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Decision 01-12-020 December 11, 2001

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking on the Commission's Proposed Policies and Programs Governing Low-Income Assistance Programs.	Rulemaking 01-08-027 (Filed August 23, 2001)

INTERIM OPINION:

LOW INCOME ENERGY EFFICIENCY STANDARDIZATION PROJECT (PHASE 3), CALCULATIONS FOR BILL SAVINGS AND REPORTING REQUIREMENTS MANUAL (PHASE 2), INCLUDING COST-EFFECTIVENESS TESTING OF LOW-INCOME PROGRAMS

TABLE OF CONTENTS

Title **Page**

TABLE OF CONTENTS
(Continued)

I. Summary[1]

The purpose of this decision is to continue our efforts to standardize the policies and procedures for implementing and reporting the results of low-income assistance programs, across utilities. Today's determinations apply to the low-income assistance programs implemented by Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E), Southern California Edison Company (SCE) and Southern California Gas Company (SoCal), collectively referred to as "the utilities."

We adopt the utilities' proposed definitions and reporting format for bill savings and program costs associated with the low-income energy efficiency program, and present the results of the bill savings analysis to date. The utilities are directed to present regular updates of bill savings and program cost information with their annual reports on low-income programs, beginning with the May 1, 2002 annual report. As described in this decision, we also adopt standardized formats for reporting the participation of community-based organizations in the LIEE program and program installation costs per dwelling.

We address a number of unresolved policies and procedures regarding the implementation of low-income energy efficiency programs as part of our ongoing standardization efforts. These include: 1) eligibility of customers on business rates, 2) eligibility based on heating fuel, 3) limits on prior participation in the program, 4) qualification of multifamily units and mobile homes, 5) limitations on expenditures by housing type, including master-metered dwellings, 6) inspection frequencies, 6) ceiling insulation levels, and 7) inspector-

[1] Attachment 1 explains each acronym or other abbreviation that appears in this decision.

contractor dispute resolution procedures, among others. Our determinations become effective 30 days from the date of this decision, or January 1, 2002, whichever is later.

In addition, we consider recommendations on how to evaluate the low-income energy efficiency program either overall or on the measure-specific level, taking into account both the cost-effectiveness of the services and the policy of reducing hardships facing low-income customers. We reject the use of a single metric for this purpose, as proposed by the Reporting Requirements Manual Working Group. We direct the utilities to incorporate the non-energy related benefits presented in this proceeding into the existing participant cost and utility cost tests, for further consideration. In particular, we direct the Reporting Requirements Manual Working Group and Standardization Project Team to explore how to consider each test in making final measure selections or in evaluating the overall effectiveness of low-income energy efficiency programs, with public input. A joint report of the Reporting Requirements Manual Working Group and Standardization Project Team with recommendations on this issue is due 120 days from the effective date of this decision.

II. Background and Issues

The utilities currently implement two types of assistance to qualified low-income utility customers: rate assistance and energy efficiency services. Rate assistance is provided consistent with Public Utilities Code (Pub. Util. Code) §§ 739.1 and 739.2 under the California Alternate Rates for Energy (CARE) program. Under this program, eligible low-income households and group living facilities receive up to a 20% rate discount for their electric and gas

consumption.[2] Energy efficiency services are provided consistent with Pub. Util. Code §§ 327, 381.5 and 2790.

Direct assistance to low-income customers in the form of energy efficiency education and measures became a statutory requirement in 1990 with the passage of Senate Bill (SB) 845.[3] This statute directed the Commission to require gas and electric corporations to perform home weatherization services for low-income households "if the commission determines that a significant need for those services exists in the corporation's service territory, taking both the cost effectiveness of the services and the policy of reducing low-income hardships into consideration." Weatherization measures include attic insulation, caulking, weather-stripping, low flow showerheads, water heater blankets and door and building envelope repairs which reduce infiltration.[4] Relamping (i.e., replacing incandescent bulbs with compact fluorescent lamps) and refrigerator replacement has also become a standard service for the utilities. By D.01-05-033, we also authorized the replacement of inefficient air conditioners with high efficiency models, duct sealing and repair, whole house fans, the replacement of inefficient or inoperable water heaters with high efficiency units, and the installation of set-back thermostats and evaporative cooler repair, on a pilot basis. In addition, all of the utilities provide in-home energy education as part of

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[2] The CARE discount was recently increased from 15% to 20% per Decision (D.) 01-06-010.

[3] Some of the utilities, such as PG&E and SDG&E, provided weatherization services to low-income customer prior to the passage of SB 845.

[4] Throughout this decision we use the term "ceiling" and "attic" insulation interchangeably.

their direct assistance programs. We refer to these direct assistance services as Low Income Energy Efficiency (LIEE) programs.

The individual utilities' LIEE programs have evolved somewhat differently since their inception. These differences range from fairly broad variations in policies and procedures to very specific technical differences in installation standards. The Standardization Project discussed herein was initiated to achieve overall consistency across LIEE programs. In addition to standardizing program policies and procedures, the Commission has also encouraged the standardization of reporting costs and program activities for low-income assistance programs, as described further below.

A. LIEE Standardization Project (Phase 3)

Since 1999, at the recommendation of the Low Income Advisory Board, we have moved towards uniform, statewide program designs and implementation of LIEE measures.[5] As we stated in D.00-07-020, this effort ensures that all low-income customers served by the utilities under our jurisdiction are offered a consistent set of services and that contractors participating in the delivery of those services work under consistent rules and expectations.[6] We believe that continuing this effort will improve the consistency and efficiency of providing LIEE services in a nondiscriminatory manner.

The LIEE Standardization Project is being conducted in four phases. Phase 1 and Phase 2 produced statewide weatherization installation standards and a set of common measure-specific policies and procedures, including standardized

[5] See Resolution E-3586, D.99-03-056, mimeo. p.18.

[6] D.00-07-020, mimeo. p. 86.

criteria for the installation of measures in a specific home. These earlier phases also produced standardized policies for customer eligibility, minor home repairs and furnace repairs / replacements, inspection procedures, insulation levels, the eligibility of master-metered units for the program, among others.[7]

The Standardization Project Team (Project Team) consists of the utilities and the project consultants: Regional Economic Research, Inc. (RER) and Richard Heath & Associates (RHA). The Commission's Energy Division assists in coordinating the effort.[8]

The objective of Phase 3 is to continue the development of consistency in LIEE programs across utilities by preparing a common, statewide policy and procedures manual and addressing the following unresolved issues:

- Policies relating to the eligibility of residential customers on a business rate.
- Policies relating to the eligibility of program measures based on the heating fuel used by the customer.
- Limitations on expenditures by housing type, including master-metered units.
- Use of pre-approvals of measures to be installed in individual homes.

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[7] See D.00-09-036 and D.01-03-028. In D.00-09-036, Ordering Paragraph 5, the Commission instructed the utilities as part of Phase 2 to "jointly develop a standardized customer 'bill of rights' for low-income assistance programs, which includes a description of the consumer complaint process", and to describe how they will disseminate this document to customers." We will address the utilities' proposal on this remaining Phase 2 issue, and parties comments, in a separate decision.

[8] In our discussion below, we refer to all Phase 3 recommendations submitted by the project team in this proceeding as the utilities' recommendations, even though the project consultants assisted in their development.

- Standardization of inspection related dispute resolution procedures.
- Eligibility of renters for evaporative coolers and other equipment measures.
- Revisions to ceiling insulation levels based on updated assumptions.
- More detailed specification of the natural gas appliance testing minimum levels, and
- Post-installation sample sizes.

We address these Phase 3 issues in today's decision. In Phase 4, we will develop a uniform set of standards, policies and procedures with respect to natural gas appliance testing, and address the issue of pre-approvals as part of that review. The final Phase 4 report on these issues is currently scheduled to be submitted in April 2003. As discussed further below, we will also address installation standards for refrigerator outlet grounding during Phase 4.

Public workshops on Phase 3 issues were held on April 3 and 10, 2001. The draft workshop report was circulated for written comment among all interested parties before the project team finalized its submission to the Commission. The utilities filed the LIEE Standardization Project Phase 3 Report (Phase 3 Report) on July 2, 2001, which includes recommendations regarding the Phase 3 issues identified above as well as language modifications to comply with the Commission's Phase 2 determinations in D.01-03-028.

Comments on the Phase 3 Report were filed on August 3, 2001 by SESCO, Inc. (SESCO), Service Provider's Coalition (SPC), Insulation Contractors Association (ICA), California Energy Commission (CEC) and PG&E. Reply comments were filed on August 20, 2001 by the utilities (jointly filed), SESCO,

SPC, ICA and jointly by Quality Conservation Services and Winegard Energy (QCS/Winegard).[9]

In response to comments, the utilities revised their recommendations on ceiling insulation levels and supplemented their filing on September 4, 2001 with information on ceiling insulation levels provided currently under LIEE and non-LIEE programs. By ruling dated September 5, 2001, the assigned Administrative Law Judge (ALJ) provided interested parties the opportunity to comment on the utilities' revised ceiling insulation recommendations, the supplemental information filed on September 4, and three additional standardization issues raised in the utilities' reply comments. In addition, the assigned ALJ requested further clarification from the utilities regarding their policies and practices for providing energy efficiency services to non low-income customers who take energy service (e.g., for home heating) from an entity other than the investor-owned utility (IOU).[10] That clarification was provided on September 14, 2001.

On September 20, 2001, ICA filed comments in response to the ALJ's September 5 ruling.[11] Reply comments were filed on October 3, 2001 by the

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[9] The reply comments of ICA, SESCO, SPC and QCS/Winegard were filed one workday late. As explained in their motion for acceptance of late-filed reply comments, the QCS/Winegard courier was unable to reach the Commission on the afternoon of Friday, August 17 due to severe traffic problems on the Bay Bridge. Nevertheless, copies were sent electronically and by US mail to all parties on the due date. We find that no parties have been prejudiced by this delay, and grant the motion.

[10] See ALJ Ruling dated August 24, 2001 in R.98-07-037 and R.01-08-027.

[11] ICA's comments were filed two days late. In their filing and motion for late acceptance, ICA explains that it misread the ALJ's ruling extending the time for filing of replies. The ALJ granted the motion, and we affirm it, finding that no parties were prejudiced by this extension.

utilities (jointly) and SESCO. By ruling dated November 9, 2001, the ALJ requested further comment on two Phase 3 standardization issues, which were addressed by parties in their comments on the draft decision.

B. Reporting Requirements Manual (Phase 2) Including Cost-Effectiveness Testing of LIEE Programs

The Reporting Requirements Manual (RRM) is the repository for the definitions, the formats and the methodologies for recording costs and effects of energy efficiency programs, including low-income assistance programs. The initial RRM resulted from the Commission's direction, provided in D.86-12-095, for Commission staff to develop a consistent and common framework for reporting on demand-side management activities for all major utilities. An ad hoc RRM Working Group (Working Group) was formed to assist in this task, and has convened periodically through the years to address reporting issues. The group usually consists of Commission staff and representatives from the utilities, but is open to all interested parties.

The RRM has been revised several times since 1986. Most recently in D.01-03-028, we adopted the Working Group's Phase 1 recommendations on reporting low-income assistance program information, with certain modifications. In Ordering Paragraph 15 of that decision, we directed the Working Group to develop recommendations on the following issues related to low-income assistance programs in a second phase report:

1. Technical modifications to cost-effectiveness testing and reporting, as appropriate. Methodological issues to be considered include the selection of appropriate discount rates, inflation rates and benefit and cost streams to use in cost-effectiveness analysis. Recommendations shall also address whether (and if so, how) to incorporate comfort, health and safety effects into the cost-effectiveness testing methodology. Avoided costs shall be based on the methodology and assumptions most recently adopted by the Commission.

2. Reporting format and filing frequency for the following information required by D.00-07-020:

   (a) Standardized, consistent training costs;

   (b) Participation of community-based organizations in the LIEE and other information regarding the access of low-income program participants to programs provided by community service providers;

   (c) Information for all utilities in the format presented for PG&E and SDG&E in Exhibits 35 and 36;

   (d) LIEE bill savings and expenditure level information.

Working Group members for the Phase 2 effort included utility program managers and staff involved in the utility-administered low-income assistance programs, representatives from the Energy Division and Office of Ratepayer Advocates (ORA). Representatives from the Community Action Agency of San Mateo County (CCA) and Insulation Contractors Association (ICA) also attended the March 19, 2001 Working Group meeting. The RRM cost-effectiveness technical committee included utility personnel and consultants with expertise and background in the measurement of cost-effectiveness results.[12]

The RRM Working Group Report and accompanying report of the cost-effectiveness technical committee were filed on April 9, 2001. No comments were filed on either submittal. However, ICA and SESCO included brief comments on cost-effectiveness issues in their comments on the Phase 3 Report.

C. Standardized Method For Producing Data on LIEE Bill Savings and Expenditures

During our review of LIEE program year (PY) 2000 issues in Application (A.) 99-07-022 et al., we found our inquiry "limited by the lack of consistent data

[12] The technical consultants were TekMRKT Works, Skumatz Economic Research Associates, Inc. and Megdal & Associates.

on program bill savings, expenditures and cost-effectiveness calculations, with which to evaluate the relative performance of the utilities' LIEE programs."[13] We therefore directed the utilities to develop improved, standardized methods for developing and presenting this information in future Commission proceedings. With regard to bill savings and expenditures, in D.00-07-020 we required the utilities to:

> "jointly develop standardized methods for producing data on 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 Assessment Proceeding [AEAP]. The utilities shall coordinate with Energy Division on all aspects of methodology design and implementation." (D.00-07-020, Ordering Paragraph 7.)

The utilities' final joint report was filed on March 12, 2001. Workshops were held on November 16, 2000 and January 16, 2001 to obtain public input for the report. Attendees included representatives from the utilities, ICA, ORA, Energy Division and several energy research and consulting companies. No comments were filed on the report. In today's decision, we address the report recommendations on cost definitions, energy saving sources and bill savings calculations, and summarize the results for PY1997, PY1998, PY1999 and the first half of PY2000.

III. Reporting LIEE Bill Savings and Program Costs

The March 12, 2001 report on standardized bill savings and expenditures presents common definitions for LIEE administrative and implementation costs,

[13] D.00-07-020, mimeo. p. 64.

internal and outsourced costs and other cost categories. (See Attachment 2.) Using these definitions, the report presents LIEE program costs for PY1997, PY1998, PY1999 and PY2000, through June 2000, for each utility by program element.

These efforts are very useful because the common definitions improve consistency in reporting and evaluating program costs across utilities. We adopt the proposed definitions and reporting format presented in the March 12, 2001 report. They should be used by the utilities in developing all future filings on LIEE program costs until further Commission order. The RRM should be modified accordingly.

The bill savings presented in the report are the lifecycle net present value savings by the dwelling due to the measures installed under the LIEE program. The report utilizes the results of the most recent utility-specific studies performed under the Annual Earnings Assessment Proceeding (AEAP) measurement protocols to determine these savings at the measure level, where possible.[14]

The report describes in detail the specific calculations and variables used to perform the bill savings analysis, including inflation and discount rates, energy rate escalation factors, estimation of the average annual rate, and effective useful life of the measures. As explained in the report, these calculations and variables are consistent with those used in the AEAP, except that here rate projections are used (rather than avoided costs) to develop bill savings.[15]

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[14] See March 12, 2001 Joint Utility Report on Standardized Methods for Producing Data on Bill Savings and Expenditures for LIEE Programs, pp. 6-7.

[15] *Ibid.* p. 11.

The utilities calculate average annual energy rates for LIEE customers based on their customer information and accounting systems. SCE and SoCal calculate an average annual rate by weighting the four annual rates (Tier 1, Tier 2, Tier 1 CARE, Tier 2 CARE) by the percent of customers on the CARE rate and the kWh or therms consumed in each tier. PG&E uses the Tier 1 residential rate. SDG&E determines an average rate for their LIEE participants by summing the total bills for all LIEE participants and dividing by the total consumption of all participants. The energy rates used by each utility for bill savings calculations are presented in Table 1 below:

Table 1: Energy Rates Used for Bill Savings Calculations

	PG&E		SCE	SDG&E		SoCalGas	
Year	kWh	Therm	kWh	kWh	Therm	kWh	Therm
1997	0.1159	0.5691	0.1155	0.1021	0.7296	0.1155	0.5801
1998	0.1159	0.5567	0.1040	0.0928	0.6434	0.1040	0.5715
1999	0.1159	0.5916	0.1040	0.0902	0.5523	0.1040	0.5209
2000	0.1159	0.6537	0.1040	0.1179	0.5926	0.1040	0.6110
All years afterwards	Previous Year * (1+Escalation Rate)						

The bill savings results are presented in two formats: 1) per home lifecycle savings and 2) the ratio of bill savings to program costs. The report also presents graphs showing the variation in results using different escalation rates (0% to 6%) for average annual energy rates. Below, we present the results based on a 3% escalation rate.

Table 2: Summary of Bill Savings to Cost Ratios by Service Area

Program Year	**PG&E**	**SDG&E**	**Combined SCE and SoCalGas**	SCE	SoCalGas with Electrical Impacts
1997	0.95	0.49	0.59	1.39	0.19
1998	0.59	0.31	0.63	1.38	0.22
1999	0.60	0.27	0.51	1.25	0.19
First Half 2000	0.94	0.42	0.52	1.50	0.18

The report discusses these results and presents explanations for the variation in values across utilities.[16] As described in the report, the vast majority of the variation in bill savings to cost ratios across utilities can be accounted for by differences in: 1) savings impacts due to weather variations, 2) program measure mix, 3) the amount of savings by fuel-type, 4) reported program costs, including "lagging" costs, 5) the deployment of refrigerator replacements, 6) the degree to which weatherization measures are bundled in the savings impact analysis, and 8) service area definitions. When these differences are accounted for, the LIEE programs appear to offer comparable savings to customers in PG&E and the overlapping SCE / SoCal service territories. Due to milder weather, SDG&E's service territory receives lower per home savings.

As discussed in the report, there are many variables that are used to derive the bill savings to cost ratio.[17] Some of these will be updated in the AEAP with the completion of additional measurement studies. Assumptions concerning the average rate for LIEE customers, and associated escalation rate will also need to be updated over time. In addition to the formats presented in the April 9, 2001 Working Group report (Tables TA 7.7 and TA 7.8), the utilities should report standardized data on program lifecycle bill savings and bill savings to cost ratios, as presented in Exhibits 4.2 and 4.3 of the March 12, 2001 bill savings report. We direct the utilities to file and serve this information as part of their Annual Report on LIEE activities, due on May 1 of each year. The report due on May 1, 2002 should report this information for PY1999, PY2000 and PY2001. Updates to

[16] *Ibid.* pp. 12-20.

[17] *Ibid.* pp. 15-16.

the variables and calculations used to derive these data should be considered and explained in each annual report, after obtaining public input. The report should also discuss how these variables and calculations continue to be consistent with the measurement studies and other assumptions used to calculate program and measure savings in the AEAP. In addition, the report should discuss and explain variations across utilities. This effort should be conducted jointly by the utilities, so that we retain a standardized approach in reporting bill savings and expenditure information. The utilities should confer with Energy Division with regard to the format and content of the report, prior to filing.

IV. Phase 3 Standardization Issues

As described above, Phase 3 of the Standardization Project is designed to address a number of unresolved policies and procedures regarding the implementation of LIEE programs. The utilities' July 2, 2001 filing includes a statewide policy and procedures manual (P&P Manual), reflecting their proposed resolution of the outstanding issues. A discussion of these issues, including the pros and cons of options discussed during workshops, is included in the Phase 3 Report. In addition, the Phase 3 Report presents the utilities' proposed language changes for incorporating the Phase 2 determinations (D.01-03-028) into the P&P Manual. As part of this filing, the utilities also submitted several additional sections and appendices for the Weatherization Installation Standards (WIS) Manual, which details the installation procedures and standards for LIEE measures. The need for this material was identified during earlier standardization phases. In the following sections, we address the issues raised by the Phase 3 filings and by comments on those filings.

A. Eligibility of Customers on Business Rates

During Phase 2, the utilities recommended that customers on business rates be categorically excluded from eligibility for LIEE measures and services. Several parties took issue with this policy, arguing that there could be circumstances in which low-income residences are served under such a rate. In D.01-03-028, we directed the utilities to consider this issue further during Phase 3.

The utilities now propose to allow eligibility for group homes on non-residential rates, as long as (1) they are currently eligible for CARE under current CARE guidelines applicable to group living facilities and (2) the structure in question is a single family, multifamily or mobile home suitable for weatherization under LIEE standards. CARE-eligible facilities include: migrant farm worker housing centers and group living facilities, such as drug rehabilitation houses, hospices, nursing homes, children's and seniors' homes, homeless shelters and women's shelters.

While SESCO supports the utilities' recommendation to follow the eligibility criteria of the CARE program in this instance, it expresses concern about a footnote in the P&P Manual which states that CARE requires that 100% of the facility's residents meet the 175% guideline. SESCO opposes the application of this requirement to group homes for the LIEE program, arguing that it would make it much more difficult to qualify and treat a drug rehabilitation center, battered women's shelter, or migrant farm worker facility than to treat an entire apartment complex, where only 80% is required. In addition, SESCO argues that it is even more difficult to have 100% of the tenants complete the income verification forms, particularly considering the nature of the

facilities. SESCO recommends that income qualification be considered satisfied upon completion of an affidavit by the facility owners or operators.

In their reply comments, the utilities support SESCO's recommendation concerning the affidavit approach to income verification, noting that CARE also uses self-certification by the owner-operator of the facility.

We believe that SESCO's recommendations have merit, and will adopt them. Attempting to verify individual income eligibility of each resident of a group home serving destitute, transient and / or homeless persons would present serious and unnecessary obstacles to serving this kind of customer. Moreover, we believe that an 80% requirement for group living facilities of this type is a reasonable standard and, as SESCO points out, is consistent with the one we have adopted for multi-family units under the LIEE program. We direct the utilities to modify the language of Section 2.5 (Housing on Non-Residential Rates) of the P&P Manual accordingly.

B. Eligibility Based on Heating Fuel

Currently, there are fuel-related restrictions under the LIEE program with respect to the eligibility of dwelling units for certain measures. For example, if a low-income customer does not take service from the IOU for its space heating needs, the unit will generally not qualify for LIEE weatherization services (e.g., insulation, weather-stripping, caulking), even if that customer uses the IOU's electric service for air-conditioning.[18] However, that unit is still eligible for other

[18] There are some exceptions to this restriction in IOU overlap areas. SDG&E installs all LIEE measures in homes it serves in a small area where its service area overlaps with SoCal's, and SoCal installs weatherization measures in the service area it shares with SCE. SCE and SoCal have an inter-utility agreement covering the large overlap area involving their service areas.

measures under the LIEE program if it takes service from the IOU for other end uses (water heating, lighting and / or refrigeration).

During Phase 2, SESCO and the Commission's Consumer Services Division raised objections to these fuel-related restrictions. In D.01-03-028, the

Commission directed the utilities to consider this eligibility issue, after obtaining public input, and to submit recommendations in the Phase 3 report.

In their July 2 filing, the utilities recommended that current practices be retained. They argue that a change in policy is undesirable because it would provide free weatherization services to customers who heat with fuels on which the public goods charge (PGC) is not collected. In addition, they argue that a policy of providing weatherization services to customers that use non-IOU heating fuels but who have air conditioning would be problematic because of the established minimum standards for natural gas appliance testing.

In order to make current practices more responsive to customers that have heating fuel provided by another supplier, the utilities proposed in their July 2 filing to: 1) establish formal referral procedures with the Department of Community Services Development (DCSD) low-income programs, 2) coordinate the provision of feasible program measures and gas appliance testing between gas and electric IOUs, and 3) offer common energy education and accept customer income qualification documentation in overlap IOU service areas.

In their comments, SESCO and ICA object to the utilities' proposals on both legal and policy grounds, and recommend that the utility install all measures required under LIEE services to any low-income customer in its service area, regardless of the fuels used. If the Commission does not require utilities to provide weatherization services to customers who do not use that utility's fuel for heating, SESCO recommends that the utility be required to provide weatherization services to all such customers that use that utility's services for air-conditioning.

In response to these comments, the utilities revised their July 2 proposal so that, in addition to the referral and coordination steps discussed above, they

would also offer heating, ventilation and air-conditioning (HVAC) and certain water heating measures to homes heated with a non-IOU fuel, as long as SBX1 5 funds are available for this purpose. The HVAC measures would include ceiling insulation, high-efficiency replacement air conditioners, evaporative coolers, evaporative cooler repairs, and whole house fans. The water heating measures would include faucet aerators, pipe wrap, low-flow showerheads and water heater blankets. However, the utilities would not provide infiltration-reduction measures (e.g., caulking or weather-stripping), offer furnace repairs / replacement or replace water heaters operating with non-IOU fuels. The utilities would continue to offer all other feasible LIEE electric measures to homes with non-IOU space heating and / or water heating fuels, such as high efficiency refrigerators and compact fluorescent lamps. They would also perform non-infiltration related minor home repairs associated with LIEE measures for which homes without IOU space heating are eligible.

In considering whether the utilities' modified proposal is reasonable, we first consider the legal arguments raised in SESCO's and ICA's comments. These parties claim that the law clearly requires the utilities to provide their low-income customers with weatherization services, without any limitation in terms of their heating fuels. However, SESCO and ICA do not present or discuss the specific legal requirements in their comments. Because SESCO refers in passing to Assembly Bill (AB 1393) and "each of its predecessors," we surmise that Pub. Util. Code § 2790 is the basis for their argument.[19] That section states the following:

[19] SESCO Comments, p. 11.

"(a) The commission shall require an electrical or gas corporation to perform home weatherization services for low-income customers, as

> determined by the commission under Section 739, if the commission determines that a significant need for those services exists in the corporation's service territory, taking into consideration both the cost effectiveness of the services and the policy of reducing the hardships facing low-income households.
>
> "(b)(1) For purposes of this section, "weatherization" may include, where feasible, any of the following measures for any dwelling unit:
>
> (A) Attic insulation
> (B) Caulking
> (C) Weather-stripping
> (D) Low flow showerhead
> (E) Water heater blanket
> (F) Door and building envelope repairs that reduce air infiltration
>
> "(2) The commission shall direct any electrical or gas corporation to provide as many of these measures as are feasible for each eligible low-income dwelling unit.
>
> "(c) "Weatherization" may also include other building conservation measures, energy-efficient appliances, and energy education programs determined by the commission to be feasible, taking into consideration for all measures both the cost-effectiveness of the measures as a whole and the policy of reducing energy-related hardships facing low-income households."

SESCO and ICA interpret this language to mean that the IOUs are required to provide LIEE weatherization measures that reduce heating or air conditioning bills even if that customer does not take service for either of these end-uses from an IOU. However, the plain language of the statute does not specify that requirement. In effect, SESCO and ICA's interpretation of the statute presumes that the term "eligible" in Section (b)(2) is defined *a priori* to include these low-income dwelling units. Moreover, to accept this interpretation, one would have to conclude that the Legislature intended that IOU ratepayers (including low-income customers) pay for free weatherization services to customers who heat or air-condition with fuels on which the public goods charge (PGC) is not collected.

Nothing in the statute language itself or in the Legislative history of AB 1393 supports this conclusion.

Nor is this conclusion supported by the language of Senate Bill X1 5, which in Section 5(a) provides supplemental funding for the LIEE program and other initiatives to "meet the urgent needs of low-income households." Section 5(a) specifically states that such funding should be allocated by this Commission to the customers of electric and gas corporations subject to our jurisdiction. Under Section 5(b), the statute authorizes funding for these same ("analogous") programs for customers served by municipal utilities. Hence, the Legislature has specifically recognized that customers of municipal utilities should be served via low-income assistance programs that are funded separately from those serving IOU customers.

In fact, the language of §2790 only very broadly describes the mission of the LIEE program and leaves key implementation terms, such as "feasible" and "eligible" undefined in the statute. Throughout the many years of providing weatherization services to low-income customers, the Commission has developed numerous policies and procedures to define the eligibility of low-income units (including income requirements and types of units that are eligible), to establish criteria for what measures are feasible and to develop other aspects of program implementation. SESCO and ICA attempt to read into the language of § 2790 an interpretation of eligibility that simply is not articulated in the plain language of the statute and, by its omission, is properly considered by the Commission in implementing the program.

We agree with the utilities that our definition of "eligible" low-income dwelling units, in determining which weatherization measures are feasible, should consider the issue of heating fuel. As discussed above, the statute does

not preclude our consideration of this issue or direct a specific determination. From a policy perspective, we are persuaded by the utilities' arguments concerning customers that do not take service from an IOU for either their heating or air-conditioning usage. In our opinion, the current policy should continue—those customers should not be eligible for weatherization services (e.g., insulation, weather-stripping, caulking) under the LIEE program. However, we will adopt the utilities' proposal to establish a formal referral procedure with DCSD and its local contractor agency network so that customers who do not utilize IOU services for space heating or air conditioning can receive these measures through the federal and state-funded DCSD programs.

With regard to customers who take service from the IOU for air conditioning, but not for space heating, the arguments in favor of providing these customers with infiltration-reduction measures have considerable appeal. Such customers contribute to program funding through their payment of the PGC on electricity use and, in many climate zones, may spend more on cooling than on heating their homes. If infiltration-reduction measures can provide low-income customers with significant savings on their cooling requirements and utility air conditioning bills, it seems reasonable to support a policy of providing these services through the LIEE program. However, providing such services raises cross-subsidy and appliance safety testing issues that persuade us to reject this policy at this time.

SCE describes the cross-subsidization ramifications as follows:

> "As an example, the City of Long Beach has a municipal natural gas utility and does not fall within an IOU's service territory. All SCE customers in Long Beach with natural gas heating 'take their service for space heating from a non-IOU' given that the entire Long Beach area is covered by a non-IOU. Thus, under the Draft Opinion's proposed rules, SCE would be responsible for providing

> weatherization services to all such customers that have air conditioning. This will require that SCE ratepayers fund the entire cost of weatherizing a home in this area, even though because of its cool coastal climate, air conditioning does not typically amount to a large amount of energy usage. Thus, the infiltration-reduction measure savings would most likely have the greatest benefit towards the customer's natural gas heating bill, even though the entire funding for the weatherization would be funded by SCE electric customers."[20]

A policy of requiring the utilities to provide infiltration-reduction measures to homes that are not heated with IOU fuels (even if they take service from the IOU for air conditioning) also raises the following appliance safety testing issues:

1. What appliance testing procedures should be used to ensure that the infiltration-reduction measures will not pose health hazards when installed in homes with non-IOU fuels (e.g., wood stoves and propane systems)? In particular, should the utility pre-test the home for CO and other combustion-related hazards in the homes of LIEE weatherization recipients? Or should the utility wait and perform a post-test to detect any safety problems, once the infiltration-reduction measures are installed?
2. If safety problems are detected during testing, what immediate actions should be taken in response (e.g., shut off appliances, notify local authorities, implement repairs)?
3. Should the utilities be responsible for repairing the non-IOU fueled heating appliances? If not, who should be? If so, what standards should be adopted for making such repairs and how are they to be funded?

These issues have been debated in this proceeding (and its predecessor) with respect to natural gas appliance safety testing. Issue 1 is the focus of our

[20] SCE Comments on Draft Decision, p 4.

Phase 4 Standardization Project, which is just underway.[21] However, expanding infiltration-reduction services to non-IOU heated homes requires an examination of space heating appliances and equipment that do not use natural gas, and implementing the safety procedures appropriate to them, which is not a focus of Phase 4. As ORA and others point out, the IOUs do not currently have the expertise to evaluate combustion-related hazards for other types of heating fuels, or repair the heating equipment if problems are found to exist. Nor do they have the authority to require other entities (either the homeowner or non-regulated service provider, such as a municipal utility or propane company) to step in and fix faulty equipment or equipment connections. Until we complete Phase 4, we will not have a comprehensive record with which to examine existing appliance testing procedures for natural gas appliances, let alone those that utilize other fuels. Moreover, the funding issues associated with these expanded testing and repair activities would also need to be addressed.

In sum, providing infiltration-reduction measures to homes that take air conditioning services, but not space heating from the IOU would require the IOUs to assume responsibility for implementing safety testing and repairs on a broad range of heating equipment that is not within their expertise, for which standards have not been established under the LIEE program, and for which funding has not been authorized in rates. We therefore find it unreasonable to adopt such a policy. We may revisit this issue after we complete Phase 4 of the Standardization Project. Today, we adopt the utilities' proposal to offer HVAC measures (including ceiling insulation, high-efficiency replacement air

[21] As discussed in Section F above, we expect the Project Team to also address issue 2 during Phase 4.

conditioners, evaporative coolers, evaporative cooler repairs and whole house fans) to these homes, in addition to the referral and coordination steps submitted with their July 2 filing. SBX1 5 funds may be used at this time to fund these measures, but we do not make this policy contingent upon their continued availability. The provision of these measures should continue as part of LIEE program plans and budget proposals, even when SBX1 5 funds are depleted.[22]

The utilities state that they will establish formal referral procedures with the DCSD low-income programs and local network of LIHEAP contractors, who currently provide safety testing for non-IOU fuels, repair malfunctioning equipment and provide weatherization services to homes that are not served by the IOUs. This should be completed without delay. Based on the record in this proceeding, we believe that building on the success of the utilities' leveraging efforts with LIHEAP agencies is the most appropriate and cost-effective mechanism for weatherizing non-IOU heated homes.

In considering the utilities' modified proposal, we note that no rationale is given for the utilities' decision to provide water-heating measures (e.g., faucet aerators, pipe wrap, low-flow shower heads and water heater blankets) to homes that do not heat water with IOU-fuels. Unlike infiltration-reducing measures where air conditioning is used, these measures do not reduce the use of an IOU fuel or reduce the corresponding utility bill. Nor do these customers contribute to the PGC through this end-use, as they do in the case of air conditioning. In

[22] Nothing in today's decision modifies our determination that the new measures approved on a pilot basis during rapid deployment are subject to review and evaluation before they will be considered for permanent addition to the LIEE program. See D.01-05-033, mimeo. P.37.

effect, this policy would provide free weatherization services to customers who heat water with fuels on which the PGC is not collected. This is the same rationale given by the utilities (and with which we agree) for not providing infiltration-reducing services to customers who heat their homes with non-IOU fuel and do not use air-conditioning. When this rationale is consistently applied, we conclude that LIEE funding should not be used for this purpose, on either an interim or ongoing basis. We direct the utilities to modify Section 2.3.1 of the P&P Manual accordingly.

C. Limitations on Expenditures by Housing Type

In D.01-03-028, we established that master-metered units should be eligible in all utility service territories for LIEE program measures and services. In the past, these units were not eligible under PG&E and SDG&E's programs. We established the same eligibility standards for these units as those for multi-family tenants in individually metered dwellings. However, we deferred consideration of standardizing policies for limiting expenditures by housing type, including master-metered units, until Phase 3.[23]

The utilities propose establishing caps on the treatment of master-metered units (as a percentage of total treated units) that generally reflect the predominance of master-metered dwellings in the service territory, up to a maximum limit of 15%. They present the following figures on the percentage of low-income multifamily dwellings, by utility: PG&E 18%, SDG&E 30%, SCE 8% and SoCal 16%. Accordingly, the utilities recommend a cap of 15% for PG&E, SoCal and SDG&E, and 8% for SCE. In order to avoid contractor concentration

[23] D.01-03-028, mimeo. p. 22, pp. 39-40.

on these units, ICA supports the proposed percentage limitation on them at this time.[24] SESCO argues that these caps are not adequately explained, and recommends that they be set at a higher level, based strictly on the percentages of low-income homes with master-metered service.

The utilities recommended caps on master-metered units represent a reasonable balancing of the issues we discussed in D.01-03-028:

> "Establishing a cap on the treatment of master-metered units is a reasonable way to find a balance in the treatment of low-income customers with different types of metering arrangements. As described above, there are disadvantages associated with treating master-metered customers. Most importantly, it is unclear that master-metered tenants will receive benefits from the program to the same degree as individually metered tenants. While the disadvantages should not disqualify master-metered tenants from participating in the program, we believe that imposing a maximum on such participation is necessary to obtain a reasonable level of overall participant benefits from program budgets." (D.01-03-028, mimeo. p. 39.)

Given that not all of the benefits of treatment will necessarily be enjoyed by occupants, we find the utilities' proposal for a maximum 15% limit to be reasonable at this time. The lower limit for SCE is appropriate because SCE has fewer master-metered customers as a percentage of low-income dwellings. We may revisit the level of these caps in future program-planning proceedings if the statewide needs assessment study indicates a need to serve proportionately more of these units.

SESCO requests that the utilities clarify how these limits will be applied. Specifically, SESCO recommends that, rather than applying the limit uniformly

[24] ICA Comments, p. 7.

to each contractor, the limit should vary by county or geographic areas assigned to a particular contractor to reflect the penetration of master metered units in those areas. In response to the ALJ's November 9, 2001 ruling, the utilities clarified that they do intend to tailor specific contractual limits to the treatment of master-metered units to the geographic areas covered by the contracts in question. They also explain that the percentages should be perceived as long-run targets, rather than strict annual limits. We agree with this approach. Utilities that have not previously treated master-metered units should have the flexibility to exceed these percentage limits temporarily in order to serve the previously unmet need.

Finally, ICA, SESCO and QCS / Winegard recommend that the utilities begin treating master-metered apartments, as part of the rapid deployment effort, rather than wait until PY2002. We agree. The timing of our formal PY2002 program planning process has been deferred in order to implement the rapid deployment plans necessitated by the energy crisis. However, there is no reason to delay treating master-metered units in the meantime. Accordingly, the utilities should include master-meter units in their rapid deployment plans, consistent with the policies adopted today, without delay. The utilities should include a description of their plans and accomplishments in this area in the rapid deployment status reports ordered by D.01-05-033.[25]

To address the overall mix of housing types served under the program, the utilities propose long-term targets for multifamily units, set equal to the proportions of these dwellings in the overall low-income housing stock of each

[25] D.01-05-033, Ordering Paragraph 17.

utility's service area. The targets (% units treated) are as follows: PG&E—23.1%, SCE—51.3%, SoCal—32.8% and SDG&E—47.5%. The utilities state that they intend to "promote or limit the treatment of multifamily units in individual program years as long as these actions are consistent with the achievement of these long-term goals."[26] The utilities argue that, in the absence of such caps, there could be a tendency for contractors to target multifamily dwellings at the expense of single-family dwellings and mobile homes.

SESCO argues that the motivation is exactly the opposite of what the utilities contend. In SESCO's view, the single-family unit provides much greater revenue and profit than is typical for an apartment. Nonetheless, SESCO supports the concept of setting long-term targets for housing types as an alternative to setting specific percentage maximums or minimums for contractors or for counties. To partially offset the tendency of contractors to seek out single-family units, SESCO and QCS / Winegard argue that the utilities should provide for dollar or budget caps

We find the utilities' arguments on this issue persuasive. In spite of SESCO's contentions to the contrary, there appear to be real incentives for contractors to treat a disproportionately large percentage of multifamily dwellings. As the utilities point out, travel and logistics costs are very low for these units because of the high concentration of dwelling units in multifamily complexes. Because these units typically require fewer measures, a contractor may be able to focus on them to achieve its unit goal at a lower cost.

[26] P&P Manual, pp. 2-12 to 2-13.

Caps based on dwelling units are more appropriate than caps based on expenditures for other reasons. Due to accounting delays, the utilities may not know how much has been spent on different housing types until after the end of the contract period, and delays in financial reporting would make dollar-based caps difficult to track and enforce. Caps based on expenditures could also provide contractors an incentive to provide only the most profitable measures, unless they are carefully integrated into a program design that encourages comprehensiveness. This would be counter to the responsibility to provide all measures that are feasible.

However, we believe that the utilities should specify a timeframe for meeting their multifamily unit targets and describe how they intend to track their progress towards them. In doing so, the utilities should discuss reporting options and formats with Energy Division. The utilities should include a breakdown of multifamily and single-family units treated in their rapid deployment status reports and present information on the number of units treated under the program relative to each utility's long-term targets.

D. Limits on Prior Participation in LIEE Program

In D.01-03-028, the Commission determined that low-income families that were denied infiltration measures because they had failed PG&E's pre-testing for natural gas appliance safety should be considered eligible for the measures they did not receive if the test is subsequently passed during a 10-year window.[27] In its comments, SESCO argues that the utilities' proposed policies to comply with

[27] D.01-03-028, mimeo. pp. 16-17.

this directive meet the strict interpretation of D.01-03-028, but fail in the intent due to two factors.

First, SESCO contends that the proposed language does not provide for instances when the natural gas appliance test could not be administered. This can happen if the inspection team and the customer cannot find a mutually acceptable time to conduct the test or because of "no shows" by one or the other. Second, SESCO objects to requiring the customer to have received other *non-infiltration* measures, in order to be able to be reconsidered for the infiltration measures. SESCO argues that, in many cases, prior to 1999 the only measures that would have been installed were infiltration measures.

In their reply, the utilities agree with SESCO's first point, but are silent on the second. We believe that they both have merit and should be addressed in order to fully reflect the intent of the Commission's directives in D.01-03-028. The language of Section 2.8 should be modified accordingly.

E. Fractional Qualification in Multifamily/Mobile Homes

As discussed in D.01-03-028, the purpose of adopting a fractional qualification requirement approach to multifamily units and mobile home parks is to provide treatment for all units when it becomes obvious that the building caters overwhelmingly to low-income families. In that decision, we adopted an 80% fractional qualification requirement applied to all the units in the complex, and not just those untreated.[28] SESCO and QCS / Winegard contend that the utilities did not comply with this direction. We disagree. While the clear intent of D.01-03-028 was to count units that were qualified and treated under the LIEE

[28] D.01-03-028, mimeo. pp. 17-19; Ordering Paragraph 3 (a).

program in prior years towards the qualification requirement, the decision is silent as to how many "prior years" to consider for automatic income qualification.

SESCO and QCS / Winegard propose that any dwelling unit that was previously treated during the ten years prior be counted as being occupied by an income-qualified household. Although the rationale for this timeframe is not discussed in their comments, presumably it was chosen because homes that have been treated under the LIEE program within the past 10 years are generally not eligible for participation in the current program. In their reply comments, the utilities request that we establish a policy that only those units treated within the past two years be assumed to be income-qualified.

The 10-year window is not appropriate in this instance. We adopted this timeframe for the purpose of determining whether or not an income-eligible home that requests program participation can receive LIEE services and measures if the home had been previously treated. We determined that a 10-year timeframe for this purpose was reasonable because it coincides on average with the mix of measures and measure lives installed through the program.[29] However, that customer must still meet the income documentation requirements of the program. In contrast, under the SESCO and QCS / Winegard proposal, any unit treated during the prior ten years would be automatically considered income eligible in the context of the fractional qualification of multifamily complexes and mobile home parks.

[29] *Ibid.* Finding of Fact 7.

We are persuaded by the utilities that this 10-year window is simply too long a period to make this assumption of income qualification. As they point out, apartment buildings in many downtown areas can become "gentrified" during this timeframe and thus occupied by progressively higher income levels. Major changes in occupancy could occur over a ten-year period.

At the same time, we find the utilities' proposed two-year rule to be too short a timeframe for this purpose. We doubt that the overall income level of mobile home parks or multifamily complexes change significantly over this time frame. In our judgment, a five-year window represents an appropriate balancing of concerns. It is long enough to facilitate the qualification of these units without undue paperwork and delays, and short enough to address concerns raised by the utilities.

F. Limits on Minor Home Repairs and Furnace Repairs/Replacements

In D.01-03-028, the Commission determined that the 20% overall expenditure limit on minor home repairs / furnace replacement and repairs adopted by Resolution E-3586 would apply to all utilities. In its comments, SESCO proposes to redefine the 20% cap on minor home repairs in terms of weatherization expenditures.

We concur with the utilities that redefining the percentage limitation in terms of weatherization expenditures could unduly restrict minor home repairs, particularly since the rapid deployment measures may necessitate additional repairs of this nature. Moreover, as the utilities point out, the increase in overall program funding due to the passage of SBX1 5 is a one-time phenomenon and utility PY2001-PY2002 participation goals have temporarily increased under the adopted rapid deployment policy. No further changes to this policy are necessary.

We also reject SESCO's position that any repairs or actions taken in response to carbon monoxide problems should not be charged to the LIEE budget. Under current program policies and procedures, all minor home repairs, whether related to carbon monoxide testing or not, are charged to the LIEE program because, without such repairs, certain infiltration-reducing measures would not be considered feasible. As we consider Phase 4 issues regarding the standardization and timing of natural gas appliance testing procedures, we may revisit this funding issue.[30] However, at this time we authorize the utilities to continue their current practice of funding all minor home repairs provided under the program out of the LIEE budgets. Nonetheless, as discussed further below, we reaffirm our policy that natural gas appliance testing should not be billed to the LIEE program or any other public purpose funds.[31]

SESCO also criticizes the proposed P&P Manual because it does not specify which actions could be taken by weatherization contractors to respond to carbon monoxide problems. This issue should be researched and addressed under Phase 4. We expect the final report in Phase 4 to include such specifics for our consideration.

G. Frequency of Inspections

In D.01-03-028, we adopted the utilities' proposal to establish minimum sample sizes for post-installation inspections of all jobs not involving ceiling

[30] This is not intended to prejudge the issue of whether natural gas appliance testing should be conducted prior to measure installation (presumably giving rise to minor home repairs that are needed before measure installation based on the test results). This issue will be addressed during Phase 4.

[31] See, in particular, our discussion of this issue in D.98-06-063 (pp. 6-9), D.00-07-020 (p. 108) and D.01-03-028 (pp. 34-35.)

insulation.[32] We rejected SESCO's proposal that the utilities establish upper limits to the inspections of these jobs. However, we directed the utilities to "describe the circumstances that may warrant larger sample sizes than the minimums presented." We also directed the utilities to keep records of actual inspection frequencies, by contractor, as well as the number of minor corrections.[33]

The proposed P&P Manual contains the following language to address this Commission direction:

> "Circumstances that may justify larger sample sizes include, but are not limited to, the following:
>
> 1. If the utility's program is small enough that 100% post inspections can be conducted without substantially increasing overall program expenditures.
>
> 2. If a particular contractor exhibits a pattern of inspection failures that justifies inspection of a higher percentage of jobs.
>
> 3. If a contractor is on a quality improvement plan which requires them to improve their inspection rates.
>
> 4. If contractor crews are newly trained or new to the program, and require closer field supervision and on the job training.
>
> 5. If a contractor's installation crews are not sure of the program inspection standards, as exhibited in failed inspection results.
>
> 6. If a contractor's allocation of homes covers multiple counties.
>
> 7. If post-inspections are done in conjunction with post-installation natural gas appliance tests.

[32] All jobs that involve ceiling insulation will continue to be inspected.

[33] *Ibid.* p. 24.

8. If sample inspection results are also used to estimate measure pass rates for the population of homes treated by a contractor.

Utilities will keep records of actual inspection frequencies by contractor."

SESCO objects to most of this language, arguing that it will allow the utility to "make up whatever reasons it cares to do in order to arbitrarily increase the inspections", thereby taking needed funds away from installations.[34] In particular, SESCO proposes that the list represent the only circumstances under which sample sizes can be increased, and that items 6-8 above be removed. In addition, SESCO recommends that the utilities be required to report records of actual inspection frequencies by contractor.

The utilities have the ultimate responsibility to ensure quality control of the LIEE program. In order to discharge this responsibility, we believe that the utilities need to be able to use their judgment in determining whether or not the minimum sample sizes should be exceeded. The utilities are not restricted in their inspections of jobs conducted under other energy efficiency programs, and we agree that they should not be unduly constrained under the LIEE program. In D.01-03-028 we made this policy clear with our rejection of SESCO's proposal to adopt a maximum limit on inspections. Our request for further information in D.01-03-028 was not intended to limit the right to inspect contractors' work. The language presented above complies with the Commission's directives and will be adopted, subject to the clarifications discussed below.

With regard to SESCO's recommendations to eliminate item 6 above, we agree with the utilities that larger sample sizes may be warranted in these

[34] SESCO Comments, p. 7.

instances. Contractors working in multiple counties typically have multiple work crews, and a larger sample size may be needed to estimate the failure rates for individual crews with reasonable precision. The utilities proposal to clarify the language of item 8 should address SESCO's concerns over that language, and we adopt those modifications.

With regard to item 7, we share SESCO's concern about potential cross-subsidization if sample sizes are increased when post-inspections are done in conjunction with post-installation carbon monoxide appliance testing. The utilities argue that there are economies associated with conducting the two inspections at the same time. However, as SESCO points out with numerical examples, if the post-inspection is not justified by other causes to ascertain quality, it represents a cross-subsidy to carbon monoxide testing.[35]

We reiterate our policy that inspections for carbon monoxide problems should not be funded with LIEE monies.[36] We encourage the utilities to take advantage of the economies it discusses in its filings by conducting these two procedures together, whenever practicable. However, as SESCO suggests, the amount charged to the LIEE budget for the post-installation inspection should be the net cost of the visit after the full cost of the stand-alone natural gas appliance test is subtracted. This will remove the potential for cross-subsidization from a decision to increase the inspection sample size.

[35] SESCO Comments, p. 8.

[36] See, for example, D.01-03-028, mimeo. pp. 34-35.

H. Eligibility of Renters For LIEE Equipment

During our consideration of Phase 2 issues, we directed the project team to fully address the issue of providing renters with evaporative coolers in Phase 3, including the issue of customer co-payments on evaporative coolers.[37] As part of the rapid deployment strategy adopted in D.01-05-033, we established an interim policy that rental units should be eligible for evaporative cooler units and hard-wired fixtures, without charge (no co-payments) to either the tenant or the landlord. We directed that refrigerators and air conditioner replacements also be made at no charge, except where the landlord owns the refrigerator or air-conditioning unit *and* also pays the utility bill. In these instances, partial incentives like those offered in the utilities' rebate measures (rather than free measures) would be offered.

We also established a policy that rental units should not be eligible for furnace replacements or major furnace repairs, because landlords have a legal responsibility to maintain heating systems in rental units. However, we indicated that we might revisit this policy as we considered the recommendations in Phase 3.[38]

In the Phase 3 report, the utilities recommend that our interim policies on furnace replacements or major furnace repairs continue beyond PY2001. However, they propose that they be permitted to make minor repairs and adjustments to furnaces if these actions would improve the performance of the

[37] D.01-03-028, mimeo. pp. 35-36.

[38] D.01-05-033, mimeo. pp. 35-37.

system at a minimal cost. We find this minor modification to be reasonable, and will adopt it.

The utilities also recommend that the program continue to provide rental units with evaporative coolers and hard-wired fixtures at no charge to either the tenant or the landlord. In their experience, landlords do not believe that they will receive any direct significant benefits from these measures, and are unlikely to be willing to contribute to their costs, thereby denying low-income tenants access to these measures. We find this argument persuasive, and will continue the interim policy established in D.01-03-055 beyond the rapid deployment period.

With regard to refrigerator replacements, the utilities propose the following language:[39]

> "Refrigerator replacements should also be provided at no charge if the units belong to the tenants. However, if the refrigerator is owned by the landlord, the utilities may make payments to installation contractors that cover only part of the cost of replacement."[40]

Under this proposal, renters who pay the utility bills, but do not own the refrigerator, would not receive the benefits of refrigerator replacement unless the landlord is willing to contribute to the cost of a new, high efficiency refrigerator. The utilities argue that this approach is reasonable because "landlords are generally willing to contribute a portion of the cost of refrigerators what will

[39] The Phase 3 Report and P&P Manual is silent on the issue of air conditioner replacements for rental units.

[40] P&P Manual, Section 2.7.2; Phase 3 Report, pp. 3-15.

become their property, because of the benefits they receive."[41] We do not find this argument persuasive in situations where the tenant, rather than the landlord, pays the utility bill. Reducing utility bills *is* the largest benefit of a high efficiency refrigerator. Moreover, there is no evidence to suggest that the rental value of the low-income housing unit will increase just because the refrigerator or air conditioner is replaced with a newer model. We believe the approach we adopted for rapid deployment more effectively balances the interest of those tenants that pay their utility bills, with concerns over subsidizing landlords. As we stated in D.01-05-033:

> "This approach permits low-income tenants who pay their own electric bills, but may not own their air-conditioning or refrigerator equipment, the ability to benefit from the energy efficiency improvement that will help reduce their usage. At the same time, it provides for the rapid deployment of these peak load reducing appliances in low-income rental housing, while mitigating concerns over subsidizing landlords with low-income program funds."[42]

We will retain the approach adopted in D.01-05-033 for refrigerator and air conditioner replacements in rental units after the rapid deployment period. The utilities are directed to modify the language of Section 2.7.2 of the P&P Manual, accordingly.

I. Natural Gas Appliance Testing

During Phase 2, we adopted a minimum standard for natural gas appliance testing. This standard entails a mix of tests, including visual examinations, combustion air evaluation, ambient carbon monoxide tests, and

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[41] Phase 3 Report, pp. 3-15.

[42] D.01-05-033, mimeo. p. 36.

draft tests. In response to comments, we directed the project team to provide more detailed specifications for these standards, including threshold carbon monoxide (CO) levels.[43]

The Phase 3 report contains such specifications. In particular, it includes the designation of a threshold CO value for investigation and corrective action. The project team recommends that this threshold be set at a CO exposure level of 10 parts per million (ppm). The facts described below were taken into consideration by the project team in making this recommendation.

The CO action level utilized by DCSD and most local jurisdictions for indoor air is 10 ppm, which means that the maximum allowable level is 9 ppm. For outdoor air, the Environmental Protection Agency's standard for exposure to CO is 35 ppm during just one hour. Most CO limits were developed for workplace applications and are based on an average 8-hour exposure followed by 16 hours away from the workplace. In contrast, in a residential setting, occupants are usually present for periods longer than 8 hours. Infants, young children, pregnant women and the elderly are believed to be more susceptible to CO poisoning, and they are often in the home for long periods of time.

Based on the record in this proceeding we believe that a 10 ppm action level for CO exposure is reasonable. With the exception of this modification to the utilities' proposal, we adopt the specifications provided for gas appliance testing in Table 10-1 of the P&P Manual.

[43] D.01-05-033, Ordering Paragraph 6(j).

J. Ceiling Insulation Levels

In D.01-03-028, we adopted an interim approach for establishing ceiling insulation levels, pending our final determination of the overall LIEE cost-effectiveness methodology. We directed the utilities to update the designation of ceiling insulation levels during Phase 3.[44] They did so in their July 2 filing, based on the LIPPT methodology presented by the Working Group and updated avoided costs. (See Section 6 below.)

PG&E, SPC, ICA, SESCO and CEC objected to the ceiling insulation levels presented in the July 2 submittal, arguing that those levels were inappropriately lower than current LIEE program standards and inconsistent with current California Code of Regulations, title 24, Building standards (Title 24). In response to these comments, the utilities revised their proposal as follows:

Table 3: Utilities' Proposed Ceiling Insulation Levels (Revised 8/17/01)

Climate Zone	Existing Insulation Level	Action
All CEC Climate Zones with less than 5,000 heating degree days	R-11 or less	Raise R-Value to R-30
	More than R-11	Do not install additional insulation
All CEC Climate Zones with 5,000 or more heating degree days	R-19 or less	Raise R-Value to R-38
	More than R-19	Do not install additional insulation

ICA recommends that this issue be deferred until Phase 4. In ICA's view, the new recommendations are unclear, subject to numerous interpretations and fail to reasonably follow the CEC recommendations. SESCO contends that the Title 24 standards do not permit the application of the 5000 heating degree day test to an entire CEC climate zone. SESCO also argues that the use of CEC

[44] D.01-03-028, mimeo. p. 30.

climate zones results in no meaningful differentiation throughout the state. SESCO recommends against deferring this issue. Instead, SESCO proposes that the LIEE program utilize the more disaggregated DCSD procedures for determining when to install ceiling insulation, at least on a temporary basis.

We conclude that the revised ceiling insulation levels are reasonable and should be adopted. We find that the revised recommendations are now consistent with the relevant language in Title 24:

> "**Attics**. If insulation is installed in the existing attic of a low-rise residential building, the R-value of the total amount of insulation (after addition of insulation to the amount, if any, already in the attic) **shall be at least R-30, if the building is located in an area that has less than 5,000 heating degree days, or R-38 if the building is located in an area that has 5,000 heating degree days or more.** (Emphasis added.)[45]

Defining "areas" in terms of the sixteen CEC climate zones is reasonable in terms of the CEC's insulation-related policies since new construction insulation standards are applied at that level. Using the CEC climate zone definition of area is preferable to using a more disaggregated approach providing a list of locations (typically a city or a town) with heating-degree-days because degree-day estimates are not available for many locations in the state.[46] This approach should not seriously discriminate against households in other climate zones with extreme weather. According to the CEC's listings, there are 36 locations (cities or

[45] Section 118(d) 1 of Part 6, Title 24, California Code of Regulations.

[46] Appendix C of the CEC's Title 24 Residential Manual lists 617 locations and provides heating degree-days for only 297 of these locations. In contrast, Appendix C does list a CEC climate zone for all 617 locations, so it would accommodate the specification of insulation requirements by climate zone. See October 3, 2001 Reply Comments, pp. 5-6.

towns) with heating degree days greater than 5,000. All but three of these locations are in the CEC's Climate Zones 1 and 16 (the zones that would be designated for R-38 under the recommended approach). The three that are not included appear to be weather stations, rather than cities or towns, and do not represent significant populations.[47]

As we noted in D.01-03-028, some degree of reduced accuracy is inevitable when aggregation or generic assumptions are utilized to simplify procedures for determining appropriate ceiling insulation levels. Based on public input at workshops, we agreed with the utilities then—and continue to agree—"that it is reasonable to attempt to simplify the process as much as possible so that field crews can work with these new requirements effectively. In this respect, we may diverge from the specific procedures currently in effect under the DCSD's weatherization program."[48] The DCSD procedures for establishing ceiling insulation levels are undergoing departmental review at this time. These procedures would need to be carefully reviewed before considering their adoption for the LIEE program.[49]

SESCO argues that the minimum thresholds to be used for insulation should at least vary with respect to the heating degree days in each climate zone.[50] The conceptual basis for SESCO's position has some merit (i.e, the cost-effectiveness of the added increment of insulation is affected by the location's

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[47] *Ibid.*

[48] D.01-03-028, mimeo. p. 28.

[49] October 3, 2001 Reply Comments, p. 6.

[50] SESCO's Reply Comments, October 3, p. 3.

heating degree days). However, we are persuaded to adopt the utilities' approach to establishing threshold ceiling insulation levels at this time for the following reasons:

> "First, [the] revised recommendation accords symmetric treatment to threshold and completed levels of insulation. Title 24 specifies two alternative completed levels of insulation because the economics of insulation differ appreciably between areas with above and below 5,000 heating degree-days. Similar reasoning would suggest this level of heating degree-days is a reasonable dividing line for threshold values. Second, Table 3 recognizes the realities of the market. In the event that some insulation is in place, but that the level falls short of satisfying the new Title 24 requirements for retrofits, it is likely to be either R-11 or R-19. Third, Table 3 aligns reasonably well with the economic analysis of ceiling insulation. It is generally cost-effective to install ceiling insulation when the

> existing R-value is at or below R-11, so there is little value in using values less than R-11 as thresholds. Moreover, making a special trip to install insulation over R-19 rarely would make economic sense, so it is probably not wise to use thresholds above R-19, even in the most extreme climates. While it would be possible to fine-tune the threshold values between R-11 and R-19, this would add little to the effectiveness of the Program in serving low-income customers. Fourth, developing an expanded set of specific threshold values for a large set of narrowly defined climate conditions is inherently a complex quantitative analytical process."[51]

Based on the above, we adopt the utilities' revised recommendations for ceiling insulation levels. The P&P Manual should be amended to include those revisions. The documents should also provide a list of locations that fall into each of the sixteen CEC climate zone, indicating which zones have heating degree-days that exceed 5,000. We clarify that the actions listed in the third column of the table above refer to the final level of insulation, including any pre-existing values as well as insulation added under the program. We adopt these levels on a forward-looking basis, with the understanding that homes previously receiving lower levels of ceiling insulation under the LIEE program will not be revisited to bring insulation up to the new higher level. We agree with the utilities that, because these homes already have at least R-19, the additional benefits of adding insulation would be far smaller than the associated costs.

With these clarifications, we are persuaded that the utilities' proposal both meets the requirements of Title 24 and balances the objective of developing procedures to incorporate climate variations into workable, standardized ceiling insulation procedures, with the goal of providing a reasonable level of

[51] Project Team Comments on Draft Decision, November 29, 2001, pp. 8-9.

weatherization services to program participants at reasonable costs to non-participating ratepayers.

K. Inspector-Contractor Dispute Resolution

In D.01-03-028, we directed the utilities to develop standardized inspector-contractor dispute resolution procedures during Phase 3, stating:

> "We believe that this is an important issue to address and direct the utilities to make this a high priority for Phase 3. We share SESCO's concerns that current dispute resolution methods may not provide sufficient impartiality on the part of the arbitrator if that person is also a utility employee. Alternatives should be carefully considered."[52]

The proposed P&P Manual simply states under this topic that "dispute resolution procedures differ across utilities because of differences in outsourcing practices."[53] The utilities argue that these differences are reasonable because: 1) the utility has no reason to act unfairly in resolving such disputes, 2) the neutrality of third party arbitrators could still be challenged, and 3) adding an additional entity to visit homes in order to resolve disputes could violate customers' privacy and erode customer satisfaction.[54] SESCO objects to the practices of those utilities that continue to use utility personnel to resolve disputes between LIEE service providers and utility inspectors.

As SESCO points out, if the utility outsources the inspection function, then it is not a party to disputes between inspectors and installation contractors. Therefore, the utility should be allowed to select in-house personnel to arbitrate

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[52] D.01-03-028, mimeo. p. 25. See also Ordering Paragraph 6(g).

[53] P&P Manual, pp. 8-4.

[54] Phase 3 Report, pp. 3-14.

disputes under these circumstances. We note that SoCal has this type of dispute resolution practice, and SCE recently adopted a similar model using a third party mediator. PG&E and SDG&E, on the other hand, retain their inspection functions in-house and select in-house utility personnel to arbitrate unresolved disputes between their inspectors and contractors.

We agree with SESCO that this practice should not continue. Contrary to the utilities' assertions, we do not believe that such disputes can be arbitrated in a neutral fashion if utility personnel are evaluating the judgment or actions of their colleagues. Moreover, it is common practice to have a procedure whereby a neutral third party arbitrates disputes—and not just with respect to inspectors and installation contractors. There are numerous professional arbitration and mediation services, even some specializing in contractor issues. Binding arbitration provisions in contracts can address the utilities' concerns about challenges to the determinations reached by a third party arbitrator. With regard to any imposition on customers of three different entities (the contractor, the inspector and a dispute arbitrator) visiting a home to resolve a dispute, we observe that this would be unavoidable regardless of which entity is charged with each function. Nonetheless, we see no problem with utility personnel attempting to mediate or facilitate resolution of issues between inspectors and contractors, as long as a third party arbitrator is available for unresolved disputes when utility personnel perform the inspections.

We find appeal in SESCO's suggestion that the cost of the service be born by the "losing" party. We will also adopt language, as SESCO suggests, to ensure that the selection of an arbitrator is done in a neutral fashion.

L. Lead-Safe Practices

The project team included an appendix on lead-safe weatherization practices in its July 2 filing. SPC, SESCO and ICA object to the inclusion of this material, arguing that it was not requested by the Commission or discussed during workshops. In their view, this appendix goes far beyond that which the law requires or normally accepted industry practices.

The utilities explain that the subject came up in previous public workshops on standardization project issues, and was intended to assist LIEE program contractors with implementing lead-safe practices required by federal and state regulations. The utilities agree to remove this appendix from the WIS Manual.

We will remove this material from the WIS Manual. Nonetheless, contractors must agree to comply with all state, federal and local laws and regulations when they join the LIEE programs.

M. Measure Pre-Approval

During Phase 2, SESCO objected to the process by which PG&E pre-approved measures to be installed in the home, and raised the issue of how inspectors should evaluate contractors' work with respect to pre-approvals in determining a "pass" or "fail" situation. As we discussed in D.01-03-028, the Phase 2 report did not provide sufficient information with which to evaluate the pre-approval process that PG&E employs, or to compare that process with the pre-installation inspection procedures of the other utilities. We directed the utilities to examine this issue further during Phase 3.

In their July 2, 2001 filings, the utilities present comparison information on their pre-installation inspection procedures and recommend that they each be permitted to continue the use of these procedures, rather than adopting PG&E's

pre-approval process on a standardized basis.[55] SESCO objects to this recommendation, and also argues that PG&E's extensive pre-approval process is disruptive to the delivery system, is not cost-justified, and inappropriately subsidizes the cost of PG&E's unique gas appliance testing procedures. The utilities respond in their reply comments that differences in natural gas appliance testing procedures warrant differences in pre-approval practices across utilities pending the further consideration of these testing policies under Phase 4.

We will defer a detailed examination of this issue until Phase 4, when we can consider pre-inspection procedures in the context of standardized gas appliance testing. In the meantime, we will permit the utilities to continue with their current pre-inspection approaches. We note that PG&E has clarified that any measures on the pre-approval list that are overlooked by the contractor, if corrected within 10 days, will not result in a post-inspection "fail."

As SESCO points out, any subsidization of natural gas appliance testing with LIEE funds is contrary to established Commission policy. Accordingly, if pre-approval inspections are conducted in combination with natural gas appliance testing, the amount charged to the LIEE budget should be the net cost of the visit after the full cost of a stand-alone natural gas appliance pre-test is subtracted. This will prevent the LIEE pre-approval inspection from being used to subsidize a testing program that is to be funded outside of the LIEE budgets.

N. WIS Manual Copyright

The consultant's (RHA) contract provides that PG&E, SDG&E, SCE, and SoCal will jointly own all copyrights and other intellectual rights in all analyses,

[55] P&P Manual, Section 8.3; Phase 3 Report, Section 3.6.

data, databases, documentation, reports, inventions, processes, software and other works of authorship produced by consultants, with one exception. The consultant will retain ownership of the graphic art in the WIS Manual(s), and the utilities will have unrestricted licenses to use this graphic art in the statewide programs, with each party having the right to the reasonable use and reproduction of the material.

SESCO and QCS / Winegard argue that public purpose program contracts should not permit contractors to retain ownership of the graphics. As a general rule, we agree that consultants should not own intellectual property developed during the implementation of contracts paid for through public purpose programs. Virtually all Commission contracts include a provision stating that any data or other intellectual property developed pursuant to the contract belongs to the State and cannot be used without the Commission's permission.

Here, however, it is reasonable to approve a different approach. As the utilities discuss in their reply comments, RHA had written versions of weatherization manuals and had invested a considerable amount in the development of graphs and pictures for them before entering into the contract at issue. These pre-existing graphs and pictures were subject to RHA copyrights, and were one of the assets that RHA brought to the bargaining table. The negotiated contract budget assumed that RHA would retain ownership of these graphics, and the outright purchase of these graphics would have substantially increased the contract price.

While some of RHA's pre-existing graphics may be modified, and some new graphics developed during the term of the contract, it would in many cases be difficult to determine precisely where the pre-existing graphics ended, and the modifications began. Even if RHA did use some of this material elsewhere, it

would be awkward, at best, to develop an agreement that would provide the utilities with substantial benefits from licensing RHA to use this limited subset of graphics elsewhere. In any event, since the negotiated budget assumed that RHA would own the graphic art in the WIS manual, regardless of whether it was previously copyrighted by RHA, the contract price already implicitly captures the benefits of giving RHA the right to reasonable use and reproduction of the material.

O. Other Issues

On pages 25 and 26 of SESCO's comments, SESCO raises several issues relating to Chapter 7 of the P&P Manual. In their August 17, 2001 reply comments, the utilities responded to each issue, as presented in Attachment 3. We have reviewed these responses and find them to be reasonable. Accordingly, the project team should revise Sections 7.3.17 and 7.3.19 of Chapter 7, as described in Attachment 3. However, with regard to the provisions on refrigerator sizes, we clarify that the utilities are permitted to exhaust their current inventories of refrigerators before the requirements take effect. We agree with the project team that further modifications or clarifications to the language in Chapter 7, as suggested by SESCO, are not warranted.

ICA and SESCO recommend that Phase 3 be kept open for further corrections and review. Similarly, in Section 6 of the Phase 3 Report, the utilities propose a process for considering changes to the manuals or measure mix for PY2003. We see no reason to keep this particular phase of the standardization project open or to adopt specific procedures for modifying the P&P Manual and WIS manuals at this time. Nothing prohibits the Commission from revisiting program implementation issues in the future, should circumstances warrant. However, today's determinations, and those made during earlier phases of the

standardization process, will govern program implementation in PY2002 and beyond until further notice.

ICA and SESCO's comments contain a discussion of natural gas appliance safety testing issues.[56] Natural gas appliance testing involves testing for gas leaks and other carbon monoxide emissions from natural gas appliances. These issues are to be addressed during Phase 4, per D. 01-03-028 and Assigned Commissioner rulings. We do not address them here.

The utilities recommend that Phase 4 be expanded to include the development of installation standards for refrigerator outlet grounding. The utilities have received complaints from LIEE eligible customers who cannot obtain replacement refrigerators because the wall outlets in their homes are not properly grounded per current building codes. We agree with the need to address this issue so that it is feasible to install replacement refrigerators in low-income homes as expeditiously as possible. Recently, DCSD has authorized its service providers to ground kitchen outlets used for refrigerators as part of its weatherization program.

The utilities should work closely with DCSD to coordinate and effectively leverage program resources in addressing this issue. We authorize the Project Team to develop installation standards for refrigerator outlet grounding as part of its Phase 4 efforts; however, this aspect of Phase 4 should be filed with the Commission's Docket Office and served on all parties in this proceeding as soon as it is completed. The filing should include a description of how refrigerator outlet grounding efforts under LIEE will be coordinated with those initiated

[56] ICA Comments, pp. 5-7, SESCO Comments, p. 22.

under DCSD, and how limited program funds will be leveraged by the joint effort. Comments will be due 15 days from the date of filing, and replies are due 10 days thereafter.

P. Implementation of Adopted Changes

Per D.01-03-028, the policies and procedures adopted during Phase 2 and 3 of the standardization project will apply to LIEE programs implemented in PY2002. Rapid deployment does not change this timeframe.[57] Accordingly, the P&P Manual and WIS appendices presented by the utilities in their July 2, 2001 filing, as modified herein, shall become effective on January 1, 2002, or 30 days from the effective date of this decision, whichever comes later.

V. Cost-Effectiveness Testing

Pub. Util. Code § 2790(a) directs the Commission to consider "both the cost effectiveness of the services and the policy of reducing the hardships facing low-income households" in designing LIEE programs. To formalize these considerations in program evaluation, we directed the Working Group to develop cost-effectiveness testing procedures that consider reductions in hardship. The Project Team was assigned the task during Phase 3 to recommend a specific methodology for evaluating program measures using these procedures.[58]

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[57] See D.01-05-033, mimeo. p. 67; Conclusion of Law 16.

[58] See Assigned Commissioner's Ruling in R.98-07-037, dated April 28, 2000; D.00-09-036, mimeo. pp. 21-22; D.01-03-028, mimeo. pp. 46-48; Assigned Commissioner's Ruling on Low-Income Standardization Project in R.98-07-037, dated June 6, 2001.

Currently, we report the cost-effectiveness of LIEE programs using three specific tests, each reflecting a different perspective. These tests originated as part of a Standard Practice Manual developed in the 1980s to evaluate demand-side management (e.g., energy efficiency) programs in general. Per D.01-03-028, we authorized the continued use of these tests for LIEE programs while the Working Group developed its Phase 2 recommendations.

The Participant Cost Test (PC) measures benefits and costs from the perspective of the customer receiving the measures or services. This test compares the reduction in the customer's utility bill, plus any incentive paid by the utility, with the customer's out-of-pocket expenses. In the case of LIEE program measures, where there generally are no out-of-pocket expenses to the eligible customer, the PC basically measures the bill savings associated with the program or measure.[59]

The Utility Cost Test (UC) measures the net change in a utility's revenue requirements resulting from the program. The benefits for this test are the avoided supply costs of energy and demand ("avoided costs")—the reduction in transmission, distribution, generation and capacity costs valued at marginal cost—for the periods when there is a load reduction. The costs for the UC test are the program costs incurred by the utility, including any financial incentives paid to the customers, and the increased supply costs for the periods in which load is increased. Since this test is designed to focus on utility revenue requirements, it does not include any net costs incurred by program participants (which, in the case of LIEE programs, is usually zero).

[59] As discussed in Section 5.H above, landlord co-payments are required for certain equipment installations in rental units, under certain circumstances.

The Total Resource Cost (TRC) test measures the net costs of a program as a resource option based on total costs, including both the participants' and the utility's costs. The benefits are calculated in the same manner as the UC test described above. The costs in this test are the total equipment or measures costs, including installation, operation, and maintenance and administration, no matter who pays for them. In addition, costs for this test include the increase in supply costs for the periods in which load is increased. When there are no co-payments or other out-of-pocket expenses required by the program participant, the TRC and UC tests are identical.

As currently applied, these tests do not include any non-energy benefits associated with the LIEE program. For example, the PC test does not include the benefit of improved comfort from weatherization. The UC test does not include savings from reduced bad debt write-offs or other impacts that saves the utility (and ratepayers) costs. The Working Group considered a number of these benefits, and quantified many of them for inclusion in cost-effectiveness testing. (See Attachment 4.) The Working Group developed adders for each of these benefits so that they could be used in conjunction with the current cost-effectiveness tests, or integrated into a single test.

In its report, the Working Group recommends that the Commission use a new, multi-perspective test, called the Low Income Public Purpose Test (LIPPT), to evaluate LIEE programs overall, as well as specific program measures. The LIPPT is designed to enhance the existing TRC by including a wide-range of non-energy benefits valued from all three perspectives. Like the TRC, the calculation of benefits for the LIPPT reflects avoided costs from a resource perspective.

However, the avoided costs used in the LIPPT (unlike the traditional TRC test) also include adders for environmental externalities.[60] In addition, the LIPPT includes the utility, participant and societal non-energy benefits described in Attachment 4.[61]

In order to demonstrate the applicability of the LIPPT to measure assessment, the Project Team applied this test to the eight new rapid deployment measures adopted in D.01-05-033.[62] For each measure, the LIPPT is calculated by summing the lifetime energy savings and non-energy benefits, and dividing by the measure cost. Four sets of test results are presented for each measure, by residence type and climate zone:

- LIPPT with non-energy benefits using gross savings and costs,
- LIPPT with non-energy benefits using incremental savings and costs,
- LIPPT without non-energy benefits using gross savings and costs, and

[60] They are based on the Ruling on Cost-Effectiveness Values For PY2001 Programs in A.99-09-049 et al., dated October 20, 2000, which adopted avoided costs (including environmental adders) for the evaluation of energy efficiency programs for program year 2001.

[61] As indicated in that attachment, there are no positive values for societal benefits included in the LIPPT test, other than the adders for environmental externalities contained in avoided costs.

[62] These new measures are: high efficiency window / wall air conditioning, high efficiency central air conditioning, programmable / setback thermostats, duct sealing and repair, whole house fans, evaporative cooler maintenance, high efficiency gas water heaters and high efficiency electric water heaters. See Phase 3 Report, Section 5.3.

- LIPPT without non-energy benefits using incremental savings and costs.

As explained in the report, using "gross" savings and costs assumes that the old equipment would not have been replaced for some number of years at least as great as the lifetime of the new equipment. The "incremental" approach assumes that the measures would have been replaced with standard efficiency new units in the absence of the installation of high efficiency units. By presenting the results of both approaches, the Project Team illustrates the potential range of results for each measure, depending upon which replacement assumption is used. The Project Team also presents the LIPPT ratios with and without non-energy benefits to illustrate their importance in the analysis of measure cost-effectiveness. However, the Project Team did not reach any conclusions at this time on which measures should continue beyond the pilot stage, or present a discussion of how they would make such a determination using the four sets of LIPPT results.

SESCO and ICA argue that the LIPPT is flawed because the energy savings are based on the resource benefits of avoided costs, rather than the bill savings to the low-income customer. In ICA's view, the reduction in billing costs is the only quantifiable legal purpose of the LIEE program, and using avoided costs inappropriately underestimates the benefits of the program. In addition, SESCO argues against using gross savings and costs because they overstate the benefits of appliances.[63]

[63] SESCO Reply Comments on Phase 3 Report, p. 4; ICA Comments on Phase 3 Report, p. 9.

We agree with SESCO and ICA that bill savings should not be ignored in the consideration of program measures or overall program effectiveness. However, we do not agree that this should be accomplished by substituting avoided costs with those savings in the LIPPT test. The fundamental problem with the LIPPT test is that, by attempting to merge the benefits and costs from several perspectives, it ends up being somewhat of a meaningless hybrid test. In our view, the LIEE program should be examined from two different perspectives, with some weighing and judgment applied to the results in selecting eligible measures or in evaluating overall program effectiveness.

The first perspective is that of the low-income customer, in terms of reducing hardship. This includes bill savings, as well as non-energy benefits that the program or measure provides to the recipient. When augmented with these non-energy benefits, the PC test provides this perspective. Since the low-income customer generally incurs no out-of-pocket expenses (making the cost component of the test essentially zero), applying the PC test to LIEE programs or measures produces a relative ranking based on hardship benefits to the participating customer.

Our evaluation of the program or individual measures cannot end with simply maximizing the hardship benefits to low-income customers. As previously stated in D.00-07-020, cost efficiency is to be evaluated and considered as well:

> "…we should strive to maximize the participation of eligible participants and work to reduce their electric and gas bills as much as possible, within the constraint of limited funding. At the same time, to protect the interests of non-participating ratepayers that subsidize the costs of the program, we need to ensure that service delivery is as efficient as possible."

> "Meeting the needs of low-income customers as cost-efficiently as possible is also the stated intent of the Legislature, as articulated in Pub. Util. Code §2790, recently amended by AB 1393. This section directs the utilities to meet the need for weatherization services by low-income utility customers 'taking into consideration both the cost-effectiveness of the services and the policy of reducing the hardships facing low-income customers.' Consistent with that intent, we have defined the program in our DSM rules as serving 'an equity objective in assisting customers who are highly unlikely or unable to participate in other residential programs' and therefore the program is not subject to strict cost-effectiveness requirements. At the same time, we have promoted the consideration of cost-efficiency in the provision of these services."[64]

Therefore, we need to also evaluate the LIEE program and individual measures from a cost-efficiency perspective, in terms of the resources required to provide services to low-income customers. Only the UC test is designed to examine cost-efficiency from the perspective of those customers who directly subsidize the program costs through their rates, i.e., non-participating customers. As discussed above, the cost side of the equation is virtually identical under the TRC and UC tests, as is the calculation of energy-related benefits (avoided costs). The benefits side of this test should be enhanced to include reduced carrying costs on arrearages, lower bad debt written off, fewer notices and collection costs, and the other non-energy benefits that reduce utility revenue requirements. (See Attachment 4.)

In sum, the utilities should evaluate the LIEE program and individual measures by calculating both the PC and UC tests, as modified to include the non-energy related benefits associated with each perspective. We must then

[64] D.00-07-020, mimeo. pp. 36-37.

consider how the results of each test should be used in making final measures selections, or in evaluating the effectiveness of LIEE programs from year-to-year or across utilities. We must consider whether there should be a pre-determined method (e.g., weighting) of the tests established at the outset, or whether the process should involve more case-by-case judgments of test results, or whether other approaches should be used.

We will refer these issues back to the Working Group and Standardization Project Team for further evaluation and recommendations. In considering them, the utilities and interested parties should review our discussion in D.92-09-080, where we articulated our concerns over certain cost-effectiveness weighting procedures proposed by the parties.[65]

In addition, the Working Group and Project Team should consider developing a more explicit method for addressing the "gross" versus "net" costs and savings issue in measure and program evaluation. SESCO's suggestion of utilizing a mix of these two approaches based on the expected life and the minimum age for replacement should be considered.

The RRM Working Group and Standardization Project Team should jointly file and serve recommendations on these issues, after obtaining public input, within 120 days from the effective date of this decision. The report should include a discussion of the pros and cons of the various options considered. Comments on the report are due 30 days after the date of filing, and replies are due 20 days thereafter. After our consideration and resolution of these issues, the Standardization Project Team should assess all current (including pilot) LIEE

[65] D.92-09-080, 45 CPUC 2d, 541, 574-576.

program measures, using the approved cost-effectiveness testing procedures. The Assigned Commissioner shall establish the budget, schedule and scope of work for this effort.

VI. Other RRM Phase 2 Issues

The April 9, 2001 Working Group report presents standardized formats for the annual reporting on the participation of community-based organizations in the LIEE program, and other information regarding the access of low-income program participants to programs provided by community service providers. It also provides a standardized format for the reporting information from Exhibits 35 and 36, e.g., installation costs (including costs per dwelling), as required by D.01-03-028. We find these standardized reporting formats to be reasonable, and will adopt them.

The Working Group did not address the standardization of training cost reporting during Phase 2 because the schedule for addressing training cost issues was deferred by ALJ ruling. By D.01-05-033 we suspended the schedule for this and other post-2001 program planning issues, so that we could focus resources on rapid deployment efforts. We adopt their recommendation to defer this issue until further notice.

VII. Comments on Draft Decision

The draft decision of Commissioner Wood in this matter was mailed to the parties in accordance with Pub. Util. Code § 311(g) (1) and Rule 77.7 of the Rules of Practice and Procedure. Comments were filed by the Standardization Project Team, PG&E, SCE and ORA. No reply comments were filed. We have carefully reviewed the comments and have made several clarifications and modifications to the draft decision in response to them, in particular, on the issue of eligibility based on heating fuel.

Findings of Fact

1. The common LIEE cost definitions and bill savings estimating procedures, as presented by the utilities in their March 12, 2001 report, are very useful because they improve the consistency in reporting and evaluating program costs and savings across utilities.

2. Attempting to verify individual income eligibility of each resident of a group home serving destitute, transient and / or homeless persons would present serious obstacles to serving this kind of customer.

3. Requiring that 80% of the residents of a group home meet the LIEE eligibility requirements is consistent with the standard we adopted for multi-family units under the LIEE program.

4. Renters who pay utility bills should be eligible for refrigerator replacements even if they do not own the equipment because reductions in utility bills represent the largest benefit of providing a high efficiency refrigerator, and would not accrue to the landlord in this instance. There is also no evidence to suggest that the rental value of low-income housing units will increase just because the refrigerator (or air conditioner) is replaced with a newer model.

5. Providing free weatherization services (e.g., ceiling insulation, weather-stripping, caulking) to customers who neither heat or air condition their homes with fuels on which the PGC is collected is an inequitable allocation of limited program funds. Therefore, these homes should not be eligible for weatherization services under the LIEE program. For similar reasons, water heating measures should not be provided to homes that do not heat water with IOU-fuels. Providing infiltration measures to homes that take air conditioning services but not space heating from the IOU, would require the IOUs to assume responsibility for implementing safety testing and repairs on a broad range of heating

equipment that is not within their expertise, for which standards have not been established under the LIEE program, and for which funding has not been authorized in rates. Building on the success of the utilities' leveraging efforts with LIHEAP agencies is the most appropriate and cost-effective mechanism for weatherizing non-IOU heated homes.

6. The approach regarding the eligibility of renters for LIEE equipment adopted in D.01-05-033 effectively balances the interest of those tenants that pay their utility bills with concerns over subsidizing landlords, and should be continued beyond the rapid deployment period. The utilities should be permitted to make minor repairs and adjustments to furnaces in rental units if these actions would improve the performance of the system at a minimal cost.

7. It is unclear that master-metered tenants will receive benefits from the program to the same degree as individually-metered tenants. Imposing a maximum on the treatment of master-metered units is necessary to obtain a reasonable level of overall participant benefits from program budgets.

8. Establishing long-term targets for the mix of housing types, based on units treated, can offset the incentives for contractors to treat a disproportionately large percentage of multifamily dwellings under the LIEE program. Caps based on dwelling units are easier to track and enforce than caps based on expenditures, due to accounting delays. The utilities proposal to establish caps on the treatment of master-metered units that reflect the predominance of these dwellings in the service territory, up to a maximum limit of 15 %, is reasonable and should be adopted. As discussed in this decision, the utilities should begin treating master metered units without delay. The utilities' long-term targets for multi-family dwellings are reasonable and should be adopted. The utilities

should specify a timeframe for meeting these targets and describe how they intend to track their progress towards them.

9. The utilities' proposed language for limits on prior program participation does not provide for instances when the natural gas appliance test could not be administered. The requirement that the customer must have received other non-infiltration measures in the past, to be eligible for a return visit, does not recognize that before 1999 only infiltration measures were generally installed under the program. As discussed in this decision, the language regarding limits on prior participation on LIEE programs should be further clarified to reflect the intent of D.01-03-028.

10. A five-year timeframe for the automatic qualification of multifamily / mobile home units facilitates the qualification of these units without undue paperwork and delays and recognizes that overall income levels in mobile home parts or multifamily complexes may change significantly over longer time periods.

11. Current policies authorize the recovery of all minor home repairs, including those related to carbon monoxide testing, from the LIEE program budget. Without such repairs, certain infiltration-reducing measures would not be considered feasible under current program guidelines. Utilities should continue their current practice of funding all minor home repairs provided under the LIEE program out of the LIEE budget, including those related to natural gas appliance testing. We may revisit this funding issue during Phase 4, as we consider the standardization and timing of natural gas appliance testing procedures.

12. Consistent with prior Commission directives, natural gas appliance testing should not be billed to the LIEE program or any other public purpose funds.

13. Larger sample sizes may be needed for contractors working in multiple counties in order to estimate the failure rate for individual crews with reasonable precision.

14. If a post inspection is not justified by other causes to ascertain contractor quality, it can represent a cross-subsidy to carbon monoxide testing. Requiring the utilities to net out the full amount of natural gas appliance testing from the costs of post-installation inspections or pre-approval inspections will remove the potential for cross-subsidization from a decision to increase the sample size.

15. The Phase 4 Standardization Report should describe the specific actions that weatherization contractors can take to respond to carbon monoxide problems.

16. A CO action level of 10 ppm is reasonable because it is consistent with the most common CO action level utilized by DCSD and local jurisdictions for indoor air, based on the record in this proceeding.

17. The utilities' revised recommendations for ceiling insulation levels are consistent with the retrofit provisions of Title 24.

18. Nothing in the language of Title 24 precludes the Commission from defining the term "area" in terms of the 16 CEC climate zones, which is consistent with the manner in which the CEC's new construction insulation standards have been developed.

19. All but three of the 36 cities or towns in California with heating degree days greater than 5,000 are in the CEC's Climate Zones 1 and 16, the zones that would be designated for R-38 under the utilities' recommended approach. The three that are not included appear to be weather stations and do not represent significant populations.

20. The added benefit of revisiting homes that have already been treated with ceiling insulation under the LIEE program in order to bring those levels up to the new R-30 or R-38 standards adopted today would be far smaller than the associated costs.

21. Some degree of reduced accuracy is inevitable when aggregation or generic assumptions are utilized to simplify procedures for determining appropriate ceiling insulation levels.

22. The DCSD procedures for establishing ceiling insulation levels are undergoing departmental review at this time. The record in this proceeding has raised questions about the DCSD procedures, including their consistency with Title 24, that would need to be carefully reviewed before considering their adoption for the LIEE program.

23. The utilities' revised recommendation on ceiling threshold levels recognizes a reasonable dividing line for threshold values, based on economics, the realities of the market and the practicality of implementation.

24. Disputes between utility inspectors and LIEE service providers cannot be arbitrated in a neutral fashion if utility personnel are evaluating the judgment or actions of their colleagues.

25. It is common practice in many industries to have a procedure whereby a neutral third party arbitrates disputes. There are numerous professional arbitration and mediation services available, and even some specializing in contractor issues. Binding arbitration provisions in contracts can address concerns about challenges to the determinations reached by a third party arbitrator.

26. Current differences in pre-installation inspection practices across utilities reflect, at least in part, differences in natural gas appliance testing procedures. Standardization of those testing procedures will be considered in Phase 4.

27. Requiring the utility to net out the full cost of a stand-alone natural gas appliance test when pre-approval inspections are conducted in combination with natural gas appliance testing will prevent subsidization of natural gas appliance testing with LIEE program funds.

28. RHA had invested a considerable amount in the development of graphs and pictures for weatherization manuals before entering into a contract with utilities for the Standardization Project. The pre-existing graphs and pictures were subject to RHA copyrights, and the negotiated contract budget captures for the utilities the benefits of giving RHA the right to reasonable use and reproduction of the material. Some eligible LIEE customers cannot currently obtain replacement refrigerators because the wall outlets in their homes are not properly grounded per current building codes. This issue should be addressed in Phase 4 so that it is feasible to install replacement refrigerators in low-income homes as expeditiously as possible. However, such standards should be developed in a manner that will most effectively coordinate with DCSD's efforts and leverage limited program funds.

29. Using the LIPPT test as a single metric for evaluating the LIEE program or measures would fail to consider a major goal of the program, namely, reducing the electric and gas bills of the low-income customer and doesn't examine the LIEE program or program measures from the perspective of the low-income customers served by the program, or the non-participating ratepayers who subsidize the program costs.

30. The PC test, when expanded to include non-energy benefits (e.g., increase in comfort) to the customer, best captures the net reduction in hardship provided to low-income customers by the LIEE program or individual measures.

31. The UC test, when expanded to include non-energy benefits (e.g., fewer collections costs and lower bad debt write offs), best quantifies the cost-efficiency of the LIEE program or measure from the perspective of ratepayers who subsidize the program.

32. The record in this proceeding does not provide an explicit method for addressing the gross versus incremental approach to savings and costs in the evaluation of LIEE programs or measures.

Conclusions of Law

1. Because no parties were prejudiced by the late filing of comments by ICA, SESCO, SPC, and QCS / Winegard in this proceeding, their requests for late acceptance of these comments is reasonable and should be granted.

2. The proposed definitions and reporting format for LIEE program costs presented by the utilities in their March 12, 2001 report are reasonable and

should be adopted. As discussed in this decision, the utilities should continue to report standardized data on program lifecycle bill savings and bill savings to cost ratios as part of their Annual Report on LIEE activities, due on May 1 of each year.

3. The plain language of Pub. Util. Code § 2790 very broadly describes the mission of the program and leaves key implementation terms, such as "feasible" and "eligible" undefined. These issues are properly considered by the Commission in implementing the low-income assistance program.

4. The language of Senate Bill SBX15 specifically recognizes that customers of municipal utilities should be served via low-income assistance programs that are funded separately from those serving IOU customers.

5. The utilities' July 2, 2001 proposed P&P Manual, including the WIS manual sections appended to the report, should be adopted with the modifications described in this decision.

6. As discussed in this decision, utility personnel should not be the final arbitrators of unresolved disputes between utility inspectors and LIEE service providers.

7. LIEE contractors are required to comply with all applicable state, federal and local laws and regulations regarding lead-safe practices, even if those laws, regulations or required procedures are not spelled out in the P&P or WIS Manuals.

8. Given the specific circumstances described in this decision, the WIS manual copyright provisions in the contract between RHA and the utilities are reasonable.

9. The Project Team's responses to SESCO's comments regarding Chapter 7 of the P&P Manual, as presented in Attachment 3, are reasonable and should be adopted.

10. Evaluating LIEE programs and measures using both the PC and UC tests, enhanced to include non-energy benefits, is consistent with the Commission's policy determinations concerning the goals of the program. Determining how each of these tests should be considered in selecting specific measures to include in the program, or in evaluating overall program effectiveness, should be referred to the RRM Working Group and Standardization Project Team for further consideration.

11. The non-energy benefits developed by the Working Group and presented in Attachment 4 are reasonable and should be adopted.

12. The Working Group recommendations for reporting the participation of community-based organizations in the LIEE program and installation costs are reasonable and should be adopted. As discussed in this decision, further work on standardizing training costs should be deferred.

13. In order to proceed with standardization of program policies and procedures as expeditiously as possible, this decision should be effective today.

INTERIM ORDER

IT IS ORDERED that:

1. The motions for acceptance of late-filed comments in this proceeding by Insulation Contractors Association, SESCO, Inc., Service Provider's Coalition, Quality Conservation Services and Winegard Energy are granted.

2. Within 30 days from the effective date of this decision, Pacific Gas and Electric Company, San Diego Gas & Electric Company, Southern California Edison Company and Southern California Gas Company, collectively referred to as “the utilities”, shall jointly file a report describing how they each coordinate

the delivery of Low Income Energy Efficiency (LIEE) and non-LIEE energy efficiency programs targeted to hard-to-reach customers so that the interests of low-income customers are best served.

3. The definitions for LIEE program costs and reporting format presented in Attachment 2 are adopted. They shall be used by the utilities in developing all future filings on LIEE program costs until further Commission order. In addition, the Reporting Requirements Manual (RRM) Working Group recommendations on reporting access by community-based providers and information from Exhibits 35 and 36 are adopted.

4. As discussed in this decision, the utilities shall file and serve standardized data on program lifecycle bill savings and bill savings to cost ratios as part of their Annual Report on LIEE activities, due on May 1 of each year. In addition to the formats presented in the April 9, 2001 RRM Working Group Report (Tables TA 7.7 and TA 7.8), the utilities shall present the information contained in Exhibits 4.2 and 4.3 of the March 12, 2001 Revised Joint Utility Report on Standardized Methods for Producing Data on Bill Savings and Expenditures. The report due on May 1 2002 shall include this information for the following full program years: 1999, 2000 and 2001. Similarly, each subsequent Annual Report shall report this information for the prior three program years. Updates to the variables and calculations used to derive these data shall be considered and explained in each annual report, after obtaining public input. The report shall also discuss how these variables and calculations continue to be consistent with the measurement studies and other assumptions used to calculate program and measure savings in the Annual Earnings Assessment Proceeding. In addition, the report shall explain variations across utilities. The utilities shall jointly

conduct this effort and confer with Energy Division with regard to the format and content of the report, prior to filing.

5. The utilities' proposed Policy and Procedures (P&P) Manual and Weatherization Installation Standards (WIS) manual sections submitted on July 2, 2001 are adopted, with the following modifications:

a. References to the requirement that 100% of the residents of the facility meet the CARE 175% income guideline shall be removed from Section 2.5 (Housing on Non-Residential Rates) of the P&P Manual, and the following language shall be added:

> "For the purpose of these facilities, income qualification shall be considered satisfied upon completion of an affidavit by the facility owners or operators that, to the best of their knowledge, 80% of all non-staff residents of the facility meet the LIEE income qualification guidelines. These facilities represent a unique situation and this income verification procedure shall not be considered precedential for other circumstances."

b. The eligibility requirements presented in Section 2.3.1 (General Service Eligibility Conditions) of the P&P Manual shall be modified to reflect the following:

- **HVAC measures.** Infiltration-reduction measures will not be provided to homes heated with a non-IOU fuel. The utilities will not offer furnace repairs / replacements to these homes because they are not equipped to repair or replace propane or kerosene fueled appliances. However, the utilities will offer other HVAC measures to these homes, including ceiling insulation, high-efficiency replacement air conditioners, evaporative coolers, evaporative cooler repairs, and whole house fans. Homes heated with a non-IOU fuel where the home also takes air-conditioning service from an IOU are also eligible for HVAC measures such as ceiling insulation, high-efficiency replacement air conditioners, evaporative coolers, evaporative cooler repairs and whole house fans.

- **Electric Measures.** The utilities will continue to offer all other feasible LIEE electric measures to homes with non-IOU space heating and / or water heating fuels, such as high efficiency refrigerators and compact fluorescent lamps.

- **Water Heating Measures**. The utilities will not replace water heaters or offer other water heating measures to homes that heat water with non-IOU fuels.

- **Referrals.** The utilities will continue to refer all homes with non-IOU space heating and / or water heating to the California Department of Community Services and Development (DCSD) for Low-Income Home Energy Assistance Program (LIHEAP) eligible measures not installed under the LIEE Program.

- **Minor Home Repairs**. The utilities are authorized to perform non-infiltration related minor home repairs associated with LIEE measures for which homes without IOU space heating are eligible.

c. The second subsection of Section 2.8 (Previous Weatherization) of the P&P Manual shall be modified to read:

> "In general, homes that have been weatherized under the LIEE Program within the past 10 years are not eligible for weatherization in the current program. However, a home that has been treated under the LIEE program during the past 10 years will be considered eligible for participation if the home needs ceiling insulation, and if ceiling insulation was previously deemed non-feasible as a result of a structural inadequacy (e.g., knob and tube wiring) that has since been resolved or is no longer considered to result in non-feasibility. Moreover, any unit that previously failed to pass a combustion appliance safety pre-test, and therefore did not receive infiltration-related measures shall be considered eligible for the measures it did not receive if the test is subsequently passed during the 10-year window. Other

exceptions may be granted with the written approval of the utility Administrator's Program Manager."

d. The following language shall be added to Section 2.2.6 (Qualifying Multifamily Complexes and Mobile Home Parks) of the P&P Manual:

"For the purpose of this section, any dwelling that was previously treated under LIEE during the five years prior shall be counted as being occupied by an income qualified household."

e. The language of Section 8.4.3 (Post-Installation Inspection Frequency) of the P&P Manual shall be modified as follows:

- Subsection 1. shall be modified to read:

"If the utility's program or the amount of additional post-inspections undertaken is small enough so that the additional post inspections can be conducted without substantially increasing overall program expenditures."

- Subsection 8. shall be modified to read:

"If larger sample sizes are necessary to resolve disputes with contractors over estimated billing fail rates."

f. The language of Section 2.7.2 (Eligibility of Rental Units for Certain Measures) of the P&P Manual shall be replaced with the following:

"Assuming that the permission of the property owner has been approved and that other eligibility criteria are met, rental units may be treated under the Program. However, the following policies relating to specific measures will be applied:

- Rental units are eligible for evaporative coolers, air conditioners, water heaters, refrigerators and hard-wired fixtures, to the extent that these measures continue to be provided under the LIEE program.

- Rental units are <u>not</u> eligible for furnace replacements or major furnace repairs. However, the utilities are permitted to make minor repairs and adjustments to furnaces in

rental units if these actions would improve the performance of the system at a minimal cost.

- Evaporative coolers and hard-wired fixtures will be provided without charge to either the tenant or the

landlord. Refrigerator and air conditioner replacements will also be provided without charge to either the tenant or the landlord, except in the instance where the landlord owns the refrigerator or air-conditioning unit that is replaced with a high efficiency model and also pays the utility bill. In these instances, the utilities may make payments to installation contractors that cover only part of the cost of replacement."

g. Section 7.3.4 (Ceiling Insulation) of the P&P Manual shall be modified as follows:

- Table 7-1 shall be replaced with the following:

Climate Zone	Existing Insulation Level	Action
All CEC Climate Zones with less than 5,000 heating degree days	R-11 or less	Raise R-Value to R-30
	More than R-11	Do not install additional insulation
All CEC Climate Zones with 5,000 or more heating degree days	R-19 or less	Raise R-Value to R-38
	More than R-19	Do not install additional insulation

- The last paragraph on page 7-7 shall be replaced with the following:

"The actions listed in the third column of Table 7-1 refer to the final level of insulation, including any pre-existing values as well as insulation added under the program. These levels apply on a forward-looking basis; homes previously receiving lower levels of ceiling insulation under the LIEE program will not be revisited to bring insulation up to the new higher level.

Figure 1 depicts the sixteen CEC Climate Zones. Appendix C contains a list of the locations contained in each CEC Climate Zone, and indicates which zones have heating degree days that equal or exceed 5,000."

- Appendix C shall be modified to cross-reference locations with CEC Climate Zones, and indicate which zones have heating degree days that equal or exceed 5,000.

h. Section 8.4.5 (Failed Inspection Dispute Resolution) of the P&P Manual shall be replaced with the following:

> "Dispute resolution practices of the utilities require the use of a neutral third party arbitrator in instances where utility personnel are used to perform the inspections. Utilities who use utility personnel for the inspection function are required to either: 1) have available at least two professional arbitration services to hear and determine appropriate action on any unresolved dispute between LIEE service providers and the utility or 2) provide language in their contracts with LIEE service providers that the selection of an arbitrator must be mutually acceptable to both parties. The costs of such service shall be paid by the party which "loses" the arbitration. Utility personnel may, however, attempt to mediate or facilitate resolution of issues between utility inspectors and contractors, as long as a third party arbitrator is available for the final resolution of any unresolved disputes, as described above.
>
> Utilities that do not use utility personnel for either the inspection function or LIEE contracting work may, but are not required to, employ the dispute resolution procedures described above. Instead, in those instances where a dispute arises between outside inspectors and contractors, the utility may utilize in-house personnel to hear and determine appropriate action on any unresolved dispute between LIEE service providers and inspectors."

i. The new WIS Manual section on Lead-Safe Practices (Appendix C of Appendix F) shall be removed.

j. The last bullet of Section 7.3.17 (Evaporative Cooler Installation) shall be revised to read:

> "Evaporative coolers are available only in CEC climate zones 2, 3, 4, 5, 9, 10, 11, 12, 13, 14, 15 and 16."

k. The carbon monoxide (CO) action level for Table 10-1 of the P&P Manual should be changed to 10 ppm.

l. The third bullet under "Other Policies and Procedures" in Section 7.3.19 (Refrigerator Replacements) of the P&P Manual shall be replaced with the following:

> "The replacement refrigerator shall be equal to or larger than the existing unit, not to exceed 19 cubic feet. However, when two refrigerators and / or freezers are exchanged for a single unit, the replacement unit may be larger than the larger of the two existing units, provided that the new unit is no larger than 23 cubic feet. The utilities are permitted to exhaust their current inventories of refrigerators before the second provision takes effect."

6. As discussed in this decision, the utilities shall provide infiltration-reducing measures and related minor home repairs to customers who take air conditioning service from the investor-owned utility (IOU), even if they do not use an IOU heating fuel. Senate Bill (SB) X1 5 funds may be used at this time to fund these measures. However, the provision of these measures shall continue as part of the LIEE program plans and budget proposals even when SBX1 5 funds are depleted. Until the standardization of natural gas appliance safety testing procedures is addressed in Phase 4, the utilities may continue to apply their current testing approaches to these homes. The IOU shall make arrangements for natural gas appliance testing through inter-utility agreements if it does not have the expertise or trained crew to do the testing itself. The minimum testing procedures we adopted in D.01-03-028 shall apply to these homes.

7. The utilities shall begin treating master-metered units as part of the rapid deployment effort, consistent with the policies adopted today, without delay. The utilities shall include a description of their plans and accomplishments in this area in the rapid deployment status reports ordered by Decision (D.) 01-05-033. The utilities shall also specify a timeframe for meeting their

multifamily unit targets and a description of how they intend to track progress towards them. Within sixty (60) days from the effective date of this decision, the reports shall present a breakdown of multifamily and single-family units treated under the program, and include information on the number of units treated relative to each utility's long-term targets. In preparing this material, the utilities shall discuss reporting options and formats with Energy Division.

8. As discussed in this decision, amounts charged to the LIEE budget for pre-approval inspections or post-installation inspections conducted in combination with natural gas appliance testing shall be the net cost of the visit after the full cost of the stand-alone test is subtracted.

9. As discussed in this decision, utilities shall evaluate the LIEE program and individual measures by calculating both the participant cost test and utility cost test, including in that calculation the non-energy related benefits developed by the RRM Working Group. (See Attachment 4.) The RRM Working Group and Standardization Project Team shall jointly develop recommendations, after obtaining public input, on:

- how each of these tests should be considered in making final measure selections, or in evaluating the overall effectiveness of LIEE programs from year-to-year or across utilities, and
- an explicit method for addressing the "gross" versus "net" costs and savings issue in measure and program evaluation.

The joint report shall include a discussion of the pros and cons of the various options considered. It shall be filed and served within 120 days from the effective date of this decision. Comments on the report are due 30 days after the date of filing, and replies are due 20 days thereafter. After the Commission's

consideration and resolution of these issues, the Standardization Project Team shall assess all current (including pilot) LIEE program measures, using the approved cost-effectiveness testing procedures. The Assigned Commissioner shall establish the budget, schedule and scope of work for this effort.

10. As discussed in today's decision, the scope of Phase 4 of the Standardization Project shall include the following issues:

- Specific actions that the weatherization contractors or utility personnel can take to respond to carbon monoxide problems. This evaluation should include a description of the actions they are currently authorized / required to take when these problems are identified.

- The utilities' pre-installation inspection procedures (e.g., pre-approvals)

- The development of installation standards for refrigerator outlet grounding. This aspect of Phase 4 shall be filed as soon as it is completed. The filing shall include a description of how refrigerator outlet grounding efforts under LIEE will be coordinated with those initiated under the Department of Community Services and Development, and how limited program funds will be leveraged by the joint effort. Comments will be due 15 days from the date of filing, and replies 10 days thereafter.

11. Within 30 days of the effective date of this decision, the RRM Working Group shall file a revised RRM reflecting the Working Group's recommendations, as modified in today's decision. The Working Group shall serve a notice of the report's availability to all appearances and the state service list in this proceeding. The reporting requirements presented in the revised RRM shall be used by the utilities in reporting the results of their PY 2001 LIEE and CARE programs in May, 2002 and beyond, unless further modified by Commission decision.

12. As stated in D.01-05-033, the new measures approved on a pilot basis during rapid deployment are subject to review and evaluation before they will be considered for permanent addition to the LIEE program.

13. Today's determinations regarding Phase 3 standardization issues, and those made during earlier phases of the standardization process, shall govern program implementation in program year 2002 and beyond until further notice. The utilities shall incorporate all Commission directives adopted in this decision and D. 01-03-028 related to Phase 2 and Phase 3 of the Standardization Project into the statewide P&P Manual and WIS manuals, and those policies and procedures shall govern LIEE program activities effective January 1, 2001, or 30 days from the date of this decision, whichever comes later.

14. The due dates for filings discussed in this decision may be modified by the Assigned Commissioner, for good cause.

15. All filings required by today's decision shall be filed at the Commission's Docket Office and served electronically on all appearances and the state service list in this proceeding. U.S. mail service of the filings is optional, except that one hard copy of the filing shall be mailed to the assigned Administrative Law Judge. In addition, if there is no electronic mail address available, the electronic mail is returned to the sender, or the recipient informs the sender of an inability to open the document, the sender shall immediately arrange for alternate service (regular

U.S. mail shall be the default, unless another means—such as overnight delivery—is mutually agreed upon.) The current service list for this proceeding is available on the Commission's web page, www.cpuc.ca.gov.

This order is effective today.

Dated December 11, 2001, at San Francisco, California.

LORETTA M. LYNCH
President
HENRY M. DUQUE
RICHARD A. BILAS
CARL W. WOOD
GEOFFREY F. BROWN
Commissioners

Attachment 1
(Page 1)

Acronym/Abbreviation

AB 1393 - Assembly Bill

AEAP - Annual Earnings Assessment Proceeding

ALJ - Administrative Law Judge

CARE - California Alternate Rates for Energy

CEC - California Energy Commission

CO - carbon monoxide

CSLB - California State Licensing Board

D. - Decision

DCSD - California Department of Community Services Development

HVAC - heating, ventilation and air-conditioning

ICA - Insulation Contractors Association

IOU - investor-owned utility

LIEE - Low Income Energy Efficiency

LIEE and CARE - Customer Bill of Rights

LIHEAP - Low-Income Home Energy Assistance Program

LIPPT - Low Income Public Purpose Test

ORA - Office of Ratepayer Advocates

P&P Manual - policy and procedures manual

PC - Participant Test

PG&E - Pacific Gas and Electric Company

Attachment 1
(Page 2)

Acronym/Abbreviation

PGC - public goods charge

PPM-parts per million

Project Team- Standardization Project Team

Pub. Util. Code - Public Utilities Code

PY - program year

QCS / Winegard - Quality Conservation Services and Winegard Energy

RHA - Richard Heath & Associates

RRM - Reporting Requirements Manual

SB - Senate Bill

SCE - Southern California Edison Company

SDG&E - San Diego Gas & Electric Company

SESCO - SESCO, Inc.

SoCal - Southern California Gas Company

SPC - Service Provider's Coalition

Title 24 - California Code of Regulations, title 24, Building standards

TRC - Total Resource Cost

UC - Utility Cost Test

WIS - Weatherization Installation Standards

Working Group - RRM Working Group

(END OF ATTACHMENT 1)

Attachment 2

Definitions of LIEE Program Cost Variables and Reporting Formats

Costs for the LIEE programs are separated out in several ways in Table TA 7.2. Each of the 16 cost variables along the left side of the table are divided into columns for labor, non-labor, and contract costs. These are then summed into a fourth column, total cost, for each variable.

Costs were allocated to labor, non-labor, and contract categories using the following definitions:[1]

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

Non-Labor – all direct internal (administrative and/or implementation) costs (indirect costs are given as a separate line item) not covered under labor.

Contract – 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.

With the column heading definitions complete, it is necessary to define the variables listed down the left-hand column of Table TA 7.2. The first five variables in the original Table TA 7.2 in the RRM deal with energy efficiency measures or services. The first variable listed in Table TA 7.2 is "Furnaces (Gas)" and the second is "Other Measures." There was much discussion within the Cost and Bill Savings Standardization Group about the history surrounding the separation of "Furnaces (Gas)" from "Other Measures." In the end, with input from members of the RRM[2] and the workshop

[1] The utilities made a joint filing to the PUC on May 17, 1999 addressing these definitions for the LIEE program. The definitions presented here do not conflict with those definitions, but rather add specificity for the purposes of accurately filling out Table TA 7.2.

[2] Discussion at meeting 11 / 9 / 00.

participants,[3] the Cost and Bill Savings Standardization Group decided to redefine the measure breakout into groups that better reflect the sector and fit with potential future measures. Thus the following description of measures diverges from those described in RRM Table TA 7.2 in that the "Furnaces (Gas)" and "Other Measures" groupings are replaced by "Gas Appliances," "Electric Appliances" and "Weatherization Measures."

Gas Appliances – costs related to all LIEE program gas appliance tune-up, repair or replacement. This category excludes inspections.

Electric Appliances – costs related to all LIEE program electric appliance tune-up, repair or replacement. This category excludes inspections.

Weatherization Measures – costs related to all LIEE program weatherization measures, exclusive of inspections.

Outreach & Assessment – costs associated with community outreach or promoting the program to attract participation in the LIEE program exclusive of In Home Energy Education and Education Workshop efforts. This includes all costs associated with door-to-door outreach, pre-participation audits, etc. This does not include inspections.

In Home Energy Education – costs for conducting in-home education efforts for the LIEE program.

Education Workshops - costs for organizing, recruiting customers for, and/or conducting education workshop efforts for the LIEE program.

The original Table TA 7.2 template provided lines for two pilot programs. The number of lines was contracted or expanded as necessary to appropriately document costs associated with all pilot program programs. The specific name of each pilot program is listed, along with associated programs.

[3] See workshop report

There are seven variables covering aspects of LIEE program costs that are not directly attributable to measure installations. These are:

Training Center – Costs attributable to operation of the LIEE program for training activities. This can include either training center or other training activities applicable to the LIEE program.

Inspections – Costs for pre- and post-inspections associated with installation of measures for the LIEE program.

Advertising – Costs attributable to the LIEE program for advertising. This may include LIEE portions of advertising or promotion costs that promote a broader range of programs. This only includes mass media advertising (e.g., TV, newspaper, radio) and direct mail costs.

M&E Studies – Any measurement and evaluation costs that are attributable to the LIEE program efforts.

Regulatory Compliance – The LIEE programs incur costs related to compliance of regulatory issues. These could include, but are not limited to, the utility law department, program managers providing testimony or preparing for testimony, supervisory effort for regulatory issues[4].

Other Administration – Additional administration costs that should be allocated to the LIEE program but are not covered by other more specific categories. Allocations to Other Administration are accompanied by a description of the costs.

Indirect Costs – Indirect costs represent the overhead costs of operations that are attributed to the LIEE program based on allocation in proportion to program effort across program type. All recorded program costs are included whether budgeted to the program or not. The portion of the costs that are not part of the LIEE budget should be clearly footnoted.

Next in the left-hand column, there are four oversight costs funded by the utility budgets.

LIAB Start-up – Costs by the LIAB required to oversee the LIEE program efforts that have carried over from the LIAB start-up into present program year costs.

LIAB PY Past Year – Costs by the LIAB required to oversee the LIEE program efforts that have carried over from the LIAB previous year costs into present program year costs.

[4] These may or may not have been charged to the LIEE program.

LIAB PY Present Year – Costs by the LIAB required to oversee the LIEE program efforts.

CPUC Energy Division – Costs by the CPUC Energy Division required to oversee the LIEE program efforts.

The costs are reported for PY 1997, 1998, 1999, and January 1, 2000 through June 30, 2000.

Since the implementation costs cannot be readily allocated by fuel type, the Cost and Bill Savings Standardization Group 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 the utility's accounting systems are complex and unique. Attempts were made to match costs across utilities, to the best of the ability of the existing accounting systems, and to provide information on where and how reported costs differ.

Detailed Tables

Exhibit 0.1
SDG&E Table TA 7.2 – Program Year 1998

	Costs Recorded by Cost Element - 1998			
	Labor	**Non-Labor**	**Contract**	**TOTAL**
Energy Efficiency				
- Gas Appliances	$ 18,138	$ 10,800	$ 238,119	$ 267,058
- Electric Appliances	$ -	$ -	$ -	$ -
- Weatherization Measures	$ 108,829	$ 64,801	$ 2,568,022	$ 2,741,652
- Outreach Assessment/In Home Energy Education	$ 18,138	$ 10,800	$ 496,374	$ 525,312
- Education Workshops	$ -	$ -	$ -	$ -
Energy Efficiency TOTAL	$ 145,105	$ 86,401	$ 3,302,515	$ 3,534,021
Pilots				
- Pilot (A)	$ -	$ -	$ -	$ -
- Pilot (B)	$ -	$ -	$ -	$ -
Total Pilots	$ -	$ -	$ -	$ -
Training Center	$ -	$ -	$ -	$ -
Inspections	$ 217,658	$ 129,601	$ -	$ 347,259
Advertising	$ 7,255	$ 4,320	$ -	$ 11,575
M&E Studies	$ -	$ -	$ -	$ -
Regulatory Compliance	$ 36,276	$ 21,600	$ -	$ 57,877
Other Administration	$ -	$ -	$ -	$ -
Indirect Costs	$ 10,883	$ 6,480	$ -	$ 17,363
Oversight Costs				
- LIAB Start-Up	$ -	$ -	$ -	$ -
- LIAB PY Past Year	$ -	$ -	$ -	$ -
- LIAB PY Present Year	$ -	$ -	$ -	$ -
- CPUC Energy Division	$ -	$ -	$ -	$ -
Total Oversight Costs	$ -	$ -	$ -	$ -
Total Costs	***$ 417,177***	***$ 248,403***	***$ 3,302,515***	***$ 3,968,095***

Exhibit 0.2
SDG&E Table TA 7.2 – Program Year 1999

	Costs Recorded by Cost Element - 1999			
	Labor	**Non-Labor**	**Contract**	**TOTAL**
Energy Efficiency				
- Gas Appliances	$ 19,224	$ 8,009	$ 344,109	$ 371,341
- Electric Appliances	$ -	$ -	$ 122,986	$ 122,986
- Weatherization Measures	$ 115,341	$ 48,051	$ 2,514,950	$ 2,678,343
- Outreach Assessment/In Home Energy Education	$ 19,224	$ 8,009	$ 502,886	$ 530,118
- Education Workshops	$ -	$ -	$ -	$ -
Energy Efficiency TOTAL	$ 153,788	$ 64,069	$ 3,484,932	$ 3,702,788
Pilots				
- Pilot (A)	$ -	$ -	$ -	$ -
- Pilot (B)	$ -	$ -	$ -	$ -
Total Pilots	$ -	$ -	$ -	$ -
Training Center	$ -	$ -	$ -	$ -
Inspections	$ 230,682	$ 96,103	$ -	$ 326,785
Advertising	$ 7,689	$ 3,203	$ -	$ 10,893
M&E Studies	$ -	$ -	$ -	$ -
Regulatory Compliance	$ 38,447	$ 16,017	$ -	$ 54,464
Other Administration	$ -	$ -	$ -	$ -
Indirect Costs	$ 11,534	$ 4,805	$ -	$ 16,339
Oversight Costs				
- LIAB Start-Up	$ -	$ -	$ -	$ -
- LIAB PY Past Year	$ -	$ -	$ 38,948	$ 38,948
- LIAB PY Present Year	$ -	$ -	$ 13,128	$ 13,128
- *CPUC Energy Division*	$ -	$ -	$ -	$ -
Total Oversight Costs	**$ -**	**$ -**	$ 52,076	$ 52,076
Total Costs	***$ 442,141***	***$ 184,197***	***$ 3,537,008***	***$ 4,163,346***

Program Costs

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

Exhibit 0.3
PG&E Table TA 7.2 – Program Year 1997

	Costs Recorded by Cost Element - 1997			
	Labor	**Non-Labor**	**Contract**	**Total**
Energy Efficiency				
Gas Appliances	$ -	$ -	$ -	$ -
Electric Appliances	$ -	$ -	$ 2,808,416	$ 2,808,416
Weatherization Measures	$ -	$ -	$ 16,496,113	$ 16,496,113
Outreach & Assessment	$ -	$ -	$ -	$ -
In Home Energy Education	$ -	$ -	$ -	$ -
Education Workshops	$ -	$ -	$ -	$ -
Energy Efficiency TOTAL	$ 1,876,272	$ 1,218,169	$ 19,304,529	$ 22,398,970
Pilots				
Pilot A	$ -	$ -	$ -	$ -
Pilot B	$ -	$ -	$ -	$ -
Total Pilots	$ -	$ -	$ -	$ -
Training Center	$ 11,515	$ -	$ -	$ 11,515
Inspections	$ 178,587	$ 2,487	$ 647,224	$ 828,298
Advertising	$ -	$ -	$ -	$ -
M&E Studies	$ -	$ -	$ -	$ -
Regulatory Compliance	$ 85,479	$ -	$ -	$ 85,479
Other Administration	$ 676,837	$ -	$ -	$ 676,837
Indirect Costs*	$ -	$ -	$ -	$ -
Oversight Costs				
LIAB Start-up	$ -	$ -	$ -	$ -
LIAB PY Past Year	$ -	$ -	$ -	$ -
LIAB PY Present Year	$ -	$ -	$ -	$ -
CPUC Energy Division	$ -	$ -	$ -	$ -
*Total Oversight Costs***	$ -	$ -	$ -	$ -
Totol Costs	**$ 2,828,690**	**$ 1,220,656**	**$ 19,951,753**	**$ 24,001,099**

Note
* PG&E did not do CAS tests in 1997
** LIAB expenditures were not reported in the 1997 AEAP filing.

Exhibit 0.4
PG&E Table TA 7.2 – Program Year 1998

	Costs Recorded by Cost Element - 1998			
	Labor	**Non-Labor**	**Contract**	**Total**
Energy Efficiency				
Gas Appliances	$ -	$ -	$ -	$ -
Electric Appliances	$ -	$ -	$ 597,142	$ 597,142
Weatherization Measures	$ -	$ -	$ 11,927,232	$ 11,927,232
Outreach & Assessment	$ -	$ -	$ -	$ -
In Home Energy Education	$ -	$ -	$ -	$ -
Education Workshops	$ -	$ -	$ -	$ -
Energy Efficiency TOTAL	$ 1,405,494	$ 789,740	$ 12,524,374	$ 14,719,608
Pilots				
Pilot A	$ -	$ -	$ -	$ -
Pilot B	$ -	$ -	$ -	$ -
Total Pilots	$ -	$ -	$ -	$ -
Training Center	$ 55,280	$ -	$ -	$ 55,280
Inspections	$ 1,318,244	$ 82,448	$ 1,924,377	$ 3,325,069
Advertising	$ -	$ -	$ -	$ -
M&E Studies*	$ -	$ -	$ -	$ -
Regulatory Compliance	$ 34,137	$ -	$ -	$ 34,137
Other Administration	$ -	$ -	$ -	$ -
Indirect Costs**	$ 607,360	$ 54,603	$ 707,414	$ 1,369,377
Oversight Costs				
LIAB Start-up	$ -	$ -	$ -	$ -
LIAB PY Past Year[1]	$ -	$ -	$ 14,611	$ 14,611
LIAB PY Present Year[2]	$ -	$ -	$ 26,353	$ 26,353
CPUC Energy Division	$ -	$ -	$ -	$ -
Total Oversight Costs	$ -	$ -	$ 40,964	$ 40,964
Total Costs[3]	**$ 3,420,515**	**$ 926,791**	**$ 15,197,129**	**$ 19,544,435**

Note

*The costs of the 1998 LIEE Load Impact study were shared by the four utilities, and not included.

**CAS test expenditures are not part of the LIEE budget and not included in the AEAP filing.

1 1997 LIAB amortization

2 1998 LIAB amortization

3 The 1998 program costs differ from the AEAP filing due to late invoicing from the contractor causing a $5.4 million reversal of good receipt.

Exhibit 0.5
PG&E Table TA 7.2 – Program Year 1999

	Costs Recorded by Cost Element - 1999			
	Labor	**Non-Labor**	**Contract**	**Total**
Energy Efficiency				
Gas Appliances	$ -	$ -	$ 86,828	$ 86,828
Electric Appliances	$ -	$ -	$ 1,560,000	$ 1,560,000
Weatherization Measures	$ -	$ -	$ 16,943,512	$ 16,943,512
Outreach & Assessment	$ -	$ -	$ -	$ -
In Home Energy Education	$ -	$ -	$ -	$ -
Education Workshops	$ -	$ -	$ -	$ -
Energy Efficiency TOTAL	$ 864,274	$ 298,430	$ 18,590,340	$ 19,753,044
Pilots				
Attic Venting	$ 10,421	$ 11,632	$ 11,868	$ 33,921
Pilot B	$ -	$ -	$ -	$ -
Total Pilots	$ 10,421	$ 11,632	$ 11,868	$ 33,921
Training Center	$ 56,134	$ -	$ -	$ 56,134
Inspections	$ 1,272,447	$ 27,007	$ 2,185,526	$ 3,484,980
Advertising	$ -	$ -	$ -	$ -
M&E Studies	$ -	$ -	$ -	$ -
Regulatory Compliance	$ 89,000	$ -	$ -	$ 89,000
Other Administration	$ -	$ -	$ -	$ -
Indirect Costs**	$ 665,374	$ 6,594	$ 1,088,324	$ 1,760,292
Oversight Costs				
LIAB Start-up	$ -	$ -	$ -	$ -
LIAB PY Past Year[1]	$ -	$ -	$ 40,964	$ 40,964
LIAB PY Present Year[2]	$ -	$ -	$ 55,000	$ 55,000
CPUC Energy Division	$ -	$ -	$ -	$ -
Total Oversight Costs	$ -	$ -	$ 95,964	$ 95,964
Total Costs	**$ 2,957,650**	**$ 343,663**	**$ 21,972,022**	**$ 25,273,335**

Note

**CAS test expenditures are not part of the LIEE budget and not included in the AEAP filing.

1 LIAB 1997 & 1998 amortization

2 LIAB 1999 operating cost

Exhibit 0.6
PG&E Table TA 7.2 – Program Year 2000

	Costs Recorded by Cost Element - thru June 2000			
	Labor	**Non-Labor**	**Contract**	**Total**
Energy Efficiency				
Gas Appliances	$ -	$ -	$ 113,190	$ 113,190
Electric Appliances	$ -	$ -	$ 1,403,750	$ 1,403,750
Weatherization Measures	$ -	$ -	$ 1,456,172	$ 1,456,172
Outreach & Assessment	$ -	$ -	$ 203,445	$ 203,445
In Home Energy Education	$ -	$ -	$ 1,108,993	$ 1,108,993
Education Workshops	$ -	$ -	$ -	$ -
Energy Efficiency TOTAL [1]	$ 844,784	$ 79,117	$ 4,285,550	$ 5,209,451
Pilots				
Attic Venting	$ 2,958	$ 1,772	$ 5,338	$ 10,068
Pilot B	$ -	$ -	$ -	$ -
Total Pilots	$ 2,958	$ 1,772	$ 5,338	$ 10,068
Training Center	$ 30,159	$ 17,474	$ 19,558	$ 67,191
Inspections	$ 805,876	$ 26,702	$ 7,444	$ 840,022
Advertising	$ -	$ -	$ -	$ -
M&E Studies	$ -	$ -	$ -	$ -
Regulatory Compliance[2]	$ 32,760	$ 26,972	$ 6,446	$ 66,178
Other Administration	$ -	$ -	$ -	$ -
Indirect Costs**	$ 150,762	$ 6,197	$ 289,412	$ 446,371
Oversight Costs				
LIAB Start-up	$ -	$ -	$ -	$ -
LIAB PY Past Year[3]	$ -	$ -	$ 20,481	$ 20,481
LIAB PY Present Year[4]	$ -	$ -	$ 14,000	$ 14,000
CPUC Energy Division[5]		$ -	$ 17,500	$ 17,500
Total Oversight Costs	$ -	$ -	$ 51,981	$ 51,981
Total Costs	**$ 1,867,299**	**$ 158,234**	**$ 4,665,729**	**$ 6,691,262**

Note

**CAS test expenditures are not part of the LIEE budget and not included in the AEAP filing.

1 Expenditure up to 6/30/2000 seems small compared to prious years due to a lag time in processing of invoices. Not all measures installed for the first half of the year were paid before 6/2000.

2 Regulatory Compliance is not included in the LIEE budget.

3 6 months amortization for LIAB 1997 & 1998

4 Estimated LIAB expenses for 6 months

5 PG&E's share for 6 months

Exhibit 0.7
SCE Table TA 7.2 – Program Year 1997

	Costs Recorded by Cost Element - 1997			
	Labor	**Non-Labor**	**Contract**	**Total**
Energy Efficiency				
- Gas Appliances	$ -	$ -	$ -	$ -
- Electric Appliances	$ 88,063	$ 35,824	$ 1,950,927	$ 2,074,814
- Weatherization	$ 192,327	$ 72,589	$ 4,624,718	$ 4,889,634
- Outreach & Assessment	$ -	$ -	$ -	$ -
- In Home Energy Education	$ -	$ -	$ -	$ -
- Education Workshop	$ -	$ -	$ -	$ -
Energy Efficiency TOTAL	$ 280,390	$ 108,413	$ 6,575,645	$ 6,964,448
Pilots				
- Pilot (A)	$ -	$ -	$ -	$ -
- Pilot (B)	$ -	$ -	$ -	$ -
Total Pilots	$ -	$ -	$ -	$ -
Training Center	$ -	$ -	$ -	$ -
Inspections	$ 68,756	$ 21,104	$ -	$ 89,860
Advertising	$ -	$ -	$ -	$ -
M&E Studies *	$ -	$ -	$ -	$ -
Regulatory Compliance *	$ -	$ -	$ -	$ -
Other Administration *	$ -	$ -	$ -	$ -
Indirect Costs	$ 143,157	$ -	$ -	$ 143,157
Oversight Costs				
- LIAB Start-up	$ -	$ -	$ -	$ -
- LIAB PY Past Year	$ -	$ -	$ 32,697	$ 32,697
- LIAB PY Present Year	$ -	$ -	$ 113,412	$ 113,412
CPUC Energy Division	$ -	$ -	$ -	$ -
Total Oversight Costs	$ -	$ -	$ 146,109	$ 146,109
Total Costs	***$ 492,303***	***$ 129,517***	***$ 6,721,754***	***$ 7,343,574***

* These costs not included within SCE's LIEE budget. They were included within departmental budgets outside of LIEE.

Exhibit 0.8
SCE Table TA 7.2 – Program Year 1998

	Costs Recorded by Cost Element - 1998			
	Labor	**Non-Labor**	**Contract**	**Total**
Energy Efficiency				
- Gas Appliances	$ -	$ -	$ -	$ -
- Electric Appliances	$ 89,957	$ 29,078	$ 2,101,611	$ 2,220,646
- Weatherization	$ 192,327	$ 72,589	$ 4,624,718	$ 4,889,634
- Outreach & Assessment	$ -	$ -	$ -	$ -
- In Home Energy Education	$ -	$ -	$ -	$ -
- Education Workshop	$ -	$ -	$ -	$ -
Energy Efficiency TOTAL	$ 282,284	$ 101,667	$ 6,726,329	$ 7,110,280
Pilots				
- Pilot (A)	$ -	$ -	$ -	$ -
- Pilot (B)	$ -	$ -	$ -	$ -
Total Pilots	$ -	$ -	$ -	$ -
Training Center	$ -	$ -	$ -	$ -
Inspections	$ 62,391	$ 17,146	$ -	$ 79,538
Advertising	$ -	$ -	$ -	$ -
M&E Studies *	$ -	$ -	$ -	$ -
Regulatory Compliance *	$ -	$ -	$ -	$ -
Other Administration *	$ -	$ -	$ -	$ -
Indirect Costs	$ 143,157	$ -	$ -	$ 143,157
Oversight Costs				
- LIAB Start-up	$ -	$ -	$ -	$ -
- LIAB PY Past Year	$ -	$ -	$ 32,697	$ 32,697
- LIAB PY Present Year	$ -	$ -	$ 113,412	$ 113,412
CPUC Energy Division	$ -	$ -	$ -	$ -
Total Oversight Costs	$ -	$ -	$ 146,109	$ 146,109
Total Costs	***$ 487,832***	***$ 118,813***	***$ 6,872,438***	***$ 7,479,083***

* These costs not included within SCE's LIEE budget. They were included within departmental budgets outside of LIEE.

Exhibit 0.9
SCE Table TA 7.2 – Program Year 1999

	Costs Recorded by Cost Element - 1999			
	Labor	**Non-Labor**	**Contract**	**Total**
Energy Efficiency				
- Gas Appliances	$ -	$ -	$ -	$ -
- Electric Appliances	$ 108,877	$ 55,202	$ 1,933,862	$ 2,097,941
- Weatherization	$ 176,091	$ 43,173	$ 3,983,615	$ 4,202,879
- Outreach & Assessment	$ -	$ -	$ -	$ -
- In Home Energy Education	$ 12,356	$ 59,646	$ 740,667	$ 812,670
- Education Workshop	$ -	$ -	$ -	$ -
Energy Efficiency TOTAL	$ 297,324	$ 158,021	$ 6,658,144	$ 7,113,490
Pilots				
- Pilot (A)	$ -	$ -	$ -	$ -
- Pilot (B)	$ -	$ -	$ -	$ -
Total Pilots	$ -	$ -	$ -	$ -
Training Center	$ -	$ -	$ -	$ -
Inspections	$ 29,881	$ 13,033	$ 11,252	$ 54,166
Advertising	$ -	$ -	$ -	$ -
M&E Studies *	$ -	$ -	$ -	$ -
Regulatory Compliance *	$ -	$ -	$ -	$ -
Other Administration *	$ -	$ -	$ -	$ -
Indirect Costs	$ 176,300	$ -	$ -	$ 176,300
Oversight Costs				
- LIAB Start-up	$ -	$ -	$ 136	$ 136
- LIAB PY Past Year	$ -	$ -	$ 20,766	$ 20,766
- LIAB PY Present Year	$ -	$ -	$ 54,812	$ 54,812
CPUC Energy Division	$ -	$ -	$ -	$ -
Total Oversight Costs	$ -	$ -	$ 75,714	$ 75,714
Total Costs	***$ 503,506***	***$ 171,054***	***$ 6,745,111***	***$ 7,419,670***

* These costs not included within SCE's LIEE budget. They were included within departmental budgets outside of LIEE.

Exhibit 0.10
SCE Table TA 7.2 – Program Year 2000

	Costs Recorded by Cost Element - 2000			
	Labor	**Non-Labor**	**Contract**	**Total**
Energy Efficiency				
- Gas Appliances	$ -	$ -	$ -	$ -
- Electric Appliances	$ 51,362	$ 24,808	$ 913,959	$ 990,129
- Weatherization	$ 60,964	$ 39,922	$ 1,015,254	$ 1,116,140
- Outreach & Assessment	$ -	$ -	$ -	$ -
- In Home Energy Education	$ 9,002	$ 59,531	$ 160,865	$ 229,398
- Education Workshop	$ -	$ -	$ -	$ -
Energy Efficiency TOTAL	$ 121,328	$ 124,261	$ 2,090,078	$ 2,335,667
Pilots				
- Pilot (A)	$ -	$ -	$ -	$ -
- Pilot (B)	$ -	$ -	$ -	$ -
Total Pilots	$ -	$ -	$ -	$ -
Training Center	$ -	$ -	$ -	$ -
Inspections	$ 26,269	$ 3,984	$ 12,775	$ 43,028
Advertising	$ -	$ -	$ -	$ -
M&E Studies *	$ -	$ -	$ -	$ -
Regulatory Compliance *	$ -	$ -	$ -	$ -
Other Administration *	$ -	$ -	$ -	$ -
Indirect Costs	$ 82,540	$ -	$ -	$ 82,540
Oversight Costs				
- LIAB Start-up	$ -	$ -	$ -	$ -
- LIAB PY Past Year	$ -	$ -	$ 314	$ 314
- LIAB PY Present Year	$ -	$ -	$ 4,070	$ 4,070
CPUC Energy Division [1]	$ -	$ -	$ 35,460	$ 35,460
Total Oversight Costs	$ -	$ -	$ 39,844	$ 39,844
Total Costs	***$ 230,137***	***$ 128,245***	***$ 2,142,696***	***$ 2,501,078***

* These costs not included within SCE's LIEE budget. They were included within departmental budgets outside of LIEE.

[1] Budgeted amount for CPUC Energy Division staff cost for PY2000, D.00-02-045 OP 9. SCE is verifying status of the invoices and will report the actual cost when the invoices are received and paid

Exhibit 0.11
SDG&E Table TA 7.2 – Program Year 1997

	Costs Recorded by Cost Element - 1997			
	Labor	**Non-Labor**	**Contract**	**TOTAL**
Energy Efficiency				
- Gas Appliances	$ 15,820	$ 1,118	$ 420,637	$ 437,576
- Electric Appliances	$ -	$ -	$ 276,924	$ 276,924
- Weatherization Measures	$ 110,743	$ 7,828	$ 2,636,798	$ 2,755,369
- Outreach Assessment/In Home Energy Education	$ 15,820	$ 1,118	$ 424,985	$ 441,923
- Education Workshops	$ -	$ -	$ -	$ -
Energy Efficiency TOTAL	$ 142,384	$ 10,064	$ 3,759,344	$ 3,911,792
Pilots				
- Pilot (A)	$ -	$ -	$ -	$ -
- Pilot (B)	$ -	$ -	$ -	$ -
Total Pilots	$ -	$ -	$ -	$ -
Training Center	$ -	$ -	$ -	$ -
Inspections	$ 189,846	$ 13,419	$ -	$ 203,265
Advertising	$ 6,328	$ 447	$ -	$ 6,775
M&E Studies	$ -	$ -	$ -	$ -
Regulatory Compliance	$ 31,641	$ 2,236	$ -	$ 33,877
Other Administration	$ -	$ -	$ -	$ -
Indirect Costs	$ 9,492	$ 671	$ -	$ 10,163
Oversight Costs				
- LIAB Start-Up	$ -	$ -	$ -	$ -
- LIAB PY Past Year	$ -	$ -	$ -	$ -
- LIAB PY Present Year	$ -	$ -	$ -	$ -
- CPUC Energy Division	$ -	$ -	$ -	$ -
Total Oversight Costs	$ -	$ -	$ -	$ -
Total Costs	***$ 379,691***	***$ 26,838***	***$ 3,759,344***	***$ 4,165,873***

Exhibit 0.12
SDG&E Table TA 7.2 – Program Year 2000

	Costs Recorded by Cost Element - 2000			
	Labor	**Non-Labor**	**Contract**	**TOTAL**
Energy Efficiency				
- Gas Appliances	$ 9,393	$ 5,962	$ 134,238	$ 149,593
- Electric Appliances	$ -	$ -	$ 128,899	$ 128,899
- Weatherization Measures	$ 65,748	$ 41,736	$ 661,763	$ 769,247
- Outreach Assessment/In Home Energy Education	$ 9,393	$ 5,962	$ 159,848	$ 175,203
- Education Workshops	$ -	$ -	$ -	$ -
Energy Efficiency TOTAL	$ 84,533	$ 53,660	$ 1,084,749	$ 1,222,942
Pilots				
- Pilot (A)	$ -	$ -	$ -	$ -
- Pilot (B)	$ -	$ -	$ -	$ -
Total Pilots	$ -	$ -	$ -	$ -
Training Center	$ -	$ -	$ -	$ -
Inspections	$ 112,711	$ 71,547	$ -	$ 184,257
Advertising	$ 3,757	$ 2,385	$ -	$ 6,142
M&E Studies	$ -	$ -	$ -	$ -
Regulatory Compliance	$ 18,785	$ 11,924	$ -	$ 30,710
Other Administration	$ -	$ -	$ -	$ -
Indirect Costs	$ 5,636	$ 3,577	$ -	$ 9,213
Oversight Costs				
- LIAB Start-Up	$ -	$ -	$ -	$ -
- LIAB PY Past Year	$ -	$ -	$ 9,737	$ 9,737
- LIAB PY Present Year	$ -	$ -	$ 15,011	$ 15,011
- CPUC Energy Division*	$ -	$ -	$ -	$ -
Total Oversight Costs	$ -	$ -	$ 24,748	$ 24,748
Total Costs	***$ 225,421***	***$ 143,094***	***$ 1,109,497***	***$ 1,478,012***

*SDG&E has CPUC costs for PY2000, but they were invoiced after the June cut off date

Exhibit 0.13
SoCalGas Table TA 7.2 – Program Year 1997

	Costs Recorded by Cost Element - 1997			
	Labor	**Non-Labor**	**Contract**	**Total**
Energy Efficiency				
Gas Appliances	$ 91,322	$ 271,356	$ 2,039,861	$ 2,402,539
Weatherization Measures	$ 592,153	$ (18,969)	$ 9,079,091	$ 9,652,275
Outreach & Assessment / In Home Energy Education	$ -	$ (47,035)	$ 317,285	$ 270,250
Education Workshops	$ -	$ -	$ 392,922	$ 392,922
Energy Efficiency TOTAL	$ 683,475	$ 205,352	$ 11,829,159	$ 12,717,986
Pilots				
Audit Pilot	$ -	$ 18,623	$ 17,105	$ 35,728
Performance Based Pilot	$ -	$ 4,242	$ 54,771	$ 59,013
Outreach Pilot	$ -	$ 17,011	$ 26,112	$ 43,123
Total Pilots	$ -	$ 39,876	$ 97,988	$ 137,864
Training Center	$ 105,130	$ 17,454	$ 42,008	$ 164,592
Inspections	$ -	$ (3,079)	$ 775,066	$ 771,987
Advertising	$ -	$ -	$ -	$ -
M&E Studies	$ -	$ -	$ 471,581	$ 471,581
Regulatory Compliance	$ 30,000	$ -	$ -	$ 30,000
Other Administration	$ -	$ 84,496	$ 40,641	$ 125,137
Indirect Costs**	$ 175,018	$ 303,523	$ -	$ 478,541
Oversight Costs				
LIAB Start-up	$ -	$ -		$ -
LIAB PY Past Year	$ -	$ -	$ -	$ -
LIAB PY Present Year	$ -	$ -	$ -	$ -
CPUC Energy Division	$ -	$ -	$ -	$ -
Total Oversight Costs	$ -	$ -	$ -	$ -
Total Recorded Program Costs	***$ 683,475***	***$ 286,769***	***$ 12,644,866***	***$ 13,615,110***
Total Captured Utility Costs	***$ 993,647***	***$ 563,150***	***$ 13,215,826***	***$ 14,772,575***

Notes:
In 1997 both M&E costs and Indirect Charges were not charged to the Program. Indirect chages include labor costs of furnace inspections and pension & benefits, and payroll taxes.
Regulatory compliance labor estimated at one-half of one program FTE.
Other Administration Costs includes IT charges for systems support, printing and mailing costs, miscellaneous expenses and consultant costs.

Exhibit 0.14
SoCalGas Table TA 7.2 – Program Year 1998

	Costs Recorded by Cost Element - 1998			
	Labor	**Non-Labor**	**Contract**	**Total**
Energy Efficiency				
Gas Appliances	$ 134,622	$ 11,920	$ 2,553,684	$ 2,700,226
Weatherization Measures	$ 585,616	$ (82,482)	$ 8,880,980	$ 9,384,114
Outreach & Assessment / In Home Energy Education	$ -	$ (33,180)	$ 309,525	$ 276,345
Education Workshops	$ -	$ -	$ 332,284	$ 332,284
Energy Efficiency TOTAL	$ 720,238	$ (103,742)	$ 12,076,473	$ 12,692,969
Audit Pilot	$ -	$ -	$ (312)	$ (312)
Training Center	$ 131,937	$ 9,848	$ -	$ 141,785
Inspections	$ 100,000	$ (5,559)	$ 509,957	$ 604,398
Advertising	$ -	$ -	$ -	$ -
M&E Studies	$ -	$ -	$ -	$ -
Regulatory Compliance	$ 30,000	$ -	$ -	$ 30,000
Other Administration	$ 4,380	$ 100,009	$ (1,176)	$ 103,213
Indirect Costs**	$ -	$ 346,173	$ -	$ 346,173
Oversight Costs				
LIAB Start-up	$ -	$ -	$ -	$ -
LIAB PY Past Year	$ -	$ -	$ -	$ -
LIAB PY Present Year	$ -	$ -	$ -	$ -
CPUC Energy Division	$ -	$ -	$ -	$ -
Total Oversight Costs	$ -	$ -	$ -	**$** -
Total Recorded Program Costs	***$ 986,555***	***$ 556***	***$ 12,584,942***	***$ 13,572,053***
Total Captured Utility Costs	***$ 986,555***	***$ 346,729***	***$ 12,584,942***	***$ 13,918,226***

Notes:

Indirect Charges not charged to Program.

Beginning in 1998 furnace inspections charged to Program.

Regulatory compliance labor estimated at one-half of one program FTE.

Other Administration Costs includes IT charges for systems support, printing and mailing costs, miscellaneous.

Exhibit 0.15
SoCalGas Table TA 7.2 – Program Year 1999

	Costs Recorded by Cost Element - 1999			
	Labor	**Non-Labor**	**Contract**	**Total**
Energy Efficiency				
Gas Appliances	$ 79,895	$ 7,552	$ 3,167,396	$ 3,254,843
Weatherization Measures	$ 639,766	$ 8,177	$ 10,375,856	$ 11,023,799
Outreach & Assessment / In Home Energy Education	$ -	$ 3,912	$ 183,165	$ 187,077
Education Workshops	$ -	$ 9,265	$ 491,316	$ 500,581
Energy Efficiency TOTAL	$ 719,661	$ 28,906	$ 14,217,733	$ 14,966,300
Outreach Pilot	$ -	$ -	$ (531)	$ (531)
Total Pilots			$ (531)	$ (531)
Training Center	$ 156,428	$ 21,131	$ -	$ 177,559
Inspections	$ 120,000	$ 772	$ 590,381	$ 711,153
Advertising	$ -	$ -	$ -	$ -
M&E Studies	$ -	$ -	$ -	$ -
Regulatory Compliance	$ 65,000	$ -	$ -	$ 65,000
Other Administration	$ -	$ 92,462	$ 21,711	$ 114,173
Indirect Costs**	$ -	$ 400,545		$ 400,545
Oversight Costs				
LIAB Start-up	$ -	$ -	$ -	$ -
LIAB PY Past Year	$ -	$ -	$ -	$ -
LIAB PY Present Year	$ -	$ -	$ 68,677	$ 68,677
CPUC Energy Division	$ -	$ -	$ -	$ -
Total Oversight Costs	$ -	$ -	$ 68,677	$ 68,677
Total Recorded Program Costs	***$ 1,061,089***	***$ 211,948***	***$ 14,897,971***	***$ 16,102,331***
Total Captured Utility Costs	***$ 1,061,089***	***$ 543,816***	***$ 14,829,294***	***$ 16,434,199***

Notes:

Indirect Charges not charged to Program.

Regulatory compliance labor estimated at one program FTE.

Other Administration Costs includes IT charges for systems support, printing and mailing costs, miscellaneous.

Exhibit 0.16
SoCalGas Table TA 7.2 – Program Year 2000

	Costs Recorded by Cost Element - thru June 2000			
	Labor	**Non-Labor**	**Contract**	**Total**
Energy Efficiency				
Gas Appliances	$ 35,047		$ 1,769,356	$ 1,804,403
Weatherization Measures	$ 321,850		$ 3,695,724	$ 4,017,574
Outreach & Assessment / In Home Energy Education	$ -	$ -	$ 149,355	$ 149,355
Education Workshops	$ -	$ -	$ 142,865	$ 142,865
Energy Efficiency TOTAL	$ 356,897	$ -	$ 5,757,300	$ 6,114,197
Total Pilots	$ -	$ -	$ -	$ -
Training Center	$ 82,884	$ 3,209		$ 86,093
Inspections	$ 90,000	$ 10,555	$ 291,410	$ 391,965
Advertising	$ -	$ -	$ -	$ -
M&E Studies	$ -	$ -	$ 28,050	$ 28,050
Regulatory Compliance	$ 120,000	$ -	$ -	$ 120,000
Other Administration	$ -	$ 169,755		$ 169,755
Indirect Costs**	$ -	$ 178,654	$ -	$ 178,654
Oversight Costs				
LIAB Start-up	$ -	$ -	$ -	$ -
LIAB PY Past Year	$ -	$ -	$ -	$ -
LIAB PY Present Year	$ -	$ -	$ 8,284	$ 3,284
CPUC Energy Division	$ -	$ -	$ 10,049	$ 10,049
Total Oversight Costs	$ -	$ -	$ 18,333	$ 18,333
Total Recorded Program Costs	***$ 649,781***	***$ 183,519***	***$ 6,095,093***	***$ 6,928,393***
Total Captured Utility Costs	***$ 649,781***	***$ 362,173***	***$ 6,095,093***	***$ 7,102,047***

Notes:

M&E for Statewide Study, PY1998.

Regulatory compliance labor estimated at two program FTE.

Indirect Charges not charged to Program.

Other Administration Costs includes IT charges for systems support, printing and mailing costs, miscellaneous.

(END OF ATTACHMENT 2)

ATTACHMENT 3

Standardization Team's Response to Miscellaneous Issues Relating to Chapter 7 of the Policy and Procedures Manual

SESCO raises several issues relating to Chapter 7 of the Policy and Procedures Manual. SESCO's comments are reproduced below in italics. The Team's response is as follows:

- Section 7.2.5 "should make provisions for homes in which the utility or other authorized party provides a measure pre-approval." The Team does not consider it necessary to include language on measure pre-approval in this section. If pre-approval is used, it is required to consider a measure feasible.
- *Section 7.3.2 "does not specify if the caulking on the first floor of a structure should be on the interior or the exterior*." The WIS Manual sets specific criteria for 1) selecting caulking materials, and 2) where caulking can be applied. The WIS Manual allows interior caulking around plumbing and electrical penetrations, which blower door studies indicate are major sources of infiltration.
- *Section 7.3.4 "should not forbid … attic insulation because the inspector may have difficulties in the inspection."* The actual wording of the non-feasibility condition in Section 7.3.4 is "an inspector cannot gain safe physical access to all treated areas of the attic." The issue here is not one of convenience, but rather of quality control and safety. Inspections of attic insulation jobs are necessary to ensure that insulation was actually installed, the insulation was installed properly, and that no hazards were created. It is unreasonable to require inspectors to inspect a measure when they cannot gain safe access to the measure.
- Section 7.3.9 should be changed to indicate that "energy efficient faucet aerators may be added unless there are pre-existing energy efficient faucet aerators." The energy savings from replacing a standard aerator with a low-flow aerator are very small and the Team urges the Commission to reject SESCO's suggestion.
- *Section 7.3.17 should indicate in which CEC climate zones evaporative coolers will be made available.* The Team concurs, and suggests revising the last bullet of Section 7.3.17 to read: "Evaporative coolers are available only in CEC climate zones 2, 3, 4, 5, 9, 10, 11, 12, 13, 14, 15, and 16." Availability of evaporative coolers on a utility service area basis will of course be determined by the CEC climate zones which each service areas encompasses.
- Section 7.3.17 (on evaporative coolers) should indicate "when window/wall units should be installed and when portable units are to be installed." Due to rapid deployment, the Team does not feel that it is necessary to restrict installation to specific types of evaporative coolers in individual circumstances at this time. The more general question of the relative efficacy of window/wall evaporative coolers and portable evaporative units should be considered in the more general process of LIEE Program measure assessment.

- *Section 7.3.19, "the comparability of refrigerator sizing… should be better defined."* The Team's intent was that specific sizing requirements would be covered in contractor training sessions. However, the Team agrees that this policy should be clarified. We propose to use the following language: "*The replacement refrigerator shall be equal to or larger than the existing unit, not to exceed 19 cubic feet. However, when two refrigerators and/or freezers are exchanged for a single unit, the replacement unit may be larger than the larger of the two existing units, provided that the new unit is no larger than 23 cubic feet.*"
- *Some priority should be established among evaporative coolers, air conditioners, and whole house fans*. This is done to some extent in Appendix D, which deals with rapid deployment measures like high efficiency air conditioners and whole house fans. Sections D.2.2 and D.3.4 indicate that "air conditioners should be replaced only in climate areas not covered by the evaporative cooler program, or where temperatures regularly exceed 100 degrees during the summer months." This language was taken directly from D.01-05-033 (OP 12). Section D.8.2 of the Policies and Procedures Manual indicates: The Team's recommended Policies and Procedures Manual, does not prohibit the installation of both high efficiency air conditioners and evaporative coolers in those climate zones where both are eligible. The Team does not propose any priorities other than those detailed in D.01-05-033.
- *Evaporative cooler maintenance should be allowed "only in those areas where evaporative coolers are allowed to be installed."* The Team does not feel that this restriction is necessary. If an existing evaporative cooler is present, regardless of climate zone, it will use less energy if it is maintained properly than if it is not. The question is not the efficacy of the customer's initial acquisition of the evaporative cooler, but rather the energy savings that can be achieved through maintenance. Note that, per Section D.9.2, non-operational units will be replaced only in CEC climate zones where evaporative coolers are eligible.

(END OF ATTACHMENT 3)

Attachment 4

Non-Energy Benefits Quantified By The Reporting Requirements Manual Working Group

Table 1 Benefits categories considered for LIPPT

Benefit Category and description	Included or excluded in LIPPT
Utility benefits	
Reduced Carrying Cost on Arrearages (7A) valued in terms of the cost to the utility	Included
Lower Bad Debt Written Off (7B) valued at utility costs	Included
Fewer shutoffs (7C) valued at utility costs	Included
Fewer reconnects (7D) valued at utility costs	Included
Fewer notices (7E) valued at utility costs	Included
Fewer customer calls (7F) valued at utility costs	Included
Lower collection costs (7G) valued at utility costs	Not included because separate data were not available
Reduction in gas emergency calls (7H) valued at utility costs	Included
Insurance savings	Not included to avoid double counting and because data weren't available
Transmission and/or Distribution savings (7J)	Excluded because the energy savings computations used in the LIPPT test incorporate these benefits
Reduced Subsidy (7K) valued at utility and ratepayer savings	Included
Societal benefits	
Economic Impacts (8A) measured in state- or public benefits terms	Not included because supporting data were unreliable
Emissions / environmental Impacts (8B) measured in public benefits terms	Excluded because the avoided cost used in the energy savings computations for the LIPPT test include this benefit.
Health and Safety Benefits (8C) valued at amortized installation cost	Included, but zero value because no H&S measures are included in the LIEE program.
Water and Wastewater savings (8D) valued at avoided societal costs	Included conceptually, but zero value because of short life.
Participant benefits	
Program incentives	Included, if applicable
Participant Water and wastewater bill savings (9A)	Included
Participant value from fewer shutoffs (9B)	Included
Participant value from fewer calls to the utility valued as time savings (9C)	Included
Fewer reconnects (9D) valued in saved time and costs for participants	Included
Property value benefits from program-provided home repairs (9E)	Included
Fewer fire losses to participants and society (9F)	Included

Fewer health-related expenses from health and safety improvements (9G)	Included, but zero value because no health and safety measures are included in the default LIEE programs.
Participant savings from fewer moves (9H)	Included
Fewer lost sick days from work (9I)	Included
Reduced transactions costs (9J)	Excluded because underlying data weak
Improved comfort, noise, and similar benefits to participants (9K)	Included
Reduced other hardship benefits – control over bill and energy use (9K)	Included

Determining Benefit Values

The determinations of benefit values were made using several different techniques as appropriate for each benefit. In the development of the test, the Subcommittee discussed how to value energy benefits: at retail costs to the participant or at avoided costs to the utilities. The Subcommittee decided that the energy benefits or energy savings should be counted at the avoided costs to the utility rather than the value of the savings to the participant because this is the value that is most reflective of the societal value for conserved energy. The non-energy benefits would be valued in one of three ways.

In the first method the utilities were each asked to provide data on costs associated with billing, arrearage, debt, connects, disconnects and costs associated with customer interactions. For the utility benefits associated with LIEE programs the calculated value of the benefit used in the test are derived from these utility-specific cost data. The benefits included in this report are average, state-wide benefits derived from all four utility's data. Upon use of the LIPPT model, utility-specific data will be used. The level of non-energy utility-associated impact for a LIEE program is estimated using program evaluations and estimations focusing on specific benefits and the expected occurrence of the benefit in a LIEE program. These impact estimations were then projected for California LIEE programs by using the best estimated results from the evaluation studies reviewed in the first two month of the project. These estimated incidences of the benefit are multiplied by the cost of the benefits as calculated using the utility-specific cost data.

The second method was used to calculate non-energy benefits when actual cost or savings values were not available from the utilities. For these benefits the consultants used estimates of benefit values as reported in the literature for low-income or residential programs. In many cases the search found a wide range of benefit estimations in the literature and the consultants were tasked to identify a study or estimation method that could conservatively be equated to California's low income program benefits. The calculation methods and the source of the benefit estimations are included in the program report and in the working model of the test.

The third method for valuing benefits primarily applied to participant benefits that could not be quantified through the literature or through utility cost data. These benefits include comfort, hardship and similar benefits associated with participation. For estimating these benefit values the consultants conducted a survey of California low-income program participants and asked them to give a monitory value that they would be willing to pay for the increased comfort or the reduced hardship associated with program participation. These benefits and benefit values are detailed later in this project report and in the Excel model and range from a low of a negative $12.62 per participant for the added hassles associated with participation to a high of $31.67 per year per household for their increased comfort as a result of the installed measures.

The values associated with specific NEBs using these methods are reflected in the following tables and provide an estimation of the expected benefits associated with an imaginary LIEE program implemented in California. Actual values will be different for each program.

Table 2 Example of utility non-energy benefits

Utility-Related Benefits: Benefits Valued At Utility Costs And Savings

		Annualized Benefits per Participant	Horizon for Benefit (in years)
7A	Reduced Carrying Cost on Arrearages (interest)	$3.76	10
7B	Lower Bad Debt Written Off	$0.48	10
7C	Fewer Shutoffs	$0.05	10
7D	Fewer Reconnects	$0.02	10
7E	Fewer Notices	$1.49	10
7F	Fewer Customer Calls	$1.58	10
7G	Lower Collection Costs	$0.00	10
7H	Red'n in emergency gas service calls	$0.07	10
7I	Utility Health & Safety - Insurance savings only	$0.00	10
7J	Transmission and / or distribution savings (distribution only)	$0.00	10
7K	Utility Rate Subsidy Avoided (CARE) payments	$2.77	10
	Subtotal	$10.22	

Table 3 Example of societal non-energy benefits

Societal / Public Benefits: Benefits Beyond Utility And Participants

	NEB Category	Annualized Benefits per Participant	Horizon for Benefit (in years)
8A	Economic impact (direct and indirect employment)	$0.00	1
8B	Emissions / Environmental	$0.00	10
8C	Health and Safety Equipment (CO and Other H&S)	$0.00	7
8D	Water and wastewater (avoided)	$0.00	3
	Subtotal	$0.00	

Table 4 Example of participant non-energy benefits

Participant Benefits: Benefits Accruing To And Valued At Participant Values And Costs

		Annualized Benefits per Participant	Horizon for Benefit (in years)
	Program rebate (directly from assumptions above)	$0.00	1
9A	Water / sewer savings	$5.65	3
9B	Fewer shutoffs	$0.17	3
9C	Fewer Calls to the utility	$0.18	10
9D	Fewer reconnects	$0.08	10
9E	Property value benefits	$17.80	10
9F	Fewer fires	$2.44	10
9G	Indoor Air quality (CO-related)	$0.00	7
9H	Moving costs / mobility	$1.30	10
9I	Fewer Illnesses and lost days from work / school	$3.78	10
9J	Reduced transactions costs (limited measures)	$0.00	0
9K	Net Household Benefits from Comfort, Noise, net of negatives	$6.44	10
9K	Net Household Benefits from Additional Hardship Benefits	$2.57	10
	Subtotal	$40.41	

Table 5 Summary example of net present value for non-energy benefits

Summary Of All Non-Energy Benefits		
	Annualized Benefits per Participant	Net Present Value of Benefits
Utility-Related NEBs: Benefits Valued at Utility-avoided Costs, Savings, or Values	$10.22	$368,460
Societal / Public NEBs: Benefits beyond those accruing to Utility or Participants	$0.00	$0
Participant NEBs: Benefits to Participants, Valued at Participant Costs and Values	$40.41	$1,456,291
Sum of Non-Energy Benefits (NEBs) Valued from All Perspectives	$50.63	$1,824,751

(END OF ATTACHMENT 4)