# 2004 Low Income Energy Efficiency Annual Report

- Summary Report 2003 Results
- Technical Appendix 2003 Results

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#### **Executive Summary**

In 2003, SCE continued to provide comprehensive services to low income households by installing all feasible energy saving measures for each treated home. As a result, SCE's lowincome energy efficiency (LIEE) program continues to provide its participating customers with utility bill savings and additional benefits such as improvements to comfort, health, and safety.

SCE's 2003 program included standard LIEE measures (such as refrigerator replacement, relamping, and evaporative cooler installation), plus new measures adopted by the Commission as part of the Rapid Deployment effort (D.01-05-033) (such as air-conditioner replacement and evaporative cooler

maintenance). SCE implemented new procedures in 2003 to ensure that treated households are assessed upfront to establish eligibility for all available measures under the LIEE program.

Among program highlights in 2003, SCE's LIEE programs:

- installed 825 evaporative coolers;
- relamped homes with 65,509 compact fluorescent lamps (CFLs);
- weatherized 948 homes;
- provided energy education services to 15,790 homes; and
- installed 17,326 refrigerators to replace older inefficient models

#### **Program Descriptions**

SCE's Low Income Energy Efficiency (LIEE) programs provide energy efficiency assistance at no cost to qualified low income customers whose household income meets guidelines established by the Commission. Generally, the income-eligibility requirements for SCE's LIEE program match those for the California Alternative Rates for Energy (CARE) program, which is 175% of federal poverty guidelines. However, for qualified disabled and senior citizens, the income eligibility guidelines are set slightly higher, at 200% of the federal poverty level.

SCE strived in 2003 to deliver the LIEE program efficiently, achieve the Commission's mandate that customers receive all measures for which they are eligible, and take advantage of opportunities to leverage program resources to maximize the number of customers receiving program services.

In 2003, SCE contained costs and maximized program funding by entering into competitively bid purchase orders to buy energy-efficient refrigerators and CFLs in bulk. These appliances were shipped directly from the manufacturer to SCE's contractors for installation in low income customer homes.

To ensure customers received a comprehensive series of measures in 2003, SCE implemented a new tool designed to enhance the assessment process by enabling all eligible

electric measures to be evaluated in one visit. SCE developed a training program specifically for this assessment tool and all service providers were required to undergo training before assessments could be started. In an effort to minimize repeat visits to customers' homes, installation contractors delivered other services to qualifying customers such as Relamping and Porch Light Replacement, if feasible.

Throughout 2003, SCE maintained a commitment to participate in and seek out joint leveraging opportunities with community-based organizations (CBOs), faith-based organizations, public housing authorities, Low Income Home Energy Assistance Programs (LIHEAP)

providers, ethnic and cultural groups and others. For example, SCE entered into contracts with LIHEAP providers for the installation of refrigerators in SCE's service territory. These contracts enabled SCE to deliver energyefficient refrigerators to LIHEAP providers, with installation costs being paid through LIHEAP funds. An added benefit to leveraging with LIHEAP was that SCE customers without a grounded outlet were able to have that outlet grounded through the LIHEAP program and then receive a free refrigerator from SCE. In addition, SCE worked with housing authorities from Riverside, San Bernardino, Tulare, Los Angeles, and Orange counties to coordinate the installation of refrigerators to income-qualified tenants.

SCE developed an outreach plan for

California Indian tribes to ensure that Native Americans had access to SCE's lowincome assistance programs. Aggressive efforts were made to implement the outreach plan to tribes and nations, including Native American Indians living on and off reservations. The Southern California Indian Center in 2003 continued to advise and assist SCE and Southern California Gas Company (SoCalGas) in the development of outreach methods and communication channels appropriate for targeting Indian tribes with low income program information and services.

# EVAPORATIVE COOLERS INSTALLATION

SCE helps qualified low income customers control their summer space cooling costs by offering an evaporative cooler to use in place of their air conditioners. The program targets

customers in hot, dry climates where coolers are most effective.

#### WEATHERIZATION

SCE and SoCalGas entered into an interutility agreement in late 1992, whereby vendors working with SoCalGas provide weatherization services to electricallyheated homes served by SCE within the overlapping SoCalGas service area. One private contractor provides services for SCE customers living in communities not served by SoCalGas. Weatherization services include, but are not limited to: attic insulation. weatherstripping/caulking, low-flow shower heads, electric water heater blankets, and building envelope repair.

#### RELAMPING

The Relamping program is designed to help low income customers conserve energy and control

their lighting costs by offering free CFLs to replace incandescent bulbs. Each CFL provides the same amount of light as an incandescent, but at a lower wattage. A household may receive as many as five CFLs, to replace 60- to 150-watt incandescent equivalents. In addition, participants receive Energy **Education packets** which serve to reinforce the energy efficiency message.

#### ENERGY EDUCATION

Low income customers that receive energy saving LIEE measures receive an **Energy Education** Resource Guide (English/Spanish) that contains information about SCE's programs, energy saving tips, appliance safety tips, and information on community, state, utility and federal programs that service the low income community. Representatives from

CBOs and private contractors provide energy education while at customers' homes.

#### REFRIGERATOR REPLACEMENT/ RECYCLING

The Refrigerator Replacement program replaces non-energy efficient refrigerators with energy-efficient models. In order to qualify for the program, the customer must own the refrigerator, the unit must be ten years old or older, plugged into a legally grounded three-prong outlet, and the customer must allow SCE to recycle the old refrigerator.

### PORCH LIGHT REPLACEMENT

Qualified customers receive one free CFL to replace an existing incandescent light in a porch light fixture. If the fixture is not designed for a CFL in an owner-occupied dwelling, a new fixture with a CFL will be installed so

that the CFL can be safeguarded from the outdoor elements.

#### FURNACE REPAIR/ REPLACEMENT

In an attempt to standardize LIEE program offerings statewide, the CPUC required SCE to include furnace repair and replacement in its portfolio of low income energy efficiency programs. To qualify, the customer must be a home-owner, reside in SCE's service territory, meet low income guidelines, have electric space heating, and the unit must require repair or replacement at a cost not in excess of \$750.

#### RAPID DEPLOYMENT PROGRAMS

As part of the Commission's Rapid Deployment initiative, the Commission authorized several pilot programs, including: replacement of inefficient air conditioners and

other space conditioning equipment with high efficiency models, duct sealing and repair, installation of whole house fans, replacement of inefficient or inoperable water heaters with high efficiency units, installation of set-back thermostats and maintenance of evaporative coolers. SCE was directed to continue to offer and implement these measures in PY2003. In November 2003, the Commission through D.03-11-020 revised the list of eligible measures by narrowing eligibility for some measures, or dropping others altogether such as whole house fans and evaporative cooling maintenance. SCE applied the revised eligibility criteria to Home Assessments performed after the effective date of D.03-11-020.

#### **COOL CENTERS**

On August 29, 2003, SCE filed Advice Letter 1728-E-A requesting approval to operate Cool Centers in 2003. The Commission approved the Advice Letter effective September 9, 2003. These 2003 Cool Centers were targeted at low income customers residing in isolated, extreme climate areas and provided an air-conditioned location where customers, who could least afford high energy costs, could gather on hot days in lieu of running their own cooling devices. SCE entered into contracts with local agencies for the operation of Cool Centers. The Cool Centers operated from August through October.

#### 2003 Results and Achievements

#### EVAPORATIVE COOLER INSTALLATION

In 2003, 825 evaporative coolers were installed. These installations resulted in an annualized energy savings of 321 MWh and a peak load reduction of 1.3 MW.

#### WEATHERIZATION

In 2003, 948 electrically-heated homes were weatherized resulting in net annualized savings of 287 MWh. Of the homes serviced, 670 were weatherized through SCE's Inter-Utility Cooperative with SoCalGas, and 278 homes by a private contractor working in areas not jointly serviced by SoCalGas and SCE.

#### RELAMPING

SCE provided relamping services to 16,903 homes,

installing more than 49,969 CFLs. The program achieved a net annualized energy savings of 1,125 MWh and a peak load reduction of 0.3 MW.

#### ENERGY EDUCATION

As part of the Weatherization, **Evaporative Cooler** Installation, Relamping and Porch Light Replacement programs, approximately 15,790 customers received inhouse counseling and **Energy Education** packets designed to help them lower energy use through simple conservation practices.

#### REFRIGERATOR REPLACEMENT/ RECYCLING

In 2003, 17,326 energy efficient refrigerators were installed and 17,326 inefficient refrigerators were recycled through SCE's Refrigerator Replacement/Recycli ng program.
The annualized energy savings of replacing these refrigerators was 12,252 MWh, and the peak load reduction was 0.7 MW.

#### PORCH LIGHT REPLACEMENT

In 2003, SCE installed 58 outdoor light fixtures and replaced 15,540 incandescent outdoor CFLs. These installations resulted in an annualized energy savings of 351 MWh.

#### FURNACE REPAIR/ REPLACEMENT

During the year, SCE weatherized 948 homes with electric space heating. None of these homes met the program criteria for furnace repair or replacement.

#### RAPID DEPLOYMENT PILOT PROGRAMS

In 2003, SCE installed 20 window/wall and 1,316 central air-conditioning units; maintenance on 178 evaporative coolers; 950 duct sealing and repair jobs and the installation of 1,033 set-back thermostats. SCE also installed 137 electric water heaters.

# Measurement, Evaluation, & Regulatory Oversight

Measurement & Evaluation (M&E) funds and personnel are used to support the development and implementation of studies of the lowincome population and programs. Studies include: load impact evaluations that estimate the energy savings achieved by the utilities' low income energy efficiency programs, process evaluations that assess opportunities for improvement in program design and delivery, and similar studies as required by the Commission or determined by the utilities to be necessary to develop and implement effective programs.

# MEASUREMENT & EVALUATION - 2003 RESULTS AND ACHIEVEMENTS

With the assistance and oversight of a study advisory group consisting of utility M&E staff, Energy Division, and Office of Ratepayer Advocates

(ORA) staff representatives, SCE M&E staff managed the comprehensive evaluation of the 2001 statewide LIEE program, which included both a process and an impact evaluation. This study was completed in April 2003. The two resulting reports are described in the Annotated Bibliography below.

The *Protocols and* Procedures for the Verification of Costs, Benefits, and Shareholder Earnings from Demand-Side Management Programs, require an impact evaluation of the 2002 LIEE program, with the next evaluation to follow two years later for the 2004 program. In 2003, SCE issued a Request for Proposals for this impact evaluation. It was developed with input from the study administrative group and as required by Energy Division staff. The study administrative group, consisting of

evaluation representatives from the three utility groups plus Energy Division and ORA staff, reviewed the proposals received and selected a winning bidder.

The M&E group commissioned a small evaluation of the 2002 Cool Centers Program which was completed in the second half of 2003.

A revised low income cost effectiveness methodology was developed in 2002 and approved by the Commission. It was used in 2002 to complete a draft cost effectiveness analysis of the PY2003 program and measures and to make recommendations about which measures should be included in or excluded from the program based on the established cost effectiveness criteria. The final cost effectiveness analysis and report were completed in 2003.

The group surveyed approximately 600 customers who received CFL replacements during prior program years (when SCE operated a stand-alone CFL installation program), to determine the extent to which such customers may be eligible for additional measures through comprehensive service delivery. The level of eligibility was significantly lower than expected.

Finally, in 2003, the M&E group provided support on a number of ongoing matters including completion of the PY2003 Annual Bill Savings Report, which estimates customer bill savings for the 2000-2002 program years and provision of ongoing support for the statewide Low Income Needs Assessment.

# MEASUREMENT & EVALUATION - 2004 PLANS

In 2004, the contract for the impact evaluation of the 2002 LIEE program has been awarded and work has begun. The study is expected to be completed during the third quarter of the year. The SCE M&E group will manage the evaluation with support and oversight from the study administrative group consisting of utility M&E, Energy Division, and ORA staff.

In addition, the M&E group will provide support on a number of ongoing matters including completion of the next Annual Bill Savings Report, development of estimates of LIEEeligible customers by two-level zip code (zip +4) for use by program managers and contractors, and provision of ongoing support for the statewide Low Income Needs Assessment.

#### ANNOTATED BIBLIOGRAPHY

Impact Evaluation of the 2001 Statewide Low Income Energy Efficiency (LIEE) Program Final Report KEMA-XENERGY, INC. APRIL, 2004

This report documents the impact evaluation of the Statewide LIEE Program for program year 2001. The participating utilities are: Pacific Gas and Electric Company, San Diego Gas and Electric Company, Southern California Edison Company, and Southern California Gas Company. The impact evaluation utilized a billing analysis approach to estimate the first-year gas and electric impacts resulting from the program, with particular emphasis on the new Rapid Deployment measures. Measures included in the 2001 program were: evaporative cooler installation, relamping, weatherization, furnace repair and replacement, refrigerator replacement, porch lamp fixture replacement, and energy education. The new Rapid Deployment measures were: high efficiency central and room air conditioner replacement, duct sealing and repair, whole house fans, high efficiency water heater replacement, setback thermostats, and evaporative cooler maintenance. Overall, the impact study reported for program year 2001 an estimated statewide total program

savings of 32.5 GWh and 1.7 Mth per year.

Process Evaluation of the 2001 Statewide Low Income Energy Efficiency (LIEE) Program Final Report KEMA-XENERGY, INC. APRIL, 2004

The process evaluation study entailed an evaluation of the internal processes of each utility's LIEE program in order to document PY 2001 achievements, assess overall program performance including the Rapid Deployment efforts, provide feedback to each utility for making operational improvements, and make recommendations for improvement of future programs. The study approach included a detailed review of program documentation and databases, a series of structured interviews with key program staff, CBOs, program implementers, and contractors, as well as 'ride-alongs' with contractors. Additional feedback and customer satisfaction information

was obtained through participant surveys. The study found that the utility processes for implementing the LIEE program were fairly well tested and program designs benefited significantly from the years of experience utilities have in operating these programs; in addition, recommendations for program improvement were provided by program element.

#### REGULATORY OVERSIGHT

Regulatory oversight consists of activities that are undertaken to meet regulatory requirements for reporting program activities. Areas of support included developing responses to data requests, providing comments on workshop proposals and draft decisions, preparation of filings, and monthly reporting of program results. Other activities related to compliance with Commission rulings related to LIEE standardization, bill savings reporting, developing information for the Low Income Oversight Board, and development of the Low **Income Energy** 

Efficiency Annual Report.

#### **Energy-Related Hardship**

The Reporting Requirements Manual Working Group (RRMWG) previously developed a working definition of the term "energy-related hardship" as it relates to comfort level, employment, safety and security. The definition agreed upon by the RRMWG states that "energy-related hardship" are "adverse impacts on the comfort, health, and safety of low income customers that can be mitigated by access to low-income energy efficiency programs and services."

SCE's LIEE programs assist in lessening the energy-related hardships experienced by some low income customers. SCE's Evaporative Cooler and Weatherization Programs increase comfort and help customers ease energy-related stress from inadequate control over

ambient climate and temperature due to insufficient energy efficiency measures. The programs provide additional protection from outside elements. Without these programs, customers would have less relief from energy-related stress resulting from ambient climate or temperature especially in extreme temperature regions.

SCE provides evaporative coolers in the desert regions of its service territory through the Evaporative Cooler Installation Program. Without evaporative coolers, these customers would be subject to the extreme desert heat unless they operated their air conditioners at much higher cost. The **Evaporative Cooler** program enhances the physical health of customers by protecting them from excessive heat they might be subject to if they could

not afford to run their air conditioners. In addition to increasing comfort, the repair of doors and windows provided in the Weatherization program enhances the customers' physical and mental well-being because it reduces exposure to outdoor elements and increases the customers' sense of home security and safety. SCE's Porch Light Program also enhances home security.

In addition, the Furnace Repair and Replacement Program contributes to customers' well-being and comfort by ensuring that a furnace is operable. However, because this program is limited to customers who own their homes and to a maximum expenditure limit of \$750 per home, traditionally this is a small program that reaches a limited number of customers.

#### Access to Programs Provided By Community-Based Providers

SCE continued to work with the California Department of **Community Services** and Development (DCSD) on the coordination and integration of resources and benefits between SCE's CARE program and Energy Assistance Fund (EAF) with DCSD's Home Energy **Assistance Program** (HEAP) and the requirements for reporting the CARE discount on California's LIHEAP Leveraging application. An agreement signed by both parties details the responsibilities of both entities in establishing the coordination of services to SCE's customers.

This agreement places DCSD within compliance of the Department of Health and Human Services' LIHEAP Leveraging Incentive Program requirements and enables the State of California to claim the CARE discount as a leverage resource. As

part of the agreement, both DCSD and SCE agree to the referral of their customers to the other's energy assistance program through written and/or verbal advertising of the programs. The agreement allows SCE to publish the telephone numbers of DCSD programs on SCE program applications and literature, and allows DCSD to include SCE program information on various DCSD literature pieces.

As part of the delivery of SCE's LIEE programs, and other programs they offer, CBOs attempt to identify customer needs that might be met by other CBO programs. Oualifying customers are referred to these programs. Not all CBOs offer all services to customers. SCE currently contracts with CBOs for the delivery of LIEE programs, not including additional CBOs that perform weatherization services for SCE customers through the Inter-Utility

Agreement with SoCalGas in the overlapping service areas. SCE's CBOs offer a variety of low income services in addition to their LIEE service delivery. Examples of such services include senior nutrition and transportation, job training, and health care.

#### **Bill Savings**

SCE, Pacific Gas and Electric, San Diego Gas & Electric, and SoCalGas have coordinated to produce the Bill Savings estimates that are included in Tables TA 7, TA 8, and TA 9 of this report.

will include a discussion of variations across utilities.

Tables TA 7 and TA 9, use impact estimates from the Impact Evaluation of the 2000 Statewide LIEE Program that was completed in April 2002. For Rapid Deployment measures introduced after 2000, Tables TA 7 and TA 9 use impact estimates from the LIEE Measure Cost Effectiveness Preliminary Report that was completed by the LIEE Standardization Team in September 2002.

The Bill Savings Report, including any updates to the variables and calculations used in preparing the applicable standard tables in the Technical Appendix for this program area, is being filed separately as a stand-alone document on May 3, 2004, and

#### **Shareholder Performance Incentives**

The Commission approved the 2001 LIEE shareholder incentive mechanism in Decision 01-06-082 and directed that it remain in place until further order of the Commission.

The 2001 mechanism was based upon the attainment of a minimum performance standard for the LIEE "Big Six" measures. Upon meeting the performance standard, the earnings mechanism calls for program administrators to earn a 2% management fee on all LIEE program expenditures in 2001. Due to the limited opportunities for weatherization measures in SCE's service area. and the need to assure that SoCalGas' 2003 weatherization customers received the corresponding electric appliance measures to ensure comprehensive treatment, SCE did not achieve the minimum performance standard in 2003, and thus is not submitting a 2003 earnings claim.

# 2004 Low Income Energy Efficiency Annual Report Table 1 (RRM Table 7.1) SUMMARY OF COSTS: LOW INCOME SOUTHERN CALIFORNIA EDISON (Electric only)

	200	)3	2004
LIEE Programs	Budgeted	Recorded	Budget [2]
Energy Efficiency			Ü
- Gas Appliances	\$ -	\$ -	\$ -
- Electric Appliances	15,796,182	15,616,106	13,047,293
- Weatherization	1,465,650	1,019,505	674,061
- Outreach & Assessment		925,689	1,113,513
- In Home Energy Education	662,105	244,785	378,972
- Education Workshops		•	
Energy Efficiency Total	17,923,937	17,806,086	15,213,840
Pilots			
- Cooler Center (PY 2002)	106,753	35,147	
- Cooler Center (PY 2003)	-	115,394	350,000
Total Pilot	106,753	150,541	350,000
Training Center		-	
Inspections	240,000	105,160	250,000
Advertising		-	
M&E Studies	300,000	165,453	195,000
Regulatory Compliance	70,000	63,126	70,000
Other Administration		-	
Indirect Costs [1]		260,305	-
Oversight Costs		1	
- LIAB Start-up		ı	
- LIAB PY 2001		-	
- LIAB PY 2002	30,000	20,839	
- CPUC Energy Division	70,000	92,673	70,000
Total Oversight Costs	100,000	113,512	70,000
Shareholder Incentive	-	-	-
TOTAL COSTS	18,740,690	18,664,182	16,148,840

<sup>[1]</sup> Not part of program authorized budget for 2003

<sup>&</sup>lt;sup>[2]</sup> 2004 LIEE program authorized budget and carryover unspent fund from previous year

# 2004 Low Income Energy Efficiency Annual Report Table 2 (RRM Table 7.2) SUMMARY OF LIEE PROGREAM EFFECTS SOUTHERN CALIFORNIA EDISON (Annual Energy Reduction)

	2003 (recorded)	2004 (planned)
mWh	15,794	10,089
mtherm	N/A	N/A

Different savings assumption applied to 2003 and 2004 programs

#### 2004 Low Income Energy Efficiency Annual Report Table 3 (RRM Table 7.3) SUMMARY OF LIEE COST EFFECTIVENESS SOUTHERN CALIFORNIA EDISON

(Ratio of Benefits Over Costs)

	2003			2004		
LIEE programs	Utility Cost Test	Total Resource Cost Test	Modified Participant Test	Utility Cost Test	Total Resource Cost Test	Modified Participant Test
Energy Efficiency	0.73	0.58	1.04	0.51	0.43	0.56

Different KWh savings assumption had been used for 2003 and 2004 programs.

# 2004 Low Income Energy Efficiency Annual Report Table 4 (RRM Table 7.4) SUMMARY OF LIEE COST EFFECTIVENESS SOUTHERN CALIFORNIA EDISON

(Net Benefits; \$Million)

	2003			2004		
LIEE programs	Utility Cost Test	Total Resource Cost Test	Modified Participant Test	Utility Cost Test	Total Resource Cost Test	Modified Participant Test
Energy Efficiency	\$ (5.126)	\$ (7.700)	\$ 0.738	\$ (7.883)	\$ (9.247)	\$ (7.051)

Different KWh savings assumption had been used for 2003 and 2004 programs.

#### **Technical Appendix**

This section contains narrative that documents and explains the data shown for Tables TA 1 through TA 9.

#### Table TA 1 Program Cost Estimates Used for Cost-Effectiveness - Low-Income Energy Efficiency

This table documents those costs used in determining the cost-effectiveness of low-income energy efficiency programs. These tables provide all program costs, including costs expended in 2003.

#### **Program Incentives (Recorded)**

These costs represent incentives paid to contractors, including installation and measure costs during 2003 (Actual). Only the costs of measures actually installed in 2003 are included, not measures bulk purchased and held for installation in 2004.

#### **Program Administrative Costs (Recorded)**

These costs include expenditures directly charged for SCE and contract labor associated with program administrative costs.

#### **Shareholder Incentives**

Costs represented in the Shareholder Incentives column are those relating to the performance awards earned during 2003 from the 2003 low-income energy efficiency programs.

#### **Other Costs**

Costs for non-incentive and non-administrative activities including energy education, printing of materials, regulatory, legal, indirect costs, CPUC Energy Division staffing, and Cool Centers.

#### **Total Utility Costs**

The sum of the Program Incentives (Actual and Committed) columns, Program Administrative Costs column, Shareholder Incentives, and Other costs.

#### **Incremental Measure Costs (Net)**

These costs generally represent the incremental costs of energy efficiency measures over the standard replacement measures. The gross amounts of these costs are reduced by appropriate net-to-gross ratios for the particular measure or end-use. These ratios are 1.0 for all Low-income Energy Efficiency programs. SCE's incremental measure costs for the Low-income Energy Efficiency programs equal the total installation and measure costs for installed measures. Thus, for all LIEE programs, incremental measure costs are equal to the incentive costs.

### Table TA 2 Program Cost Elements - Low-income Energy Efficiency

This table documents the breakdown of costs of the low-income energy efficiency programs. These tables provide detail of program costs expended in 2003.

#### **Labor Costs**

Any internal direct (administrative and/or implementation) costs (indirect costs are a separate line item), burdened by overhead, that represents person hours.

#### **Non-Labor Costs**

All direct internal (administrative and/or implementation) costs (indirect costs are given as a separate line item) not covered under labor, such as printing of materials.

#### **Contract Labor Costs**

All outsourced costs (administrative and/or implementation). Contract costs do not need to be further broken out by labor/non-labor. This category includes agency employees and outsourced inspection contractors.

#### **Total Costs**

The summation of the aforementioned utility costs - Labor, Non-labor, and Contract costs.

### Table TA 3 Program Detail by Housing Type and Heating Source - Low-income Energy Efficiency

The table provides, by housing type and heating source, the MWh savings for program year 2003, direct program costs, and the number of dwellings served.

Also, an estimate of the total dwellings that will receive program services in 2004 is provided.

### Table TA 4 Program Detail by Measure - Low-income Energy Efficiency

The table provides, by measure grouping, the MWh savings for program year 2003, direct program costs, and the number of dwellings served. Also, for specific measures within the measure groupings, the number of dwellings receiving service is provided.

# Table TA 5 Installation Costs of LIEE Program Installation Contractors - Low-income Energy Efficiency

The table provides, by measure grouping, the units installed, dwelling served and costs by contractor type (either CBO or WMDVBE, or private, i.e., neither CBO nor WMDVBE).

# Table TA 6 Percentage of Dwellings Served By Contractor Classification (Last Year) - Low-income Energy Efficiency

The table provides by program, the percentage of dwellings completed by each contractor (CBO or Non-CBO) and indicates whether each contractor is WMDVBE certified.

#### Table TA 7 Lifecycle Bill Savings - Last Year - SCE - Lowincome Energy Efficiency

The table indicates by measure, the number of measures installed, per measure electric kWh savings, gas therm savings, effective useful life, and Total Measure Lifecycle Bill Savings in dollars. The last two rows indicate the number of homes served by the program in 2003, and the life cycle bill savings in dollars per home.

# Table TA 8 Energy Rates Used for Bill Savings Calculations - SCE - Low-income Energy Efficiency

The table lists the energy rates used for bill savings calculations stated as \$/kWh for years from 2003 through 2032.

### Table TA 9 Bill Savings - SCE - Low-income Energy Efficiency

The table lists for the 2001, 2002, and 2003 program years the program costs, program life cycle bill savings in dollars, bill savings over cost ratio, and per home average life cycle bill savings

### LIEE PROGRAM COST ESTIMATES USED FOR COST-EFFECTIVENESS SOUTHERN CALIFORNIA EDISON

(Electric Only)

			UTILIT	Y COSTS			
	Program Ii (Record	ncentives ded) <sup>[1]</sup>					
LIEE programs	Actual	Committed	Admin Costs	Shareholder Incentives	Other Costs <sup>[2]</sup>	Total Utility Costs	Incremental Measure Costs
Energy Efficiency	\$14,656,520	\$ -	\$ 918,817	\$ -	\$ 3,088,846	\$18,664,183	\$ 14,513,000

<sup>[1]</sup> Expenses related to direct installation

 $<sup>^{[2]}</sup>$  including cost for , Outreach & Assessment, Inspection, Energy Education, Cooler Center, M&E, Regulatory Support, LIAB and CPUC staffing cost

# 2004 Low Income Energy Efficiency Annual Report Table TA 2 (RRM Table TA 7.2) LIEE COST ELEMENTS SOUTHERN CALIFORNIA EDISON (Electric only)

	Expendit	ures Recorded by	y Cost Element -	2003 [1]
LIEE Programs	Labor	Non-Labor	Contract	Total
Energy Efficiency				
- Gas Appliances	-	-	-	-
- Electric Appliances	845,025	325,055	14,446,027	15,616,106
- Weatherization	73,772	713,139	232,593	1,019,505
- Outreach & Assessment [2]			925,689	925,689
- In Home Energy Education	20		244,765	244,785
- Education Workshops				-
Energy Efficiency Total	918,817	1,038,194	15,849,074	17,806,085
Pilots				-
- Cooler Center (PY 2002)			35,147	35,147
- Cooler Center (PY 2003)		226	115,167	115,394
Total Pilot	-	226	150,314	150,541
Training Center				-
Inspections			105,160	105,160
Advertising				-
M&E Studies	165,453			165,453
Regulatory Compliance	63,126			63,126
Other Administration				-
Indirect Costs	260,305			260,305
Oversight Costs				-
- LIAB Start-up				-
- LIAB PY 2001				-
- LIAB PY 2002		20,839		20,839
- CPUC Energy Division		92,673		92,673
Total Oversight Costs	-	113,512	-	113,512
Shareholder Incentive		-		-
				-
TOTAL COSTS	1,407,700	1,151,932	16,104,548	18,664,181

<sup>[1] -</sup> PGC & SBX expenses

<sup>[2] -</sup> Part of Electric Appliance and WX expenses in Rapid Deployment report

# 2004 Low Income Energy Efficiency Annual Report Table TA3 (RRM Table TA 7.3) PROGRAM DETAIL BY HOUSING TYPE AND HEATING SOURCE SOUTHERN CALIFORNIA EDISON

	Energ	y Saved and	Progr	am Costs	Numl	ber of Dwe	llings
	2003	2003	200	3 Expenses	2003	2003	2004
	(mWh)	(mTherm*)		[1]	(Planned)	(Actual)	(Planned)
Gas Heat – Own							
Single Family							
Multi Family							
Mobile Home							
Sub Total Dwellings							
Served							
Gas Heat – Rent							
Single Family							
Multi Family							
Mobile Home							
Sub Total Dwellings							
Served							
Florida Haat O							
Electric Heat – Own	4.000			5 450 0 40		0.400	
Single Family	4,980			5,452,343		9,420	
Multi Family	152			151,225		321	
Mobile Home	966			1,842,941		2,389	
Sub Total Dwellings Served	6,098		\$	7,446,510		12,130	
Serveu	0,090		Ψ	7,440,310		12,130	
Electric Heat – Rent							
Single Family	4,890		\$	4,663,175		10,394	
Multi Family	4,628		\$	5,958,474		10,780	
Mobile Home	178		\$	185,178		427	
Sub Total Dwellings	15		Ψ	.55,176		121	
Served	9,696		\$	10,806,826		21,601	
TOTAL DWELLINGS							
SERVED	15,794		\$	18,253,336		33,731	

<sup>\*</sup> millions of Therms

<sup>[1] -</sup> excluding operation cost for Cool Center and other indirect program costs

#### 2004 Low Income Energy Efficiency Annual Report Table TA 4 (RRM Table TA 7.4) PROGRAM DETAIL BY MEASURE SOUTHERN CALIFORNIA EDISON

	Energy Save	ed and Progran	n Costs 2003	Number of Dwellings Served 2003
	(mWh)	(mTherm)	Expenses (\$ 000)	Actual Dwellings Served
Furnaces Gas				
Repair				
Replacement				
Total Furnaces Gas				
Infiltration 9 Chase Conditioning				
Infiltration & Space Conditioning Weatherization Savings				948
Caulking	2		32,455	940
Door Weatherstripping	5		180,622	
Duct Repair <sup>[1]</sup>	16		222	
Cover Plate Gaskets	3		135,958	
Evaporative Cooler Covers	0		185	
Window Replacements	-		6,542	
Glass Replacements	<u> </u>		0,542	
Wall Repair (exterior)	-		908	
Door Repair	_		16,660	
Door Replacement	_		81,806	
Threshold Installed	-		97,811	
Attic Ventilation	_			
Attic Insulation	-		-	
Attic Access Weatherstripping	-		_	
HVAC Air Filter Replacement			_	
Total Infiltration and Space Conditioning	25		553.169	
·				
Water Heating Savings				
Water Heater Blanket	24		28,370	
Low Flow Showerhead	178		140,050	
Water Heater Pipe Wrap	0		680	
Faucet Aerators	60		119,855	
Total Water Heating Savings	262		288,955	
Minor Home Repairs (other than above)	-		167,681	
minor from tropano (other than above)			101,001	
Miscellaneous Measures	-		9,702	
Evenerative Cooley Installation	224		FC7 C02	925
Evaporative Cooler Installation	321		567,682	825
Evaporative Cooler Maintenance	15		17,046	168
Duct Testing & Sealing	137		196,890	949
T-Stat	151		146,067	1,031
Window AC	5		17,740	19
Central AC	1,132		3,498,141	1,314
Water Heater Replacement	16		74,865	137
Refrigerator Replacement	12,252		10,061,804	17,326
Porch Light Fixture	1		6,755	58
Compact Fluorescents (includes porch lights)	1,475		1,029,114	19,499
				,
Energy Education			4.070.000	11222
Outreach & Assessment [2]	1		1,076,230	14,898
In-Home Education	1		244,785	15,790
Education Workshops	-		1 204 045	20.000
Total Energy Education	-		1,321,015	30,688

<sup>\*</sup> millions of Therms

<sup>&</sup>lt;sup>[1]</sup> - Savings for Minor Home Repair measure

<sup>&</sup>lt;sup>[2]</sup> - included operating cost for Cool Center and Assessment/Implementation/Qualification cost for Weatherization program, excluded Indirect Cost, Inspection, CPUC, Regulatory and M&E costs

2004 Low Income Energy Efficiency Annual Report Table TA 5 (RRM Table 7.5) INSTALLATION COSTS OF LIEE PROGRAM INSTALLATION CONTRACTORS SOUTHERN CALIFORNIA EDISON

	Unit of Measure	Ü	CBO/WMDVBE	BE	Non	Non-CBO/WMDVBE	DVBE			Total		
		Units Installed	Dwellings	Costs	Units Installed	Dwellings	Costs	Units Installed	Dwellings	Costs	Cost/ Unit	Cost/ Dwelling
Dwellings	Each								Ì			
Furnaces												
Repair - Gas	Each								1	\$	· \$	۔ ج
Replacement - Gas	Each							-	-	· \$	- \$	- \$
Repair - Electric	Each							-	-	- \$	- \$	- \$
Replacement - Electric	Each							•	-	- &	- \$	- چ
Infiltration & Space Conditioning												
Caulking	Home	116	116	1 740	65	65	2.365	181	181	\$ 4 105	\$ 22.68	\$ 22.68
Door Weatherstripping	Each	147	147		734	734	\$ 37,023		881	\$ 42,631	S	
Duct Repair	Home	1	-				\$		1		\$ 65.50	
Cover Plates/Gaskets	Home	135	135	\$ 3,610	640	640	\$ 10,960	775	775	\$ 14,570	\$	\$ 18.80
Evaporative Cooler/Air Cond. Covers	Each			- \$	1	1			1	\$ 28	s	\$ 28.07
Window Replacements	Each	•		- &	32	32	\$ 1,530	32	32	\$ 1,530	\$ 47.80	\$ 47.80
Glass Replacements	Sq. Ft	ľ	_		•			. !	-	· :	s e	ss (
Wall Repair (exterior)	Home	2	_	1	က	3	\$ 57	2	5		\$ 25.00	
Door Repair	Each	75	75	\$ 4,913				75	75		<del>.</del>	÷
Door Replacement	Each				351	349	\$ 27,142	351	349	7	\$ 77.33	
Threshold Installed	Each		+		277	575	\$ 7,749	211	575	\$ 7,749	\$ 13.43	\$ 13.48
Attic Ventilation	Home							•		, A 6	, A 6	, P 6
Attic Insulation	Home			, A &			n e			Α θ	Э <del>0</del>	٠ ٠
Auc Access Weathershipping HVAC Air Eiter Replacement	T G	'	.	· ·						· ·	· ·	9 64
	100									÷	÷	÷
Water Heating Savings			_					•	•	\$	ક	
Water Heater Blanket	Each	136	-		13	13			149		s,	
Low Flow Showerhead	Each	131	131	\$ 2,230	743	688	\$ 9,540	874	819	\$ 11,770	\$ 13.47	
Water Heater Pipe Wrap	Home	- 700	-		4 245	4	\$ 54		4	\$ 54	~ •> •	\$ 13.43
raucet Aerators	Each	671	-		010,1	aca	Ш		124	e	Ð	
Minor Home Repairs (other than above)	Home	523	98	\$ 1,742	8,108	720	\$ 39,695	8,631	806	\$ 41,437	\$ 4.80	\$ 51.41
Miscellaneous Measures		9	9	\$ 73	89	54	\$ 231	74	09	\$ 304	\$ 4.11	\$ 5.06
Evaporative Cooler Installation	Each	471	471	\$ 334,597	354	354	\$ 207,129	825	825	\$ 541,726	\$ 656.64	\$ 656.64
Evaporative Cooler Maintenance	Each	83	83	\$ 5,810	98	85	\$ 5,950	178	168	\$ 11,760	\$ 66.07	\$ 70.00
Duct Testing and Cooling	Each	332	331	\$ 63,600	618	618	\$ 103,433	950	949	\$ 167,033	\$ 175.82	\$ 176.01
T-Stat	Each	357	355	\$ 39,270	929	929	\$ 74,360	1,033	1,031	\$ 113,630	\$ 110.00	\$ 110.21
Window AC	Each	18	17	\$ 12,300	2	2	\$ 1,130	20	19	\$ 13,430	\$ 671.50	\$ 706.84
Central AC	Each	628	626	\$ 1,571,600	889	688	\$ 1,885,200	1,316	1,314	\$ 3,456,800	\$ 2,626.75	\$ 2,630.75
Water Heater Replacement	Each	137	137	\$ 70,555	•		\$	137	137	\$ 70,555	\$ 515.00	\$ 515.00
Refrigerator Replacement/Recycle {1}	Each	16,683	16,683	\$ 2,976,112	643	643	\$ 112,525	17,326	17,326	\$ 3,088,637	\$ 178.27	\$ 178.27
Compact Fluorescents (inc. porchlights)	Each	56,522	19,333	\$ 286,299	9,045	2,430	\$ 36,747	65,567	21,763	\$ 323,046	\$ 4.93	\$ 14.84
Outreach Education Administration [2]	Home	14,640	14,640	\$ 892,173	5,909	5,909	\$ 442,133	20,549	20,549 \$	\$ 1,334,306	\$ 64.93	\$ 64.93
							٠	,			٠	۰

<sup>&</sup>lt;sup>[1]</sup> Included installation that completed by LIHAP contractors <sup>[2]</sup> Assessment, implementation and qualification fee for WX program and operating cost for Cool Center

# PERCENTAGE OF DWELLINGS SERVED BY CONTRACTOR CLASSIFICATION (2003)

	Contractor		% Dwellings	WMDVBE Certified
Program	Classification	Vendor Number	Completed	(Yes or No)
Window AC	1			
	CBO Participants	1	58%	No
		Subtotal	58%	
	Non-CBO Participants	1	11%	No
		2	32%	Yes
		Subtotal	42%	
Central AC				
	Non-CBO Participants	1	52%	No
		2	38%	Yes
		3	10%	Yes
		Subtotal	100%	
Duct Testing & Seal	ling			
	Non-CBO Participants	1	65%	No
		2	24%	Yes
		3	11%	Yes
		Subtotal	100%	

# PERCENTAGE OF DWELLINGS SERVED BY CONTRACTOR CLASSIFICATION (2003)

	Contractor			WMDVBE Certified
Program	Classification	Vendor Number	Completed	(Yes or No)
Evaporative Cooler	Installation			
	CBO Participants	1	12%	No
		2	0%	No
		3	17%	No
		Subtotal	29%	
	N ODG			
	Non-CBO Participants	1	13%	No
		2	21%	No
		3	9%	No
		4	28%	Yes
		Subtotal	71%	
Evaporative Cooler	Maintenance			
	CBO Participants	1	31%	No
		Subtotal	31%	
	N. OBO			
	Non-CBO Participants	1	4%	No
		2	47%	No
		3	18%	Yes
		Subtotal	69%	

# PERCENTAGE OF DWELLINGS SERVED BY CONTRACTOR CLASSIFICATION (2003)

Program	Contractor Classification	Vendor Number		WMDVBE Certified (Yes or No)
Relamping (Indoor	& Outdoor)			
	CBO Participants	1	1%	No
		2	11%	No
		3	18%	No
		4	3%	No
		5	2%	No
		6	4%	No
		7	1%	No
		8	6%	No
		9	23%	No
		10	9%	No
		11	1%	No
		12	1%	
		13	1%	No
		Subtotal	81%	
	Non-CBO			
	Participants	1	0%	No
		2	0%	No
		3	8%	No
		4	0%	No
		5	1%	Yes
		6	5%	Yes
		7	4%	No
		Subtotal	19%	

# PERCENTAGE OF DWELLINGS SERVED BY CONTRACTOR CLASSIFICATION (2003)

Program	Contractor Classification	Vendor Number	% Dwellings Completed	WMDVBE Certified (Yes or No)
Porch Light Fixture				
	CBO Participants	1	40%	No
		2	16%	No
		Subtotal	55%	
	Non-CBO Participants	1	12%	No
		2	33%	Yes
		Subtotal	45%	

# PERCENTAGE OF DWELLINGS SERVED BY CONTRACTOR CLASSIFICATION (2003)

	Contractor			WMDVBE Certified			
Program	Classification	Vendor Number	Completed	(Yes or No)			
Energy Education							
	CBO Participants	1	1%	No			
		2	14%	No			
		3	8%	No			
		4	5%	No			
		5	3%	No			
		6	4%	No			
		7	1%	No			
		8	8%	No			
		9	12%	No			
		10	12%	No			
		11	2%	No			
		12	1%	No			
		13	1%	No			
		Subtotal	71%				
	Non-CBO Participants	1	0%	No			
		2	0%	No			
		3	11%	No			
		4	0%	No			
		5	2%	Yes			
		6	4%	No			
		7	6%	Yes			
		8	5%	No			
		Subtotal	29%				

# PERCENTAGE OF DWELLINGS SERVED BY CONTRACTOR CLASSIFICATION (2003)

Program	Contractor Classification	Vendor Number		WMDVBE Certified (Yes or No)
Water Heater Replace	cement		-	
	CBO Participants	1	1%	No
		Subtotal	1%	
	Non-CBO Participants	1	99%	Yes
		Subtotal	99%	
Weatherization				
	CBO Participants	1	0%	No
		Subtotal	0%	
	Non-CBO Participants	1	7%	No
		2	14%	Yes
		3	71%	No
		4	8%	Yes
		Subtotal	100%	

# PERCENTAGE OF DWELLINGS SERVED BY CONTRACTOR CLASSIFICATION (2003)

Program	Contractor Classification	Vendor Number		WMDVBE Certified (Yes or No)
Refrigerator Replac	ement/Recycle I			
	CBO Participants	1	31%	No
		2	8%	No
		3	1%	No
		4	0%	No
		5	3%	No
		6	37%	No
		7	10%	No
		8	1%	No
		Subtotal	90%	
	Non-CBO Participants	1	4%	No
		2	3%	Yes
		3	3%	Yes
		Subtotal	10%	

#### 2004 Low Income Energy Efficiency Annual Report TABLE TA 7 (RRM Table 7.7) LIFE CYCLE BILL SAVINGS (2003) SOUTHERN CALIFORNIA EDISON

Measure Description	Installed Impact (kWh)			EUL	Total Measure Life Cycle
Trusuro Description			kWh) AC		Bill Savings
Emonay Efficiency Macanage		SII	AC	(Yrs)	(\$)
Energy Efficiency Measures					
Attic Access Weatherstripping <sup>1</sup>	-	0	0	5	\$ -
Attic Insulation MF	-	34.4	-	25	\$ -
Attic Insulation MH/SF	-	50.1	-	25	\$ -
Attic Ventilation <sup>2</sup>	-	-	0	25	\$ -
Caulking - MF	180	4.3	5.12	5	\$ 390
Caulking - MH/SF	1	6.6	4.1	5	\$ 3
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	\$ 3,179
Cover Plate/Gaskets - MH/SF	3	5.6	0.18	15	\$ 21
Duct Repair <sup>2</sup>	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 Wrap <sup>3</sup>	4	0.0	0.0	15	\$ -
Weatherstripping - MF	878	3.8	2.9	5	\$ 1,678
Weatherstripping - MH/SF	3	4.8	2.00	5	\$ 7
Sub-total for Energy Efficiency Measures					\$ 16,610,404
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					\$ 18,580,684

Total Number of Homes Served by the Program during Program Year

550.83

33,732

Life Cycle Bill Savings Per Home

- $1. \ This \ measure \ have \ impacts \ included \ in \ the \ weather stripping \ measure. \ No \ specific \ per-measure \ impact \ claimed.$
- $2. \ These \ measures \ have \ impacts \ included \ in \ the \ minor \ home \ repair \ measure. \ No \ specific \ per-measure \ impact \ claimed.$
- 3. Zero savings are claimed for this measure.

### ENERGY RATES USED FOR BILL SAVINGS CALCULATIONS

Year	\$/kWh	\$/Therm
2003	\$ 0.1174	
2004	0.1209	
2005	0.1245	
2006	0.1283	
2007	0.1321	
2008	0.1361	
2009	0.1402	
2010	0.1444	
2011	0.1487	
2012	0.1532	
2013	0.1578	
2014	0.1625	
2015	0.1674	
2016	0.1724	
2017	0.1776	
2018	0.1829	
2019	0.1884	
2020	0.1940	
2021	0.1999	
2022	0.2059	
2023	0.2120	
2024	0.2184	
2025	0.2250	
2026	0.2317	
2027	0.2387	
2028	0.2458	
2029	0.2532	
2030	0.2608	
2031	0.2686	
2032	0.2767	

#### 2004 Low Income Energy Efficiency Annual Report TABLE TA 9 (RRM Table TA 7.9) BILL SAVINGS SOUTHERN CALIFORNIA EDISON

Program Year	Program Costs		Program Lifecycle Bill Savings		Program Bill Savings/ Cost Ratio		Per Home Average Lifecycle Bill Savings	
2001	\$	19,402,429	\$ 20,895,736			1.08	\$	240.00
2002	\$	13,971,543	\$	13,095,830		0.94	\$	441.16
2003	\$	18,664,181	\$	18,580,684		1.00	\$	550.83