paragraph 4. The method used is consistent with cost-effectiveness methods and calculations used in the Annual Earnings Assessment Proceedings (AEAP) and has been used and accepted in five prior cost and bill savings reports. This report presents bill savings and costs for the utilities’ Program Year (PY) 2003, PY2004, and PY2005 LIEE programs.

The results of this study are summarized in Exhibits 1.1 and 1.2. In order to compare average customer bill savings across the state, it is useful to compare the total service by service area. For the final analysis purposes of this document, the SoCalGas and SCE programs were assessed as a single entity since they serve roughly the same customers.

Exhibit .   
Summary of Bill Savings to Cost Ratios by Service Area



Exhibit .  
Summary of Average Per Home Life Cycle Bill Savings by Service Area



The following general comments can be made concerning these summary values:

* **PY2003** reasons forcross-utility variations are the refrigerator installation rate and energy rates.
* **PY2004** energy rates played the largest part in the variations among utilities. The significant difference between the bill savings for SoCalGas between PY2003 and PY2004 is due almost entirely to changing the source of the per unit impact values. If the per unit impact values had remained the same between the two years, then the SoCalGas PY 2003 and PY2004 bill saving would have been almost identical.
* **PY2005** similar to PY2003, the variation seen is due to refrigerator installation rates and energy rates.

Overall, for PY2005, the analysis showed that the PY2005 LIEE program delivered comparable savings to program participants statewide.

This page is intentionally blank.

# Introduction

In compliance with Decision (D.) 01-12-020, Ordering Paragraph 4, this report presents an analysis of the estimated costs and bill savings for the Low Income Energy Efficiency (LIEE) program using the methodology developed pursuant to an order from the California Public Utilities Commission (Commission) under D. 00-07-020, Ordering Paragraph 7. Those methods were reported in a report titled “Joint Utility Low Income Energy Efficiency Program Costs and Bill Savings Standardization Report” dated February 1, 2001, and filed with the Commission February 1, 2001, then re-filed on March 12, 2001 as a revised report dated March 5, 2001.

The proposed methodology and the results of the analysis provided in the 2001 Bill Savings Report were adopted for future use under D.01-12-020 dated December 11, 2001. Annual reports have occurred since that time as shown in Exhibit 2.1.

Exhibit .  
Past Bill Savings Reports

|  |  |  |  |
| --- | --- | --- | --- |
| **Report Name\*** | **Report Date** | **Program Years (PY) Covered in Report** | **Report Name in this Document** |
| *Joint Utility Low Income Energy Efficiency Program Costs and Bill Savings Standardization Report* | March 5, 2001 | PY1997 PY1998 PY1999 First Half of PY2000 | 2001 Bill Savings Report |
| *Joint Utility Low Income Energy Efficiency Program 2001 Costs and Bill Savings Standardization Report* | May 31, 2002 | PY1999 PY2000 PY2001 | 2002 Bill Savings Report |
| *Joint Utility Low Income Energy Efficiency Program 2002 Costs and Bill Savings Standardization Report* | April 23, 2003 | PY2000 PY2001 PY2002 | 2003 Bill Savings Report |
| *Joint Utility Low Income Energy Efficiency Program 2003 Costs and Bill Savings Standardization Report* | April 9, 2004 | PY2001 PY2002 PY2003 | 2004 Bill Savings Report |
| *Joint Utility Low Income Energy Efficiency Program 2004 Costs and Bill Savings Report* | April 20, 2005 | PY2002 PY2003 PY2004 | 2005 Bill Savings Report |

\*All reports are available online at [www.CALMAC.org](http://www.CALMAC.org) . Use the searchable database feature to find the specific report.

This report is the sixth annual such report on the LIEE Bill Savings and covers PY2003, PY2004, and PY2005.

In order to maintain consistency between program years and to follow the methodology created in the 2001 Bill Savings Report, the results presented here do not incorporate any of the non-energy benefits of low income programs.[[1]](#footnote-1)

## Background to the Bill Savings Method

In mid-2000, the Administrative Law Judge (ALJ) handed down a final opinion on the Program Year 2000 Low Income Assistance Programs (D.00-07-020, dated July 6, 2000). The opinion stated “…our inquiry is limited by the lack of consistent data on program bill savings, expenditures and cost-effectiveness calculations, with which to evaluate the relevant performance of the utilities’ LIEE programs.”[[2]](#footnote-2) The utilities were directed as follows:

“7. With input from interested parties and the LIAB, the utilities shall jointly develop standardized methods for producing bill savings and expenditures for LIEE programs on an overall program and per unit basis, by utility. The methods used to produce this information shall be consistent with the methodologies used to evaluate energy efficiency costs and savings in the Annual Earnings and Assessment Proceedings (AEAP). The utilities shall coordinate with Energy Division on all aspects of methodology design and implementation.

The utilities shall file a joint report no later than February 1, 2001, presenting the proposed standardized methods and explain how the methods are consistent with cost-effectiveness methods and calculations utilized in the AEAP. In this report, the utilities shall apply the proposed methods to calculate bill savings and expenditures for their PY1997, PY1998, and PY1999 LIEE programs, or explain why a study of a particular program year would be duplicative of what has already been done in the AEAP. In that event, the results of the AEAP study shall be presented. All assumptions and work papers shall be presented. To the extent that data has been compiled for PY2000 programs, the report shall provide bill savings and expenditure calculations for that PY (or portion thereof) as well.”[[3]](#footnote-3)

The report ordered by D.00-07-020 was filed on time with errata filed on March 12, 2001. Full details of the methodology used for the ordered report and this subsequent report are provided in the 2001 Bill Savings Report. However, highlights are presented next for clarity.

## Costs

Throughout this document, the term “cost” is used in lieu of the term “expenditure”. This is done because cost is deemed to be the net amount actually paid for goods or services. Expenditure, on the other hand, represents the amount spent, which can be different than the amount paid for the product or service if any portion is reimbursed or recompensed in any way. Costs can be synonymous with expenditure if there is no reimbursement. To reduce confusion, the term cost is used throughout. In addition, costs only refer to LIEE costs unless otherwise specifically stated. This distinction has been stated and used consistently in all of the LIEE bill savings reports to date.

The 2001 Bill Savings Report made a concerted effort to refine, for LIEE purposes, the cost definitions established in Table TA7.2 of the Reporting Requirements Manual (RRM).

Costs for the LIEE programs are parsed in several ways in Table TA 7.2. There are 18 cost variables along the left side of the table, and each variable is divided into columns for labor, non-labor, and contract costs. These are summed into a fourth column, total cost, for each variable.

Each utility used these common definitions to fill in the costs in Table TA 7.2 for each year being studied. Since the implementation costs cannot be readily allocated by fuel type, the Cost and Bill Savings Standardization Group (consisting of representatives from PG&E, Southern California Edison Company, San Diego Gas and Electric Company, Southern California Gas Company, Energy Division and the Office of Ratepayer Advocates) decided that each utility would prepare a single Table TA 7.2 for each year, covering all costs independent of fuel type.

It is necessary to acknowledge that utility accounting systems are complex and unique. Attempts are made to match costs across utilities, as allowed by the existing accounting systems, and to provide information on where and how reported costs differ.

## Bill Savings

Energy Savings Sources

The bill savings in this report are the estimated lifecycle net present value saved by the average dwelling due to the measures installed under the LIEE programs. Historically, the first year impacts, which go into the life cycle savings estimates, have been determined from measurement and evaluation impact studies performed after the program was fielded. These studies have generally followed the *Protocols and Procedures for the Verification of Costs, Benefits, and Shareholder Earnings from Demand-Side Management Programs* (Protocols)[[4]](#footnote-4) and are filed in the AEAP. The LIEE programs were evaluated as per Protocol Tables 8A and 8B (Residential Direct Assistance Program) in 1995-6[[5]](#footnote-5). The 2000 and 2001 impact evaluations described below appear to have also followed the Protocols to the degree that they were still applicable.

The PY2003 measures used different sources of per-unit energy savings than the other two years as shown in Exhibit 2.2.

Exhibit .  
Energy Sources by Program Year

| **Program Year** | **Energy Impact Source #1** | **Energy Impact Source #2** |
| --- | --- | --- |
| PY2003 | *Impact Evaluation of the 2000 Statewide Low Income Energy Efficiency (LIEE) Program.* XENERGY Inc. and Business Economic Analysis & Research. April 2, 2002. | *LIEE Measure Cost Effectiveness Preliminary Report.* LIEE Standardization Team. September 23, 2002 |
| PY2004 and PY2005 | *Impact Evaluation of the 2001 Statewide Low Income Energy Efficiency (LIEE) Program.* KEMA-XENERGY Inc. and Business Economic Analysis & Research. April 8, 2003. | *LIEE Measure Cost Effectiveness Final Report.* LIEE Standardization Team. June 2, 2003. |

The analysis underlying the *LIEE Measure Cost Effectiveness Final Report* used estimates of impact from the *Impact Evaluation of the 2001 LIEE Program*. Similarly, the preliminary report was an earlier analysis based on the *Impact Evaluation of the 2000 LIEE Program*. As such, if the appendix of the Energy Impact Source #1 did not have a per-unit impact value, the per-unit impact value was obtained from Energy Impact Source #2.

Different from previous years, the PY2005 SoCalGas bill savings did not include any electric savings accrued by SCE that are attributable to the weatherization measures installed under the SoCalGas LIEE program.

Life Cycle Bill Savings – General Formula

Three of the variables that go into any lifecycle bill savings are:

* Residential electrical rate
* Residential therm rate
* Discount rate

The general algorithm used for estimating bill savings is presented in Exhibit 2.3.

Exhibit .  
Estimation of Bill Savings[[6]](#footnote-6)

where:

r = fuel type (gas or electric)

Y = Year, starting with implementation program year

m = measure type

energy rateY,r = energy rate ($ per kWh[[7]](#footnote-7) or therm) for fuel r in year Y

Impactm = measure m gross[[8]](#footnote-8) impact per year (kWh or therm)

Numberm = number of measure type m installed

EULm = effective useful life (years) of measure type m

Specifics of Calculations and Variables

***Inflation and Discount Rates***

The discount rate was chosen to be consistent with the ALJ Bytof ruling, dated October 25, 2000, in Application (A.) 99-09-049, et. al. The use of this particular value was checked at the beginning of 2006 to see if the ruling had changed.[[9]](#footnote-9) As of the writing of this report, there had been a change that was used for the PY2006-2008 programs. Because the discount rate had not changed for the 2005 program, and because of how savings were forecast, no change in discount rate was made for this report.

The inflation rate of 3 percent was used to develop the discount rate.[[10]](#footnote-10) The following specific values were identified as appropriate for these calculations:

* The inflation rate used was 3 percent.
* The discount rate was 8.15 percent.

***Development of Energy Rate Escalation***

Exhibit 2.3 above is the general model for estimating the lifecycle bill savings. Originally, the Cost and Bill Savings Standardization Group thought that one of the best ways to estimate the energy rate escalation was to use values that had already been filed. As a result, the group investigated modeling energy rate escalation after the avoided cost escalation in A.99-09-049 for the Energy Efficiency Programs. However, this model was discarded after much discussion in 2001 about the validity of a model that dramatically decreased rates at a time when rates were increasing. Since the aim of this method was to create bill savings that were comparable between utilities, a constant 3 percent escalation rate was adopted. The 3 percent value was chosen because it is roughly equal to the annual inflation rate.

***Estimation of the Average Annual Energy Rates***

The average annual energy rates used by each utility are highly dependent upon the information available in the accounting systems of the individual utility. SDG&E and SoCalGas computed average prices (total revenue minus customer charge divided by total kWh or therms) for all LIEE participants with a complete year of use. SCE, after removing master metered accounts, calculated the average $/kWh based on the LIEE customer rate schedule and tier level. PG&E calculated the average $/kWh and $/therm based on rate schedule (i.e., CARE versus Non-CARE).

Energy rates used by each utility are shown in Exhibit 2.4.

Exhibit .  
Energy Rates Used for Bill Savings Calculations



As shown in Exhibit 2.4, the methodology used in this report escalates the most current energy rate to forecast rates for all years beyond the most current year. The effect of this is that when temporary up- or down-swings in the actual rates occur, the method will estimate falsely low or high life cycle bill savings for future years. However, while there may be dramatic differences between two years, the subsequent year provides a self-correction to this swing.

***Effective Useful Life Agreements***

In order to compute life cycle savings, it is necessary to know the average life of the measures installed. In September of 2000, all utilities compared the historic Effective Useful Lives (EULs) being used for LIEE measures, compared these measure lives to the values developed by CALMAC, and, where possible, agreed on common EULs for common measures.

The EULs were revisited during last year’s report to determine if the California Energy Commission Database for Energy Efficient Resources (DEER) values should be should be substituted for the values used to date. Based on that investigation, the decision was made to use the same EUL used for the previous Bill Savings Reports.[[11]](#footnote-11) However, subsequent to last year’s report, a new report was published called *Revised / Updated EULs Based on Retention and Persistence Studies Results*, July 2005[[12]](#footnote-12). This report was reviewed to determine if any changes should occur in the EULs being used in this analysis. There were five measures in the July 2005 report that coincided with the measures under investigation for bill savings. These are shown in Exhibit 2.5. The revised EULs from the July 2005 report were adopted as the values to be used in the analysis, where applicable. The overall list of EULs used in the 2005 analysis is presented in Exhibit 2.6, along with the source of the EUL.

Exhibit .  
Updated EULs

|  |  |  |
| --- | --- | --- |
| **Measure** | **Previous Bill Savings EUL** | **Revised EUL from July 2005 report** |
| Central Air Conditioners | 18 | 18 |
| Evaporative Coolers | 15 | 15 |
| High Efficiency Furnace | 22 | 18 |
| CFL Fixture, Residential | 20 | 16 |
| Refrigerators | 15 | 18 |

Exhibit .  
EULs Used in Bill Savings Calculations



## Consistency with AEAP

Throughout the process of creating a program costs and bill savings standardization methodology, every effort was made to keep that methodology consistent with the protocols and practices adopted for the AEAP. The methodology is consistent because:

* The report uses the same project cost tables as proposed by the RRM, with slight modifications and refined definitions for each of the variables in the table.
* The modeling methodology is mathematically the same for the AEAP and this report. However, instead of estimating avoided costs, this methodology estimates life cycle bill savings.
* The discount rate and escalation factors are consistent with those used in the AEAP.
* The lifecycle bill savings used Effective Useful Life values consistent with those used in the AEAP.
* Most of the impacts used are from Protocol-compliant M&E studies that are part of the AEAP.

This completes the summary of the methodology used for computing cost and bill savings. Readers wishing a more complete description of the methodology are referred to the 2001 Bill Savings Report.[[13]](#footnote-13) The next section discusses the analysis of program cost and bill savings data for PY2003 through PY2005.

This page is intentionally blank

# Analysis of Program Cost and Bill Saving Results

This section presents an analysis of how the program variables affect the reported bill savings and costs.

## Data Presented in this Report

As discussed in Section 2.2, costs were broken down into the 18 subcategories, and the labor, non-labor and contract elements defined in Table TA 7.2 of the RRM (this table has subsequently been renamed TA 2, but is referred to as TA 7.2 throughout this report). Because each utility’s accounting system is different, it was not possible for all utilities to break out the costs in identical fashion. Exhibit 3.1 presents a summary of where each utility reported costs across the three years of analysis covered in this report. (Only 16 cost categories are shown in Exhibit 3.1 because the other two cost categories are not relevant to the utilities.) It should be noted that the current cost breakouts are more uniform than those recorded in the previous Bill Savings report. This is attributed to the ongoing standardization efforts for this program. Exhibit 3.1, in combination with the detailed cost tables and their footnotes presented in Exhibit 4.2 to Exhibit 4.10, creates a comprehensive picture of the cost breakdown supplied by each utility.

Exhibit 3.1  
Summary of Reported Cost Elements by Utility



Based on the bill savings methodology, the following values were calculated for each utility for each of the three years being assessed:

* program costs,
* life cycle bill savings,
* bill savings to cost ratio, and
* per home average life cycle bill savings.

PY2003 and PY2004 were completely analyzed and reported in the 2005 Bill Savings Report. They are not discussed further in this report.

One might expect that the PY2003 and PY2004 bill savings values in this report should be identical to the values presented in the 2005 Bill Savings Report. However, the methodology for the life cycle bill savings uses actual energy rate data as they become available. Therefore, while the PY2005 energy rates were projected rates for the analysis performed for the 2005 Bill Savings Report, the actual rates were known and used for the analysis in this report. This caused the PY2003 and PY2004 results to change between reports. These changes are reflected in the detailed tables in Section 4.2

## Overall Results by Program Year and Utility

Decision 01-12-020, Ordering Paragraph 4, requires the utilities to present a standardized set of tables summarizing the results both by utility and across utilities. The overall analysis results are summarized below by utility in Exhibit 3.2 and across utilities in Exhibit 3.3. These results, and discussion of the factors that explain variations, are addressed in the sections that follow these exhibits. Also, as was done in previous reports, the results are then summarized by “utility service area”.

Exhibit .  
Results Summary by Utility



Exhibit .  
Results Summary Across Utility



While the presentation of values by and across utilities allow for some insight into the results of the program, a more detailed analysis and discussion of the various values identifies some of the reasons for apparent variations. A discussion of the year-to-year differences for each utility will be presented first, followed by an analysis and discussion of the differences seen across utilities.

Year-to-Year Differences by Utility

From 1997 to 2005, the LIEE program has treated 1.3 million homes in California (based on the homes treated in the Bill Savings Reports). The number of homes treated in each of the three years covered in this report (Exhibit 3.4) helps explain some of the values in Exhibit 3.2 and Exhibit 3.3.

Exhibit .  
Number of Homes Treated by Year by Utility



Exhibit 3.4 illustrates that SCE has a slight decrease in the number of homes treated in 2005 compared to the prior year, while PG&E increased the number of homes treated by 16 percent in 2005. SDG&E and SoCalGas both show a decrease of approximately 25 percent from 2004 to 2005 in the number of homes treated. If the number of homes treated changed, there tended to be a similar directional change in the program costs and life cycle bill savings. (See Exhibit 3.5) The one exception to this was SCE, which had a large increase in program costs while treating slightly fewer homes than last year. However, as shown, each utility ended up with an increase in life cycle bill savings that was comparable to the percent increase in program costs.

Exhibit .  
Percent Difference between PY2005 and PY2004



Historically, one of the biggest reasons for differences in bill savings across the years for the three electric utilities has been the variation in the number of installed refrigerators. Exhibit 3.6 presents the average per home installation rate for refrigerators, by utility, from 2003 through 2005.

Exhibit .  
Average Number of Installed Refrigerators per Treated Home



Large variation in savings from year to year has often been due to the combination of significant fluctuations in the number of refrigerators installed, the large per-refrigerator impact and long life of the measure. However, for PY2005, two of the three service areas had very similar refrigerator implementation rates from the previous year, indicating that this was not the sole reason for differences in the PY2005 bill savings per home.

The three year longer EUL for the refrigerators most likely increased the estimated lifecycle bill savings for all homes. Additionally, analysis of the implementation rates of the various measures showed that, in 2005, all the utilities increased the rate at which water heating measures and CFLs were installed. Since these measures provide slightly more savings than weatherization measures and often have a long life in the home, it was hypothesized that the per home bill savings increased for all treated homes in 2005. To test the level of influence that the EUL and implementation rates played, the EUL and four measures (refrigerators, CFLs, showerheads, and furnace repair/replace) were modified to reflect the same EUL and implementation rates as shown in PY2004. Once these items were modified, the PY2005 per home life cycle bill savings were within twelve percent of the value from PY2004, which supported the previous assumptions.

Exhibit .  
Change in Measure Installation Rates and Per Home Life Cycle Bill Savings, by Utility 2004 to 2005



Year-to-Year Differences Across Service Area

This section analyzes trends between the utility service areas, by year. In order to compare average customer bill savings across the state, it is useful to compare the total service by service area. For the purposes of this document, the SCE and SoCalGas programs were assessed as a single entity since they serve roughly the same customers.[[14]](#footnote-14) Exhibit 3.8 presents the overall bill savings to cost ratios and per home life cycle bill savings values for each of the three “service areas”, along with the individual values for SCE and SoCalGas, for 2003 through 2005.

Exhibit .   
Analysis by Service Area, Combined SCE and SoCalGas



Exhibit 3.9 and Exhibit 3.10 present plots of the values shown in Exhibit 3.8.

Exhibit .  
Graph of Bill Savings to Cost Ratio by Service Area



Exhibit .  
Graph of Bill Savings per Home by Service Area



In an attempt to identify the reasons for the differences shown above between the service areas in 2005, the costs and benefits were examined in detail. Because PY2003 and PY 2004 were fully analyzed in the 2005 Bill Savings Report, no other comment on the differences between the utilities is presented here for those years.

***Utility Rates***

Exhibit 3.9 and Exhibit 3.10 indicate that the spread in bill savings to cost ratio among the utilities was slightly less than in PY2003 or PY2004. A comparison of the effect of the different energy rates was performed to determine how much of the variation was due to differences in rates.

The energy rates were modified by averaging them across utilities and using this modified rate to calculate a modified bill savings to cost ratio for PY2005. As shown in Exhibit 3.11, the differences in the bill savings to cost ratios were due mainly to rate differences since normalizing this rate brought the bill savings to cost ratio values for all utilities within three percent of each other.

Exhibit .  
Bill Savings to Cost Ratio with Modified Energy Rates

|  |  |  |  |
| --- | --- | --- | --- |
|  | **PG&E** | **SCE/SoCalGas** | **SDG&E** |
| Original Bill Savings to Cost Ratio | 0.54 | 0.55 | 0.68 |
| Actual PY2005 Energy Rate | 0.0956 kWh 1.0310 Therm | 0.1016 kWh 0.9490 Therm | 0.140 kWh 0.990 Therm |
| Assumed Modified Energy Rate | 0.1117 kWh 0.9890 Therm | | |
| Modified Bill Savings to Cost Ratio | **0.61** | **0.60** | **0.58** |

***Bill Savings Per Home Differences***

The effects of using the average utility rates were tested. As expected, the per home savings for SDG&E was reduced and the PG&E and SCE/SoCalGas savings were increased. If the refrigerator implementation rate for SCE was reduced to be similar to PG&E and SDG&E, the per home savings was reduced to a value similar to PG&E. The differences between the per home savings by utility can be explained by energy rates for SDG&E and refrigerator implementation rates for SCE. (See values in Exhibit 3.12.)

Exhibit .  
Per Home Savings with Modified Energy and Refrigerator Implementation Rates



## Overall Comment on Bill Savings Comparisons

Previous bill savings reports showed that primary factors controlling per home bill savings were the per-unit cost of energy (i.e., utility rates) and installation rates of the measures. In PY2005, these two factors continued to be the driving force between the differences seen. Once taken into account, per home savings were within six percent of each other across the three “service areas”. In short, this analysis shows that the PY2005 LIEE program delivered comparable savings to program participants statewide.

# Detailed Tables

This section presents the program costs as broken down in RRM Table TA 7.2 and the life cycle bill savings by measure type, by utility.

## Program Costs

This section contains the detailed program costs for each utility and each program year.

Exhibit .  
PG&E Table TA 7.2 – Program Year 2003 Last Updated 3/16/04



Exhibit .  
PG&E Table TA 7.2 – Program Year 2004 Last Updated 3/28/05



Exhibit .  
PG&E Table TA 7.2 – Program Year 2005 Last Updated 4/03/06



Exhibit .  
SCE Table TA 7.2 – Program Year 2003 Last Updated 3/16/04



Exhibit .  
SCE Table TA 7.2 – Program Year 2004 Last Updated 3/28/05



Exhibit .  
SCE Table TA 7.2 – Program Year 2005 Last Updated 4/03/06



Exhibit .  
SDG&E Table TA 7.2 – Program Year 2003 Last Updated 3/16/04



Exhibit .  
SDG&E Table TA 7.2 – Program Year 2004 Last Updated 3/28/05



Exhibit .  
SDG&E Table TA 7.2 – Program Year 2005 Last Updated 4/25/06



Exhibit .  
SoCalGas Table TA 7.2 – Program Year 2003 Last Updated 3/16/04



Exhibit .  
SoCalGas Table TA 7.2 – Program Year 2004 Last Updated 3/28/05



Exhibit .  
SoCalGas Table TA 7.2 – Program Year 2005 Last Updated 4/3/06



## Detailed Life Cycle Bill Savings

This section contains the detailed life cycle bill savings for each utility and each program year. The values are for a 3 percent escalation rate. The PY2003 and PY2004 tables do not match the life cycle bill savings shown in the tables within the body of the report. Following practices of the previous reports, these tables are based on the energy rate of that particular year and have not been updated to reflect subsequent rates.

Exhibit .  
PG&E Life Cycle Bill Savings– Program Year 2003 Last Updated 3/16/04

| **Measure Description** | **Number Installed** | **Per Measure Impact** | | **EUL** | **Total Measure Life Cycle Bill Savings** |
| --- | --- | --- | --- | --- | --- |
|  |  | kWh | Therms | Years | $ |
| **Energy Efficiency Measures** |  |  |  |  |  |
| Attic Access Weatherstripping - MF (Electric) | 100 | 0.91 | 0.00 | 5 | $ 41 |
| Attic Access Weatherstripping - MF (Gas) | 1,984 | 0.27 | 0.40 | 5 | $ 2,558 |
| Attic Access Weatherstripping - SF (Electric) | 579 | 2.59 | 0.00 | 5 | $ 676 |
| Attic Access Weatherstripping - SF (Gas) | 9,578 | 0.67 | 0.67 | 5 | $ 21,628 |
| Attic Insulation - MF (Electric) | 48 | 78.35 | 0.00 | 25 | $ 5,520 |
| Attic Insulation - MF (Gas) | 487 | 20.85 | 18.82 | 25 | $ 102,009 |
| Attic Insulation - SF (Electric) | 159 | 118.54 | 0.00 | 25 | $ 27,665 |
| Attic Insulation - SF (Gas) | 2,979 | 25.75 | 35.11 | 25 | $ 1,106,619 |
| Building Envelope Repair - MH (Electric) | 173 | 38.75 | 0.00 | 10 | $ 5,391 |
| Building Envelope Repair - MH (Gas) | 1,792 | 9.52 | 8.55 | 10 | $ 93,497 |
| Building Envelope Repair - MF (Electric) | 1,076 | 22.80 | 0.00 | 10 | $ 19,729 |
| Building Envelope Repair - MF (Gas) | 6,489 | 6.38 | 4.48 | 10 | $ 184,661 |
| Building Envelope Repair - SF (Electric) | 917 | 38.05 | 0.00 | 10 | $ 28,059 |
| Building Envelope Repair - SF (Gas) | 14,060 | 8.05 | 8.33 | 10 | $ 700,848 |
| Caulking - MH (Electric) | 201 | 11.63 | 0.00 | 5 | $ 1,054 |
| Caulking - MH (Gas) | 2,294 | 3.27 | 2.87 | 5 | $ 22,603 |
| Caulking - MF (Electric) | 1,914 | 6.59 | 0.00 | 5 | $ 5,687 |
| Caulking - MF (Gas) | 7,200 | 1.71 | 1.48 | 5 | $ 36,661 |
| Caulking - SF (Electric) | 1,006 | 11.43 | 0.00 | 5 | $ 5,185 |
| Caulking - SF (Gas) | 14,045 | 2.75 | 2.81 | 5 | $ 132,635 |
| Compact Fluorescent Hard Wire Porch Lights MF | 1,783 | 41.70 | 0.00 | 20 | $ 96,498 |
| Compact Fluorescent Hard Wire Porch Lights MH/SF | 6,767 | 37.10 | 0.00 | 20 | $ 325,838 |
| Compact Fluorescent Lamp - MF | 78,250 | 27.80 | 0.00 | 8 | $ 1,464,248 |
| Compact Fluorescent Lamp - MH/SF | 114,686 | 24.80 | 0.00 | 8 | $ 1,914,466 |
| Door Weatherstripping - MH (Electric) | 190 | 8.56 | 0.00 | 5 | $ 733 |
| Door Weatherstripping - MH (Gas) | 2,180 | 4.75 | 2.18 | 5 | $ 18,543 |
| Door Weatherstripping - MF (Electric) | 996 | 5.99 | 0.00 | 5 | $ 2,690 |
| Door Weatherstripping - MF (Gas) | 6,710 | 1.61 | 1.08 | 5 | $ 26,028 |
| Door Weatherstripping - SF (Electric) | 1,001 | 8.67 | 0.00 | 5 | $ 3,913 |
| Door Weatherstripping - SF (Gas) | 14,333 | 4.25 | 2.14 | 5 | $ 117,013 |
| Evaporative Cooler Covers MF (Electric) | 23 | 20.57 | 0.00 | 3 | $ 134 |
| Evaporative Cooler Covers MF (Gas) | 594 | 0.00 | 3.32 | 3 | $ 3,621 |
| Evaporative Cooler Covers MH/SF (Electric) | 228 | 28.00 | 0.00 | 3 | $ 1,811 |
| Evaporative Cooler Covers MH/SF (Gas) | 3,690 | 0.00 | 5.98 | 3 | $ 40,521 |
| Evaporative Coolers MF (Portable) | 1,526 | 379.97 | 0.00 | 7 | $ 349,420 |
| Evaporative Coolers MH/SF (Portable) | 2,389 | 357.04 | 0.00 | 7 | $ 514,016 |
| Faucet Aerators MF (Electric) | 1,822 | 41.20 | 0.00 | 5 | $ 33,847 |
| Faucet Aerators MF (Gas) | 9,315 | 0.00 | 0.90 | 5 | $ 24,475 |
| Faucet Aerators MH/SF (Electric) | 1,250 | 48.40 | 0.00 | 5 | $ 27,279 |
| Faucet Aerators MH/SF (Gas) | 18,608 | 0.00 | 1.40 | 5 | $ 76,055 |
| Furnace Filters - MH (Electric) | 135 | 14.61 | 0.00 | 5 | $ 889 |
| Furnace Filters - MH (Gas) | 3,708 | 0.00 | 2.23 | 5 | $ 24,140 |
| Furnace Filters - MF (Electric) | 125 | 23.72 | 0.00 | 5 | $ 1,337 |
| Furnace Filters - MF (Gas) | 1,834 | 0.00 | 4.76 | 5 | $ 25,486 |
| Furnace Filters - SF (Electric) | 303 | 19.32 | 0.00 | 5 | $ 2,640 |
| Furnace Filters - SF (Gas) | 7,918 | 0.00 | 4.36 | 5 | $ 100,786 |
| Furnace Repair MF (Gas) | 7 | 0.00 | 18.90 | 10 | $ 689 |
| Furnace Repair MH/SF (Gas) | 688 | 0.00 | 38.30 | 10 | $ 137,203 |
| Furnace Replacement MF (Gas) | 9 | 0.00 | 73.00 | 22 | $ 5,832 |
| Furnace Replacement MH/SF (Gas) | 229 | 0.00 | 151.10 | 22 | $ 307,127 |
| Low Flow Showerhead MF (Electric) | 1,345 | 203.30 | 0.00 | 10 | $ 219,893 |
| Low Flow Showerhead MF (Gas) | 8,011 | 0.00 | 6.10 | 10 | $ 254,445 |
| Low Flow Showerhead MH/SF (Electric) | 932 | 239.20 | 0.00 | 10 | $ 179,279 |
| Low Flow Showerhead MH/SF (Gas) | 14,773 | 0.00 | 9.10 | 10 | $ 699,984 |
| Outlet/Switch Gaskets MF (Electric) | 1,902 | 5.49 | 0.00 | 15 | $ 11,288 |
| Outlet/Switch Gaskets MF (Gas) | 7,105 | -0.07 | 0.24 | 15 | $ 11,397 |
| Outlet/Switch Gaskets MH/SF (Electric) | 1,198 | 8.03 | 0.00 | 15 | $ 10,399 |
| Outlet/Switch Gaskets MH/SF (Gas) | 16,153 | 0.05 | 0.34 | 15 | $ 39,313 |
| Refrigerator Replacement | 17,695 | 644.70 | 0.00 | 15 | $ 12,331,853 |
| Water Heater Blanket - MF (Electric) | 116 | 163.00 | 0.00 | 5 | $ 8,525 |
| Water Heater Blanket - MF (Gas) | 1,712 | 0.00 | 4.90 | 5 | $ 24,491 |
| Water Heater Blanket - MH/SF (Electric) | 303 | 191.80 | 0.00 | 5 | $ 26,204 |
| Water Heater Blanket - MH/SF (Gas) | 5,068 | 0.00 | 7.30 | 5 | $ 108,008 |
| Water Heater Pipe Wrap- MF (Electric) | 94 | 115.30 | 0.00 | 15 | $ 11,716 |
| Water Heater Pipe Wrap- MF (Gas) | 210 | 0.00 | 1.80 | 15 | $ 2,646 |
| Water Heater Pipe Wrap- MH/SF (Electric) | 463 | 135.60 | 0.00 | 15 | $ 67,867 |
| Water Heater Pipe Wrap- MH/SF (Gas) | 384 | 0.00 | 2.70 | 15 | $ 7,257 |
| *Sub-total for Energy Efficiency Measures* |  |  |  |  | *$ 22,164,568* |
| **Rapid Deployment Measures** |  |  |  |  |  |
| Air Conditioning Replacement - Central - MF | 6 | 563.50 | 0.00 | 18 | $ 4,116 |
| Air Conditioning Replacement - Central - MH/SF | 267 | 725.72 | 0.00 | 18 | $ 235,894 |
| Air Conditioning Replacement - Room - MF | 57 | 210.00 | 0.00 | 15 | $ 12,939 |
| Air Conditioning Replacement - Room - MH/SF | 249 | 300.96 | 0.00 | 15 | $ 81,008 |
| Duct Sealing and Testing -MF (Electric) | 9 | 60.60 | 0.00 | 25 | $ 801 |
| Duct Sealing and Testing -MF (Gas) | 680 | 21.52 | 4.23 | 25 | $ 48,816 |
| Duct Sealing and Testing - MH/SF (Electric) | 87 | 65.59 | 0.00 | 25 | $ 8,376 |
| Duct Sealing and Testing - MH/SF (Gas) | 5,287 | 25.76 | 8.68 | 25 | $ 636,044 |
| Set-back Thermostats MF (Electric) | 15 | 73.50 | 0.00 | 12 | $ 1,018 |
| Set-back Thermostats MF (Gas) | 823 | 11.37 | 8.70 | 12 | $ 51,431 |
| Set-back Thermostats MH/SF (Electric) | 51 | 103.95 | 0.00 | 12 | $ 4,894 |
| Set-back Thermostats MH/SF (Gas) | 2,988 | 18.10 | 18.18 | 12 | $ 374,583 |
| Evaporative Cooler Maintenance MF | 25 | 67.63 | 0.00 | 4 | $ 624 |
| Evaporative Cooler Maintenance MH/SF | 491 | 79.91 | 0.00 | 4 | $ 14,489 |
| Whole House Fans SF | 244 | 111.78 | 0.00 | 20 | $ 35,399 |
| Water heater Replacement MF (Gas) | 7 | 0.00 | 18.10 | 13 | $ 803 |
| Water heater Replacement MH/SF (Gas) | 313 | 0.00 | 21.60 | 13 | $ 42,824 |
| Water heater Replacement MF (Electric) | 2 | 117.80 | 0.00 | 13 | $ 230 |
| Water heater Replacement MH/SF (Electric) | 119 | 117.80 | 0.00 | 13 | $ 13,714 |
| *Sub-total for Rapid Deployment Measures* |  |  |  |  | *$ 1,568,003* |
| **Total Bill Savings for All Measures in Program Year** | |  |  |  | $ 23,732,571 |
|  |  |  |  |  |  |
| **Total Number of Homes Served by the Program during Program Year** | | |  |  | 47,271 |
| **Life Cycle Bill Savings Per Home** |  |  |  |  | $ 502.05 |

Exhibit .  
PG&E Life Cycle Bill Savings– Program Year 2004 Last Updated 3/30/05

| **Measure Description** | **Number Installed** |  |  | **Per Measure Electric Impact (kWh)** |  | **Per Measure Gas Impact** | **EUL** | **Total Measure Life Cycle Bill Savings** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | SH | AC | GH | SH | AC | Therms | Years | $ |
| **Energy Efficiency Measures** |  |  |  |  |  |  |  |  |
| Attic Insulation MF | 17 | 13 | 127 | 297.4 | 135.5 | 39.5 | 25 | $ 70,251 |
| Attic Insulation SF | 101 | 548 | 2,888 | 303.3 | 159.5 | 44.3 | 25 | $ 1,710,513 |
| Caulking MF | 3,288 | 853 | 7,493 | 11.5 | 1.7 | 1.5 | 5 | $ 58,120 |
| Caulking MH | 182 | 968 | 3,118 | 13.1 | 1.6 | 1.8 | 5 | $ 22,936 |
| Caulking SF | 1,092 | 3,741 | 16,874 | 19.1 | 5.0 | 3.8 | 5 | $ 253,564 |
| Central AC MH | 0 | 4 | 0 | 0.0 | 459.4 | 0.0 | 18 | $ 2,199 |
| Central AC SF | 0 | 11 | 0 | 0.0 | 390.8 | 0.0 | 18 | $ 5,144 |
| CFL MF | 0 | 12,908 | 0 | 0.0 | 65.6 | 0.0 | 8 | $ 560,232 |
| CFL MH | 0 | 5,136 | 0 | 0.0 | 65.6 | 0.0 | 8 | $ 222,912 |
| CFL SF | 0 | 24,656 | 0 | 0.0 | 94.8 | 0.0 | 8 | $ 1,546,450 |
| Evap Cooler MF | 0 | 42 | 0 | 0.0 | 519.6 | 0.0 | 7 | $ 12,928 |
| Evap Cooler MH | 0 | 182 | 0 | 0.0 | 319.6 | 0.0 | 7 | $ 34,453 |
| Evap Cooler SF | 0 | 1,707 | 0 | 0.0 | 379.5 | 0.0 | 7 | $ 383,664 |
| Evap Cooler Cover MF | 6 | 128 | 122 | 6.3 | 0.0 | 0.9 | 3 | $ 264 |
| Evap Cooler Cover MH | 41 | 663 | 590 | 6.7 | 0.0 | 1.0 | 3 | $ 1,410 |
| Evap Cooler Cover SF | 79 | 2,087 | 1,988 | 8.7 | 0.0 | 3.2 | 3 | $ 14,923 |
| Faucet Aerator MF | 0 | 1,473 | 9,742 | 0.0 | 26.5 | 2.6 | 5 | $ 111,009 |
| Faucet Aerator MH | 0 | 218 | 3,619 | 0.0 | 26.5 | 2.6 | 5 | $ 37,372 |
| Faucet Aerator SF | 0 | 1,052 | 19,128 | 0.0 | 43.4 | 3.6 | 5 | $ 274,996 |
| Furnace Repair MH | 0 | 0 | 102 | 0.0 | 0.0 | 41.1 | 10 | $ 27,644 |
| Furnace Repair SF | 0 | 0 | 409 | 0.0 | 0.0 | 39.8 | 10 | $ 107,432 |
| Furnace Replace MH | 0 | 0 | 24 | 0.0 | 0.0 | 70.1 | 22 | $ 18,935 |
| Furnace Replace SF | 0 | 0 | 91 | 0.0 | 0.0 | 68.1 | 22 | $ 69,678 |
| Gaskets MF | 3,123 | 855 | 7,391 | 5.5 | -0.2 | 0.2 | 15 | $ 33,869 |
| Gaskets MH | 177 | 956 | 3,053 | 8.0 | 0.1 | 0.3 | 15 | $ 10,831 |
| Gaskets SF | 1,084 | 3,754 | 16,802 | 8.0 | 0.1 | 0.3 | 15 | $ 60,351 |
| Minor Home Repair MF | 2,185 | 702 | 5,794 | 33.4 | 11.0 | 3.8 | 10 | $ 208,756 |
| Minor Home Repair MH | 155 | 850 | 2,639 | 33.6 | 9.1 | 4.2 | 10 | $ 82,954 |
| Minor Home Repair SF | 997 | 3,622 | 16,216 | 47.8 | 14.7 | 8.3 | 10 | $ 971,020 |
| Porchlight CFL SF | 0 | 6,998 | 0 | 0.0 | 35.6 | 0.0 | 20 | $ 317,816 |
| Refrigerator MF | 0 | 4,976 | 0 | 0.0 | 662.0 | 0.0 | 15 | $ 3,500,105 |
| Refrigerator MH | 0 | 2,660 | 0 | 0.0 | 661.6 | 0.0 | 15 | $ 1,869,966 |
| Refrigerator SF | 0 | 12,456 | 0 | 0.0 | 771.1 | 0.0 | 15 | $ 10,204,852 |
| Room AC MF | 0 | 206 | 0 | 0.0 | 188.1 | 0.0 | 15 | $ 41,176 |
| Room AC MH | 0 | 82 | 0 | 0.0 | 196.6 | 0.0 | 15 | $ 17,126 |
| Room AC SF | 0 | 451 | 0 | 0.0 | 213.5 | 0.0 | 15 | $ 102,286 |
| Showerheads MF | 0 | 1,159 | 8,126 | 0.0 | 66.6 | 7.2 | 10 | $ 447,070 |
| Showerheads MH | 0 | 168 | 2,650 | 0.0 | 66.6 | 7.2 | 10 | $ 134,742 |
| Showerheads SF | 0 | 759 | 15,921 | 0.0 | 108.7 | 8.2 | 10 | $ 926,654 |
| Water Heater MH | 0 | 0 | 12 | 0.0 | 0.0 | 21.6 | 13 | $ 2,081 |
| Water Heater SF | 0 | 0 | 40 | 0.0 | 0.0 | 21.6 | 13 | $ 6,935 |
| Water Heater Blanket MF | 0 | 68 | 626 | 0.0 | 88.5 | 9.2 | 5 | $ 23,974 |
| Water Heater Blanket MH | 0 | 20 | 555 | 0.0 | 88.5 | 9.2 | 5 | $ 19,675 |
| Water Heater Blanket SF | 0 | 185 | 4,664 | 0.0 | 145.3 | 11.3 | 5 | $ 206,897 |
| Water Heater Pipe Wrap MF | 0 | 94 | 32 | 0.0 | 35.4 | 3.6 | 15 | $ 4,557 |
| Water Heater Pipe Wrap MH | 0 | 30 | 24 | 0.0 | 35.4 | 3.6 | 15 | $ 1,895 |
| Water Heater Pipe Wrap SF | 0 | 250 | 243 | 0.0 | 58.1 | 4.6 | 15 | $ 25,348 |
| Weatherstripping Attic Access MF | 182 | 88 | 754 | 2.1 | 0.2 | 0.6 | 5 | $ 1,926 |
| Weatherstripping Attic Access SF | 428 | 2,573 | 9,154 | 4.1 | 1.1 | 0.9 | 5 | $ 32,940 |
| Weatherstripping Door MF | 1,740 | 850 | 6,615 | 16.1 | 1.6 | 1.7 | 5 | $ 55,149 |
| Weatherstripping Door MH | 160 | 888 | 2,931 | 15.7 | 1.2 | 2.0 | 5 | $ 23,764 |
| Weatherstripping Door SF | 1,061 | 3,758 | 16,861 | 14.9 | 3.9 | 2.9 | 5 | $ 193,161 |
| **Total Bill Savings for All Measures in Program Year** | | |  |  |  |  |  | $ 25,074,904 |
|  |  |  |  |  |  |  |  |  |
| **Total Number of Homes Served by the Program during Program Year** | | | | |  |  |  | 48,549 |
|  |  |  |  |  |  |  |  |  |
| **Life Cycle Bill Savings Per Home** | |  |  |  |  |  |  | $ 516.49 |

Exhibit .  
PG&E Life Cycle Bill Savings– Program Year 2005 Last Updated 4/25/06

| **Measure Description** | **Number Installed** | | | **Per Measure Electric Impact (kWh)** | | **Per Measure Gas Impact (therms)** | **EUL** | **Total Measure Life Cycle Bill Savings** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | ESH / EWH | AC | GSH / GWH | ESH / EWH | AC | GSH / GWH | Years | $ |
| **Energy Efficiency Measures** |  |  |  |  |  |  |  |  |
| AIR CONDITIONER - CENTRAL MF | 0 | 1 | 1 | 0.0 | 340.6 | 0.0 | 18 | $ 400 |
| AIR CONDITIONER - CENTRAL SF | 0 | 36 | 35 | 0.0 | 315.5 | 0.0 | 18 | $ 13,324 |
| AIR CONDITIONER - ROOM MF | 0 | 344 | 322 | 0.0 | 187.6 | 0.0 | 15 | $ 67,221 |
| AIR CONDITIONER - ROOM MH | 0 | 74 | 53 | 0.0 | 226.2 | 0.0 | 15 | $ 17,433 |
| AIR CONDITIONER - ROOM SF | 0 | 618 | 498 | 0.0 | 228.6 | 0.0 | 15 | $ 147,171 |
| FURNACE REPAIR MH | 0 | 92 | 104 | 0.0 | 0.0 | 39.0 | 10 | $ 33,874 |
| FURNACE REPAIR SF | 0 | 695 | 837 | 0.0 | 0.0 | 39.5 | 10 | $ 276,400 |
| FURNACE REPLACE MF | 0 | 1 | 2 | 0.0 | 0.0 | 54.8 | 18 | $ 1,387 |
| FURNACE REPLACE MH | 0 | 9 | 15 | 0.0 | 0.0 | 55.2 | 18 | $ 10,483 |
| FURNACE REPLACE SF | 0 | 165 | 296 | 0.0 | 0.0 | 61.6 | 18 | $ 230,729 |
| PERMANENT AND PORTABLE EVAP COOLER MF | 0 | 62 | 58 | 0.0 | 550.8 | 0.0 | 7 | $ 19,828 |
| PERMANENT AND PORTABLE EVAP COOLER MH | 0 | 103 | 74 | 0.0 | 346.5 | 0.0 | 7 | $ 20,723 |
| PERMANENT AND PORTABLE EVAP COOLER | 0 | 1,343 | 912 | 0.0 | 387.7 | 0.0 | 7 | $ 302,325 |
| REFRIGERATORS MF | 0 | 5,689 | 0 | 0.0 | 665.1 | 0.0 | 18 | $ 4,438,272 |
| REFRIGERATORS MH | 0 | 2,967 | 0 | 0.0 | 665.1 | 0.0 | 18 | $ 2,314,704 |
| REFRIGERATORS SF | 0 | 16,055 | 0 | 0.0 | 794.8 | 0.0 | 18 | $ 14,967,841 |
| WATER HEATER REPLACE - GAS MH | 0 | 0 | 12 | 0 | 0 | 22 | 13 | $ 2,636 |
| WATER HEATER REPLACE - GAS SF | 0 | 0 | 65 | 0 | 0 | 22 | 13 | $ 14,278 |
| ATTIC ACCESS WEATHERSTRIPPING MF | 155 | 104 | 1,045 | 2 | 0 | 1 | 5 | $ 3,214 |
| ATTIC ACCESS WEATHERSTRIPPING SF | 700 | 2,975 | 10,466 | 4 | 1 | 1 | 5 | $ 46,923 |
| ATTIC INSULATION MF | 4 | 23 | 66 | 310 | 161 | 35 | 25 | $ 42,373 |
| ATTIC INSULATION SF | 168 | 650 | 2,862 | 302 | 154 | 43 | 25 | $ 2,093,306 |
| CAULKING MF | 3,079 | 956 | 8,449 | 12 | 2 | 1 | 5 | $ 69,750 |
| CAULKING MH | 490 | 1,298 | 3,341 | 13 | 2 | 2 | 5 | $ 32,062 |
| CAULKING SF | 2,007 | 4,648 | 20,511 | 19 | 5 | 4 | 5 | $ 381,189 |
| CFL HARD WIRED PORCH LIGHTS SF | 0 | 10,365 | 0 | 0 | 36 | 0 | 16 | $ 401,283 |
| CFL'S MF | 0 | 14,304 | 0 | 0 | 66 | 0 | 8 | $ 608,558 |
| CFL'S MH | 0 | 5,236 | 0 | 0 | 66 | 0 | 8 | $ 222,763 |
| CFL'S SF | 0 | 33,244 | 0 | 0 | 95 | 0 | 8 | $ 2,043,911 |
| DOOR WEATHERSTRIPPING MF | 2,449 | 938 | 7,631 | 16 | 2 | 2 | 5 | $ 75,112 |
| DOOR WEATHERSTRIPPING MH | 466 | 1,240 | 3,174 | 16 | 1 | 2 | 5 | $ 33,774 |
| DOOR WEATHERSTRIPPING SF | 1,975 | 4,661 | 20,450 | 15 | 4 | 3 | 5 | $ 289,726 |
| EVAPORATIVE COOLER COVER MF | 21 | 0 | 180 | 6 | 0 | 1 | 3 | $ 431 |
| EVAPORATIVE COOLER COVER MH | 132 | 0 | 802 | 7 | 0 | 1 | 3 | $ 2,360 |
| EVAPORATIVE COOLER COVER SF | 199 | 0 | 2,532 | 9 | 0 | 3 | 3 | $ 24,026 |
| FAUCET AERATORS MF | 1,099 | 0 | 11,850 | 27 | 0 | 2 | 5 | $ 147,467 |
| FAUCET AERATORS MH | 452 | 0 | 3,942 | 27 | 0 | 2 | 5 | $ 50,889 |
| FAUCET AERATORS SF | 1,662 | 0 | 27,386 | 43 | 0 | 4 | 5 | $ 488,865 |
| MINOR HOME REPAIR MF | 2,439 | 950 | 8,012 | 34 | 12 | 4 | 10 | $ 308,825 |
| MINOR HOME REPAIR MH | 457 | 1,301 | 3,247 | 33 | 10 | 4 | 10 | $ 131,738 |
| MINOR HOME REPAIR SF | 1,981 | 5,145 | 21,968 | 47 | 14 | 8 | 10 | $ 1,634,726 |
| SHOWERHEADS MF | 876 | 0 | 10,463 | 66 | 0 | 7 | 10 | $ 632,835 |
| SHOWERHEADS MH | 347 | 0 | 2,950 | 65 | 0 | 7 | 10 | $ 186,960 |
| SHOWERHEADS SF | 1,332 | 0 | 23,911 | 107 | 0 | 8 | 10 | $ 1,733,127 |
| UTILITY GASKETS MF | 3,054 | 838 | 8,389 | 6 | 0 | 0 | 15 | $ 38,220 |
| UTILITY GASKETS MH | 470 | 1,261 | 3,258 | 8 | 0 | 0 | 15 | $ 15,897 |
| UTILITY GASKETS SF | 1,972 | 4,624 | 20,290 | 8 | 0 | 0 | 15 | $ 93,650 |
| WATER HEATER BLANKET MF | 157 | 0 | 787 | 89 | 0 | 9 | 5 | $ 39,799 |
| WATER HEATER BLANKET MH | 29 | 0 | 511 | 85 | 0 | 9 | 5 | $ 21,643 |
| WATER HEATER BLANKET SF | 247 | 0 | 5,506 | 142 | 0 | 11 | 5 | $ 305,613 |
| WATER HTR PIPE WRAP-PIPE INSULATI MF | 194 | 0 | 24 | 35 | 0 | 4 | 15 | $ 8,124 |
| WATER HTR PIPE WRAP-PIPE INSULATI MH | 85 | 0 | 22 | 35 | 0 | 3 | 15 | $ 3,983 |
| WATER HTR PIPE WRAP-PIPE INSULATI SF | 458 | 0 | 106 | 58 | 0 | 5 | 15 | $ 33,021 |
| **Total Bill Savings for All Measures in Program Year** | |  |  |  |  |  |  | $ 35,125,172 |
|  |  |  |  |  |  |  |  |  |
| **Total Number of Homes Served by the Program during Calendar Year** | | | |  |  |  |  | 56,388 |
|  |  |  |  |  |  |  |  |  |
| **Life Cycle Bill Savings Per Home** |  |  |  |  |  |  |  | $ 622.92 |

Exhibit .  
SCE Life Cycle Bill Savings– Program Year 2003 Last Updated 3/30/04

| **Measure Description** | **Number Installed** | **Per Measure Electric Impact (kWh)** | | **EUL** | **Total Measure Life Cycle Bill Savings** |
| --- | --- | --- | --- | --- | --- |
|  |  | **SH** | **AC** | **(Yrs)** | **($)** |
| **Energy Efficiency Measures** |  |  |  |  |  |
| Attic Access Weatherstripping1 | - | 0 | 0 | 5 | $ - |
| Attic Insulation MF | - | 34.4 | - | 25 | $ - |
| Attic Insulation MH/SF | - | 50.1 | - | 25 | $ - |
| Attic Ventilation2 | - | - | 0 | 25 | $ - |
| Caulking - MF | 180 | 4.3 | 5.12 | 5 | $ 526 |
| Caulking - MH/SF | 1 | 6.6 | 4.1 | 5 | $ 4 |
| Compact Fluorescents (indoor) MF | 15,033 | 21.6 | 0 | 8 | $ 246,365 |
| Compact Fluorescents (indoor) MH/SF | 34,936 | 21.2 | 0 | 8 | $ 561,938 |
| Compact Fluorescents (outdoor) MF | 3,829 | 32.4 | 0 | 5.3 | $ 63,052 |
| Compact Fluorescents (outdoor) MH/SF | 11,769 | 31.9 | 0 | 5.3 | $ 190,808 |
| Cover Plate/Gaskets - MF | 772 | 3.4 | -0.05 | 15 | $ 3,166 |
| Cover Plate/Gaskets - MH/SF | 3 | 5.6 | 0.18 | 15 | $ 21 |
| Duct Repair2 | 1 | 0.0 | 0.0 | 25 | $ - |
| Evaporative Cooler Installation - MF | 57 | 0.0 | 263.3 | 15 | $ 18,283 |
| Evaporative Cooler Installation - MH/SF | 768 | 0.0 | 398.5 | 15 | $ 372,863 |
| Evaporative Cooler/AC Covers MF | 1 | 14.1 | 0.0 | 3 | $ 5 |
| Evaporative Cooler/AC Covers MH/SF | - | 19.3 | 0.0 | 3 | $ - |
| Faucet Aerators - MF | 1,442 | 41.2 | 0.0 | 5 | $ 30,195 |
| Faucet Aerators - MH/SF | 2 | 48.4 | 0.0 | 5 | $ 49 |
| Low Flow Showerhead - MF | 872 | 203.3 | 0.0 | 10 | $ 160,694 |
| Low Flow Showerhead - MH/SF | 2 | 239.2 | 0.0 | 10 | $ 434 |
| Minor Home Repairs - MF | 864 | 14.6 | 9.4 | 10 | $ 18,765 |
| Minor Home Repairs - MH/SF | 3 | 21.6 | 9.0 | 10 | $ 83 |
| Refrigerator Replacement - MF | 4,735 | 695.4 | 0.0 | 15 | $ 4,012,073 |
| Refrigerator Replacement - MH/SF | 12,591 | 711.6 | 0.0 | 15 | $ 10,917,176 |
| Water Heater Blanket - MF | 149 | 163.0 | 0.0 | 5 | $ 12,344 |
| Water Heater Blanket - SF | - | 191.8 | 0.0 | 5 | $ - |
| Water Heater Pipe Wrap3 | 4 | 0.0 | 0.0 | 15 | $ - |
| Weatherstripping - MF | 878 | 3.8 | 2.9 | 5 | $ 2,047 |
| Weatherstripping - MH/SF | 3 | 4.8 | 2.00 | 5 | $ 8 |
| *Sub-total for Energy Efficiency Measures* | |  |  |  | *$ 16,610,897* |
| **Rapid Deployment Measures** |  |  |  |  |  |
| Air Conditioner Replacement - Central - MF | 450 | 0 | 1330.8 | 18 | $ 821,787 |
| Air Conditioner Replacement - Central - MH/SF | 866 | 0 | 615.6 | 18 | $ 731,555 |
| Air Conditioner Replacement - Room - MF | 2 | 0 | 217.0 | 15 | $ 529 |
| Air Conditioner Replacement - Room - MH/SF | 18 | 0 | 278.7 | 15 | $ 6,112 |
| Evaporative Cooler Maintenance - MH | 5 | 0 | 35.0 | 4 | $ 73 |
| Evaporative Cooler Maintenance - MF/SF | 173 | 0 | 78.6 | 4 | $ 5,659 |
| Duct Testing & Sealing - MF | 450 | 31.7 | 124.6 | 25 | $ 116,346 |
| Duct Testing & Sealing - MH/SF | 500 | 56.7 | 76.7 | 25 | $ 110,316 |
| Set-back Thermostats - MF | 449 | 31.8 | 124.9 | 12 | $ 73,186 |
| Set-back Thermostats - MH/SF | 584 | 59.2 | 83.8 | 12 | $ 86,921 |
| Water Heater Replacement - MF | 136 | 117.8 | 0 | 13 | $ 17,666 |
| Water Heater Replacement - SF | 1 | 117.8 | 0 | 13 | $ 130 |
| *Sub-total for Rapid Deployment Measures* | |  |  |  | *$ 1,970,280* |
| **Total Bill Savings for All Measures In Program Year** | |  |  |  | **$ 18,581,176** |
|  |  |  |  |  |  |
| **Total Number of Homes Served by the Program during Program Year** | | | |  | 33,732 |
|  |  |  |  |  |  |
| **Life Cycle Bill Savings Per Home** |  |  |  |  | $ 550.85 |
|  |  |  |  |  |  |
| 1. This measure have impacts included in the weatherstripping measure. No specific per-measure impact claimed. | | | | | |
| 2. These measures have impacts included in the minor home repair measure. No specific per-measure impact claimed. | | | | | |
| 3. Zero savings are claimed for this measure. | |  |  |  |  |

Exhibit .  
SCE Life Cycle Bill Savings– Program Year 2004 Last Updated 3/28/05

| **Measure Description** | **Number Installed** | | **Per Measure Electric Impact (kWh)** | | **EUL** | **Total Measure Life Cycle Bill Savings** |
| --- | --- | --- | --- | --- | --- | --- |
|  | **SH** | **AC** | **SH** | **AC** | **(Yrs)** | **($)** |
| **Energy Efficiency Measures** |  |  |  |  |  |  |
| Attic Insulation MF | - | - | - | - | 25 | $ - |
| Attic Insulation SF | 1 | 1 | 266 | 515 | 25 | $ 1,174 |
| Caulking MF | 23 | 7 | 7 | 1 | 5 | $ 80 |
| Caulking MH | 4 | 3 | 11 | 2 | 5 | $ 24 |
| Caulking SF | 21 | 8 | 10 | 2 | 5 | $ 105 |
| Central AC MF | - | 17 | - | 56 | 18 | $ 1,188 |
| Central AC MH | - | 123 | - | 416 | 18 | $ 63,726 |
| Central AC SF | - | 317 | - | 251 | 18 | $ 99,117 |
| CFL (Indoor) MF | - | 21,754 | - | 16 | 8 | $ 245,880 |
| CFL (Indoor) MH | - | 8,009 | - | 16 | 8 | $ 90,524 |
| CFL (Indoor) SF | - | 83,459 | - | 24 | 8 | $ 1,363,206 |
| CFL (Outdoor) MF | - | 710 | - | 16 | 8 | $ 8,025 |
| CFL (Outdoor) MH | - | 156 | - | 16 | 8 | $ 1,763 |
| CFL (Outdoor) SF | - | 1,809 | - | 24 | 8 | $ 29,548 |
| Duct Sealing MF | 5 | 5 | 0 | 18 | 25 | $ 134 |
| Duct Sealing SF | 52 | 52 | 11 | 7 | 25 | $ 1,419 |
| Evaporative Cooler Cover MF | 44 | - | 9 | - | 3 | $ 114 |
| Evaporative Cooler Cover SF | 2 | - | 11 | - | 3 | $ 7 |
| Evaporative Cooler Installation MF | - | 23 | - | 84 | 15 | $ 2,130 |
| Evaporative Cooler Installation MH | - | 190 | - | 371 | 15 | $ 77,969 |
| Evaporative Cooler Installation SF | - | 1,254 | - | 311 | 15 | $ 431,749 |
| Evaporative Cooler Maintenance MF | - | 61 | - | 63 | 4 | $ 1,444 |
| Evaporative Cooler Maintenance MH | - | 87 | - | 60 | 4 | $ 1,963 |
| Evaporative Cooler Maintenance SF | - | 129 | - | 47 | 4 | $ 2,268 |
| Faucet Aerator MF | - | 85 | - | 27 | 5 | $ 1,040 |
| Faucet Aerator MH | - | 6 | - | 27 | 5 | $ 73 |
| Faucet Aerator SF | - | 42 | - | 43 | 5 | $ 842 |
| Low Flow Showerhead MF | - | 57 | - | 67 | 10 | $ 3,126 |
| Low Flow Showerhead MH | - | 2 | - | 67 | 10 | $ 110 |
| Low Flow Showerhead SF | - | 36 | - | 109 | 10 | $ 3,222 |
| Minor Home Repair MF | 26 | 14 | 25 | 10 | 10 | $ 649 |
| Minor Home Repair SF | 19 | 6 | 31 | 12 | 10 | $ 542 |
| Porch light Fixture MF | - | 12 | - | 24 | 5.3 | $ 134 |
| Porch light Fixture MH | - | 12 | - | 24 | 5.3 | $ 134 |
| Porch light Fixture SF | - | 183 | - | 36 | 5.3 | $ 3,008 |
| Programmable Thermostat MF | 13 | 13 | 3 | 3 | 12 | $ 81 |
| Programmable Thermostat MH | 119 | 119 | 4 | 5 | 12 | $ 1,065 |
| Programmable Thermostat SF | 245 | 245 | 6 | 7 | 12 | $ 2,861 |
| Refrigerator Replacement MF | - | 3,254 | - | 665 | 15 | $ 2,395,405 |
| Refrigerator Replacement MH | - | 1,431 | - | 665 | 15 | $ 1,053,419 |
| Refrigerator Replacement SF | - | 11,234 | - | 795 | 15 | $ 9,882,500 |
| Room AC MF | - | 16 | - | 133 | 15 | $ 2,360 |
| Room AC MH | - | 50 | - | 338 | 15 | $ 18,691 |
| Room AC SF | - | 136 | - | 206 | 15 | $ 30,954 |
| Switch Plate Gasket MF | 82 | 82 | 3 | (0) | 15 | $ 302 |
| Switch Plate Gasket MH | 5 | 5 | 6 | 0 | 15 | $ 32 |
| Switch Plate Gasket SF | 45 | 45 | 6 | 0 | 15 | $ 289 |
| Water Heater Blanket MF | - | 6 | - | 89 | 5 | $ 245 |
| Water Heater Blanket MH | - | 1 | - | 89 | 5 | $ 41 |
| Water Heater Blanket SF | - | 11 | - | 145 | 5 | $ 738 |
| Water Heater Pipe Wrap MF | - | - | - | 35 | 15 | $ - |
| Water Heater Pipe Wrap MH | - | - | - | 35 | 15 | $ - |
| Water Heater Pipe Wrap SF | - | 5 | - | 58 | 15 | $ 322 |
| Water Heater Replacement MF | - | 2 | - | 118 | 13 | $ 236 |
| Water Heater Replacement MH | - | 8 | - | 193 | 13 | $ 1,548 |
| Water Heater Replacement SF | - | 12 | - | 193 | 13 | $ 2,323 |
| Weatherstripping MF | 88 | 59 | 15 | 2 | 5 | $ 679 |
| Weatherstripping MH | 6 | 5 | 12 | 3 | 5 | $ 41 |
| Weatherstripping SF | 50 | 26 | 19 | 6 | 5 | $ 510 |
| **Total Bill Savings for All Measures In Program Year** | |  |  |  |  | **$ 15,831,079** |
|  |  |  |  |  |  |  |
| **Total Number of Homes Served by the Program during Program Year** | | | |  |  | 37,348 |
|  |  |  |  |  |  |  |
| **Life Cycle Bill Savings Per Home** |  |  |  |  |  | $ 423.88 |

Exhibit .  
SCE Life Cycle Bill Savings– Program Year 2005 Last Updated 4/3/06

| **Measure Description** | **Number Installed** | | **Per Measure Electric Impact (kWh)** | | **EUL** | **Total Measure Life Cycle Bill Savings** |
| --- | --- | --- | --- | --- | --- | --- |
|  | **SH** | **AC** | **SH** | **AC** | **(Yrs)** | **($)** |
| **Energy Efficiency Measures** |  |  |  |  |  |  |
| Attic Access Weatherstripping MF | 1 | - | 1.1 | - | 5 | $ 1 |
| Attic Access Weatherstripping SF | 2 | - | 3.6 | - | 5 | $ 3 |
| Attic Insulation MF | 1 | - | 149.9 | - | 25 | $ 225 |
| Attic Insulation SF | 3 | 3 | 237.5 | 302.0 | 25 | $ 2,433 |
| Caulking MF | 64 | 10 | 7.6 | 0.9 | 5 | $ 230 |
| Caulking MH | - | - | - | - | 5 | $ - |
| Caulking SF | 18 | 3 | 10.6 | 1.9 | 5 | $ 90 |
| CFL (Indoor) MF | - | 34,203 | - | 16.4 | 8 | $ 386,660 |
| CFL (Indoor) MH | - | 8,319 | - | 16.4 | 8 | $ 94,045 |
| CFL (Indoor) SF | - | 74,554 | - | 23.7 | 8 | $ 1,217,982 |
| CFL (Outdoor) MF | - | 6,829 | - | 16.4 | 5 | $ 51,714 |
| CFL (Outdoor) MH | - | 2,062 | - | 16.4 | 5 | $ 15,615 |
| CFL (Outdoor) SF | - | 20,672 | - | 23.7 | 5 | $ 226,224 |
| Evaporative Cooler Cover MF | 56 | 2 | 6.7 | - | 3 | $ 109 |
| Evaporative Cooler Cover SF | 9 | 2 | 10.0 | - | 3 | $ 26 |
| Evaporative Cooler Installation MF | - | 27 | - | 91.0 | 15 | $ 2,721 |
| Evaporative Cooler Installation MH | - | 280 | - | 379.6 | 15 | $ 117,667 |
| Evaporative Cooler Installation SF | - | 2,264 | - | 297.1 | 15 | $ 744,536 |
| Evaporative Cooler Maintenance MF | - | - | - | - | 4 | $ - |
| Evaporative Cooler Maintenance MH | - | 4 | - | 35.6 | 4 | $ 54 |
| Evaporative Cooler Maintenance SF | - | 2 | - | 37.9 | 4 | $ 29 |
| Faucet Aerator MF | - | 853 | - | 26.5 | 5 | $ 10,438 |
| Faucet Aerator MH | - | 7 | - | 26.5 | 5 | $ 86 |
| Faucet Aerator SF | - | 53 | - | 43.4 | 5 | $ 1,062 |
| Low Flow Showerhead MF | - | 696 | - | 66.6 | 10 | $ 38,174 |
| Low Flow Showerhead MH | - | 5 | - | 66.6 | 10 | $ 274 |
| Low Flow Showerhead SF | - | 64 | - | 108.7 | 10 | $ 5,729 |
| Minor Home Repair MF | 514 | 63 | 21.3 | 6.6 | 10 | $ 9,368 |
| Minor Home Repair MH | 3 | - | 30.3 | - | 10 | $ 75 |
| Minor Home Repair SF | 43 | 3 | 33.3 | 9.5 | 10 | $ 1,201 |
| Porchlight Fixture MF | - | 5 | - | 24.2 | 16 | $ 140 |
| Porchlight Fixture MH | - | 2 | - | 24.2 | 16 | $ 56 |
| Porchlight Fixture SF | - | 216 | - | 35.6 | 16 | $ 8,888 |
| Refrigerator Replacement MF | - | 5,769 | - | 665.1 | 18 | $ 4,783,652 |
| Refrigerator Replacement MH | - | 1,703 | - | 665.1 | 18 | $ 1,412,127 |
| Refrigerator Replacement SF | - | 12,433 | - | 794.8 | 18 | $ 12,319,863 |
| Room AC MF | - | 23 | - | 130.8 | 15 | $ 3,331 |
| Room AC MH | - | 46 | - | 326.9 | 15 | $ 16,649 |
| Room AC SF | - | 132 | - | 256.2 | 15 | $ 37,430 |
| Switch Plate Gasket MF | 792 | 308 | 3.4 | (0.1) | 15 | $ 2,946 |
| Switch Plate Gasket MH | 6 | 2 | 5.6 | 0.2 | 15 | $ 38 |
| Switch Plate Gasket SF | 66 | 9 | 5.6 | 0.2 | 15 | $ 412 |
| Water Heater Blanket MF | - | 150 | - | 88.5 | 5 | $ 6,130 |
| Water Heater Blanket MH | - | 3 | - | 88.5 | 5 | $ 123 |
| Water Heater Blanket SF | - | 29 | - | 145.3 | 5 | $ 1,946 |
| Water Heater Pipe Wrap MF | - | 6 | - | 35.4 | 15 | $ 235 |
| Water Heater Pipe Wrap MH | - | - | - | - | 15 | $ - |
| Water Heater Pipe Wrap SF | - | 9 | - | 58.1 | 15 | $ 579 |
| Weatherstripping MF | 627 | 88 | 12.4 | 1.1 | 5 | $ 3,646 |
| Weatherstripping MH | 8 | 4 | 14.3 | 3.4 | 5 | $ 59 |
| Weatherstripping SF | 75 | 12 | 20.9 | 3.7 | 5 | $ 745 |
| **Total Bill Savings for All Measures In Program Year** | | |  |  |  | **$ 21,525,767** |
|  |  |  |  |  |  |  |
| **Total Number of Homes Served by the Program during Program Year** | | | |  |  | 36,420 |
|  |  |  |  |  |  |  |
| **Life Cycle Bill Savings Per Home** |  |  |  |  |  | $ 591.04 |

Exhibit .  
SDG&E Life Cycle Bill Savings– Program Year 2003 Last Updated 3/26/04

| **Measure Description** | **Number Installed** | **Per Measure Electric Impact** | **Per Measure Gas Impact** | **EUL** | **Total Measure Life Cycle Bill Savings** |
| --- | --- | --- | --- | --- | --- |
|  |  | **(kWh)** | **(Therms)** | **(years)** | **($)** |
| **Energy Efficiency Measures** |  |  |  |  |  |
| Attic Ventilation\* | 66 | 0.00 | 0.00 | 25 | $ - |
| Auto Sweep\* | 32 | 0.00 | 0.00 | 5 | $ - |
| Caulking - MF (Electric) | 804 | 6.00 | 0.00 | 5 | $ 3,026 |
| Caulking - MF (Gas) | 4,557 | 2.30 | 2.00 | 5 | $ 42,041 |
| Caulking - MH/SF (Electric) | 828 | 7.80 | 0.00 | 5 | $ 4,050 |
| Caulking - MH/SF (Gas) | 4,694 | 2.70 | 2.50 | 5 | $ 53,616 |
| Ceiling Insulation MF (Electric) | 2 | 34.40 | 0.00 | 25 | $ 126 |
| Ceiling Insulation MF (Gas) | 10 | 0.00 | 11.00 | 25 | $ 1,421 |
| Ceiling Insulation MH/SF (Electric) | 51 | 93.60 | 0.00 | 25 | $ 9,777 |
| Ceiling Insulation MH/SF (Gas) | 290 | 43.50 | 16.90 | 25 | $ 87,801 |
| Compact Fluorescents MF | 16,559 | 27.80 | 0.00 | 8 | $ 431,118 |
| Compact Fluorescents SF | 15,827 | 24.80 | 0.00 | 8 | $ 367,593 |
| Cover Plate/Gaskets MF (Electric) | 697 | 2.94 | 0.00 | 15 | $ 3,081 |
| Cover Plate/Gaskets MF (Gas) | 3,948 | -0.10 | 0.13 | 15 | $ 4,195 |
| Cover Plate/Gaskets MH/SF (Electric) | 669 | 5.73 | 0.00 | 15 | $ 5,762 |
| Cover Plate/Gaskets MH/SF (Gas) | 3,788 | 0.40 | 0.23 | 15 | $ 10,408 |
| Door Replacement\* | 2,797 | 0 | 0 | 10 | $ - |
| Door Threshold\* | 4,065 | 0 | 0 | 5 | $ - |
| Duct Register Sealing\* | 500 | 0 | 0 | 5 | $ - |
| Evaporative Cooler Covers SF (Electric) | 8 | 15.17 | 0.00 | 3 | $ 49 |
| Evaporative Cooler Covers SF (Gas) | 47 | 0.00 | 3.65 | 3 | $ 418 |
| Evaporative Cooler Replacement SF | 4 | 246.35 | 0.00 | 15 | $ 1,482 |
| Porch lights MF | 225 | 41.70 | 0.00 | 20 | $ 16,943 |
| Porch lights SF | 803 | 37.10 | 0.00 | 20 | $ 53,796 |
| Faucet Aerators MF (Gas) | 4,967 | 0.00 | 0.90 | 5 | $ 17,395 |
| Faucet Aerators MF (Electric) | 877 | 41.20 | 0.00 | 5 | $ 22,667 |
| Faucet Aerators MH/SF (Gas) | 4,682 | 0.00 | 1.40 | 5 | $ 25,507 |
| Faucet Aerators MH/SF (Electric) | 826 | 48.40 | 0.00 | 5 | $ 25,080 |
| Furnace repair - Gas MF | 398 | 0.00 | 16.00 | 10 | $ 44,196 |
| Furnace repair - Gas MH/SF | 664 | 0.00 | 23.00 | 10 | $ 105,992 |
| Furnace Replacement - Gas MF | 1 | 0.00 | 0.00 | 22 | $ - |
| Furnace Replacement - Gas SF | 283 | 0.00 | 84.30 | 22 | $ 282,249 |
| Glass Replacement\* | 1,423 | 0.00 | 0.00 | 10 | $ - |
| Jamb Replacement\* | 160 | 0.00 | 0.00 | 5 | $ - |
| New Central Return\* | 87 | 0.00 | 0.00 | 18 | $ - |
| Low Flow Showerhead MF (Electric) | 878 | 203.30 | 0.00 | 10 | $ 199,637 |
| Low Flow Showerhead MF (Gas) | 4,973 | 0.00 | 6.10 | 10 | $ 210,551 |
| Low Flow Showerhead SF (Electric) | 807 | 239.20 | 0.00 | 10 | $ 215,862 |
| Low Flow Showerhead SF (Gas) | 4,571 | 0.00 | 9.10 | 10 | $ 288,689 |
| Minor Home Repairs MF (Electric) | 359 | 19.90 | 0.00 | 10 | $ 7,996 |
| Minor Home Repairs MF (Gas) | 2,035 | 7.00 | 3.80 | 10 | $ 69,604 |
| Minor Home Repairs SF (Electric) | 600 | 26.10 | 0.00 | 10 | $ 17,535 |
| Minor Home Repairs SF (Gas) | 3,403 | 8.10 | 5.50 | 10 | $ 160,718 |
| Refrigerators | 4,948 | 644.70 | 0.00 | 15 | $ 4,797,763 |
| Refrigerators (Co Pay) | 12 | 644.70 | 0.00 | 15 | $ 11,636 |
| Water Heater Blanket MF (Electric) | 28 | 163.00 | 0.00 | 5 | $ 2,822 |
| Water Heater Blanket MF (Gas) | 156 | 0.00 | 4.90 | 5 | $ 2,982 |
| Water Heater Blanket MH/SF (Electric) | 147 | 191.80 | 0.00 | 5 | $ 17,742 |
| Water Heater Blanket MH/SF (Gas) | 836 | 0.00 | 7.30 | 5 | $ 23,735 |
| Water Heater Pipe Wrap MF (Electric) | 8 | 115.30 | 0.00 | 15 | $ 1,301 |
| Water Heater Pipe Wrap MF (Gas) | 43 | 0.00 | 1.80 | 15 | $ 714 |
| Water Heater Pipe Wrap MH/SF (Electric) | 47 | 135.60 | 0.00 | 15 | $ 9,606 |
| Water Heater Pipe Wrap MH/SF (Gas) | 267 | 0.00 | 2.70 | 15 | $ 6,723 |
| Weatherstripping MF (Electric) | 846 | 6.10 | 0.00 | 5 | $ 3,239 |
| Weatherstripping MF (Gas) | 4,797 | 2.40 | 2.00 | 5 | $ 44,552 |
| Weatherstripping MH/SF (Electric) | 823 | 8.00 | 0.00 | 5 | $ 4,132 |
| Weatherstripping MH/SF (Gas) | 4,666 | 2.80 | 2.70 | 5 | $ 57,216 |
| *Sub-total for Energy Efficiency Measures* |  |  |  |  | *$ 7,774,543* |
| **Rapid Deployment Measures** |  |  |  |  |  |
| Air Conditioner Replacement - Central MF | 0 | 828.28 | 0.00 | 18 | $ - |
| Air Conditioner Replacement - Central MH/SF | 101 | 292.85 | 0.00 | 18 | $ 50,100 |
| Air Conditioner Replacement - Room MF | 82 | 130.16 | 0.00 | 15 | $ 16,053 |
| Air Conditioner Replacement - Room MH/SF | 8 | 426.40 | 0.00 | 15 | $ 5,130 |
| Duct Sealing & Testing MF (Electric) | 0 | 116.60 | 0.00 | 25 | $ 71 |
| Duct Sealing & Testing MF (Gas) | 2 | 47.98 | 6.24 | 25 | $ 301 |
| Duct Sealing & Testing MH/SF (Electric) | 33 | 87.15 | 0.00 | 25 | $ 5,793 |
| Duct Sealing & Testing MH/SF (Gas) | 184 | 27.39 | 11.54 | 25 | $ 37,281 |
| Evaporative Cooler Maintenance SF | 86 | 76.43 | 0.00 | 4 | $ 3,377 |
| Set back Thermostat MF (Electric) | 0 | 116.60 | 0.00 | 12 | $ - |
| Set back Thermostat MF (Gas) | 0 | 77.55 | 6.78 | 12 | $ - |
| Set back Thermostat SF (Electric) | 0 | 149.88 | 0.00 | 12 | $ - |
| Set back Thermostat SF (Gas) | 0 | 95.48 | 15.00 | 12 | $ - |
| Water Heater Replacement MF (Gas) | 5 | 0.00 | 18.10 | 13 | $ 764 |
| Water Heater Replacement MH/SF (Gas) | 334 | 0.00 | 21.60 | 13 | $ 60,911 |
| Whole House Fans SF | 0 | 63.00 | 0.00 | 20 | $ - |
| *Sub-total for Rapid Deployment Measures* |  |  |  |  | *$ 179,781* |
| **Total Bill Savings for All Measures in Program Year** | |  |  |  | **$ 7,954,325** |
|  |  |  |  |  |  |
| **Total Number of Homes Served by the Program during Program Year** | | |  |  | 15,706 |
|  |  |  |  |  |  |
| **Life Cycle Bill Savings Per Home** |  |  |  |  | $ 506.45 |
| \*SDG&E has no studies supporting savings for this measure. No impacts taken during this year. | | | | | |

Exhibit .   
SDG&E Life Cycle Bill Savings– Program Year 2004 Last Updated 3/28/05

| **Measure Description** | **Number Installed** | | | **Per Measure Electric Impact (kWh)** | | **Per Measure Gas Impact** | **EUL** | **Total Measure Life Cycle Bill Savings** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Elec SH** | **AC** | **Gas SH** | **Elec SH** | **AC** | **(Therms)** | **(years)** | **($)** |
| **Energy Efficiency Measures** |  |  |  |  |  |  |  |  |
| Air Conditioner Replacement (Room AC) MF | 0 | 2 | 0 | 0.0 | 77.8 | 0.0 | 15 | $ 190 |
| Air Conditioner Replacement (Room AC) MH | 0 | 2 | 0 | 0.0 | 291.8 | 0.0 | 15 | $ 712 |
| Air Conditioner Replacement (Room AC) SF | 0 | 4 | 0 | 0.0 | 97.1 | 0.0 | 15 | $ 474 |
| Attic insulation MF | 1 | 4 | 8 | 189.9 | 53.8 | 22.0 | 25 | $ 2,465 |
| Attic insulation SF | 63 | 168 | 358 | 149.7 | 45.2 | 26.3 | 25 | $ 132,402 |
| Caulking MF | 693 | 1,848 | 3,928 | 7.1 | 1.0 | 2.0 | 5 | $ 31,329 |
| Caulking MH | 48 | 128 | 271 | 7.3 | 1.0 | 4.5 | 5 | $ 4,800 |
| Caulking SF | 830 | 2,213 | 4,702 | 10.3 | 2.4 | 4.7 | 5 | $ 88,454 |
| CFL (including porch lights) MF | 0 | 22,496 | 0 | 0.0 | 16.4 | 0.0 | 8 | $ 280,235 |
| CFL (including porch lights) MH | 0 | 1,987 | 0 | 0.0 | 16.4 | 0.0 | 8 | $ 24,752 |
| CFL (including porch lights) SF | 0 | 32,029 | 0 | 0.0 | 23.7 | 0.0 | 8 | $ 576,588 |
| COPAY Refrigerators MF | 0 | 20 | 0 | 0.0 | 665.1 | 0.0 | 15 | $ 16,227 |
| Duct register Sealing MH\* | 34 | 90 | 191 | 13.4 | 7.3 | 1.8 | 5 | $ 1,680 |
| Duct register Sealing SF\* | 0 | 1 | 2 | 13.4 | 7.3 | 1.8 | 5 | $ 15 |
| Energy Education | 0 | 0 | 14,892 | 0.0 | 0.0 | 0.0 | 0 | $ - |
| Evaporative Cooler Covers MF | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | $ - |
| Evaporative Cooler Covers MH | 5 | 0 | 26 | 3.8 | 0.0 | 6.8 | 3 | $ 440 |
| Evaporative Cooler Covers SF | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | $ - |
| Faucet Aerators MF | 737 | 0 | 4,174 | 26.5 | 0.0 | 2.6 | 5 | $ 42,412 |
| Faucet Aerators MH | 51 | 0 | 291 | 26.5 | 0.0 | 2.6 | 5 | $ 2,954 |
| Faucet Aerators SF | 862 | 0 | 4,883 | 43.4 | 0.0 | 3.6 | 5 | $ 68,698 |
| Low Flow Showerhead MF | 735 | 0 | 4,165 | 66.6 | 0.0 | 7.2 | 10 | $ 209,006 |
| Low Flow Showerhead MH | 50 | 0 | 284 | 66.6 | 0.0 | 7.2 | 10 | $ 14,247 |
| Low Flow Showerhead SF | 897 | 0 | 5,082 | 108.7 | 0.0 | 8.2 | 10 | $ 290,450 |
| Minor Home Repairs MF | 287 | 766 | 1,627 | 17.9 | 5.6 | 3.6 | 10 | $ 44,494 |
| Minor Home Repairs MH | 31 | 82 | 173 | 18.6 | 5.8 | 4.9 | 10 | $ 6,371 |
| Minor Home Repairs SF | 640 | 1,706 | 3,624 | 25.6 | 7.3 | 7.0 | 10 | $ 188,942 |
| Permanent Evaporative Coolers MF | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 15 | $ - |
| Permanent Evaporative Coolers MH | 0 | 34 | 0 | 0.0 | 526.1 | 0.0 | 15 | $ 21,821 |
| Permanent Evaporative Coolers SF | 0 | 9 | 0 | 0.0 | 535.3 | 0.0 | 15 | $ 5,877 |
| Porch lights (fixture replacement or CFBs) MF | 0 | 110 | 0 | 0.0 | 24.2 | 0.0 | 5 | $ 1,354 |
| Porch lights (fixture replacement or CFBs) MH | 0 | 55 | 0 | 0.0 | 24.2 | 0.0 | 5 | $ 677 |
| Porch lights (fixture replacement or CFBs) SF | 0 | 710 | 0 | 0.0 | 35.6 | 0.0 | 5 | $ 12,861 |
| Refrigerators MF | 0 | 2,091 | 0 | 0.0 | 665.1 | 0.0 | 15 | $ 1,696,483 |
| Refrigerators MH | 0 | 432 | 0 | 0.0 | 665.1 | 0.0 | 15 | $ 350,493 |
| Refrigerators SF | 0 | 3,704 | 0 | 0.0 | 794.8 | 0.0 | 15 | $ 3,591,182 |
| Repair MF | 0 | 0 | 139 | 0.0 | 0.0 | 26.3 | 10 | $ 24,850 |
| Repair MH | 0 | 0 | 34 | 0.0 | 0.0 | 26.1 | 10 | $ 6,051 |
| Repair SF | 0 | 0 | 809 | 0.0 | 0.0 | 25.0 | 10 | $ 137,906 |
| Replacement MF | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 22 | $ - |
| Replacement MH | 0 | 0 | 65 | 0.0 | 0.0 | 39.9 | 22 | $ 30,137 |
| Replacement SF | 0 | 0 | 295 | 0.0 | 0.0 | 37.9 | 22 | $ 129,898 |
| Water Heater Blanket MF | 28 | 0 | 158 | 88.5 | 0.0 | 9.2 | 5 | $ 5,684 |
| Water Heater Blanket MH | 8 | 0 | 43 | 88.5 | 0.0 | 9.2 | 5 | $ 1,528 |
| Water Heater Blanket SF | 155 | 0 | 880 | 145.3 | 0.0 | 11.3 | 5 | $ 38,848 |
| Water Heater Pipe Wrap MF | 4 | 0 | 24 | 35.4 | 0.0 | 3.6 | 15 | $ 803 |
| Water Heater Pipe Wrap MH | 5 | 0 | 29 | 35.4 | 0.0 | 3.6 | 15 | $ 975 |
| Water Heater Pipe Wrap SF | 26 | 0 | 145 | 58.1 | 0.0 | 4.6 | 15 | $ 6,264 |
| Water Heater Replacement MF | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 13 | $ - |
| Water Heater Replacement MH | 0 | 0 | 2 | 0.0 | 0.0 | 19.0 | 13 | $ 315 |
| Water Heater Replacement SF | 0 | 0 | 3 | 0.0 | 0.0 | 19.0 | 13 | $ 472 |
| Weatherstripping MF | 742 | 1,979 | 4,206 | 10.8 | 1.0 | 2.7 | 5 | $ 45,462 |
| Weatherstripping MH | 33 | 87 | 185 | 11.2 | 1.0 | 5.1 | 5 | $ 3,734 |
| Weatherstripping SF | 862 | 2,298 | 4,883 | 10.3 | 2.4 | 4.7 | 5 | $ 93,410 |
| **Total Bill Savings for All Measures in Program Year** | |  |  |  |  |  |  | **$ 8,235,420** |
|  |  |  |  |  |  |  |  |  |
| **Total Number of Homes Served by the Program during Program Year** | | |  |  |  |  |  | 14,897 |
|  |  |  |  |  |  |  |  |  |
| **Life Cycle Bill Savings Per Home** |  |  |  |  |  |  |  | $ 552.82 |
| \*SDG&E has no studies supporting savings for this measure. No impacts taken during this year. | | | | |  |  |  |  |

Exhibit .   
SDG&E Life Cycle Bill Savings– Program Year 2005 Last Updated 4/7/06

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Measure Description** | **Number Installed** | | | **Per Measure Electric Impact (kWh)** | | **Per Measure Gas Impact** | **EUL** | **Total Measure Life Cycle Bill Savings** |
|  | **Elec SH** | **AC** | **Gas SH** | **Elec SH** | **AC** | **(Therms)** | **(years)** | **($)** |
| **Energy Efficiency Measures** |  |  |  |  |  |  |  |  |
| Attic Insulation MF | 0 | 0 | 2 | 168.2 | 36.9 | 20.5 | 25 | $ 551 |
| Attic Insulation SF | 35 | 14 | 369 | 149.9 | 45.0 | 26.1 | 25 | $ 139,930 |
| Caulking MF | 545 | 218 | 1,862 | 6.9 | 0.9 | 2.1 | 5 | $ 17,989 |
| Caulking | 18 | 7 | 219 | 7.2 | 1.0 | 4.3 | 5 | $ 4,130 |
| Caulking | 568 | 227 | 4,658 | 10.2 | 2.4 | 4.6 | 5 | $ 96,187 |
| CFL MF | 0 | 16,909 | 0 | 0.0 | 16.4 | 0.0 | 8 | $ 259,704 |
| CFL MH | 0 | 1,508 | 0 | 0.0 | 16.4 | 0.0 | 8 | $ 23,161 |
| CFL SF | 0 | 27,529 | 0 | 0.0 | 23.7 | 0.0 | 8 | $ 611,020 |
| Evaporative Cooler Cover MF | 0 | 1 | 1 | 1.3 | 0.0 | 2.5 | 3 | $ 6 |
| Evaporative Cooler Cover MH | 1 | 17 | 16 | 3.8 | 0.0 | 6.5 | 3 | $ 291 |
| Evaporative Cooler Cover SF | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | $ - |
| Evaporative Cooler Installation MF | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 15 | $ - |
| Evaporative Cooler Installation MH | 0 | 7 | 0 | 0.0 | 535.3 | 0.0 | 15 | $ 5,635 |
| Evaporative Cooler Installation SF | 0 | 2 | 0 | 0.0 | 379.4 | 0.0 | 15 | $ 1,141 |
| Faucet Aerators | 0 | 356 | 3,026 | 0.0 | 0.0 | 2.6 | 5 | $ 34,498 |
| Faucet Aerators | 0 | 22 | 247 | 0.0 | 0.0 | 2.6 | 5 | $ 2,810 |
| Faucet Aerators | 0 | 487 | 5,190 | 0.0 | 0.0 | 3.6 | 5 | $ 81,924 |
| Furnace Repair | 0 | 0 | 182 | 0.0 | 0.0 | 25.5 | 10 | $ 36,150 |
| Furnace Repair MH | 0 | 0 | 12 | 0.0 | 0.0 | 28.0 | 10 | $ 2,622 |
| Furnace Repair SF | 0 | 0 | 648 | 0.0 | 0.0 | 25.1 | 10 | $ 126,600 |
| Furnace Replacement MF | 0 | 0 | 2 | 0.0 | 0.0 | 12.9 | 18 | $ 304 |
| Furnace Replacement MH | 0 | 0 | 38 | 0.0 | 0.0 | 40.4 | 18 | $ 18,115 |
| Furnace Replacement SF | 0 | 0 | 271 | 0.0 | 0.0 | 37.6 | 18 | $ 120,037 |
| Low Flow Showerhead MF | 0 | 355 | 3,004 | 0.0 | 0.0 | 7.2 | 10 | $ 168,644 |
| Low Flow Showerhead MH | 0 | 446 | 2,646 | 0.0 | 0.0 | 7.2 | 10 | $ 148,546 |
| Low Flow Showerhead SF | 0 | 86 | 2,903 | 0.0 | 0.0 | 8.2 | 10 | $ 185,598 |
| Minor Home Repair MF | 223 | 89 | 959 | 17.6 | 5.4 | 3.4 | 10 | $ 27,118 |
| Minor Home Repair MH | 10 | 4 | 100 | 18.8 | 5.7 | 5.0 | 10 | $ 3,975 |
| Minor Home Repair SF | 379 | 152 | 3,502 | 25.5 | 7.4 | 7.0 | 10 | $ 194,037 |
| Porch Light MF | 0 | 44 | 0 | 0.0 | 24.2 | 0.0 | 16 | $ 668 |
| Porch Light MH | 0 | 6 | 0 | 0.0 | 24.2 | 0.0 | 16 | $ 91 |
| Porch Light SF | 0 | 1,065 | 0 | 0.0 | 35.6 | 0.0 | 16 | $ 23,785 |
| Refrigerator MF | 0 | 1,481 | 0 | 0.0 | 665.1 | 0.0 | 18 | $ 1,668,436 |
| Refrigerator MH | 0 | 253 | 0 | 0.0 | 665.1 | 0.0 | 18 | $ 285,020 |
| Refrigerator SF | 0 | 3,241 | 0 | 0.0 | 794.8 | 0.0 | 18 | $ 4,363,193 |
| Room AC MF | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 15 | $ - |
| Room AC MH | 0 | 2 | 0 | 0.0 | 291.8 | 0.0 | 15 | $ 878 |
| Room AC SF | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 15 | $ - |
| Water Heater Blanket MF | 0 | 18 | 136 | 0.0 | 0.0 | 9.2 | 5 | $ 5,494 |
| Water Heater Blanket MH | 0 | 3 | 44 | 0.0 | 0.0 | 9.2 | 5 | $ 1,781 |
| Water Heater Blanket SF | 0 | 101 | 1,170 | 0.0 | 0.0 | 11.3 | 5 | $ 57,958 |
| Water Heater Pipe Wrap MF | 0 | 6 | 47 | 0.0 | 0.0 | 3.6 | 15 | $ 1,783 |
| Water Heater Pipe Wrap MH | 0 | 1 | 19 | 0.0 | 0.0 | 3.6 | 15 | $ 709 |
| Water Heater Pipe Wrap SF | 0 | 20 | 283 | 0.0 | 0.0 | 4.6 | 15 | $ 13,611 |
| Water Heater Replacement MF | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 13 | $ - |
| Water Heater Replacement MH | 0 | 0 | 1 | 0.0 | 0.0 | 19.0 | 13 | $ 180 |
| Water Heater Replacement SF | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 13 | $ - |
| Weatherstripping MF | 659 | 263 | 1,956 | 10.5 | 0.9 | 2.8 | 5 | $ 24,936 |
| Weatherstripping MH | 13 | 5 | 150 | 11.3 | 0.9 | 5.1 | 5 | $ 3,369 |
| Weatherstripping SF | 577 | 231 | 4,835 | 10.2 | 2.4 | 4.7 | 5 | $ 101,668 |
| **Total Bill Savings for All Measures in Program Year** | |  |  |  |  |  |  | **$ 8,864,286** |
|  |  |  |  |  |  |  |  |  |
| **Total Number of Homes Served by the Program during Program Year** | | |  |  |  |  |  | 11,254 |
|  |  |  |  |  |  |  |  |  |
| **Life Cycle Bill Savings Per Home** |  |  |  |  |  |  |  | $ 787.66 |

Exhibit .  
SoCalGas Life Cycle Bill Savings– Program Year 2003 Last Updated 3/16/04

| **Measure Description** | **Number Installed** | **Per Measure Electric Impact (kWh)** | **Per Measure Gas Impact (Therms)** | **EUL (Yrs)** | **Total Measure Life Cycle Bill Savings ($)** |
| --- | --- | --- | --- | --- | --- |
| **Energy Efficiency Measures** |  |  |  |  |  |
| Attic Insulation - SF | 1,619 | 0.0 | 18.7 | 25 | $ 312,293 |
| Attic Insulation - MF | 573 | 0.0 | 9.6 | 25 | $ 56,741 |
| Caulking - SF | 1,007 | 0.0 | 1.5 | 5 | $ 4,786 |
| Caulking - MF | 637 | 0.0 | 0.7 | 5 | $ 1,413 |
| Evaporative Cooler/Air Cond. Covers - SF | 1,735 | 0.0 | 8.1 | 3 | $ 28,010 |
| Evaporative Cooler/Air Cond. Covers - MF | 590 | 0.0 | 4.1 | 3 | $ 4,821 |
| Faucet Aerators - SF | 21,788 | 0.0 | 1.4 | 5 | $ 96,654 |
| Faucet Aerators - MF | 23,046 | 0.0 | 0.9 | 5 | $ 65,723 |
| Furnace Repair - Gas | 546 | 0.0 | 24.4 | 10 | $ 75,290 |
| Furnace Replacement - Gas | 4,252 | 0.0 | 110.1 | 22 | $ 4,509,998 |
| Low Flow Showerhead - SF | 20,961 | 0.0 | 9.1 | 10 | $ 1,077,976 |
| Low Flow Showerhead - MF | 22,236 | 0.0 | 6.1 | 10 | $ 766,553 |
| Minor Home Repairs - SF | 20,365 | 0.0 | 4.4 | 10 | $ 506,399 |
| Minor Home Repairs - MF | 21,917 | 0.0 | 2.2 | 10 | $ 272,496 |
| Miscellaneous Measures (Weatherization - Electric) | 47,673 | 17.4 | 0.0 | 5 | $ 422,073 |
| Switch/Outlet Gasket - SF | 20,594 | 0.0 | 0.2 | 15 | $ 35,983 |
| Switch/Outlet Gasket - MF | 20,771 | 0.0 | 0.2 | 15 | $ 23,669 |
| Water Heater Blanket - SF | 3,390 | 0.0 | 7.3 | 5 | $ 78,415 |
| Water Heater Blanket - MF | 1,602 | 0.0 | 4.9 | 5 | $ 24,873 |
| Water Heater Pipe Wrap - SF | 414 | 0.0 | 2.7 | 15 | $ 8,492 |
| Water Heater Pipe Wrap - MF | 74 | 0.0 | 1.8 | 15 | $ 1,012 |
| Door Weatherstripping - SF | 22,461 | 0.0 | 1.4 | 5 | $ 99,640 |
| Door Weatherstripping - MF | 23,721 | 0.0 | 0.7 | 5 | $ 52,615 |
| *Sub-total for Energy Efficiency Measures* |  |  |  |  | *$ 8,525,922* |
| **Rapid Deployment Measures** |  |  |  |  |  |
| Duct Sealing and Repair - MF | 562 | 0.0 | 7.1 | 25 | $ 40,927 |
| Duct Sealing and Repair - SF | 431 | 0.0 | 11.3 | 25 | $ 50,371 |
| Water Heater Replacement - Gas - SF | 3,581 | 0.0 | 21.6 | 13 | $ 531,777 |
| Water Heater Replacement - Gas - MF | 1,127 | 0.0 | 18.1 | 13 | $ 140,241 |
| *Sub-total for Rapid Deployment Measures* |  |  |  |  | *$ 763,316* |
| **Total Bill Savings for All Measures in Program Year** | |  |  |  | **$ 9,289,239** |
|  |  |  |  |  |  |
| **Total Number of Homes Served by the Program during Program Year** | | |  |  | 57,179 |
|  |  |  |  |  |  |
| **Life Cycle Bill Savings Per Home** |  |  |  |  | $ 162.46 |

Exhibit .  
SoCalGas Life Cycle Bill Savings– Program Year 2004 Last Updated 4/10/05

| **Measure Description** | **Number Installed** | | **Per Measure Electric Impact (kWh)** | **Per Measure Gas Impact (Therms)** | **EUL** | **Total Measure Life Cycle Bill Savings ($)** |
| --- | --- | --- | --- | --- | --- | --- |
| **AC** | **Gas Heat** |
| **Energy Efficiency Measures** |  |  |  |  |  |  |
| Attic Insulation MF | - | 543 | 0.0 | 17.0 | 25 | $ 111,381 |
| Attic Insulation SF | - | 1,441 | 0.0 | 24.4 | 25 | $ 425,229 |
| Caulking MF | 307 | 768 | 1.0 | 0.9 | 5 | $ 2,649 |
| Caulking MH | 88 | 221 | 2.6 | 0.9 | 5 | $ 849 |
| Caulking SF | 398 | 996 | 2.5 | 2.3 | 5 | $ 9,060 |
| Cover Plate / Gaskets MF | - | 17,853 | 0.0 | 0.2 | 15 | $ 23,816 |
| Cover Plate / Gaskets MH | - | 2,294 | 0.0 | 0.2 | 15 | $ 4,896 |
| Cover Plate / Gaskets SF | - | 18,070 | 0.0 | 0.2 | 15 | $ 38,568 |
| Door Weatherstripping MF | 8,611 | 21,527 | 1.0 | 1.1 | 5 | $ 90,212 |
| Door Weatherstripping MH | 893 | 2,232 | 1.8 | 1.3 | 5 | $ 11,907 |
| Door Weatherstripping SF | 8,632 | 21,579 | 2.6 | 2.6 | 5 | $ 219,933 |
| Duct Sealing and Repair MF | - | - | 0.0 | 0.0 | 25 | $ - |
| Duct Sealing and Repair MH | - | - | 0.0 | 0.0 | 25 | $ - |
| Duct Sealing and Repair SF | - | - | 0.0 | 0.0 | 25 | $ - |
| Evaporative Cooler/Air Cond. Covers MF | - | 2,190 | 0.0 | 0.4 | 3 | $ 2,267 |
| Evaporative Cooler/Air Cond. Covers MH | - | 300 | 0.0 | 0.9 | 3 | $ 611 |
| Evaporative Cooler/Air Cond. Covers SF | - | 1,343 | 0.0 | 2.2 | 3 | $ 6,970 |
| Faucet Aerators MF | - | 21,296 | 0.0 | 2.6 | 5 | $ 205,393 |
| Faucet Aerators MH | - | 2,306 | 0.0 | 2.6 | 5 | $ 22,241 |
| Faucet Aerators SF | - | 21,147 | 0.0 | 3.6 | 5 | $ 282,401 |
| Furnace Repair MF | - | 118 | 0.0 | 11.0 | 10 | $ 8,566 |
| Furnace Repair MH | - | 183 | 0.0 | 22.1 | 10 | $ 26,698 |
| Furnace Repair SF | - | 3,122 | 0.0 | 22.5 | 10 | $ 465,636 |
| Furnace Replacement MF | - | 94 | 0.0 | 36.9 | 22 | $ 39,124 |
| Furnace Replacement MH | - | 279 | 0.0 | 35.1 | 22 | $ 110,320 |
| Furnace Replacement SF | - | 3,362 | 0.0 | 36.2 | 22 | $ 1,371,303 |
| Low Flow Showerhead MF | - | 20,609 | 0.0 | 7.2 | 10 | $ 981,711 |
| Low Flow Showerhead MH | - | 2,163 | 0.0 | 7.2 | 10 | $ 103,035 |
| Low Flow Showerhead SF | - | 20,475 | 0.0 | 8.2 | 10 | $ 1,110,790 |
| Minor Home Repairs MF | 7,970 | 19,926 | 6.3 | 1.8 | 10 | $ 275,374 |
| Minor Home Repairs MH | 494 | 1,236 | 19.7 | 2.3 | 10 | $ 27,027 |
| Minor Home Repairs SF | 8,478 | 21,195 | 4.5 | 5.1 | 10 | $ 747,138 |
| Water Heater Blanket MF | - | 1,639 | 0.0 | 9.2 | 5 | $ 55,935 |
| Water Heater Blanket MH | - | 207 | 0.0 | 9.2 | 5 | $ 7,064 |
| Water Heater Blanket SF | - | 3,763 | 0.0 | 11.3 | 5 | $ 157,735 |
| Water Heater Pipe Wrap MF | - | 42 | 0.0 | 3.6 | 15 | $ 1,345 |
| Water Heater Pipe Wrap MH | - | 66 | 0.0 | 3.6 | 15 | $ 2,113 |
| Water Heater Pipe Wrap SF | - | 131 | 0.0 | 4.6 | 15 | $ 5,359 |
| Water Heater Replacement MF | - | 1 | 0.0 | 9.5 | 13 | $ 76 |
| Water Heater Replacement MH | - | 6 | 0.0 | 19.0 | 13 | $ 918 |
| Water Heater Replacement SF | - | 23 | 0.0 | 19.0 | 13 | $ 3,517 |
| **Total Bill Savings for All Measures in Program Year** | | |  |  |  | **$ 6,955,649** |
|  |  |  |  |  |  |  |
| **Total Number of Homes Served by the Program during Program Year** | | | |  |  | 54,677 |
|  |  |  |  |  |  |  |
| **Life Cycle Bill Savings Per Home** |  |  |  |  |  | $ 127.21 |

Exhibit .  
SoCalGas Life Cycle Bill Savings– Program Year 2005 Last Updated 4/7/06

| **Measure Description** | **Number Installed** | | **Per Measure Electric Impact (kWh)** | **Per Measure Gas Impact (Therms)** | **EUL** | **Total Measure Life Cycle Bill Savings ($)** |
| --- | --- | --- | --- | --- | --- | --- |
| **AC** | **Gas Heat** |
| **Energy Efficiency Measures** |  |  |  |  |  |  |
| Attic Insulation MF | - | 224 | 0.0 | 17.5 | 25 | $ 54,986 |
| Attic Insulation SF | - | 1,399 | 0.0 | 24.1 | 25 | $ 473,069 |
| Caulking MF | 265 | 663 | 0.9 | 0.8 | 5 | $ 2,377 |
| Caulking MH | 83 | 207 | 2.8 | 0.9 | 5 | $ 911 |
| Caulking SF | 380 | 950 | 2.4 | 2.3 | 5 | $ 9,700 |
| Evaporative Cooler Cover MF | - | 2,368 | 0.0 | 0.4 | 3 | $ 2,629 |
| Evaporative Cooler Cover MH | - | 341 | 0.0 | 1.1 | 3 | $ 1,042 |
| Evaporative Cooler Cover SF | - | 1,155 | 0.0 | 2.2 | 3 | $ 6,883 |
| Faucet Aerators MF | - | 11,577 | 0.0 | 2.6 | 5 | $ 129,855 |
| Faucet Aerators MH | - | 2,882 | 0.0 | 2.6 | 5 | $ 32,326 |
| Faucet Aerators SF | - | 24,284 | 0.0 | 3.6 | 5 | $ 377,150 |
| Furnace Repair MF | - | 44 | 0.0 | 11.0 | 10 | $ 3,739 |
| Furnace Repair MH | - | 284 | 0.0 | 23.6 | 10 | $ 51,628 |
| Furnace Repair SF | - | 4,659 | 0.0 | 22.2 | 10 | $ 797,364 |
| Furnace Replacement MF | - | 10 | 0.0 | 36.0 | 18 | $ 4,190 |
| Furnace Replacement MH | - | 107 | 0.0 | 39.0 | 18 | $ 48,616 |
| Furnace Replacement SF | - | 1,908 | 0.0 | 32.5 | 18 | $ 722,767 |
| Low Flow Showerhead MF | - | 11,285 | 0.0 | 7.2 | 10 | $ 625,179 |
| Low Flow Showerhead MH | - | 2,719 | 0.0 | 7.2 | 10 | $ 150,630 |
| Low Flow Showerhead SF | - | 23,290 | 0.0 | 8.2 | 10 | $ 1,469,446 |
| Minor Home Repair MF | 4,427 | 11,068 | 6.6 | 1.8 | 10 | $ 176,524 |
| Minor Home Repair MH | 501 | 1,253 | 21.6 | 2.4 | 10 | $ 32,265 |
| Minor Home Repair SF | 9,818 | 24,545 | 4.5 | 5.1 | 10 | $ 992,623 |
| Water Heater Blanket MF | - | 540 | 0.0 | 9.2 | 5 | $ 21,432 |
| Water Heater Blanket MH | - | 264 | 0.0 | 9.2 | 5 | $ 10,478 |
| Water Heater Blanket SF | - | 3,258 | 0.0 | 11.3 | 5 | $ 158,826 |
| Water Heater Pipe Wrap MF | - | 59 | 0.0 | 3.6 | 15 | $ 2,197 |
| Water Heater Pipe Wrap MH | - | 72 | 0.0 | 3.6 | 15 | $ 2,681 |
| Water Heater Pipe Wrap SF | - | 394 | 0.0 | 4.6 | 15 | $ 18,745 |
| Water Heater Replacement MF | - | - | 0.0 | 0.0 | 13 | $ - |
| Water Heater Replacement MH | - | 1 | 0.0 | 19.0 | 13 | $ 178 |
| Water Heater Replacement SF | - | 6 | 0.0 | 19.0 | 13 | $ 1,067 |
| Weatherstripping MF | 4,661 | 11,653 | 1.0 | 1.1 | 5 | $ 57,134 |
| Weatherstripping MH | 916 | 2,290 | 2.0 | 1.4 | 5 | $ 14,349 |
| Weatherstripping SF | 9,828 | 24,569 | 2.5 | 2.6 | 5 | $ 284,208 |
| **Total Bill Savings for All Measures in Program Year** | | |  |  |  | **$ 6,737,194** |
|  |  |  |  |  |  |  |
| **Total Number of Homes Served by the Program during Program Year** | | | |  |  | 40,523 |
|  |  |  |  |  |  |  |
| **Life Cycle Bill Savings Per Home** |  |  |  |  |  | $ 166.26 |

Appendix A – Implementation Rates

PG&E



In PY2004, the way CFL’s were counted changed and each household was purported to receive 4 lamps. The numerator moved from being actual lamps to number of households receiving CFL’s. An implementation rate that would be comparable to PY2003 for PY2004 is number of lamps at 170,800 lamps across 48,549 households for an implementation rate of 352 percent. Similarly, for PY2005, the implementation rate is 374 percent when four lamps per house is included in the numerator.



Appendix B – Program Cost Percents



Appendix C – Memo on Public Workshops

April 24, 2006

To: Mary O’Drain, Pacific Gas & Electric Co, Chair of Bill Savings Group

From: Tim Caulfield, Equipoise Consulting Incorporated

Re: Documentation of Bill Savings Workshop, April 21, 2006

cc: Bill Savings Group

The Bill Savings group held a publicly noticed workshop (Attachment 1) at the PG&E headquarters on 77 Beale Street, Room 307 from 10:00 AM to 12 noon on April 21, 2006 to present the results of the Program Year (PY) 2005 bill savings and cost report. The presentation made at the workshop is presented in Attachment 2. The list of attendees for the workshop is presented in Attachment 3. A copy of the draft report and paper copies of the presentation were available at the workshop for attendees. Electronic copies of the report and presentation were posted on the Low Income Oversight Board website prior to the workshop, so that telephone participants could follow along.

**Summary and Comments from the Workshop**

The workshop was attended by 12 people, 8 in person and 4 on the telephone. The presentation went smoothly with many questions and much discussion. The presentation began at 10:05 AM and concluded at 11:45 AM.

The following comments from the workshop discussion justified specific notation.

* Report should list Non Energy Benefits (NEBs), acknowledging that NEBs exist in the low income program, but are NOT incorporated in this study. A footnote would be fine. General discussion indicated that this would help establish that this study is NOT a cost effectiveness study.
* The CPUC/ED would like a several page, high level summary, including tables. It was agreed that this would be done after the report is filed.
* With all the new staff involved, this is a good opportunity to rethink the terms and language in the bill savings study. Use simple terms and straightforward explanations in the summary.
* In addition to the tables already in the report, the next annual report should include a table that shows the first year annual savings.
* **Attachment 1 – Announcement Text**

**Public Workshop Notice –**

**Joint Utilities 2005 Low Income Energy Efficiency Program Bill Savings Report**

|  |  |
| --- | --- |
| April 21, 2005  10 am – 12 pm | **San Francisco**  Pacific Gas & Electric Company  77 Beale Street  Room 307  San Francisco |

Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company, and San Diego Gas and Electric Company (the Joint Utilities) will hold a public workshop to present and discuss the results of The Joint Utilities 2005 Low Income Energy Efficiency Program Bill Savings Report. Workshop participants will have an opportunity to provide input to the Team before the recommendations are finalized and submitted to the CPUC for approval. The team will consider the public input and revise the draft report as appropriate.

A copy of the Draft Bill Savings Report will be posted on the Low-Income Oversight Board’s website at [http://www.liob.org](http://www.liob.org/).

Parties who have questions regarding the workshops may contact Mary O’Drain at 415-973-2317 or MJOb@pge.com.

**Teleconference Information**: A number is being provided for individuals who wish to call into the workshops. The call-in number for the workshop is: 866-325-0587, Passcode: \*4159732317\*.

**Attachment 2 – Presentation**

Slide 1



Slide 2



Slide 3



Slide 4



Slide 5



Slide 6



Slide 7



Slide 8



Slide 9



Slide 10



Slide 11



Slide 12



Slide 13



Slide 14



Slide 15



Slide 16



Slide 17



Slide 18



Slide 19



Slide 20



Slide 21



Slide 22



Slide 23





**Attachment 3 – Attendance Sheet**

**PY2005 Bill Savings Public Workshop April 21, 2006, 10 AM  
77 Beale Street, Rm 307, San Francisco**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Affiliation** | **Email** | **Phone** |
| **In Person** | | | |
| Mary O’Drain | PG&E | [mjob@pge.com](mailto:mjob@pge.com) | 415-973-2317 |
| Doug Naaf | PG&E | [DEN2@PGE.com](mailto:DEN2@PGE.com) | 415-973-9758 |
| Tim Caulfield (presenter) | Equipoise Consulting | Tim@Equipoise Consulting.com | 510-414-0056 |
| Kevin McKinley | Sempra Utilities | KMcKinley@ SempraUtilities.com | 510-864-8507 |
| Jeannine Elzey | CPUC/ED | [JME@CPUC.Ca.gov](mailto:JME@CPUC.Ca.gov) | 415-703-2801 |
| Sarv Randhawa | CPUC/ED | SSR@[CPUC.Ca.gov](mailto:JME@CPUC.Ca.gov) | 415-703-2274 |
| Hazlyn Fortune | CPUC/ED | [HCF@CPUC.Ca.gov](mailto:HCF@CPUC.Ca.gov) | 415-703-1809 |
| Sarita Sarvate | CPUC/ED | [SBS@CPUC.Ca.gov](mailto:SBS@CPUC.Ca.gov) | 415-703-5574 |
| Joe Wanzala | CPUC | JCW@CPUC.Ca.gov | 415-703-1185 |
| **On Telephone** | | | |
| Cathy Wickware | Sempra Utilities | KWickware@ semprautilities.com | 858-654-1769 |
| Janine Scancarelli | Low Income  Oversight Board | jscancarelli@flk.com | 415-365-7821 |
| Steve Loi | Southern California Edison | Steven.Loi@sce.com | 626-302-8799 |
| Roberto Del Real | Southern California Edison | [Roberto.DelReal@SCE.com](mailto:Roberto.DelReal@SCE.com) | 626-302-3515 |

Appendix D – Typical Non-Energy Benefits

The following is a list of typical non-energy benefits included in low income cost effectiveness tests by PG&E. It should be noted that not all non-energy benefits are given values in each cost effectiveness model.

**Utility-Related Benefits: Benefits Valued at Utility Costs and Savings**

* Lower Bad Debt Written Off
* Fewer Shutoffs
* Fewer Reconnects
* Fewer Notices
* Fewer Customer Calls
* Lower Collection Costs
* Reduction in emergency gas service calls
* Utility Health & Safety - Insurance savings only
* Transmission and/or distribution savings (distribution only)
* Utility Rate Subsidy Avoided (CARE) payments

**Societal / Public Benefits: Benefits Beyond Utility and Participants**

* Economic impact (direct and indirect employment)
* Emissions / Environmental
* Health and Safety Equipment (CO and Other H&S)
* Water and wastewater (avoided)

**Participants Benefits: Accrued to and Valued at Participant Values and Costs**

* Program rebate (directly from assumptions above)
* Water/sewer savings
* Fewer shutoffs
* Fewer Calls to the utility
* Fewer reconnects
* Property value benefits
* Fewer fires
* Indoor Air quality (CO-related)
* Moving costs / mobility
* Fewer Illnesses and lost days from work/school
* Reduced transactions costs (limited measures)
* Net Household Benefits from Comfort, Noise, net of negatives
* Net Household Benefits from Additional Hardship Benefits

1. Low income program cost effectiveness tests often incorporate the non-energy benefits in the calculation: A list of the non-energy benefits typically considered by PG&E is presented Appendix D. The Bill Savings analysis is not a cost effectiveness test, and as such has never incorporated these values in its estimates. [↑](#footnote-ref-1)
2. Page 70, Decision 00-07-020 July 6, 2000. [↑](#footnote-ref-2)
3. Page 147, Decision 00-07-020 July 6, 2000. [↑](#footnote-ref-3)
4. D.93-05-063 and revised by subsequent CPUC decisions. [↑](#footnote-ref-4)
5. For PG&E, SCE, and SDG&E, this evaluation was required only in 1995 (per Protocol Table 8A) and for SoCalGas it was required in 1996 (Per Protocol Table 8B). [↑](#footnote-ref-5)
6. It should be noted that this equation, as presented in the PY2005 report, is less generalized than prior years, but more accurately represents the analysis performed in the study. In prior years the equation included a summation across costing periods, which is an accurate depiction of the generalized life cycle cost calculation, but which had no particular relevance to the calculations as done in any of the joint bill savings studies. [↑](#footnote-ref-6)
7. Energy rate escalated by 3% each year. [↑](#footnote-ref-7)
8. These are defined as gross savings because they are bill savings. [↑](#footnote-ref-8)
9. D. 05-04-051, from the bottom of page 24 and the top of page 25. Mike Wan of PG&E informed the team that the adopted value for the discount rate is 7.49% at the time of writing this report. A search of the CPUC website conducted on 03/30/06 was unable to identify any posting. It would be expected that the change in discount rate would be applied to future bill savings analyses. [↑](#footnote-ref-9)
10. Conversations with Mike Wan of PG&E. [↑](#footnote-ref-10)
11. Full write up in *Joint Utility Low Income Energy Efficiency Program,2004 Costs and Bill Savings Report, April 20, 2005, pages 8-9* [↑](#footnote-ref-11)
12. This report is available on the DEER Database site and can be downloaded directly from http://eega.cpuc.ca.gov/deer/downloads/NewEULEstimates7-14-05.doc [↑](#footnote-ref-12)
13. This report is downloadable from the [www.CALMAC.org](http://www.CALMAC.org) searchable database. The direct link to the report http://www.calmac.org/publications/Bill\_Savings\_Final\_Report\_revised\_3-12-01.pdf. [↑](#footnote-ref-13)
14. This is the same assessment protocol as was followed in the previous Bill Savings Reports. [↑](#footnote-ref-14)