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**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

Application of Southern California Edison Company (U338E) for Approval of its 2012- 2014 California Alternate Rates for Energy (CARE) and Energy Savings Assistance Programs and Budgets.

Application 11-05-017  
(Filed May 16, 2011)

And Related Matters.

Application 11-05-018  
Application 11-05-019  
Application 11-05-020

**ADMINISTRATIVE LAW JUDGE'S RULING  
SEEKING COMMENTS**

This ruling directs the parties to the above-captioned Consolidated Proceeding (Proceeding) to file and serve comment to the final working group reports attached to this Ruling as Appendices A (Energy Savings Assistance Program, Workforce Education & Training Working Group, Final Report and Recommendations), B (Mid-Cycle Working Group, Final Report), and C (Addendum to Energy Savings Assistance Program Cost-Effectiveness Working Group White Paper, Working Group Final Recommendations), including responses to the questions set forth in Appendix D. This ruling also memorializes the email ruling dated August 9, 2013, granting the Utilities' request for extension of time to prepare and submit the Final Report (for Phases I and II) for the Energy Education Study.

This ruling follows the submission of final reports and recommendations by the three working groups as ordered in and in compliance with, inter alia, Ordering Paragraphs 4-13 of Decision (D.) 12-08-044, as part of Phase II of the Proceeding. D.12-08-044 anticipated the circulation of these reports and recommendations for comment.

**IT IS RULED** that:

1. By October 17, 2013, parties shall file and serve comment to the Appendices A (Energy Savings Assistance Program, Workforce Education & Training Working Group, Final Report and Recommendations), B (Mid-Cycle Working Group, Final Report), and C (Addendum to Energy Savings Assistance Program Cost-Effectiveness Working Group White Paper, Working Group Final Recommendations), including responses to the questions set forth in Appendix D.
2. By October 22, 2013, parties may file and serve reply comment.
3. This ruling confirms the Administrative Law Judge's email ruling dated August 9, 2013, (a) granting the Utilities' request for extension of time to prepare and submit the Final Report (for Phases I and II) for the Energy Education Study, (b) relieving the Utilities from complying with the August 31, 2013 due date for the Final Report, including Phases I and II, on Energy Education Study ordered in Decision (D.) 12-08-044, (c) granting the extension of time to submit the Phase I Final Report of the Energy Education Study until October 31, 2013, and (d) directing the Utilities to file a petition to modify D.12-08-044 to seek extension for submitting the Phase II Final Report of the Energy Education Study, which the

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Utilities anticipate to be completed after the expiration of the current program cycle and therefore outside the scope of D.12-08-044 timeframe.

Dated October 9, 2013, at San Francisco, California.

          /s/ KIMBERLY H. KIM            
Kimberly H. Kim  
Administrative Law Judge

APPENDIX A

**A.11-05-017**  
**Energy Savings Assistance Program**  
**Workforce Education & Training Working Group**  
**Final Report and Recommendations**

July 15, 2013

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## Section 1

### Background

The Energy Savings Assistance Program (ESAP) Workforce, Education and Training Working Group (WE&T Working Group)<sup>1</sup> is one of three working groups ordered in the California Public Utilities Commission's Decision (D.) 12-08-044.<sup>2</sup> Subsequent Rulings of Administrative Law Judge Kimberly Kim initiated and established each of the Working Groups and their membership makeup.<sup>3</sup>

D.12-08-044 also ordered the four Investor Owned Utilities (individually: Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company, and San Diego Gas and Electric Company; and collectively: the Utilities or IOUs) to collect and report data by February 1, 2013 in seven WE&T areas<sup>4</sup>:

- (a) Contractor and subcontractor contract terms (competitive bid, direct award, etc.);
- (b) Contractor and subcontractor compensation schemes (hourly, piecemeal, salaried, etc.);
- (c) Number of inspection failures and the types of failures (including the number of enrolled customers later deemed ineligible, number of incorrectly assessed households and instances of measure installation inspection failures);
- (d) Level and type of IOU training (including lead safety training) and screening (including background check) these specific contractors have completed;
- (e) Customer feedback for these contractors, positive and negative;
- (f) Demographic data of the current ESA workforce, including minority, local, low income, disabled, displaced, and other disadvantaged communities; and
- (g) The IOU's assessment of any other needs of the existing workforce to meet the current and future ESA Program demands.

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<sup>1</sup> To avoid confusion with the Mainstream Energy Efficiency WE&T Taskforce, all references to that taskforce, proceeding, and portfolio will be preceded with the words "Mainstream Energy Efficiency."

<sup>2</sup> D.12-08-044, ordering paragraph 4 directed the Energy Division to form the Mid-Cycle Working Group, Cost-effectiveness Working Group and the Workforce, Education and Training Working Group to review components of the Commission's Low Income Programs.

<sup>3</sup> Administrative Law Judge Ruling, issued September 28, 2012 initiated the establishment of the Working Groups. Administrative Law Judge Ruling, issued October 26, 2012 established the Working Groups.

<sup>4</sup> D.12-08-044, p. 181.

D.12-08-044 further outlines the charge for the WE&T Working Group as follows:

With the IOUs' reports (IOUs' Reports) containing the above information, the WE&T Working Group, led by Energy Division, and generally organized and administered under sections 3.11.5.4, 3.11.5.5, and 5.3.8 of this decision shall evaluate the data submitted and develop and present recommendations addressing the aforementioned seven areas and another other recommendations on significant WE&T issues the Working Group finds necessary for review as part of the next step going forward. Additionally, the IOUs are directed to work with the Energy Efficiency WE&T Working Group to share any pertinent overlapping information from the ESA Program WE&T Working Group efforts.<sup>5</sup>

In addition to evaluating the data gathered and submitted by the IOUs, the WE&T Working Group was tasked with developing and submitting to the assigned Administrative Law Judge a Progress Report of its findings and recommendations, if any, by April 15, 2013.<sup>6</sup> The WE&T Working Group has also been tasked with submitting its final report of findings and recommendations, if any, by July 15, 2013.<sup>7</sup> The term of the WE&T Working Group expires 45 days after issuance of this final report.<sup>8</sup>

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<sup>5</sup> D.12-08-044, p. 182.

<sup>6</sup> D.12-08-044, ordering paragraph 10 directed the WE&T Working Group to submit to the assigned Administrative Law Judge their Progress Report of its activities since inception and a detailed description of the status of efforts in each of the subject areas it is charged to review with justification showing good cause for any additional and estimated time it may require.

<sup>7</sup> D.12-08-044, p. 182-183.

<sup>8</sup> D.12-08-044, p. 183.

## Section 2

### Summary of Working Group Activity

The WE&T Working Group convened a total of ten meetings between November 15, 2012 and July 15, 2013.<sup>9</sup> These meetings were held via conference call. A list of WE&T Working Group Participants is provided in Appendix A.

During the first meetings on November 15 and November 26, 2012, the participants researched past efforts to define and determine the demographic data fields. The WE&T Working Group discussed the potential of other workforce tracking efforts and databases used by various stakeholders, including Investor Owned Utilities (IOUs), California Employment Development Department (EDD), California Department of Community Services and Development (CSD), and the Mainstream Energy Efficiency WE&T Taskforce.<sup>10</sup> This research also drew upon a wide range of programs and practices, including General Order 156, the San Francisco Local Hiring Policy for Construction, and the Weatherization Assistance Program under the U.S. Department of Energy and American Recovery and Reinvestment Act (ARRA).

As part of that research, the WE&T Working Group learned that other workforce demographic data collection efforts, including EDD's recently launched Virtual OneStop database platform did not collect the level of data directed for collection in D.12-08-044. From these investigations, WE&T Working Group members determined that replicating or reproducing other program's successes in this data collection effort was not an option as no other programs collect this level of workforce data.

Subsequently, the IOUs collaborated to develop a reporting template for their contractors and timely filed their WE&T reports on February 1, 2013 as directed by D.12-08-044.<sup>11</sup> The WE&T Working Group then reviewed these preliminary IOU WE&T Demographic Data filings. In an effort to distill the data, the WE&T Working Group has also refined the reporting template and created a list of researchable questions.

Since issuing its progress report on April 15, 2013, the WE&T Working Group has also tracked and discussed the efforts of the WE&T Consultant for the Mainstream Energy Efficiency Portfolio, particularly its new proposals for data collection.

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<sup>9</sup> WE&T Working Group Meeting dates (1) November 15, 2012, (2) November 26, 2012, (3) December 19, 2012, (4) January 15, 2013, (5) February 19, 2013, (6) March 12, 2013, (7) March 29, 2013, (8) May 22, 2013, (9) June 27, 2013, and (10) July 9, 2013

<sup>10</sup> For instance, additional workforce databases included study of Proteus Inc.'s "POSSE," EDD's Virtual OneStop ("VOS") workforce database, and CSD's quarterly reports.

<sup>11</sup> D.12-08-044, p. 182.

### Section 3

#### **Status of Working Group Efforts**

The WE&T Working Group has focused its activities to date on forming the templates and reviewing the initial collected data from the templates. The WE&T Working Group has also focused on three ways to improve these efforts: incorporating filters by key data fields, articulating hypotheses to test with the data, and determining the ESA Programs' applicability to the Mainstream Energy Efficiency Portfolio.

First, the original templates remain in need of better filtering by certain reporting fields. The Greenlining Institute has proposed delineating the reporting fields further from contractor to job classification for future versions. This proposal would help to refine data collection efforts by filtering for demographic and training backgrounds within specific job categories. The draft of the improved template is provided in Appendix B. As the Working Group discussed, the short deliverable timeline for development and fielding of the tool, coupled with the difficulty in developing and fielding a combined contractor firm and contractor employee level tool, has resulted in data that is too aggregate to yield determinable findings and workforce trends.

Secondly, hypotheses or "researchable questions" were deemed necessary to comprehend the data's scope and volume. This list would help to refine and ease further data collection efforts by focusing on specific issues, such as community access to certain energy efficiency job categories with career ladders and good wages. With input from the WE&T Working Group, Brightline Defense Project has formed a list of researchable questions, provided in Appendix C.

Finally, the WE&T Working Group also has discussed the applicability of its efforts to the Mainstream Energy Efficiency Portfolio, including the WE&T Consultant selection process. Per A.12-07-001, the "Decision Approving 2012-14 Energy Efficiency Programs and Budgets," the Investor Owned Utilities (IOUs) will be hiring an expert entity (WE&T Consultant) to help design a comprehensive approach to the WE&T issues inherent in their energy efficiency portfolios, no later than March 31, 2013.

Since the granularity of the results of the ESA data collection was hampered by aggregate data and lack of a clear research plan, the efforts of the WE&T Consultant may be useful to developing a robust process and queries. The process should consider testing a readily applicable subset of the energy efficiency portfolios, such as Direct Installation programs. The WE&T Consultant could help to refine and/or design a WE&T data collection tool that provides rigorous results upon which policy decisions can be made about workforce development in future portfolios, or consideration of other measurement approaches for obtaining the desired data.

While formulating this data collection plan, the WE&T Working Group expects the WE&T Consultant to address most, if not all, of its adopted recommendations as provided in Section 4 as well as research questions as provided in Appendix C. These recommendations and research questions have emerged from discussing the recent experiences of diverse interests, including IOUs, community-based organizations, contractors, and regulatory agencies. Given its capacity for research as an academic institution, the WE&T Consultant may be able to provide more recent data and address the final recommendations of the WE&T Working Group. Improving data collection efforts could then inform workforce strategies in future proceedings for both ESA and the Mainstream Energy Efficiency Portfolio.

## Section 4

### Working Group Recommendations

The WE&T Working Group has reached general consensus around these recommendations and request that the WE&T Consultant address some, if not all, of the recommendations:

- (1) Currently, the data collected for the ESA Program is not granular enough to provide definitive workforce demographics, causality between training and energy savings, and data on career ladders since it was not collected by individual work position. In order to meet the timeframe outlined by the D.12-08-044, efforts to revise the initial template have been limited, and while refined data collection is not “impossible,” it would require more time. A refined template from the initial data collection efforts should make the workforce data more comprehensible. Additionally, self-reported data by participating ESA Program contracting firms and their employees may yield less reliable data than preferred.
- (2) Adopted by the WE&T Working Group, the list of researchable questions should be addressed by the WE&T Consultant to hone the direction of workforce data collection and determine the workforce needs and successes within the ESA Program. The questions should be considered and revised as appropriate to reflect workforce needs and successes within the Mainstream Energy Efficiency portfolio.
- (3) Future data collection would also benefit from the WE&T Consultant research plan development.
- (4) In order to begin to adequately answer the research questions posed, more granular and standardized data is needed. If data collection templates are found to be useful for answering the researchable questions, the data will need to be stored in a manner that facilitates analysis. As such, we recommend the creation of a database that will allow the researcher to offer a standardized format used to collect data which can easily be compared across contractors. The researcher can easily assign a random digit to each individual to conceal individual identities and data can easily be exported to a statistical program for more advanced analyses. The researcher can set constraints on the data to make sure data is entered in a standardized format. The researcher can choose from numerous off-the-shelf products that are relatively inexpensive and secure.

## Appendix A

### WE&T Working Group Participant List

• John Fasana - Southern California Edison Company
• Charles Segerstrom, Lisa Shell, Mary O'Drain, Gary Girardi, Frances Thompson - Pacific Gas and Electric Company
• Sandra Williams - San Diego Gas & Electric Company
• Mark Aguirre, Emma Ponco, Iris Montoya, Steven Hruby - Southern California Gas Company
• Eddie Ahn - Brightline Defense Project
• Ryan Young - Greenlining Institute
• Ortensia Lopez – El Concilio of San Mateo County
• Camille Watts-Zagha – California Public Utilities Commission DRA
• Tory Francisco, Lisa Paulo – California Public Utilities Commission Energy Division

## **Appendix B**

### **Data Collection Template Improvements**

(see attached for original and improved templates)

## Appendix C

### List of Researchable Questions

For Questions 1-9, while interested about the entire scope of the ESA workforce, we believe in prioritizing data collection efforts to answer these questions for jobs in the Outreach, Assessment, and Installer categories.

1. Is the ESA Program fully maximizing potential opportunities for job creation, incubation, or development for displaced and disadvantaged workers?
2. How many ESA Program workers come from economically disadvantaged local communities/neighborhoods?
3. How much workforce diversity exists in ESA Program WE&T programs (by race, gender, disabled, other metrics)?
4. How much of the ESA workforce has access to career ladders and ability to diversify their skillsets?
5. How much turnover exists in the ESA workforce?
6. How is the ESA Program addressing the training needs and barriers to employment of rural, urban and suburban populations?
7. What successful workforce policies and program development have contractors utilized in connecting disadvantaged communities to employment opportunities after training?
8. How many hours are worked?
9. What are the pay ranges for each position?
10. Are ESA Program installation, enrollment, assessment failure rates too high? Are they acceptable?
11. How can these rates be correlated to payment schema or training regime?
12. Is there a correlation between increased training and higher energy savings?
13. Is there a correlation between better wages/benefits and higher energy savings?

(END OF APPENDIX A)

APPENDIX B  
**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Application of Southern California Edison Company (U338E) for Approval of its 2012-2014 California Alternate Rates for Energy (CARE) and Energy Savings Assistance Programs and Budgets	A. 11-05-017 (Filed May 6, 2011)
Application of Southern California Gas Company (U 904 G) for Approval of Low-Income Assistance Programs and Budgets for Program Years 2012-2014	A. 11-05-018 Filed May 16, 2011
Application of Pacific Gas and Electric Company for Approval of the 2012-2014 Energy Savings Assistance and California Alternate Rates for Energy Programs and Budgets (U 39 M)	A. 11-05-019 Filed May 16, 2011
Application of San Diego Gas & Electric Company (U 902 M) for Approval of Low-Income Assistance Programs and Budgets for Program Years 2012-2014	A. 11-05-020 Filed May 16, 2011

**MID-CYCLE WORKING GROUP FINAL REPORT**

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July 15, 2013

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Application of San Diego Gas & Electric Company (U 902 M) for Approval of Low-Income Assistance Programs and Budgets for Program Years 2012-2014	B. 11-05-020 Filed May 16, 2011

**MID-CYCLE WORKING GROUP FINAL REPORT**

**I. INTRODUCTION**

Pursuant to Ordering Paragraph 7 of Decision (D.) 12-08-044 (Decision), directs the Mid Cycle Working Group to submit their Final Reports and Recommendations to the Assigned Law Judge by July 15, 2013.

San Diego Gas & Electric Company (SDG&E) on behalf of the Mid-Cycle Working Group hereby submits the attached Energy Savings Assistance Program Mid-Cycle Working Group Final Report and Recommendations.<sup>1</sup>

Respectfully submitted,

By: \_\_\_\_\_ /s/ *Kim F. Hassan*

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<sup>1</sup> The Mid-Cycle Working Group is comprised of representatives from the following parties: San Diego Gas & Electric Company, Southern California Gas Company, Southern California Edison Company, Pacific Gas and Electric Company, The East Los Angeles Community Union, the Energy Efficiency Council, Proteus, the Division of Ratepayer Advocates, The Utility Reform Network, and the California Housing Partnership, Inc. It is led by Syreeta Gibbs, Energy Division Staff.

**A.11-05-017**  
**Energy Savings Assistance Program**  
**Mid-Cycle Working Group Final Report**

July 15, 2013

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- D. Black-lined Statewide Energy Savings Assistance Program Policy and Procedures Manual
- E. Summary of California Installation Standards Manual Proposed Updates

## Section 1

### Background

The Energy Savings Assistance (ESA) Program Mid-Cycle Working Group is one of three working groups ordered in Decision (D.) 12-08-044<sup>1</sup>. Subsequent Rulings of Administrative Law Judge Kimberly Kim initiated and established each of the Working Groups<sup>2</sup>. D.12-08-044, Ordering Paragraph 5.c.1.iii outlines the charge for the Mid-Cycle Working Group as follows;

“The charge for the Mid-Cycle Working Group will be to review: (a) Weatherization and Installation (WIS) Manual<sup>3</sup> Updates; (b) Statewide Energy Savings Assistance Program Policy and Procedures Manual Updates; (c) Streamlining of the Utilities’ Reporting Requirements; (d) The Utilities’ Best Practices; (e) General Mid-cycle Program and Process Improvements; and (f) Potential 2015-2017 Application and Cycle Issues, including whether the next cycle applications could benefit from bifurcation of California Alternate Rates for Energy Program issues from Energy Savings Assistance Program issues”

A list of Mid-Cycle Working Group participants is provided in Appendix A. This report provides final recommendations of the working group, where consensus was reached, as ordered in Ordering Paragraph 7 of (D.)12-08-044.

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<sup>1</sup>D.12-08-044, Ordering Paragraph 4 directed the Energy Division to form the Mid-Cycle Working Group, Cost-effectiveness Working Group and the Workforce, Education and Training Working Group to review components of the Commission’s Low Income Programs.

<sup>2</sup> Administrative Law Judge Ruling, issued September 28, 2012 initiated the establishment of the Working Groups. Administrative Law Judge Ruling, issued October 26, 2012 established the Working Groups.

<sup>3</sup> The name of the Weatherization Installation Standards Manual was formally changed to the California Installation Standards Manual as of July 1, 2012.

## Section 2

### **Summary Activities and Status of Working Group Efforts**

Since the working group filed its progress report on February 15, 2013, the group has met eight times and hosted one public workshop to solicit input on the proposed updates and revisions to the Statewide Energy Savings Assistance Program Policy and Procedure and California Installation Standards Manuals<sup>4</sup>.

The bulk of the working group's time was devoted primarily to Tasks a and b, California Installation Standards Manual (Installation Standards Manual) and Statewide Energy Savings Assistance Program Policy and Procedures Manual (Policy and Procedures Manual) updates, as these two tasks were considered high in priority by the working group participants. As indicated in the progress report, the working group agreed to extend an invitation to representatives from Richard Heath and Associates (RHA) to participate in meetings and respond to technical questions regarding the manuals due to their involvement and history with the ESA Program and role in the development of, and updates, to the Policy and Procedures and Installation Standards Manuals. Once the manual revisions were completed, the working group addressed the remaining tasks and charges outlined in D.12-08-044.

A summary of the working group's proposed updates to the Statewide Energy Savings Assistance Program Policy and Procedures Manual is provided in Appendix B. A redlined version of the Statewide Policy and Procedures Manual and a clean black-lined version of the Statewide Policy and Procedures Manual, without redline, are provided respectively in Appendices C and D. A summary of the proposed revisions to the California Installation Standards Manual is provided in Appendix E. The full version of the California Installation Standards manual is not attached to this final report due to its size. However, parties who wish to view the proposed updates to the California Installation Standards Manual may request access

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<sup>4</sup> Mid-Cycle Working Group meetings (1) March 14, 2013, (2) March 27, 2013, (3) April 11, 2013, (4) May 9, 2013, (5) May 28, 2013 (6) June 25, 2013, (7) July 3, 2013, (8) July 10, 2013. Public workshop held June 19, 2013.

to the full redlined version by submitting an email request to Dana Kennedy @  
DKennedy@rhainc.com. The status and final recommendations for each of the remaining  
working group charges issues are provided below in section 3.

### Section 3

#### **Remaining Working Group Charges and Final Recommendations**

As noted above, the Working Group devoted its time primarily to the review of the Statewide Policy and Procedures and Installation Standards Manuals. The Working Group also identified the following items for discussion, review and potential resolution related to OP 5 of D.12-08-044:

1. Supporting MF properties with energy usage data uploads to benchmarking software such as the Environmental Protection Agency’s Portfolio Manager Tool.

Background: DRA, TURN and CHPC brought this matter of interest to the working group and provides the following background for issue context. California’s statewide energy efficiency strategies include improving the energy information feedback loop to energy customers. Improving the feedback loop is understood as a first step that subsequently leads to building audits, and finally to building retrofits and other conservation action. For example, the CPUC’s Guidance Decision for 2013-2014 Energy Efficiency portfolios in December 2012, D.12-05-015 states, “Performance data at the building, tenant, or end use level is pertinent information, and proposals to increase measurement, retention, and utilization of such information should be included in the 2013-2014 transition applications.”<sup>5</sup>

D.12-05-015 also directs “parallel and coordinated initiatives among utility programs, private market actors, and state and local government policies.”<sup>67</sup> Prior CPUC guidance recommended closer coordination between the utilities’ Energy Efficiency portfolios, ESA, and the recommendations of the Multifamily Subcommittee of the California Home

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<sup>5</sup> CPUC Decision 12-05-015, Finding of Fact 64.

<sup>6</sup> CPUC D.12-05-015, pp. 163-164.

<sup>7</sup> CPUC Programmatic Guidance Ruling in Energy Efficiency Rulemaking 09-11-014,

Energy Retrofit Coordinating Council (HERCC).<sup>8</sup> The Multifamily Subcommittee of the California HERCC explicitly recommends that multifamily buildings utilize the usage tracking and benchmarking systems in coordination with utilities.<sup>9</sup> The report explains, “Improved ability to consistently track and analyze building performance and improvements would likely result in an increase in the rate and effectiveness of energy efficiency upgrades in multifamily buildings.”<sup>10</sup>

The need for historic energy usage data was also recognized for nonresidential properties and enacted into California law in 2007 (AB 1103-Saldana). This law requires gas and electric utilities, after January 1, 2009 to maintain records of the energy consumption data of all nonresidential buildings to which they provide service in a format compatible for uploading to the Environmental Protection Agency’s Portfolio Manager (EPA PM), for at least the more recent twelve months.

The EPA PM offers associated data exchange/web services<sup>11</sup> which is a software platform that allows utilities to electronically transfer data to and from Portfolio Manager via web services. Originally designed for non-residential commercial real estate, EPA PM tracks dozens of metrics across energy, financial, and environmental data categories and was a key tool in establishing the Energy Star building certification program. Data exchange/web services allows utilities (upon customer approval) to upload actual historical energy consumption data into Portfolio Manager and continue to update this data as new utility electricity and gas bills become available. Because the customer initiates the request and provides the appropriate utility account numbers and meter

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<sup>8</sup> CPUC D.12-05-015, p. 186.

<sup>9</sup> MF HERCC Final Report, April 8, 2011, p. 40.

<sup>10</sup> MF HERCC Final Report, April 8, 2011, p. 40.

<sup>11</sup> Prior to July 17, 2013 the data exchange/web services is known as Automated Benchmarking Services (ABS). For more information on this transition see [http://portfoliomanager.energystar.gov/webservices/pdf/Transitioning\\_from\\_Automated\\_Benchmarking\\_\(ABS\)\\_2.5.pdf](http://portfoliomanager.energystar.gov/webservices/pdf/Transitioning_from_Automated_Benchmarking_(ABS)_2.5.pdf)

numbers, the service cannot begin without customer approval. The data exchange/web services are designed to streamline the Portfolio Manager process and relieve users from having to collect billing and usage history and manually enter these data into Portfolio Manager.<sup>12</sup>

For multifamily, EPA PM allows apartment building owners and operators to track weather-normalized energy use intensity data over time and compare performance across a portfolio of multifamily buildings. The tracking and benchmarking of building energy data encourages property owners and managers to engage in an energy audit, a high priority of statewide energy efficiency planners. According to the EPA, multifamily adopters have used the system to prioritize cap-ex investments, verify and track progress of projects, identify under-performing facilities, be more responsive to utility issues, and identify billing errors. For an example of the energy reduction benefits made possible for multifamily buildings as a result of benchmarking with EPA PM, see the “Energy Star Success Story: TIAA-CREF Multifamily Housing” available at [http://www.energystar.gov/ia/business/multifam\\_housing/TIAA-CREF\\_MF\\_Housing\\_Case\\_Study.pdf](http://www.energystar.gov/ia/business/multifam_housing/TIAA-CREF_MF_Housing_Case_Study.pdf).

The EPA is scheduled to update EPA PM on July 17, 2013 with additional features that will benefit multifamily buildings, such as new tabs for planning and goal setting.<sup>13</sup> The California utilities have been automatically uploading data to EPA PM for nonresidential properties. A CPUC- commissioned report on utility benchmarking in California and the EPA PM tool was completed in April 2012.<sup>14</sup>

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<sup>12</sup> The EPA will complete its upgrade of Automating Benchmarking Services on July 17, 2013 with a new software platform for web services. The platform will switch from the legacy SOAP web services to REST web services, to facilitate

<sup>13</sup> For additional information on the new features and functionality that will become available July 17, 2013, see [http://www.energystar.gov/index.cfm?c=evaluate\\_performance.bus\\_portfoliomanager\\_upgrade](http://www.energystar.gov/index.cfm?c=evaluate_performance.bus_portfoliomanager_upgrade)

<sup>14</sup> NMR Group, Inc. and Optimal Energy, Inc., *Statewide Benchmarking Process Evaluation, Volume 1: Report*, April 2012 available at [www.calmac.org](http://www.calmac.org)

Final Recommendation: The feasibility of the automatic uploading of utility usage data for residential multifamily properties will be investigated. If feasible, the ESA Program will promote the EPA PM (or analogous tools agreed upon by the working group) and the associated data exchange/web services<sup>15</sup> as a free online tool that offers valuable energy management capability for multifamily buildings. ESA would only promote energy tracking and benchmarking tools for master-metered multifamily building owners and operators. The utility customer of a master-metered building will typically be the property owner and/or manager. The master-metered customer is the entity granted access to all building energy usage and billing statements issued by the utility. By restricting this final recommendation of the mid-cycle working group to master-metered buildings, there will be no change to the entity granted access to this data. Therefore this should not trigger any privacy concerns because the entity with current access to the building usage data will continue to be the only entity with access to the building usage data that becomes available through data exchange. The CPUC is establishing privacy protocols in CPUC Rulemaking 08-12-009. If the CPUC resolves privacy protocols for individual units in multifamily buildings, it may be possible then for ESA to promote tracking and benchmarking tools to all multifamily building owners and operators.

Because of the ESA program's ambitious initiative to reach 100% of low income dwellings by 2020, the program outreaches to significant numbers of multifamily buildings each year. ESA marketing, outreach and assessment activities would also be examined as an avenue through which to advise multifamily owners and operators of the energy tracking and benchmarking tools. The Working Group has not had time to discuss the implementation details of this recommendation (what type of collateral, scripts, etc. to deliver to customers) and these details can be discussed as the utilities prepare their 2015 – 2017 ESA program applications.

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<sup>15</sup> Prior to July 17, 2013 the data exchange/web services is known as Automated Benchmarking Services (ABS). For more information on this transition see [http://portfoliomanager.energystar.gov/webservices/pdf/Transitioning\\_from\\_Automated\\_Benchmarking\\_\(ABS\)\\_2.5.pdf](http://portfoliomanager.energystar.gov/webservices/pdf/Transitioning_from_Automated_Benchmarking_(ABS)_2.5.pdf)

2. Exploration of how electronic payments and transfer of income may require modified verification policies and practices for ESA.

Background: This issue was raised during one of the Mid-Cycle Working Group meetings when updates to the ESA Policy and Procedures Manual were being discussed. Currently ESA contractors must document all sources of customer income, however, due to enhanced compensation alternatives, not all sources of income can be easily verified. Some income and salaries are electronically deposited and are not accompanied with hard copy documentation, which is required by auditors.

Final Recommendation: The working group discussed possible alternatives to resolve this issue but has not yet developed a viable solution. As this issue continues to be encountered in the field, the working group participants have agreed to continue to independently explore and recommend potential modifications to the existing income verification practices for future ESA program cycles.

3. Examining changes to the Contractor State Licensing Board requirements for Home Improvement Salesperson Certification (HISC).

Background: A suggestion was made during a working group meeting to revisit existing Contractors State Licensing Board (CSLB) /HISC certification requirements in an effort to minimize existing barriers currently encountered such as contractor hiring delays. Although the working group has discussed this issue at length, it was unable to come to agreement regarding existing certification requirements.

Final Recommendation: Working group participants propose to independently seek further guidance from each of their respective legal and leadership teams and submit a supplemental informal filing to the proceeding service list with an updated status and

consensus, if reached, prior to the sunset of the Mid-Cycle Working Group, within 45 days after submission of the final report as outlined in D.12-08-044<sup>16</sup>.

4. Potential new measures and pilots to be tested in 2014 in order to include in 2015 applications.

Background: During one of the working group meetings PG&E suggested consideration, piloting and potential introduction of new measures into the ESA program. Additionally, during the June 7, 2013 joint public meeting hosted by the IOUs, the following measures were discussed; 1) High efficiency motors – Forced Air Units 2) Carbon monoxide detectors 3) Efficiency fan control – Forced Air Units 4) Multifamily Unit Dwelling (MUD) – exterior lighting attached to the unit and common area exterior lighting 5) Multifamily Unit Dwelling – Cost sharing for replacement of faulty appliances shut off for safety reasons. Public input was also provided to explore the implementation of paperless processes, to perform an examination of portfolio cost effectiveness vs. measure specific cost effectiveness and to evaluate expanded use of social media.

Final Recommendation: The working group has discussed this preliminary list and recommends additional exploration of this list in preparation for the 2015-2017 IOU budget application filings.

5. CARE/Bifurcation

Background: The Commission included this as an item in this charge of the working group and the participants discussed potential benefits and drawbacks of filing the next applications for CARE and ESA in separate proceedings. The parties were unable to reach agreement regarding bifurcation of CARE and ESA. As of our most recent discussion on this topic, DRA and CHPC were in favor of bifurcation while the IOUs, TELACU & Energy Efficiency Council oppose bifurcation of CARE and ESA.

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<sup>16</sup> D.12-08-044, ordering paragraph 5C(8)

Final Recommendation: Since the working group participants were split and unable to reach a consensus on this issue, we have no final recommendation as it relates to bifurcation of CARE and ESA.

6. Streamlining of Utilities' Reporting Requirements

Background: The streamlining of reporting requirements has occurred outside of the working group and is ongoing. The Energy Division and the IOUs met and conferred prior to the establishment of the Mid-Cycle Working Group and were able to modify the monthly reporting templates to align with D.12-08-044 in time for the filing of the January 2013 monthly reports, which were filed on February 21<sup>st</sup>, 2013. The Energy Division has also since consulted with the IOUs and DRA regarding the existing quarterly reporting requirements and agreed to discontinue these quarterly reports because they are duplicative. The Energy Division, the IOUs, and DRA will continue to refine the monthly reports as needed as well as the annual reporting templates in time for the filing of the 2013 annual reports which are due on May 1<sup>st</sup>, 2014.

Final Recommendation: Because the streamlining of reporting requirements has occurred outside of the working group, we recommend that this activity continue, as needed, between interested parties, including but not limited to the Energy Division, the Utilities and DRA.

The above list of items supersedes the prior list submitted as part of the progress report filed on February 15, 2013 by the Mid-Cycle Working Group.

# APPENDIX A

**Appendix A**

**Mid Cycle Working Group Participant List**

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<ul style="list-style-type: none"> <li>• Frances Thompson, Mary O’Drain - Pacific Gas and Electric Company</li> </ul>
<ul style="list-style-type: none"> <li>• Sandra Williams, Yvette Vazquez, Kathy Wickware, Aida Velazquez - San Diego Gas &amp; Electric Company</li> </ul>
<ul style="list-style-type: none"> <li>• Southern California Gas Company - Mark Aguirre, Carmen Rudshagen, Andrew Steinberg, Craig Allen</li> </ul>
<ul style="list-style-type: none"> <li>• Richard Villasenor - The East Los Angeles Community Union</li> </ul>
<ul style="list-style-type: none"> <li>• Jose Landeros - Proteus</li> </ul>
<ul style="list-style-type: none"> <li>• Allan Rago - Energy Efficiency Council</li> </ul>
<ul style="list-style-type: none"> <li>• Camille Watts-Zagha - Division of Ratepayer Advocates</li> </ul>
<ul style="list-style-type: none"> <li>• Cynthia Mitchell - The Utility Reform Network</li> </ul>
<ul style="list-style-type: none"> <li>• Ann Gressani<sup>17</sup> - California Housing Partnership Corporation (CHPC)</li> </ul>
<ul style="list-style-type: none"> <li>• Syreeta Gibbs – California Public Utilities Energy Division</li> </ul>

---

<sup>17</sup> Ann Gressani replaced Megan Kirkeby as a Mid Cycle Working Group Participant on January 11, 2013 at CHPC’s request.

# APPENDIX B

## APPENDIX B

### Final

# PROPOSED REVISIONS TO THE STATEWIDE ENERGY SAVINGS ASSISTANCE PROGRAM POLICY AND PROCEDURES MANUAL

## 1. Introduction

This document describes a set of changes to the Statewide Energy Savings Assistance Program Policy and Procedures (P&P) Manual proposed 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 (SoCalGas), (collectively referred to as the Joint Utilities) for the Energy Savings Assistance (ESA) Program. The P&P Manual was last revised in August 2010.

This document reflects the proposed changes as of July 15, 2013. There are four types of revisions covered in this summary: revisions that establish and revise existing policies and procedures to comply with ESA Program measures and services adopted for program budget cycle 2012 through 2014 pursuant to California Public Utilities Commission (Commission) Decision (D.) 12-08-044; revisions to delete language specific to the measure installation; revisions designed to update and refine current policies and procedures; and minor language revisions for clarification purposes. The background for these changes is briefly summarized below.

### ***1.1. Establish and revise Existing Policies and Procedures to Comply with Measures adopted in D.12-08-044***

The Commission in D.12-08-044 adopted the utilities ESA Program design and budgets for program years 2012 through 2014. The decision adopted policies and certain measures for the ESA Program therefore the revisions proposed in the P&P Manual are summarized below and are in accordance with the Commission decision.

- Where appropriate, revised to refer to D-12-08-044.
- Revised the language under Section 2.2.3.2 to reflect that the Commission adopted categorical programs can be obtained at the CPUC website, provided the website address, and deleted the listing of those programs. This revision is proposed because the list of categorical programs can change on an annual basis and therefore the most current list may be obtained via the CPUC website.

- Updated Table 5-1 to reflect the 2012-2014 measures authorized by the Commission for each utility, by climate zone, dwelling type, and applicability to renters. Revised the footnote in Table 5-1 to reflect that gas furnaces and water heaters are repaired or replaced to mitigate natural gas appliance testing (NGAT) fails and the policy is located under Section 10 NGAT. Included footnote in Table 5-1 to reflect that water heater blanket and water heater pipe insulation measures are currently not approved for installation in owner-occupied multi-family dwellings in SoCalGas' service territory.
- Revised language in Section 2.8 to clarify that each IOU will provide its contractors with the measures that meet the energy savings threshold (125 kwh or 25 therms.) adopted by the Commission for one or two measure installation.
- Deleted Table 9-1 in Section 10 which identified individual measures that qualify for installation if home requires less than Three Measures. Instead each IOU will identify those qualifying measures and provide to contractors.

## **1.2. Revisions to delete language specific to the measure**

The P&P Manual has been revised to delete certain areas of the Manual which should be reflected in the California Installation Manual in lieu of the P&P Manual as summarized below:

- Deleted Section 4.6 which addresses installation of compact fluorescent bulbs (CFLs). The procedures for installation of CFLs are appropriately addressed in the California Installation Standards Manual. Therefore no need to duplicate in the P&P Manual.
- Deleted Tables 6-1 through 6-8 under Section 6 Minor Home Repairs because the procedures for installation of measures are appropriately addressed in the California Installation Standards Manual. Therefore no need to duplicate in the P&P Manual.
- Deleted Sections 7.3 measure specific policies because the procedures for installation of measures are appropriately addressed in the California Installation Standards Manual. Therefore no need to duplicate in the P&P Manual.
- Deleted Section 8.4.6 because it is a contractual issue between the utility and the contractor and should be addressed in the contract instead of the P&P Manual.
- Deleted Section 8.4.7 because it is a contractual issue between the utility and the contractor and should be addressed in the contract instead of the P&P Manual.
- Deleted Section 10.4.2 homes for which infiltration reduction is simulated because procedures are appropriately addressed in the California Installation Standards Manual. Therefore no need to duplicate in the P&P Manual.
- Deleted Section 10.7 the non-feasibility criteria for NGAT because criteria is appropriately addressed in the California Installation Standards Manual. Therefore no need to duplicate in the P&P Manual.

### **1.3. Revisions designed to refine current policies and procedures**

The P&P Manual has been revised to refine current policies and procedures to include the following summarized below:

- Revised Section 1.1 to clarify that the Program Manager has flexibility to deviate from established process due to customer hardship or unforeseen circumstances on a case-by-case basis.
- Revised language under Section 2.2.1 to reflect that the Commission income levels can be obtained at the CPUC website, provided the website address, and deleted Table 2-1 which reflected the income guidelines based on the number of people residing in household. This revision is proposed because the Commission provides income levels on an annual basis and therefore the most current income levels may be easily obtained via the CPUC website.
- Revised language under Section 2.2.3.1 to clarify the stipulations that should be observed in determining rental income.
- General revision of language to consolidate certain portions of the Manual.
- Moved language in Manual to appropriate subsection.
- Revised language under Section 2.2.3.3 to include that a current CARE self certification statement is allowed to enroll in the ESA Program.
- Deleted Section 2.4 Treatment of Master Metered Units and the language under Section 2.3.1 revised to include master meter accounts.
- Revised Section 2.5 to include the definition for the applicable program dwellings. The definitions for single family and multi-family existed in the Manual and therefore copied into this section. The definition for mobile homes has been included in the Manual as defined by the California Department of Housing and Community Development.
- Revised Section 2.6.3, 2.6.4 and 2.6.5 to eliminate the requirement to retain copies of legal documents in the customer file, specifically the “Life Estate”, “Living Trust”, “Power of Attorney”, or “Management Agreement”.
- Revised language in Section 6 Minor Home Repairs to remove the reference that furnace repair and replacement and water heater repair and replacement are measures under the minor home repair. The reference to furnace repair and replacement and water heater repair and replacement, have been moved to NGAT Section because these two measures are only provided to mitigate NGAT fails. Therefore these measures will be appropriately addressed under Section 10.
- Deleted Tables 6-1 through 6-8 under Section 6 Minor Home Repairs because the procedures for installation of measures are appropriately addressed in the California Installation Standards Manual. Therefore no need to duplicate in the P&P Manual.
- Revised Table 6-9 under the Section 6 Minor Home Repair to remove reference of furnace repair and replacement and water heater repair and replacement.
- Revised Section 7.2.6 to clarify lead safe practices.
- Revised Section 7.2.8 to include new language for recycling and disposal of measures.
- Revised language under Section 8.3 for the pre-installation inspection.

- Revised heading under Section 8.4.4 and included additional language to clarify failed inspection policy.
- Revised language under Section 8.4.5 to clarify failed inspection dispute resolution policy.
- Revised Section 9.2 to remove certain insurance requirements from the P&P Manual because each IOU may have specific insurance requirement based on their company requirements.
- Revised Section 10.2.2 to remove the specific requirements for LIHEAP.
- Revised Section 10.3.2 to remove the pre-weatherization appliance evaluation components for NGAT because they are appropriately addressed in the California Installation Standards Manual. Therefore no need to duplicate in the P&P Manual.
- Revised Section 10.3.3 to remove the post-weatherization NGAT because they are appropriately addressed in the California Installation Standards Manual. Therefore no need to duplicate in the P&P Manual.
- Revised Section 10.3.4 to remove the Ambient CO Testing for NGAT because they are appropriately addressed in the California Installation Standards Manual. Therefore no need to duplicate in the P&P Manual.

#### **1.4. *Minor language revisions for clarification purposes***

The P&P Manual has been revised to reflect minor language changes as summarized below:

- Revised to reflect program name change as directed by the Commission from the Low Income Energy Efficiency program or LIEE program to the Energy Savings Assistance Program.
- Revised the name from the “California Conventional Home Weatherization Installation Standards” Manuals to the “California Installation Standards” Manuals to reflect that the measures are not purely weatherization any longer and that the standards are applicable to the ESA Program as opposed to being statewide standards such as Title 24.
- Where appropriate, revised to remove the reference for “audit” as it pertains to assessment of the home for measure feasibility.
- Where appropriate, revised language from “landlord” to “property owner or authorized agent”.
- Where appropriate, language revised to reflect that program documentation should be “securely stored” especially as technology and cyberspace advances by protecting customer privacy.

# APPENDIX C

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**APPENDIX C**

**ATTACHMENT 1**

**Final Draft 7/15/2013**

**Statewide Energy Savings Assistance ~~Low Income~~  
~~Energy Efficiency~~ Program  
Policy and Procedures  
Manual**

Applicable to:  
Pacific Gas & Electric Company  
Southern California Edison Company  
Southern California Gas Company  
San Diego Gas & Electric Company

~~July 2013~~ August 2010,

The format for the Table of Contents and Tables will be revised at a later date.

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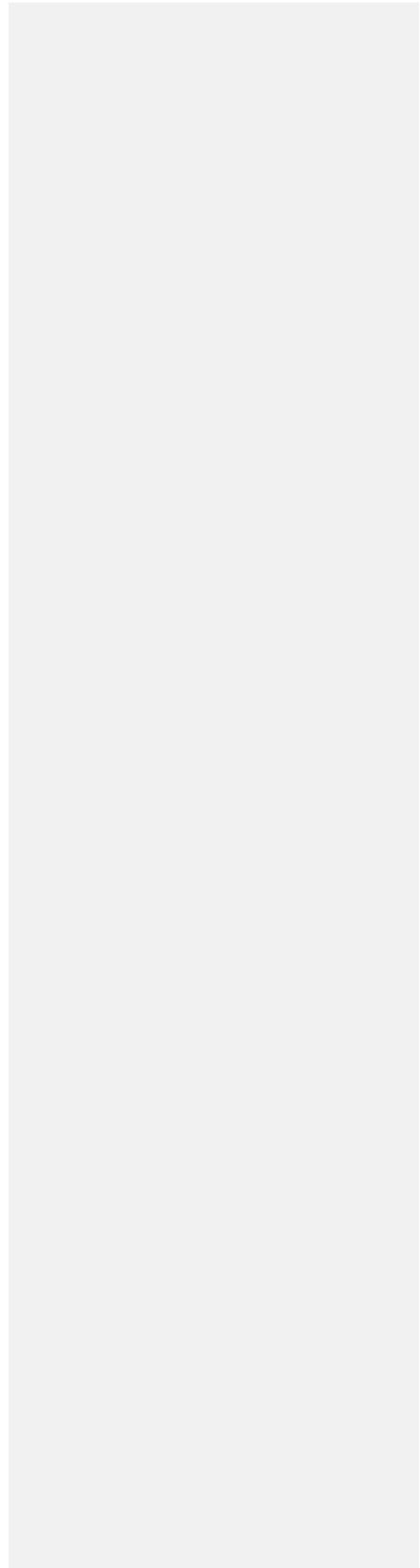
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# 1 Introduction

## 1.1 Overview

This Statewide ~~Energy Savings Assistance~~ ~~LIEE~~ Program Policy and Procedures Manual<sup>1</sup> (*P&P Manual*) describes the policies and procedures followed in the ~~Energy Savings Assistance (ESA)~~ ~~Low Income Energy Efficiency (LIEE)~~ Programs administered by Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), Southern California Gas Company (SoCalGas), and San Diego Gas & Electric Company (SDG&E) (~~collectively referred to as the utilities or investor-owned utilities (IOUs)~~). The ~~Statewide ESA Program~~ ~~LIEE~~ policy and procedures are adopted by the California Public Utilities Commission (~~Commission or~~ CPUC). This Manual provides policies and procedures for implementation of the ~~ESA~~ ~~LIEE~~ Program and is being updated pursuant to the changes in the Program in ~~Commission Decision (D.) 12-08-044, 08-11-031~~. This *P&P Manual* is accompanied by ~~the ESA Program California Installation Standards Manual~~ ~~two other documents with~~ which all contractors working in ~~these p~~Programs must comply.

- ~~□ LIEE Conventional Home Installation Standards, which describes the materials and installation procedures that must be followed during the installation of measures in conventional homes; and~~
- ~~□ LIEE Mobile Home Installation Standards, which describes the materials and installation procedures that must be followed during the installation of measures in mobile homes;~~

An electronic copy of this ~~LIEE~~ Statewide P&P Manual may be obtained at the ~~CPUC Low Income Oversight Board (LIOB)~~ website at ~~www.cpuc.ca.gov/PUC/energy/Low+Income~~ - ~~www.liob.org~~. In situations where there are questions regarding the interpretation of a certain policy or procedure, the Utilities shall use Commission D. ~~12-08-044~~ ~~08-11-031~~ as the overriding authority.

The policies and procedures in this *P&P Manual* are supplemented by the general and specific terms and conditions incorporated into contracts between the utilities and their contract service providers as part of the ~~ESA~~ ~~LIEE~~ Program.

Updates in Program policies and procedures may be issued by the utilities during the course of the Program Year subject to approval by the CPUC. ~~ESA Program Managers have the flexibility to deviate from established procedures to respond to cases of customer hardship and unusual circumstances. The Program Managers shall document any exceptions in the customer file. The operational interpretation of policies and procedures incorporated into this~~

<sup>1</sup> Formerly known as the Statewide Low Income Energy Efficiency Policy and Procedures Manual.

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~~Manual and the associated Installation Standards rests with the utilities' Program Managers.~~  
Changes in the means of implementing policies, procedures and standards will be discussed with contractors prior to being made.

## 1.2 Structure of this Manual

The remainder of this *P&P Manual* is organized as follows:

- Section 2 specifies general statewide policies and procedures relating to customer and home eligibility for the ~~ESA~~ ~~LEE~~ Program.
- Section 3 discusses policies relating to customer outreach and customer relations.
- Section 4 describes the services that are provided under the ~~ESA~~ ~~LEE~~ Program in the initial home visit.
- Section 5 lists the energy efficiency measures that are available to participants in the ~~ESA~~ ~~LEE~~ Program.
- Section 6 discusses policies relating to minor home repairs, ~~and furnace repairs and replacements.~~
- Section 7 describes policies and procedures relating to the installation of energy efficiency measures ~~and the provision of minor home repairs in participating homes.~~
- Section 8 summarizes general statewide inspection policies and procedures.
- Section 9 discusses contractor eligibility.
- Section 10 describes policies and procedures relating to natural gas appliance testing ~~and furnace repairs and replacements.~~
- Appendix A provides a list of the cities comprising the California Energy Commission (CEC) climate zones used in the determination of attic insulation levels and Program eligibility of other measures.

## 2 Customer and Structural Eligibility

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### 2.1 Overview

This section discusses the eligibility of individual households for ~~ESA~~LIEE Program services. Eligibility of a household for measures offered through the Program depends on several factors, including:

- Household income;
  - Actual income documentation
  - Categorical eligibility
  - Self certification
- The utility services provided by the utility to the dwelling;
- The specific type of structure in which the household resides;
- The ability to obtain the approval of the property owner or authorized agent ~~landlord~~ in the event the household resides in rental property;
- Previous ~~ESA~~LIEE Program services provided for the property in question; and
- The dwelling's need for energy efficiency measures offered through the Program.

These eligibility requirements are explained below.

## 2.2 Customer Eligibility Requirements

### 2.2.1. Income Guidelines

All the utilities use the ~~ESA Program~~~~LEE~~ income guidelines established by the ~~California Public Utilities Commission~~ (“CPUC” or “Commission”) to qualify participants in the ~~ESA~~~~LEE~~ Program.

These guidelines are provided to the utilities by the CPUC on an annual basis. As set forth in D.05-10-044, the income eligibility level is based on 200% of the Federal Poverty Guidelines. The CPUC updates the ~~ESA Program~~~~LEE~~ income guidelines every year for inflation. ~~The current ESA Program income guidelines can be obtained at the CPUC website at [www.cpuc.ca.gov/PUC/energy/Low+Income](http://www.cpuc.ca.gov/PUC/energy/Low+Income). Table 2-1 presents these guidelines for the current applicable period.. This table will be updated annually prior to June 1.~~

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~~Table 2-1: Income Guidelines (June 1, 2009 Through May 31, 2010)~~

<del>Number of People Living in Household</del>	<del>Maximum Gross Household Income</del>
<del>1</del>	<del>\$31,300</del>
<del>2</del>	<del>\$31,300</del>
<del>3</del>	<del>\$36,800</del>
<del>4</del>	<del>\$44,400</del>
<del>5</del>	<del>\$52,000</del>
<del>6</del>	<del>\$59,600</del>
<del>If greater than 6, add the following amount per person</del>	<del>\$7,600</del>

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**2.2.2. Types of Income Included in Household Income**

For the purposes of determining Program eligibility, all income is considered, from all household members, from all sources listed in Table 2-~~12~~, whether taxable or non-taxable income, including (but not limited to) wages, salaries, interest, dividends, child support, spousal support, disability or veteran’s benefits, rental income, Social Security, pensions and all social welfare program benefits before any deductions are made. Table 2-~~12~~ indicates the specific items included as income, but is not limited for the purpose of determining eligibility for the ESA ~~LIEE~~ Program.

The following types of receipts are not considered household income for the purposes of determining eligibility:

- Loan proceeds; including reverse mortgages
- Assets (money in bank accounts, a house, a car or other property of possessions);
- Funds transferred from one applicant account to another; or
- Liquidation of assets (other than the portion representing capital or other gains).

**Table 2-~~12~~: Items Included in Income**

Wages, salaries and commissions	401K payments or withdrawals <sup>1</sup>
Alimony payments	Rental income and royalties <sup>2</sup>
Child support payments	School grants, scholarships or other aid <sup>1</sup>
Disability benefits	Self-employment earnings <sup>2</sup>
Foster care payments	Social security payments
Realized capital gains on assets	Housing subsidies
Interest and dividends on assets	Supplemental Security Income (SSI) payments and State Supplemental Payments (SSPs)
Food stamps	Temporary Assistance to Needy Families (TANF) payments
Gambling/lottery winnings	Unemployment Benefits payments
General relief	Veterans Administration Benefit payments
Monetary gifts (both one-time and recurring)	Workers Compensation payments
Insurance settlements or legal settlements <sup>1</sup>	Union strike fund benefits
Pension payments or withdrawals <sup>1</sup>	

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<sup>1</sup> Other than loans.

<sup>2</sup> For rental income and self-employment income, only positive values of income are included. Negative net rents and negative self-employment income are ignored.

### 2.2.3. Verification of Income

#### 2.2.3.1 Actual Income Documentation Required

When income documentation is required, income documentation must be reviewed, recorded, copied and securely stored~~retained~~ by service providers prior to the installation of measures for all prospective participants.

CARE **self-certification** does not automatically qualify a household for ESA Program LIEE, except in the case of group homes or targeted self certification areas, where it is specifically allowed.

In the case where the utility has **verified** that the customer is CARE-eligible within the past year, such income verification may be used for ESA Program LIEE participation.

The utility will periodically audit enrollment information and /or income documentation retained by the contractor. In the event that information and/or documentation is not complete and correct for a participant, payment to the contractor for the provision of Program ~~S~~services to that unit may be disallowed.

The kinds of income documentation required by the Program include but are not limited to those presented in Table 2-~~23~~. In applying these documentation requirements, the following stipulations must be observed:

- Current award letters must include the value of the award and the period of time in question. They must also be dated within one year of the customer's signature date and must list the customer's name.
- Affidavits relating to gifts must indicate the amount and frequency of the gift(s). They must also contain the name, phone number, address and signature of the giver.
- In determining rental income, a renter-landlord relationship exists between household members when a room or rooms in the house is being rented and the renter is not a dependent of anyone in the household. Therefore, the renter is not counted as a household member and the rent paid is counted as part of the total household income. If the renter is a dependent, the renter is counted as a household member (even if he or she is paying rent) and his or her income is considered part of the total household income. A dependent is anyone claimed on the applicant's income tax return. ~~it must be understood that a renter-landlord relationship exists between household members when a room or rooms in the home are being rented. Unless the renter is a dependent of someone in the household, the renter's income is not included in household income and the renter is not counted as a household~~

(August, 2010,)

~~member. The rental payments count as household income. In the~~ 13

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~~event that the renter is a dependent of someone in the household, the renter's income is counted, the renter is considered as a household member, and the rental payment is not counted as part of household income. A dependent is anyone claimed on the applicant's income tax return.~~

- Federal income tax documentation must include copies of all 1099s and W-2 forms.

- Affidavits from an employer who pays the applicant cash wages must ~~be on the employer's letterhead and~~ include the company name, address and phone number. It must also include the name of the applicant, total amount paid to the applicant, and the frequency of payments, and must contain a signature from the employer's authorized representative.
- If the applicant receives cash wages for jobs like mowing lawns, babysitting, handyman services, casual day labor, etc., a self-employment affidavit from the applicant is acceptable if it meets all Program criteria.
- In cases where a household claims no income for the past 12 months, the applicant must demonstrate his or her means of financial support other than income. In the event that the applicant cannot provide documentation of either income or other means of support, Program services will not be performed until such information is provided.
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#### **2.2.3.2. Categorical Eligibility**

Categorical eligibility is another enrollment procedure designed to ease enrollment processes in both ~~ESA~~ ~~LIIE~~ and CARE programs. Customers may be eligible to participate under categorical eligibility<sup>1</sup> and enroll in the ~~ESA~~ ~~LIIE~~ ~~p~~Program based on their current participation in another local, state, or federal means-tested program if those income guidelines are at or below current CARE/~~ESA~~ ~~LIIE~~ program income guidelines as set forth by the Commission. The categorical programs that have been adopted can be found at [www.cpuc.ca.gov/PUC/energy/Low+Income](http://www.cpuc.ca.gov/PUC/energy/Low+Income). following programs have been adopted for inclusion in categorical eligibility:

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- ~~Medi Cal;~~
- ~~Food Stamps~~
- ~~Temporary Assistance to Needy Families (TANF);~~
- ~~Women and Infant Children program (WIC);~~
- ~~Low Income Home Energy Assistance Program (LIHEAP)~~
- ~~Healthy Families Categories A & B~~
- ~~Supplemental Security Income (SSI)~~
- ~~Federal Public Housing Assistance/Section 8;~~
- ~~National School Lunch's Free Lunch Program~~
- ~~Tribal TANF~~
- ~~Bureau of Indian Affairs General Assistance;~~
- Head Start Income Eligible (Tribal only).

Applicants utilizing the ~~c~~Categorical ~~e~~Eligibility option to enroll in ~~ESA Program~~ ~~LIIE~~ must present documentation reflecting current participation in one of the Commission approved programs in order to satisfy the "income documentation" component. ~~required of all applicants.~~ Such documentation must be reviewed, recorded, copied and securely stored/retained by service providers prior to the installation of measures for all prospective

applicants.

### **2.2.3.3. Targeted Self-Certification**

Targeted Self Certification is a third enrollment procedure designed to ease enrollment processes in ESA Program LEE. Eligibility for self certification is determined by each utility based on their identification of geographic areas of their service territory where 80% of the customers are at or below 200% of the federal poverty line. Applicants residing within these targeted self certification areas must sign a “self certification statement” certifying that they do indeed

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Categorical Eligibility approved in Decision 06-12-038, ~~December 2006~~ for SCE, PG&E, SoCalGas, and SDG&E. Utilities, Energy Division staff and DRA to determine acceptable categorical eligibility programs.

*(August, 2010,)*

meet the current income guidelines established for participation in the ~~ESA~~ ~~LIEE~~ ~~p~~Program. This self certification statement is to be retained in lieu of other income documentation or proof of participation in a categorical eligibility program. A current CARE self certification statement is allowed.

**Table 2-23: Types of Income Documentation**

Type of Income	Documentation
Wages, salaries and Commissions	Copy of customer’s payroll check stub(s) OR Federal income tax filing showing gross income OR affidavit from employer (for cash wages only, and only where just one employer)
Alimony or Child Support Payments	Copy of check, bank statement, OR most recent court document stating amount
Disability benefits, Foster Care payments, Unemployment Benefits, VA Benefits, Workers Compensation	Copy of checks stubs OR copy of most recent award letter
Capital or Other gains	Federal Income Tax filing showing capital or other gains
Food stamps	Copy of most recent award letter OR food stamp/cash issuance letter (indicate TANF or General Relief)
Gambling/lottery winnings	determined on case-by-case basis
General relief	Copy of most recent award letter (Notice of Action) OR copy of un-cashed check(s) OR copy of direct deposit statement(s)
Monetary gifts	Copy of customer’s bank statement OR affidavit from gift giver
Proceeds from insurance settlements or legal settlements	Copy of settlement document
Interest and dividend income	Copy of customer’s bank statement(s) OR copy of customer’s investment statement(s) OR Federal Income Tax filing showing gross income
Pension or 401K payments or Withdrawals	Copy of customer’s check stubs OR copy of most recent award letter OR Form 1099R from prior year <u>OR copy of most recent bank statement</u>
Rental income <sup>1</sup>	Tax return (Form 1040, Schedule E, Total Rental Real Estate and Royalty Income or Loss) showing rental income OR copy of rental receipts OR copy of rental agreement specifying rent amount and affidavit from tenant
School grants, scholarships or other aid	Copy of award letter OR copies of cancelled checks
Self-employment earnings <sup>1</sup>	Income statement showing most recent quarterly adjusted earnings plus prior year’s tax return (1040 Schedule C, Net Profit or Loss) OR written affidavit from an accountant or applicant
Housing subsidies	award letter
SSI payments, TANF payments, or Social Security payments	Copy of most recent award letter (Notice of Action) OR copy of un-cashed check(s) OR copy of customer’s direct deposit statement
Union strike fund benefits	Copy of benefits payment stub

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<sup>1</sup> For rental income and self-employment income, only positive values of income are included. Negative net rents and negative self-employment income are ignored.

- ~~□ If the applicant receives cash wages for jobs like mowing lawns, babysitting, handyman services, casual day labor, etc., a self-employment affidavit from the applicant is acceptable if it meets all Program criteria.~~
- ~~□ In cases where a household claims no income for the past 12 months, the applicant must demonstrate his or her means of financial support other than income. In the event that the applicant cannot provide documentation of either income or other means of support, Program services will not be performed until such information is provided.~~

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#### **2.2.4. Household Income Calculation Procedures**

Household income guidelines are based on gross (*pre-tax*) annual income. For self-employed individuals, gross (pre-tax) income is defined to be net profit or loss from self-employment. In the event that a full 12 months of income information is not available, or if there has been a change in the employment status of the household over the past 12 months, it may be necessary to annualize income from a shorter period of time. If, for instance, a household member has been employed for six months, the income earned over this period would be annualized by multiplying it by 2.

It is the intention of the ~~ESA~~<sup>LIEE</sup> Program for all outreach personnel to compute annual income as accurately as possible. The calculations used will depend on the type of records available from each household member. Since all household members may not have the same type of income records, it may be necessary, and appropriate, to use more than one method when documenting income for different members of the same household.

#### **2.2.5. Determining Household Size**

Household size is the current number of people living in the home as permanent residents. Friends or family on a temporary visit (less than 6 months) are not considered household members nor are their earnings part of household income.

Children and/or other dependents residing in the household *only* on weekends, holidays, or vacations may be counted as part of the household only if the family claims them as dependents on their federal income tax filing. Children by previous marriages who do not reside in the home cannot be considered household members, even if they are receiving child support, unless they are claimed as dependents on the applicant's federal income tax filing.

#### **2.2.6. Qualifying Multifamily Complexes**

The ~~ESA~~<sup>LIEE</sup> Program makes use of fractional income qualification for certain measures for multifamily complexes. The terms of income qualification are as follows:

- For the purposes of determining income eligibility, multifamily complexes are defined as those with five (5) or more dwelling units. Duplexes, triplexes, and fourplexes will be qualified as single family homes for the purposes of determining income eligibility.
- For multi-family buildings, refer to Table 5-1 herein for the measures available to multi-family buildings.
- To qualify an entire multifamily building for other measures offered by the Program (defined as 80-20 measures), at least 80% of all (occupied and unoccupied) dwelling units must be occupied by income-qualified households. However, if at least 80% of all units adjacent to a common attic space satisfy the 80% rule, that attic space may be treated even if the 80% rule is not satisfied for the entire building. In the event that fewer than 80% of the dwelling units are occupied by income-qualified households, individual dwelling units occupied by qualifying households may still receive all feasible 80-20 measures.
- Service providers must review, record, copy and securely store income documentation for all households used to qualify an apartment building. The provider must also make its best effort to review and record income documentation for all other households in the multifamily building (i.e., those not used to meet the 80% qualification standard).
- Unoccupied and other non-qualified multifamily dwellings may be weatherized, as long as the multifamily building satisfies the 80% rule for income qualification.

## 2.3 Service Eligibility

### 2.3.1. General Service Eligibility Conditions

To be eligible for the ~~ESA~~ ~~IEE~~ Program, a customer must be served by an active utility account/meter (includes master meter). In an area served by different investor-owned gas and electric utilities (e.g., the SoCalGas-SCE overlap area) the fuel source for the dwelling's space heat shall determine which utility will be the primary provider of air sealing/envelope and attic insulation weatherization services/measures to the dwelling as long as that fuel source is either natural gas or electricity. In the event that a non-IOU heating fuel is used *and* the home has air conditioning, the electric IOU will be the provider of weatherization measures other than infiltration-reduction measures.

Measure-specific eligibility requirements will be followed in the ~~ESA~~ ~~IEE~~ Program. Not all measures are offered in all utility services territories or climate zones. Table 5-1 shows the measures offered by each utility.

### 2.3.2. Referrals

In order to provide the maximum opportunity for eligible customers to receive all feasible measures, the four IOUs—PG&E, SCE, SoCalGas, and SDG&E—will set up a referral system with each other. In addition, the utilities will work with community agencies and local governments including their local Department of Community Services and Development (DCSD) agencies to expand leveraging opportunities. This will increase the number of measures available to eligible customers by sharing the cost of measures offered by both programs.

In areas where a customer receives natural gas and electric services from two different IOUs, the utilities will work together to ensure the customer receives all feasible measures. The utility installing infiltration measures will conduct natural gas appliance testing as long as the utility serves natural gas somewhere in its service area (and thus has trained gas service representatives). In the event that the customer has electric space heat served by an electric-only utility, the electric utility will not install infiltration measures if natural gas appliances are present.

In order to mitigate the duplication of costs that could otherwise be associated with customers participating in two utility programs, two steps shall be taken:

- First, customers that have provided proof of income qualification or deemed categorically eligible by one IOU, shall be considered eligible by all other IOU's serving this customer; and
- Second, gas and electric utilities will offer common energy education in overlap areas so that customers will need to receive education from only one utility.

Additionally, the minimum measure requirement for eligibility (see Section 2.89) will not apply to homes referred by one IOU to another, if the first IOU establishes that a home meets this minimum for the combination of gas and electricity.

### 2.4 Treatment of Master-Metered Units

~~Customers whose service is covered by master meters may participate in the LIEE Program. For these customers, the following policies and procedures will apply:~~

- ~~□ Deemed savings can be used in the evaluation of Program savings for master-metered units.~~
- ~~□ Program personnel will explain the Program to the landlord or property manager prior to contacting tenants.~~

- ~~□ If the master metered dwellings are multifamily units, the terms of Section 2.2.6 will apply. Landlords must be informed that income documentation may be required for the purposes of determining eligibility.~~

## 2.5 Structural Eligibility

**Public Housing.** Public housing is eligible for participation in the ~~ESA~~~~HEE~~ Program, but must meet the program eligibility requirements in order to participate. (Note that this does not include on-base military housing, insofar as these dwelling units are not served by the investor-owned utilities.)

### **Housing Type**<sup>a</sup>

-Single family homes, multifamily dwelling units, and mobile homes are eligible to participate in the program.<sup>a</sup>

- Duplexes, triplexes, and fourplexes will be qualified as single family homes.
- Multifamily complexes are defined as those with five (5) or more dwelling units.
- Mobile homes are defined by California Department of Housing and Community Development as having “over 320 square feet of gross floor area, more than eight feet in width, and more than 40 feet in length.” A mobile home is a manufactured home regulated by the U.S. Department of Housing and Urban Development code (Sec. 3280) and built on a trailer chassis and designed for highway delivery to a permanent location, and it can be a single-, double-, or triple-wide home.

The utilities may promote or limit the treatment of housing types in individual program years as long as these actions are consistent with the achievement of the programmatic initiative.

**Housing on Non-Residential Rates.** In general, only residential customers on residential rates are eligible to participate in the ~~ESA~~~~HEE~~ Program. However, group homes on non-residential rates are eligible for ~~ESA~~~~HEE~~ Program services as long as they are currently eligible for CARE under current CARE guidelines applicable to group living facilities,<sup>3</sup> and the structure in question is a single family, multifamily or mobile home suitable for weatherization under ~~ESA~~~~HEE~~ Program standards.<sup>4</sup>

CARE-eligible facilities include but are not limited to the following.

- Migrant farm worker housing centers, as defined in Section 50710 of the Health and Safety Code, provided that 70% of all energy usage in master-metered facilities and 100% of all energy usage in individually-metered facilities is

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residential.

- Privately owned employee housing, as defined in Section 17008 of the Health and Safety Code, that is licensed and inspected by the state and local agencies pursuant to Part I of Division 13, and in which 100% of all energy use is residential.

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<sup>2</sup> Multifamily dwellings are defined as those in buildings with five (5) or more dwelling units.

<sup>3</sup> See D. 92-04-024, April 8, 1992; D. 92-06-060, June 17, 1992; D. 95-10-047, October 18, 1995. Also see *Commission Advisory and Compliance Division, Workshop Report on California Alternate Rates for Energy (CARE): The Development of Guidelines to Implement CARE for Migrant Farmworker Housing, Agricultural Employee Housing, and Employee Housing*, May 1995.

<sup>4</sup> It should be noted that CARE income eligibility requires that 100% of the residents of the facility (other than live-in staff) meet the CARE income guideline. This income eligibility criterion will be applied to group homes for the purposes of determining [ESA Program](#) ~~LEE~~ income eligibility.

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- Housing for agricultural employees operated by non-profit entities, as defined in Subdivision (b) of Section 1140.4 of the Labor Code, and that has an exception from local property taxes pursuant to subdivision (g) of the Revenue and Taxation Code, provided that 70% of all energy usage in master-metered facilities and 100% of all energy usage in individually-metered facilities is residential.
- Non-profit group living facilities, defined as transitional housing (such as a drug rehabilitation or halfway house), short- or long-term care facilities (such as a hospice, nursing home, children's home or seniors' home), group homes for physically or mentally challenged persons, or other nonprofit group living facilities.
- Homeless shelters, hospices and women's shelters with the primary function of providing lodging and which are open for operation with at least six beds for a minimum of 180 days and/or nights (including satellite facilities in the name of the licensed corporation, where 70% of the energy supplied is for residential purposes).

As mandated by AB 868 and reiterated by an October 1, 2004 Administrative Law Judge's Ruling,<sup>5</sup> migrant housing centers are presumed to meet CARE income eligibility guidelines without verification. This presumption will also be used in determining ~~ESA Program~~ LIEE income eligibility of such facilities. For the purpose of determining eligibility of other types of housing on non-residential rates, income qualification shall be considered satisfied if the facility is on CARE. These facilities represent a unique situation and this income verification procedure shall not be considered a precedent for other circumstances.

## 2.6 Home Ownership Documentation

### 2.6.1. Overview

Home ownership must be verified in order to ensure that the legal owner or authorized agent signs the Property Owner Waiver. It is the responsibility of the contractor to review the documents and ensure proof of home ownership. If a home is in the name of a deceased spouse, the surviving spouse should be considered as the owner. For example, if the home is in the husband's name and never transferred to the widow, the widow is considered the current homeowner.

Any of the following may be used for home ownership documentation.

- Current loan or mortgage documents;
- Property tax records or bills;
- Home owner property insurance (fire insurance);

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<sup>5</sup> Administrative Law Judge's Ruling Seeking Input Regarding Assembly Bill 868 (Care Eligibility for Migrant Housing Centers), October 1, 2004.

- Mortgage payment invoices or book;
- Data Quick or similar title search service; ~~and~~
- Deeds; and
- Current Mobile Home Registration from Department of Housing and Community Development.

### **2.6.2. Multiple Ownership**

If the home is owned by more than one person, the homeowner will be considered any one of the persons whose name appears on the document.

### **2.6.3. Life Estate/Living Trust**

A homeowner may have established a "Life Estate" or "Living Trust." With either, the property is deeded to another individual or trust but the original owner maintains control of the property. The original owner may sign as the property owner only if he or she has a copy of Life Estate or Living Trust documents. Contractor must review and verify that the individual signing the Property Owner Waiver is authorized to do so within the "Life Estate" or "Living Trust". Contractor and individual signing POW shall sign a statement to document that they are authorized to sign agreement to participate in ESA Program and a A-copy of the signed statement of the Life Estate or Living Trust must be maintained in the customers file.

### **2.6.4. Power of Attorney (POA)**

In cases where the property owner is not available to sign on the Agreement, any person having a Power of Attorney (POA) for that owner may sign the Agreement. Contractor and individual signing POA shall sign a statement to document that they are authorized to sign agreement to participate in ESA Program and a A-copy of the signed statement POA must be maintained in the customer's file.

### **2.6.5. Property Management Companies**

Authorized representatives of property management companies may sign for property owners for both single family and multifamily agreements under ~~either of~~ the following conditions: the property management company has a standard Power of Attorney agreement with the property owner; or the property management company has a signed Management Agreement with the owner authorizing the property management company to act as the agent for the specific property; or any other documentation that the utility may require to establish that an agreement exists between the property owner and the management company. A copy of any support documentation the Power of Attorney or the Management Agreement must be kept in the customer's files for that customer.

## **2.7 Treatment of Rental Units 2.7.1. Property Owner Approval**

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*(August, 2010,)*

In general, rental units may not receive Program Services and Measures until a Property Owner's Waiver has been received. This approval must cover the participation of the unit in the Program as well as the installation of specific measures. Such approval is valid for a period of 12 months from the date it is signed by the Property Owner or authorized agent. If approval of the

Property Owner is not received before the installation of such services, the Contractor will be required to reimburse the utility for all payments received from the utility for the measures in question. However with prior written authorization from the utilities' Program Manager, a contractor may proceed with the installation of services and measures that do not directly affect the condition and/or structure without the signed Property Owner Waiver.

### **2.7.2. Eligibility of Rental Units for Certain Measures**

Assuming that the Property Owner's permission is required and has been obtained and that other eligibility conditions are met, rental units may be treated under the Program. However, the following policies relating to specific measures shall be applied. Not all measures listed are offered in all utility service territories or climate zones. See Table 5-1.

- Rental units are not eligible for furnace replacements or major furnace repairs associated with the mitigation of NGAT failures. However, ~~minor repairs and service and~~ adjustments may be made to furnaces ~~and water heaters~~ if these actions would improve the performance of the system at a minimal cost.
- ~~Rental units are not eligible for water heater repairs and replacements associated with the mitigation of NGAT failures. However, services and adjustments may be made to water heaters if these actions would improve the performance of the system at a minimal cost.~~
- ~~Evaporative coolers and hard-wired fixtures may be provided without charge to either the tenant or the landlord.~~ Refrigerator and air conditioner replacements may also be provided at no charge to either the tenant or the ~~property owner~~<sup>landlord</sup>, except in the instance where the ~~property owner~~<sup>landlord</sup> owns the refrigerator or air conditioning unit that is replaced 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.
- The utilities may opt to provide, at a nominal charge to the ~~landlord~~<sup>property owner</sup>, evaporative coolers, refrigerator replacement, and replacement air conditioners and heat pumps.

### **2.8 Previous Program Participation**

In order to provide services to the widest range of low-income households possible, D.08-11-031 places the following restrictions on the participation of homes that have previously been treated under the ~~ESA~~<sup>LIEE</sup> Program.

- The IOUs are allowed to go back and treat any dwelling served prior to 2002, but they will first seek out new dwellings that have yet to be treated.

## 2.9 Need for ESA Program~~LEE~~ Services

A home must receive all feasible measures offered under the ESA~~LEE~~ pProgram. In D.08-11-031, the Commission modified the “3 Measure Minimum Rule” to allow Uutilities to install one or two measures, as long as they installed measures meet the specified a minimum energy savings threshold. Decision 09-06-026 issued June 18, 2009 further modified the “3 Measure Minimum Rule” to clarify the allowable measures under the “3 Measure Minimum Rule”. For homes that need fewer than 3 measures, the energy savings achieved must meet certain minimums as established by the Commission. Energy savings of at least 125 kWh /annually or 25 therms /annually must be achieved in homes where only one or two measures are to be installed. Each IOU will provide its contractors with the individual measures Table 9-1 (Page 87) identifies which individual measures that qualify for installation if a home requires less than three measures. ~~The total energy savings achieved by either one or two measures combined in Table 9-1 (Page 87) should yield savings of at least either 125 kWh /annually or 25 therms /annually. The IOUs are to use the most current energy savings estimates as determined in the Final Report of the Load Impact Evaluation for the applicable program cycle, unless directed otherwise by the Commission. For measures not reflected in the Load Impact Evaluation, those energy savings can be derived from DEER, engineering calculations, etc. as appropriate.~~

Homes that require three or more individual measures qualify for ESA Program~~LEE~~ participation regardless of energy savings. For homes that require more than three individual measures, refer to Table 5-1 ~~(Page 31)~~.

In an area served by multiple investor-owned gas and electric utilities ((investor-owned or municipal)), the minimum number of measures will be defined as if the home were served by a combined gas and electric utility, and the utilities will use a referral system to ensure the installation of all feasible measures.

For all homes meeting the minimum for necessary measures, all feasible measures must be installed.<sup>6</sup> As stipulated in the standard non-feasibility criteria, if a measure is already in place and operating properly, even if it does not meet the current Installation Standards for new installations, it should not be removed and replaced.

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<sup>6</sup> If a customer refuses a measure, that measure is considered non-feasible. See Section 7.

California Statewide ESA Program Policy and Procedures Manual

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## 3 Customer Outreach and Customer Relations

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### 3.1 Introduction

This section presents statewide ~~ESA Program~~~~LEE~~ policies and procedures in the areas of customer outreach and customer relations. Subsection 3.2 discusses policies relating to the recruitment of participants for the Program, while Subsection 3.3 focuses on the maintenance of proper relationships with customers. ~~Subsection 3.4 focuses on Targeted Outreach.~~ It should be understood that the policies in this section are supplemented by additional provisions in both specific and general terms and conditions included in formal agreements between utilities and contractors.

### 3.2 Customer Outreach

Contractors recruiting customers for participation in the ~~ESAL~~~~LEE~~ Program are required to follow strict policies relating to customer outreach. Customer outreach policies cover promotional guidelines, limitations on representations made by contractors and their employees, outreach interactions, and tracking.

#### 3.2.1. Promotional Guidelines

Only promotional materials approved by the Utility Program Manager may be used to promote participation in the ~~ESAL~~~~LEE~~ Program.

#### 3.2.2. Representations by Contractor and Contractor's Employees

Neither the contractor nor his/her employees may imply that they are employees of the Utility or affiliated with the Utility in any way other than through the ~~ESAL~~~~LEE~~ Program.

#### 3.2.3. Outreach Interaction

Outreach personnel must effectively contact and interact with a diverse set of customers. These personnel shall have available any necessary multilingual staff and/or translators and shall make every effort to resolve barriers to communication attributable to disabilities.

#### 3.2.4. Targeted Outreach

Outreach efforts should target those customers with the highest energy usage, energy burden and/or energy insecurity but not at the expense of all other customers. Contractors shall also serve those customers who are disabled. Such customers may be identified based on their

enrollment in the Medical Baseline Program, their enrollment in [the Deaf and Disabled Telecommunications Program \(DDPT\)](#), their enrollment in [ESA Program](#)~~IEE~~ through a disability-based [community-based organization \(CBO\)](#), their request for accessible formats of written materials or use of [Tele-Typewriter/Telecommunications Device for the Deaf \(TTY/TDD\)](#), the visibility of an observed disability and/or their self-identification as having a disability. Contractors shall not ask the customer if he/she is disabled.

### 3.3 Customer Relations

#### 3.3.1. Introduction

It is imperative that both contractors and utility employees maintain proper customer relationships. The [ESA](#)~~IEE~~ Program is a customer service program, and should be delivered accordingly. Specific policies with respect to customer relations are specified below.

#### 3.3.2. Expedient Service

Service must be provided to participants in a reasonable time frame, as determined by the utility. Crews must inform customers of the approximate amount of time required for installations, inspections and gas appliance testing (if required), and shall provide services as expeditiously as possible. The number of visits to a home shall be kept to a minimum.

#### 3.3.3. Other Work

Only ~~three types of~~ work [directly associated with providing ESA Program authorized services to](#) participating customers may be billed to the [ESA](#)~~IEE~~ Program. ~~energy education, the installation of eligible measures, and the provision of eligible minor home repairs.~~ The contractor is prohibited from selling other services to the customer or charging the customer for any other service.<sup>7</sup>

#### 3.3.4. Staff Identification

All contractor or subcontractor employees who engage in customer contact must wear identification badges provided or approved by the utility at all times. Each badge must include a color photo of the employee. If the contractor produces badges, templates for identification badges will be provided by the utility. The contractor shall immediately return ~~or destroy~~ the ID badges of all personnel no longer working for the contractor or its subcontractors on the [ESA](#)~~IEE~~ Program. In the event ~~that~~ the contractor [is unable to return a](#) ~~destroys the~~ badges, the contractor shall [immediately](#) notify the Program Administrator. ~~in a timely fashion.~~

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<sup>7</sup> Note that this provision does not preclude the possibility of requiring a co-payment for the installation of one or more measures, if approved by the utility.

| (*August, 2010,*)

### **3.3.5. Crew Appearance**

~~ESA Program~~ ~~LIEE~~ contractors are responsible for the courtesy and appearance of their employees. Discourteous personnel and unprofessional appearance will not be tolerated in this program and may constitute grounds for contract termination.

### **3.3.6. Customers 18 Years or Older**

In general, contractors shall enter customer's residences only when adults, eighteen (18) years of age or older are present. The only exception to this rule is that contractors may enter the home of a customer under eighteen (18) years of age if the customer is married or has been declared an emancipated minor by the courts.

### **3.3.7. Customer Complaint Procedures**

The contractor must make every effort to resolve barriers to communication attributable to factors including language preference and disabilities. The contractor must make every effort to resolve and document customer complaints. The Contractor must notify the utility or its designee of the status of each complaint within 24 hours of the contractor's receipt of the complaint. If the complaint deals with customer safety, the contractor must resolve it within 24 hours. If the complaint does not relate to customer safety, the contractor must resolve the complaint to the satisfaction of the customer ~~as required by the IOU within 10 days of the receipt of the complaint~~. The acceptability of the contractor's resolution of complaints will be determined at the sole discretion of the utility. If the contractor has not resolved the complaint within the mandated period, the contractor shall notify the utility or its designee of this failure.

### **3.3.8. Substance Abuse and Smoking Policy**

In addition to local and state laws, ~~While at the customer sites~~, contractor personnel shall not be under the influence of drugs or alcohol nor be using drugs or alcohol anytime when performing ESA Program work, ~~on the job~~. Smoking is prohibited within the residence being served at all times and on the customer's property.

### **3.3.9. Incident Report**

Contractors must immediately contact the utility or its designee if during a home visit there is damage to a customer's home and/or property or if the contractor's employee has been accused of an illegal act. Within 24 hours, the contractor will inform the utility or its designee of the resolutions of all such incidents.

## 4 Procedures for Pre-Installation Contacts

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### 4.1 Introduction

This section describes the procedures to be followed by outreach workers and contractors during pre-installation visit or visits to a participating home. These procedures cover the provision of general program information, the collection of data on the household and the home, the administration of home energy education, the completion of the home energy ~~audit~~ assessment, and the installation of measures as approved by each IOU.~~CFLs~~.

### 4.2 Description of Program Services

In the course of the initial customer enrollment,~~home visit~~, the outreach worker shall provide a thorough description of the program services available to the income qualified low income household. At a minimum, this description must cover the following services:

- The ~~ESA~~~~EE~~ Program, including program goals, eligibility requirements, eligible measures, and procedures. The procedures to be covered by this description must encompass energy education, available energy efficiency services and minor home repairs, general installation procedures, inspection procedures, and natural gas appliance testing procedures (if applicable).
- Other programs designed to repair/replace furnaces or install other energy efficiency measures (if these are offered as separate programs).
- The California Alternate Rates for Energy (CARE) Program. Outreach workers will also provide assistance in enrolling the customer in CARE if the customer chooses to participate in it.
- Other utility programs designed to provide services to low-income customers, including level-payment programs, medical baseline programs, and other energy efficiency programs for which the customer may be qualified.
- Similar programs offered by DCSD and other known energy related programs.

The outreach worker may also describe other utility and non-utility low income assistance and energy efficiency programs. At no time shall Program personnel promote or provide fee-based services to customers in lieu of free services offered under the ~~ESA~~~~EE~~ Program.

### 4.3 Data Collection

During the initial interview, the outreach worker will also collect data needed to document eligibility and to meet tracking and reporting requirements. In general, information including, but not limited to the following must be collected:

- Name, address and phone number of applicant,
- Senior/disability status of applicant or other permanent household member, as observed by the assessor or voluntarily provided by the applicant,
- Residence type and owner/renter status,
- Gas and/or electric account information,
- Appliance/HVAC system information,
- Customer unwillingness/inability to participate, and
- Home square footage.

Demographic data may also be collected if offered by the customer.

### 4.4 In-Home Energy Education

In-home energy education will be provided to all income-eligible applicants whose dwellings require the minimum number of measures, using forms and checklists provided by the utilities. Energy education will cover the following general areas: heating and cooling usage, water heating system usage, major electric and gas appliance usage, small appliance usage, benefits of energy efficiency programs in reducing green house gas emissions, water conservation, and lighting usage. At a minimum, topics to be covered in the course of energy education must include:

- The general levels of usage associated with specific end uses and appliances,
- The impacts on usage of individual energy efficiency measures offered through the ~~ESA~~<sup>LIEE</sup> Program or other Programs offered to low-income customers by the utility,
- Practices that diminish the savings from individual energy efficiency measures, as well as the potential cost of such practices,
- Ways of decreasing usage through changes in practices,
- Information on CARE, the Medical Baseline Program, and other available programs,
- Appliance safety information,
- The way to read a utility bill,
- Green house gas emissions,
- Water conservation,

- CFL disposal and recycling, and
- The procedures used to conduct natural gas appliance testing (if applicable).

#### **4.5 In-Home Energy Assessment/Audit**

An assessment ~~or audit~~ of the structure will be completed on homes with income-qualifying applicants using ~~utility approved forms and/or tools, a form provided by the utility.~~ The assessment/~~audit~~ will identify measures which may be installed through the Program. ~~Assessment/audit forms will be provided by the utility or approved by the utility if the contractor has an acceptable in-house form.~~

#### **4.6 Installation of Compact Fluorescent Light Bulbs**

~~The electric or dual fuel utility outreach worker may install compact fluorescent light bulbs during the initial home visit. The number of compact fluorescent light bulbs installed will depend on unit type, feasibility and amount of time each lighting fixture is used (3.5 hours minimum). Contractors will remove old bulbs after installing CFLs, unless a customer asks to keep the old bulbs. Contractors shall provide information to the customer explaining how to dispose of CFLs safely. Leaving compact fluorescent light bulbs with customers for installation at a later time is not allowed.~~

## 5. Program Measures

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### 5.1 Introduction

This section identifies the energy efficiency measures available through the ~~ESAL~~ LEE Program and discusses the means by which changes in eligible measures are made over time. Subsection 5.2 focuses on measures offered under the program, while Subsection 5.3 outlines the process that will be used to evaluate measures for inclusion in the Program in future years. ~~The goal of the program is to remove all replaced measures from the home.~~

### 5.2 Program Measures

Table 5-1 indicates the specific Program measures that ~~may be provided to participants~~ are eligible for the ~~ESAL~~ LEE Program ~~in accordance with the California Installation Standards Manual~~. ~~Note that there are some restrictions on the eligibility of individual homes for some of these measures. See Section 7.~~

### 5.3 Consideration of Changes to Measure List

Utilities will jointly evaluate existing Program measures in the course of developing recommendations for programs in subsequent years. The utilities evaluate these measures using all available information on both costs and benefits (including energy benefits as well as non-energy benefits), and develop a set of recommendations for CPUC approval. If warranted by the evidence, these recommendations may vary across climate zones. The utilities will also implement a process for considering new measures to be added to the Program. This process will entail the issuance of a solicitation for recommendations for new measures and the assessment of the cost-effectiveness of these measures.

**Table 5-1: Eligible Measures (REVISED 7/15/2013)**

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Measure <sup>1</sup>	PG&E			Avail. to Renters	SDG&E			Avail. to Renters	SCE			Avail. to Renters	SCG			Avail. to Renters
	S/F	M/F	M/H		S/F	M/F	M/H		S/F	M/F	M/H		S/F	M/F	M/H	
<b>Heating, Ventilation &amp; Air Conditioning</b>																
Gas Furnace <sup>4</sup> Repair/Replace CZ 1,2,3,4,5,6,11, 12, 13,14, 16	√		√													
Gas Furnace <sup>4</sup> Repair/Replace - CZ -7, 10, 14,15					√		√									
Gas Furnace <sup>4</sup> Repair/Replace - CZ -4, 5, 6, 7, 8, 9,10,13,14,15,16													√		√	
Forced Air Unit Standing Pilot Light Conversion - All - CZ					√		√		√				√		√	
Room A/C Replacement																
- CZ 10					√		√		√							
- CZ 10,13,14, 15	√								√		√		√			
Central A/C Replacement																
- CZ 14	√															
- CZ 14 & 15									√		√		√			
Heat Pump - CZ 14 & 15									√		√		√			
AC Time Delay - CZ 1, 2, 3, 4, 5, 6, 11, 12, 13, 14, 16, (Except SF & MF CZ 1,5,6 and MF CZ 3)	√		√		√											
Duct Sealing CZ 1, 2, 3, 4, 5, 11, 12, 13, 16	√				√											
- CZ 7, 8, 10, 14,15 (Except CZ 8 Gas)					√			√								
- CZ 4, 5, 6, 7, 8, 9,10,13,14,15,16														√		√
Evaporative Coolers																
- CZ 10,13,14,15,16									√			√		√		
- CZ 1, 2, 3, 4, 11, 12,13, 14, 16 (Except MH CZ 1)	√				√											



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Measure <sup>1</sup>	PG&E				SDG&E				Avail. to Renters	SCE			Avail. to Renters	SCG			Avail. to Renters
	S/F	M/F	M/H	Avail. to Renters	S/F	M/F	M/H	S/F		M/F	M/H	S/F		M/F	M/H		
<b>Maintenance</b>																	
<b>Furnace Clean &amp; Tune</b> CZ 4,5, 6,7, 8,													√	√	√		√
- CZ 7,10,14,15					√	√	√		√								
<b>Central A/C Tune-up/Services</b>																	
- CZ 2, 4, 6, 11, 12, 13, 14, 16	√	√	√		√												
- CZ 6,7, 8, 14, 15					√	√	√		√								
All CZ										√	√	√					√
<b>Enclosure</b>																	
<b>Envelop/Air Sealing Measures<sup>2</sup></b>																	
-CZ 1, 2, 3, 4, 5, 6,11,12,13,14,16	√	√	√		√												
- CZ 4,5,6,7,8,9,10, 13,14, 15,16														√	√	√	√
- CZ 6,8, 9, 10, 13, 14, 15, 16 Electric Heated Home										√	√	√					√
- CZ 6, 7, 8,10,14, 15 Electric Heated Home					√	√	√		√								
- CZ 7, 10,14, 15 Gas Heated Home					√		√		√								
<b>Attic Insulation</b>																	
CZ 1, 2, 3, 4, 5, 6, 11, 12, 13, 14, 16	√	√			√												
- CZ 4,5,6,7,8,9,10 13, 14, 15, 16														√	√		√
- CZ 6,7,8,10,14,15 Electric						√	√		√								
- CZ 7,10,14,15 Gas					√	√			√								
<b>Minor Home Repairs - All - CZ<sup>3</sup></b>	√	√	√		√	√	√		√	√	√	√	√	√	√	√	√

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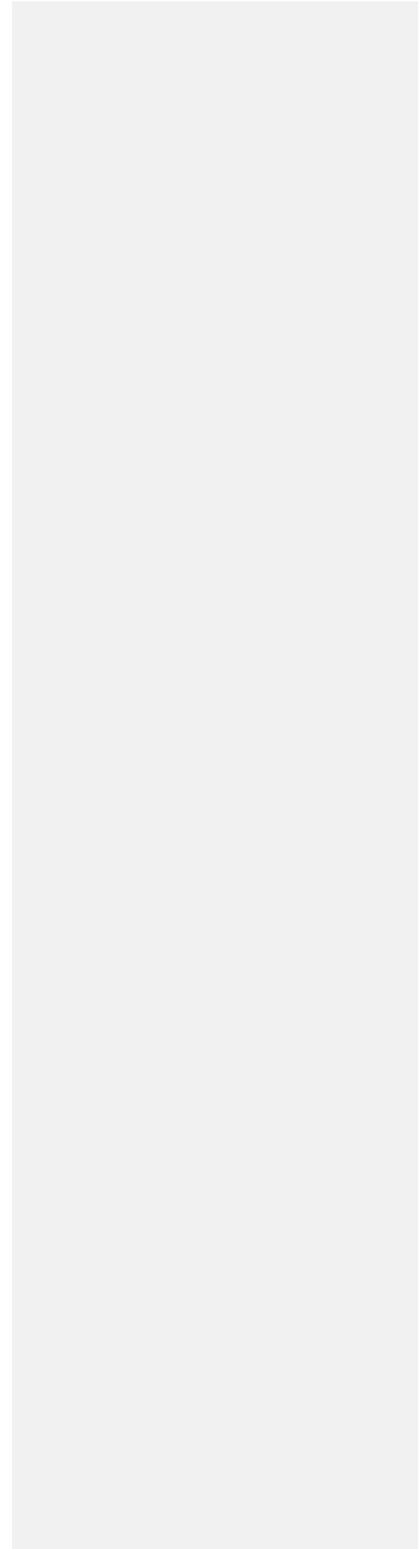
Measure <sup>1</sup>	PG&E			Avail. to Renters	SDG&E			Avail. to Renters	SCE			Avail. to Renters	SCG			Avail. to Renters
	S/F	M/F	M/H		S/F	M/F	M/H		S/F	M/F	M/H		S/F	M/F	M/H	
<b>Domestic Hot Water</b>																
Faucet Aerators All - CZ	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Low Flow Showerhead All - CZ	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Water Heater <sup>4</sup> Repair/ Replacement - Gas - All CZ	√	√	√		√	√	√						√	√	√	
Water Heater Blanket All - CZ	√	√	√	√	√	√	√	√	√	√	√	√	√	√ <sup>5</sup>	√	√
Water Heater Pipe Insulation All - CZ	√	√	√	√	√	√	√	√	√	√	√	√	√	√ <sup>5</sup>	√	√
Thermostatic Shower Valve - All - CZ	√	√	√	√	√	√	√	√					√	√	√	√
<b>Lighting Measures</b>																
CFL Lighting - All - CZ	√	√	√	√	√	√	√	√	√	√	√	√				
Interior Hard wired CFL fixtures - All - CZ	√	√	√	√	√	√	√	√								
Exterior Hard wired CFL fixtures - All - CZ	√	√	√	√	√			√	√			√				
Torchiere All - CZ	√	√	√	√	√	√	√	√	√	√	√	√				
Occupancy Sensors - All C	√	√	√	√												
LED Night Light - All CZ					√	√	√	√								
<b>Appliances</b>																
Refrigerators - All - CZ	√	√	√	√	√	√	√	√	√	√	√	√				
High Efficiency Clothes Washer - All - CZ					√	√	√	√					√	√	√	√
LIHEAP Appliances All CZ	√	√	√	√												
Microwave Ovens - All - CZ	√	√	√	√	√	√	√	√								
<b>Miscellaneous</b>																
Pool Pumps - All CZ									√			√				
Smart Power Strip All - CZ					√	√	√	√	√	√	√	√				

<sup>1</sup> Table 5-1 indicates the specific Program measures that may be provided to participants for the ESA Program in accordance with the California Installation Standards Manual. All measures are available to homeowners and renters except where shown in Table 5-1.

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<sup>2</sup> Includes Caulking, Outlet Cover Plate Gaskets, Evaporative Cooler Cover, Air Conditioner Cooler Cover, Attic Access Weather-Stripping Doors and Minor Home Repairs (which include repairs such as ceiling repair, cover plates, door jams, door patch/plate, door replacement, exhaust fan vents, exterior wall repair, foam wall patch, interior wall repair, glass replacements, glazing compounds, lock sets (exterior door) windowsill repair, thresholds, vent repair and alignment, and window repair). For the purposes of qualifying a home for the Program, these measures count as a single measure. If contractors are installing less than three measures in a home, they should refer to Section 2.9 and Table 2.4, the "Needs for LIEE Services" section on page 23 and Table 9-1 on page 87.

<sup>2</sup> Includes Low Flow Showerheads, Water Heater Blanket, Faucet Aerators, Water Heater Pipe Insulation. For the purposes of qualifying a home for the Program, these measures count as a single measure. If contractors are installing less than three measures in a home, they should refer to the "Needs for LIEE Services" section on page 23 and Table 9-1 on page 87.

<sup>3</sup> There are multiple sub-measures included under minor home repairs. Minor home repairs are constituted by services that either reduce infiltration (e.g., window repairs), mitigate a hazardous condition, or accommodate the installation of Program measures (e.g., attic venting). For the purposes of qualifying a home for the Program, all minor home repairs (combined) count as a single measure.

<sup>4</sup> For owner occupied, furnace repairs and replacements fall under the category of minor home repairs, and are provided only when necessary to mitigate NGAT fails and pursuant to the installation of infiltration-reduction measures. Water heater repairs and replacements are also considered minor home repairs, and are provided only to mitigate NGAT fails or to replace leaking water heater tanks. For the purposes of qualifying a home for the Program, all minor home repairs (combined) count as a single measure.

<sup>5</sup> The water heater blanket and water heater pipe insulation measures are not currently approved for installation in owner-occupied multi-family dwellings for SoCalGas.

<sup>6</sup> In situations where there are questions regarding the interpretation of a certain measure, the Utilities shall use D.12-08-044 Attachment G in Commission D.08-11-031 as the overriding authority.

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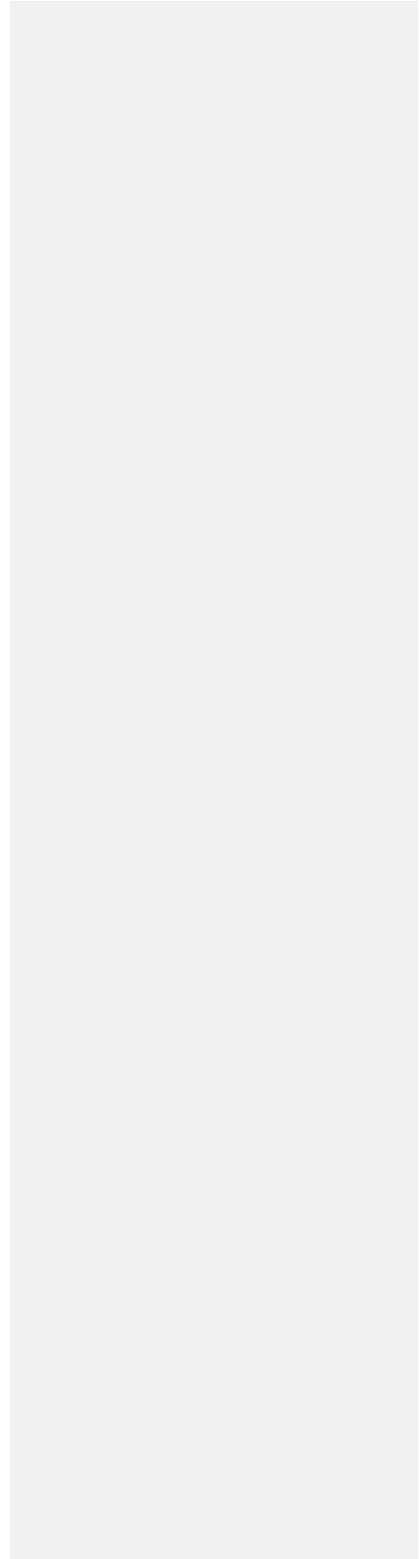
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## 6 Minor Home Repairs

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### 6.1 Introduction

This section describes the ESA Program~~LIEE~~ policies and procedures relating to minor home repairs. Section 6.2 discusses the specific minor home repairs that may be provided through the ESA~~LIEE~~ Program. Section 6.3 describes Program limits on expenditures on general types of minor home repairs. Finally, Section 6.4 describes the prioritization criteria that will be used by Program Managers to prioritize repairs for a specific home when not all needed minor home repairs can be made within the constraints of the budget limits for that home.

### 6.2 Minor Home Repairs

Minor home repairs are repairs required to enable installation of weatherization measures, to reduce infiltration, or to mitigate a hazardous condition. Minor home repairs shall be done in a manner that maintains accessibility for customers with observed disabilities.

In owner-occupied homes receiving infiltration-reduction measures, minor home repairs may be include furnace repair or replacement and water heater repair or replacement, when necessary to mitigate natural gas appliance testing (NGAT) fails that cannot be corrected with service by utility gas service personnel (or their designated representative). Such NGAT fails may include, but are not limited to, CO above the action level, inadequate draft, unsafe flue/vent pipe/system, unacceptable flame or flame change when air handler comes on, a non-operable appliance, or the absence of a furnace in cases where another gas appliance is used for space heating.

In all homes receiving infiltration-reduction measures, minor home repairs also include other corrections needed to pass the NGAT protocol, including but not limited to, adding combustion and ventilation air (CVA) venting, and other corrections, listed in Table 6-8. It is the general policy of the ESA~~LIEE~~ Program that these repairs must be made if they are needed and feasible, subject to budgetary limits. ~~Table 6-1 through Table 6-8 present the minor home repairs that are provided under the LIEE Program. Table 6-1 lists general structural repairs. Table 6-2 enumerates repairs required to mitigate catastrophic envelope leaks. Table 6-3 lists repairs necessary to support the installation of attic insulation. Table 6-4 lists repairs required to support weather stripping and caulking. Table 6-5 indicates repairs required to install attic ventilation. Table 6-6 lists repairs required to support the installation of water heating measures. Finally, Table 6-7 enumerates repairs made to mitigate non-~~

appliance hazards. Finally, Table 6-8 indicates repairs required to mitigate natural gas appliance fails.

**Table 6-1: General Repairs**

<p><b>Small holes in interior surface of wall between conditioned and unconditioned Space</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Repair holes 1" in diameter or smaller</li> <li><input type="checkbox"/> Repair holes between 1" and 6"</li> </ul>	<p><b>Windows</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Replace glazing compound</li> <li><input type="checkbox"/> Replace glass</li> <li><input type="checkbox"/> Replace sash</li> <li><input type="checkbox"/> Repair or replace mullions/muntins</li> <li><input type="checkbox"/> Install new window (not just glass)</li> <li><input type="checkbox"/> Install casing</li> </ul>
<p><b>Exterior wall</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Patch stucco (up to 36 sq. in<sup>9</sup>)</li> <li><input type="checkbox"/> Replace missing siding</li> </ul>	

**Table 6-2: Repairs Required to Mitigate Catastrophic Envelope Leaks**

<p><b>Large holes in interior surface of wall between conditioned and unconditioned Space<sup>9,10</sup></b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Repair large portion of drywall or plaster (up to 4 sq. ft.).</li> <li><input type="checkbox"/> Replace entire drywall or wood panels (up to 8 sq. ft.).</li> </ul>	<p><b>Windows and Doors</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Replace entire window</li> <li><input type="checkbox"/> Replace entire door</li> </ul>
--	--

<sup>8</sup> Replaced only with Program Manager's approval on a case-by-case basis.

<sup>9</sup> Structural/framing members not included.

<sup>10</sup> Surface left in a prepared-for-paint condition.

**Table 6-3: Repairs Required to Support Installation of Attic insulation**

<p><b>Attic access</b></p> <ul style="list-style-type: none"> <li>□ Install weather stripping</li> <li>□ Repair access panel</li> <li>□ Replace molding around access</li> <li>□ Cut new access hole/opening (interior only and only between joists)</li> </ul>	<p><b>Retractable ladder</b></p> <ul style="list-style-type: none"> <li>□ Install cover</li> <li>□ Install frame and cover</li> <li>□ Weather-strip opening</li> </ul>
<p><b>Reconnect Duct</b></p>	<p><b>Repair holes in ceiling</b></p>
<p><b>Seal Return Plenum</b></p>	<p><b>Exhaust vent</b></p> <ul style="list-style-type: none"> <li>□ Repair/replace bath vent pipe</li> <li>□ Repair/replace kitchen vent pipe</li> </ul>
<p><b>Closet vent/ceiling</b></p> <ul style="list-style-type: none"> <li>□ Cover vent with flexible insulation</li> <li>□ Install solid material to cover opening</li> </ul>	

**Table 6-4: Repairs Required to Support Weather-stripping and Caulking**

<p><b>Door Replacement</b></p> <ul style="list-style-type: none"> <li>□ Install door stops</li> <li>□ Replace door</li> <li>□ Replace door jamb</li> <li>□ Plane bottom of door</li> <li>□ Cut off bottom of door</li> <li>□ Replace interior casing</li> <li>□ Replace exterior casing</li> <li>□ Replace complete pre-hung door unit</li> <li>□ Adjust hinges</li> <li>□ Replace hinges</li> <li>□ Adjust loose screws</li> <li>□ Replace lock</li> <li>□ Replace existing night latch</li> </ul>	<p><b>Door Replacement (cont.)</b></p> <ul style="list-style-type: none"> <li>□ Install/adjust striker plate</li> <li>□ Repair/replace subseal<sup>††</sup></li> </ul>
	<p><b>Threshold Repairs/Replacement</b></p> <ul style="list-style-type: none"> <li>□ Install new threshold</li> </ul>
	<p>□ Seal threshold</p> <p>□ Install riser</p>
	<p><b>Caulking Preparation</b></p> <ul style="list-style-type: none"> <li>□ Install backer rod</li> </ul>
	<ul style="list-style-type: none"> <li>□ Clean surface of dirt and oils</li> </ul>

<sup>††</sup>Subseal is directly under the riser which is directly under the threshold.

**Table 6-5: Repairs Required to Install Attic Ventilation**

<p><b>Gable vent</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Install new vent</li> <li><input type="checkbox"/> Replace screen</li> <li><input type="checkbox"/> Repair existing wooden vent</li> </ul>	<p><b>Eave/soffit vent</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Clean screen</li> <li><input type="checkbox"/> Replace screen</li> <li><input type="checkbox"/> Install new vent</li> </ul>
<p><b>Turbine/dormer vent</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Install new vent</li> <li><input type="checkbox"/> Repair existing vent</li> </ul>	

**Table 6-6: Repairs Required to Install Water Heating Measures**

<ul style="list-style-type: none"> <li><input type="checkbox"/> Install combustion air vent</li> <li><input type="checkbox"/> Install showerhead adapter</li> </ul>
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**Table 6-7: Repairs Required to Mitigate Non-Appliance Hazards**

<ul style="list-style-type: none"> <li><input type="checkbox"/> Replace broken/cracked switch/outlet covers</li> <li><input type="checkbox"/> Remove combustibles and flammable materials from combustion air vent proper clearance zone.</li> </ul>
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**Table 6-8: Repairs Required to Mitigate Natural Gas Appliance Fails**

<p><b>All Appliances</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Repair gas leaks</li> <li><input type="checkbox"/> Replace soldered gas connector</li> </ul>	<p><b>Cooking Appliances</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Correct mobile home kitchen exhaust defect.</li> </ul>
<p><b>Furnaces</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Correct CVA deficiency</li> <li><input type="checkbox"/> Clear covered CVA vent opening/ screen</li> <li><input type="checkbox"/> (Owner-Occupied) Major Repair or Replacement for non-op or NGAT Fail not correctable by Service</li> </ul>	<p><b>Water Heaters</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Correct CVA deficiency</li> <li><input type="checkbox"/> Extend vent pipe if termination is too close to evaporative cooler</li> <li><input type="checkbox"/> Clear covered CVA vent opening/ screen</li> <li><input type="checkbox"/> (Owner-Occupied) Repair or Replacement for non-op or NGAT Fail not correctable by Service</li> </ul>



### 6.3 Limits on Minor Home Repairs

There are two types of limits on costs incurred for minor home repairs, ~~including furnace repairs and replacements, water heater repairs and replacements, and other minor home repairs.~~

- **Average Cost Limits.** These are limits on the average cost of categories of service across all homes receiving the service in question. They are designed to provide overall cost control for the provision of these services.
- **Individual Home Limits.** These are defined as limits on the cost that can be incurred for an individual home without the specific approval of the utility Program Manager. Individual home limits are meant to provide for equity in the distribution of program funds across individual households but yet provide Program Managers enough flexibility to respond to individual customer needs and hardship situations.

These limits are presented in Table 6-19. It should be noted that the expenditure limits apply to all minor home repairs, including any actions taken to respond to gas leak/carbon monoxide emission problems identified during the utility's gas appliance testing procedures.

**Table 6-19: Caps on Minor Home Repairs**

Service	Average Cost per Home Receiving Service	Maximum Cost for Individual Home
<del>Furnace Replacements</del> <del>Central Furnaces</del> <del>Wall/Floor/Direct Vent Furnaces</del>	-	<del>\$2,000<sup>1</sup></del> <del>\$1,500</del>
<del>Water Heater Repairs and Replacements (Total Combined Cost for home receiving one or the other)</del>	<del>\$900</del>	<del>\$1,250</del>
<del>Other Minor Home Repairs</del>	<del>\$300</del>	<del>\$750</del>
<del>Furnace Repairs (restriction on repair expenditures relative to cost of replacement)</del> <del>Central Furnaces</del> <del>Wall/Floor/Direct Vent Furnaces</del>	-	<del>50%<sup>1</sup></del> <del>40%</del>
<del>Total of All Minor Home Repairs</del>	<del>-</del>	<del>\$2,500</del>

<sup>1</sup> Does not include the costs of Title 24 compliance.

#### 6.4 Prioritization of Minor Home Repairs

In the event that a contractor requests permission from the utility Program Manager to exceed the limit on minor home repairs, the Program Manager will base a decision on the status of the Contractor’s minor home repair budget, the overall program budget, and the need for the repairs in question. If the Program Manager deems it necessary to limit expenditures on the home, measures will be prioritized using the following general priority list:

- Repairs needed to mitigate immediate hazards (e.g., repairs made to mitigate natural gas appliance testing (NGAT) fails, or door repairs where doors will not close or lock),
- Repairs needed to mitigate major infiltration sources (e.g., broken windows, holes in doors, etc.),
- Repairs required to permit the installation of a measure, and
- Other repairs.

## 7 Measure Installation Policies and Procedures

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### 7.1 Introduction

This section presents ~~ESA Program~~LIEE policies for Program measures that are covered in the ~~ESA Program~~LIEE Installation Standards Manual. Subsection 7.2 specifies general policies that apply to all measures, including contractor installation, installation standards, safety, site clean up, and other policies. ~~Subsection 7.3 identifies non-feasibility criteria and other policies applicable to individual measures and minor home repairs. These measure-specific policies are also listed in the LIEE Installation Standards Manual.~~

### 7.2 General Installation Policies

#### 7.2.1. Introduction

Several general policies relating to the installation of Program measures must be followed by installation personnel. These policies are presented below.

#### 7.2.2. Installation by Contractor

Measures must be installed by the contractor. Dropping off materials for later installation by the customer is not permitted under this Program.

#### 7.2.3. Installation Standards

All measures must be installed in conformance with the ~~ESA Program~~LIEE Installation Standards Manual. These standards are intended to meet or exceed existing codes and regulations, and to conform to accepted building practices. When a conflict exists between these installation standards and local codes, the more stringent requirement shall take precedence. Copies of these ~~i~~Installation ~~S~~standards ~~M~~manuals may be obtained by using the contact information provided in Section 1.1.

#### 7.2.4. Safety

Contractors must plan and conduct all work in a manner that is consistent with the safety of persons and property. All work shall be conducted in compliance with reasonable and safe working practices and with applicable federal, state, and local laws. For instance, the Contractor is responsible for complete compliance with California Occupational Safety and Health Standards.

It is the responsibility of each program contractor to establish and maintain a safety program for all work undertaken for the ~~ESA/IEE~~ Program. It is also the responsibility of each contractor to ensure that all employees observe safety rules by complying with all required safety precautions and regulations. Contractors must ensure that their staff members receive appropriate training in the safe and proper use of the tools associated with the installation of each ~~ESA/IEE~~ Program measure.

#### **7.2.5. Installation of Feasible Measures**

It is the policy of the CPUC that ~~ESA/IEE~~ Program Contractors must install all feasible measures unless, after communicating the benefits of installing the new measure(s), the customer specifically refuses the measure(s). If the installer determines that a measure cannot be installed, the reason shall be recorded and made available to the utility or its designee.

#### **7.2.6. Lead-Safe Practices**

~~Contractors shall conduct lead-safe practices shall be employed~~ when working with pre-1978~~1979~~ painted materials in accordance with federal, state, and local regulations and codes. Lead-safe practices for specific measures are listed in the California Installation Standards Manual, per Title 8 of the California Code of Regulations, Section 1532.1, and Title 17 of the California Code of Regulations, Section 36000, et seq.

#### **7.2.7. Site Clean-Up Policies**

The Contractor must maintain all work sites and related structures, equipment and facilities in a clean, orderly condition during all work conducted under the ~~ESA/IEE~~ Program. Any unused or leftover materials, garbage and debris must be promptly removed from the customer's premises by the Contractor and disposed of at the Contractor's expense. The customer's premises must be left in a clean and orderly condition at the end of each day and at the completion of work.

#### **7.2.8. Recycling and Disposal Policy**

The contractor shall properly dispose and recycle replaced measures in an environmentally safe manner and in accordance with federal, state, and local regulations and codes. Specific disposal and recycling policies and procedures of measures are listed in the California Installation Standards Manual.

#### **7.2.98. Weatherization of Mobile Homes**

Mobile homes with open combustion furnaces or water heaters drawing air from inside the conditioned space may not have infiltration reduction measures installed under the ~~ESA/IEE~~ Program. In addition, attic insulation (and therefore attic duct reconnection) is not a measure for mobile homes.

## **7.3 Measure-Specific Policies**

### **7.3.1. Introduction**

This section describes Statewide LIEE policies and procedures that are specific to the installation of specific measures and minor home repairs. Two kinds of policies and procedures are covered: 1) non-feasibility criteria and 2) other policies and procedures. Non-

feasibility criteria formalize conditions under which measures *may not* be installed in specific homes. In general, non-feasibility conditions refer to cases where a specific measure:

- Is present,
- Is refused by the customer,
- Cannot be physically installed,
- Cannot be installed without risk to the household or the contractor, or
- Is prohibited by code or Program policy.

Other policies and procedures are those policies which typically tell when, where, and under what circumstances a measure can be installed. Policies related to billing practices are excluded from this list, but may be covered by utility contracts with installation contractors.

Non-feasibility criteria and other policies and procedures are presented for the following LIEE-Program measures and specific minor home repairs (MHRs): Note—Not all measures listed are offered in all utility service territories or climate zones.

- |   |   |
|---|---|
| <input type="checkbox"/> Weather Stripping Doors                            | <input type="checkbox"/> Caulking                               |
| <input type="checkbox"/> Attic insulation                                   | <input type="checkbox"/> Minor Home Repair <sup>12</sup>        |
| <input type="checkbox"/> Water Heater Insulation                            | <input type="checkbox"/> Thread-Based Compact Fluorescent Lamps |
| <input type="checkbox"/> Water Heater Pipe Insulation                       | <input type="checkbox"/> Exterior Hardwired CFL Fixtures        |
| <input type="checkbox"/> Central Air Conditioner Service/Tune-up            | <input type="checkbox"/> Energy Efficient Torchiere Lamps       |
| <input type="checkbox"/> Cover Plate Gaskets                                | <input type="checkbox"/> Interior Hardwired CFL Fixtures        |
| <input type="checkbox"/> Energy Saver Showerheads                           | <input type="checkbox"/> Evaporative Cooler Installation        |
| <input type="checkbox"/> Faucet Aerators                                    | <input type="checkbox"/> Furnace Repair/Replacement (MHR)       |
| <input type="checkbox"/> Evaporative Cooler and Air Conditioner Vent Covers | <input type="checkbox"/> Water Heater Repair/Replacement (MHR)  |
| <input type="checkbox"/> High Efficiency Room Air Conditioners              | <input type="checkbox"/> Refrigerator Replacement               |
| <input type="checkbox"/> High Efficiency Central Air Conditioners           | <input type="checkbox"/> Duct Testing and Sealing <sup>13</sup> |
| <input type="checkbox"/> HE Clothes Washers                                 | <input type="checkbox"/> Furnace Clean and Tune                 |
| <input type="checkbox"/> FAU Standing Pilot Light Conversion                | <input type="checkbox"/> Pool Pump Replacement                  |
| <input type="checkbox"/> Microwaves   | <input type="checkbox"/> LED Night Lights                       |
| <input type="checkbox"/> Occupancy Sensor                                   | <input type="checkbox"/> Thermostatic Shower Valve              |

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<sup>12</sup> Minor Home Repairs are discussed in Section 6 of the P&P Manual.

<sup>13</sup> Duct testing and sealing are offered as a distinct measures, as well as a means of complying with Title 24 when alterations are made to the existing appliance. Different policies apply to these two applications.

### 7.3.2. Caulking

**Non-Feasibility Criteria.** Caulking shall not be applied:

- If the existing caulking is functioning properly, even if not installed in accordance with current Installation Standards;
- To cracks that do not penetrate the building envelope;
- To cracks that are too wide to be caulked (wider than 5/8") and must be repaired/patched, or
- If customer refuses caulking. **Other**

**Policies.** Three other policies relate to caulking.

- For homes with lapped siding, caulk shall be applied in standard locations such as door thresholds, door stops, and gaps between different materials, etc. However, seams between lapped siding must not be caulked.
- When exterior caulking is required above the first story, it shall be applied whenever the area requiring caulking is readily accessible.
- For mobile homes, caulking should be applied to the interior only.

### 7.3.3. Weather Stripping Doors

**Non-Feasibility Criteria.** Weather stripping shall not be applied:

- If the existing weather stripping is functioning properly, even if not installed in accordance with current Installation Standards;
- If the door is located between two conditioned or two unconditioned spaces;
- To doors in multi unit dwellings that separate the living space from heated hallway;
- To doors and/or frames with a fire rating greater than 20 minutes;
- When a functional storm door is present, or
- If the customer refuses installation of weather stripping. Weather

stripping shall not be applied to appliance closet doors when:

- The combustion appliance receives air from conditioned space (i.e. combustion air grills are present in the enclosure door or wall), or

- Inadequate combustion air (as defined in the installation standards) is being supplied to the appliance.<sup>14,15</sup>

**Other Policies.** Additional weather stripping policies include the following.

- The contractor may adjust existing weather stripping in lieu of replacement only if existing weather stripping is functional and creates a proper seal.
- Door shoe and threshold combinations must be installed unless proven to be non-feasible.
- A threshold should not be installed which exceeds 1" in height from the finished floor (1/2" in height for handicapped).
- When the installation of a door shoe and threshold combination is not feasible for the following reasons, an automatic sweep may be used:
  - Medical reasons, such as wheelchairs or walkers, require that the floor be as flat as possible;
  - Metal doors cannot be cut to accommodate a shoe;
  - Doors open outward and do not overlap a floor surface when closed. "Bumper" type thresholds may be used in this circumstance if a tripping hazard will not be created;
  - Finished floor is ceramic tile (100% seal at grout lines is not required);
  - The installation of a proper threshold requires carpet cutting or repair to wooden or concrete sills, and
  - The door is unusually expensive and might be aesthetically damaged by cutting.
- A stationary sweep can be used in lieu of an automatic sweep if a door shoe and threshold combination is not feasible and an automatic sweep cannot be installed.
- The use of flip-up sweeps is not allowed.

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<sup>14</sup>This restriction covers two situations: when existing vents are inadequate, and when adequate vents cannot be added as a minor home repair.

<sup>15</sup>See the NGAT section of the Installation Standards Manual.

### 7.3.4. Attic insulation

**Non-Feasibility Criteria Directly Related to Attic insulation.** Attic insulation shall not be installed if any of the following criteria is applicable:

- In accordance with Table 7-1, the existing insulation level precludes raising the R-value.
- The roof is leaky or shows signs of water damage from leaks that have not been repaired.
- Adequate venting is not present and cannot be installed per installation standard attic ventilation guidelines.<sup>16</sup>
- Hazardous electrical wiring or other hazardous conditions are present.
- An enclosed cavity as defined in the installation standards is present.
- Exhaust vents terminating in the attic cannot be vented to the outside.<sup>17</sup>
- Disconnected or damaged space heating / cooling ducts are present and cannot be repaired.
- Attics having limited accessibility, as indicated when:
  - An inspector cannot gain safe physical access to all treated areas of the attic,
  - Clearance between top of ceiling joist and bottom of ridge board is less than 24 inches,
  - Structural obstructions, such as cross members of truss systems, provide an opening of less than 18 inches, or
  - Access requires crawling over/under HVAC ducts, and clearance is less than 18 inches.
- The structure is unsound and will not support the weight of the insulation and installer.
- Knob and Tube (K&T) Wiring is present and:
  - ~~Functioning knob and tube wiring cannot be certified safe by a C-10 contractor.~~
  - ~~Abandoned K&T wiring is present that cannot be disconnected and certified as abandoned by a C-10 contractor.~~
  - ~~Insulation over K&T wiring (live or abandoned) is prohibited by local codes.~~
- The customer refuses installation of attic insulation.

<sup>16</sup>An appendix to the Installation Standards Manual addresses all aspects of vent area determination.

<sup>17</sup>This covers two situations that are covered as minor home repairs: Reconnecting exhaust vents and/or addition of exterior venting as covered in the Installation Standards Manual.

**Attic insulation Levels.** The level of insulation to be installed varies across CEC climate zones and existing insulation levels, as shown in Table 7-1.

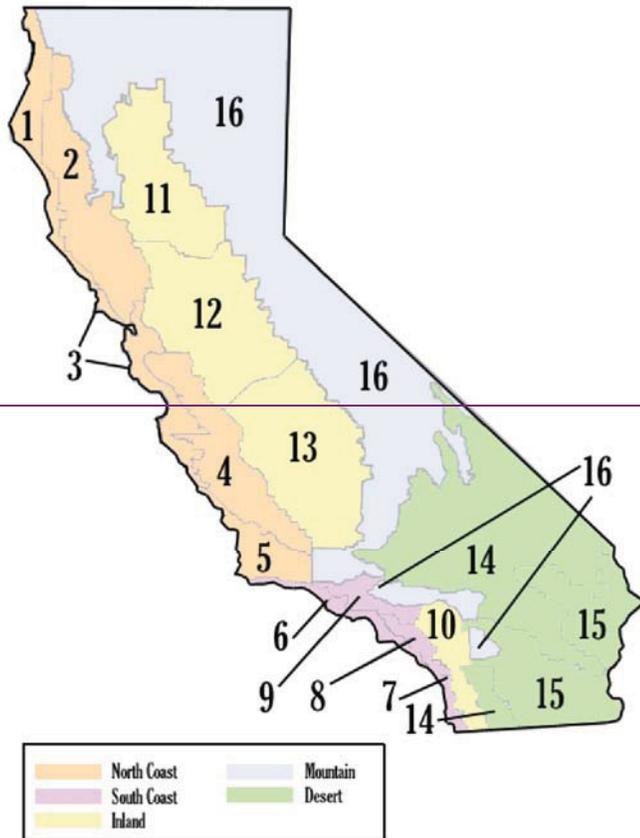
**Table 7-1: Attic insulation Additions**

Climate Zone	Existing Insulation Level	Action
CEC Climate Zones 2–15	R-11 or less	Raise R Value to R-30
	More than R-11	Do not install additional insulation
CEC Climate Zones 1 and 16	R-19 or less	Raise R Value to R-38
	More than R-19	Do not install additional insulation

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 attic insulation under the LIEE program will not be revisited to bring insulation up to the new higher level.

Figure 7-1 depicts the sixteen CEC Climate Zones. Climate Zones 1 and 16 have heating-degree days in excess of 5,000. Appendix A contains a list of the locations contained in each CEC Climate Zone.

**Figure 7-1: CEC Climate Zones**



**Other Policies Directly Related to Attic Insulation.** The other key policies that directly apply to attic insulation include the following:

- ☐ In cases where local jurisdiction mandates more insulation than required by the LIEE Program, contractors may install higher levels only after forwarding documentation of the more stringent requirements to and obtaining written authorization from the LIEE Program Manager.
- ☐ When no attic access exists, contractors will install one prior to installing attic insulation. Minimum dimensions of the new opening shall be 30" x 22" or as required by local code.

- If the gable vent is used for attic access, it must be hinged and large enough (18" x 18" minimum) to provide access for the inspector.
- In the event holes are observed in attic firewalls while performing attic insulation, the prime contractor will document and notify the property owner of the existing condition.
- There is no minimum attic square footage required for attic insulation.
- Homes having (a) separate attics, or (b) contiguous attics consisting of different sections with various crawl clearances shall have insulation installed only in the sections which have the clearances specified above.
- Before insulation is installed, duct leaks shall be sealed, disconnections shall be reconnected, and needed duct repairs shall be made in accordance with the Duct Sealing Standards section of the Installation Standards Manual.

**~~Non-Feasibility Criteria Relating to Attic Ventilation.~~** Attic Ventilation shall not be installed if:

- The existing venting already meets installation standards,
- Tiled hip roof without overhang, soffit, or accessible frieze blocks,
- Attic insulation is non-feasible,
- Roof mounted vents are the only option for adding venting, but the roof is tile, wood shingles, or in poor condition (e.g. more than three layers of roofing, roof unable to support additional vents),
- The roof is a flat and/or built up roof as defined in the installation standards, or
- The customer refuses installation of additional vents.

**~~Other Policies Relating to Attic Ventilation.~~** There are no other policies that apply to attic ventilation.

### **~~7.3.5. Water Heater Blankets~~**

**~~Non-Feasibility Criteria.~~** A water heater blanket shall not be installed on any water heater if:

- The existing blanket is functioning properly, even if not installed in accordance with current Installation Standards,
- External insulation is specifically prohibited by the manufacturer,
- A T&P relief valve, or gas shutoff valve, is not present, or is not located within 6' of the tank,
- The T&P valve outlet is plugged or capped,

- ~~The tank is exposed to the weather,~~
- ~~A leak in the tank or water pipes is present,~~
- ~~Plastic piping (e.g., CPVC) is present in the cold or hot water lines to/from the tank,~~
- ~~The tank is located within 12" of a stove, range, or cook top,~~
- ~~The water heater tank capacity is greater than 100 gallons, or~~
- ~~The customer refuses installation of a water heater blanket.~~

A water heater blanket shall not be installed on a gas water heater if any of the following criteria are applicable.

- ~~A gas leak is present.<sup>18</sup>~~
- ~~The vent pipe and/or draft hood is not properly installed including:<sup>18</sup>
  - ~~— No draft hood is present,~~
  - ~~— Two draft hoods are present, or~~
  - ~~— The vent pipe is defective or missing.~~~~
- ~~There is evidence of improper combustion and/or venting as characterized by:<sup>18</sup>
  - ~~— Large accumulation of soot near the draft hood or on the floor underneath, or~~
  - ~~— Scorching at the draft hood or combustion chamber.~~~~
- ~~There is no appliance line (gas shut off) valve present.~~
- ~~The combustion air supply is improper or inadequate according to installation standards<sup>19</sup> as characterized by:<sup>18</sup>
  - ~~— The absence of both low and high vents (when required),~~
  - ~~— Vent size is too small,~~
  - ~~— Room volume is inadequate, or~~
  - ~~— The customer refuses modifications needed to create adequate combustion air supply.~~~~
- ~~Both burner access doors are missing.<sup>18</sup>~~
- ~~Internal insulation is R-12 or greater.~~
- ~~Perimeter clearance prior to blanket installation is less than 4" between tank and door, and less than 1" on sides and back.~~

A water heater blanket shall not be installed on an electric water heater if any of the following criteria are applicable.

- ~~Hazardous electrical wiring/conditions are present.~~

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<sup>18</sup> When these conditions exist, installers must contact the designated utility personnel.

<sup>19</sup> See the NGAT section of the Installation Standards Manual.

- ~~The thermostat cover plate(s) not present.~~
- ~~Internal insulation is R-16 or greater.~~
- ~~Perimeter clearance prior to blanket installation is less than 1" on the front, sides, and back.~~

**Other Policies.** Only water heaters supplying hot water to residential units receiving other program measures are eligible to receive water heater blankets.

### **7.3.6. Water Heater Pipe Insulation**

**Non-Feasibility Criteria.** Water heater pipe insulation shall not be installed if:

- ~~The existing pipe insulation is functioning properly, even if not installed in accordance with current Installation Standards;~~
- ~~Leak is present in tank or water pipes;~~
- ~~An unsafe condition is present that causes tank insulation to be nonfeasible.~~
- ~~The water heater pipes are exposed to the elements (especially sunlight, which can quickly degrade the insulation);~~
- ~~Less than 1 foot of continuous insulation can be installed;~~
- ~~Plastic piping (e.g., CPVC) is present in the cold or hot water lines to/from the tank;~~
- ~~Pipes are inaccessible or the configuration prevents proper installation, or~~
- ~~The customer refuses installation of water heater pipe insulation.~~

**Other Policies.** There are no other policies relating to pipe insulation.

### **7.3.7. Cover Plate Gaskets**

**Non-Feasibility Criteria.** Cover plate gaskets shall not be installed if any of the following criteria are applicable:

- ~~There is evidence of electrical malfunction or hazard, such as:
  - ~~Electrical box not permanently attached;~~
  - ~~Loose electrical connection;~~
  - ~~Signs of burning or charring or other evidence of hazardous wiring condition,~~  
~~or~~
  - ~~In a mobile home, aluminum wiring is present.~~~~
- ~~Gaskets are already present, even if not installed in accordance with current Installation Standards.~~

- ~~The cover plate is located on a wall between two conditioned or two unconditioned areas.~~
- ~~The cover plate is located behind furniture or major appliances that are too fragile or heavy to move.~~
- ~~Removal of the cover plate will damage the wall surface (paint, wallpaper, etc.).~~
- ~~The utility box is an odd size and standard gaskets will not work.~~
- ~~The customer refuses installation of cover plate gaskets.~~

**Other Policies.** The following other policies apply to cover plate gaskets:

- ~~All broken, cracked, or missing cover plates shall be replaced.~~
- ~~All gaskets must be contractor installed. No gaskets are to be left behind for customer installation.~~

### **7.3.8. Energy-Saver Showerheads**

**Non-Feasibility Criteria.** Energy saver (i.e. low flow) showerheads shall not be installed if the following criteria are applicable:

- ~~The existing showerhead(s):
  - ~~— Have a flow rate less than or equal to 2.5 gpm be functioning properly, even if not installed in accordance with current installation standards, or~~
  - ~~— Are required for medical reasons.~~~~
- ~~The existing shower arm:
  - ~~— Is made of plastic (including ball joint),~~
  - ~~— Is cracked, broken, or missing, or~~
  - ~~— Requires removal.~~~~
- ~~The shower is not mechanically functional.~~
- ~~Standard metal adapters will not work.~~
- ~~Piping is in such poor condition that showerhead installation could cause plumbing problems.~~
- ~~The customer refuses installation of low flow showerheads.~~

**Other Policies.** The following other policies apply to energy saver (low flow) showerheads:

- ~~All existing showerheads with a flow rate greater than 2.5 gpm flow and not required for medical reasons shall be replaced with low flow showerheads.~~
- ~~Replaced showerheads may be left with the customer or the property manager only if requested.~~

### **7.3.9. Faucet Aerators<sup>20</sup>**

**Non-Feasibility Criteria.** Faucet aerators may not be installed if:

- Aerators are already present and functioning properly, even if not installed in accordance with current Installation Standards;
- The faucet has a special fitting for attaching an appliance (e.g., portable dishwasher);
- The faucet does not provide hot water;
- The faucet or faucet threads are found to be damaged and/or leaky;
- Removal of the existing aerator is likely to cause damage to the aerator or the faucet;
- Standard aerators will not fit, or
- The customer refuses installation of faucet aerators.

**Other Policies.** There are no other policies with respect to faucet aerators.

### **7.3.10. Evaporative Cooler and Room Air Conditioner Vent Covers**

**Non-Feasibility Criteria for Evaporative Cooler Covers.** Evaporative cooler covers shall not be installed if:

- An existing evaporative cooler vent cover is functioning properly, even if not installed in accordance with current Installation Standards;
- The vent(s) serving the evaporative cooler is (are) shared with a heating system;
- The evaporative cooler is ducted with multiple supply vents/registers, and it is impossible to equip all of them with covers;
- Water damage to the ceiling or wall area around the vent register is evident, prevents proper cover installation, and cannot be repaired;
- The vent/register opening is so close to the wall or ceiling that proper installation of the cover is impossible;
- Electrical wiring/plug/receptacle interferes with proper installation, and furring is not a feasible option;
- An external cover is already present, or
- The customer refuses installation of evaporative cooler vent covers.

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<sup>20</sup> Faucet aerators are integrated into the energy saver showerheads section of the Installation Standards Manual.

**~~Non-Feasibility Criteria for Room Air Conditioner Unit Covers.~~** Air conditioner covers shall not be installed if:

- ~~An existing air conditioner vent cover is functioning properly, even if not installed in accordance with current Installation Standards;~~
- ~~Water damage to the window or wall area around the unit/vent is evident, prevents proper cover installation, and cannot be repaired;~~
- ~~The vent/unit is so close to the wall that proper installation of the cover is impossible, or~~
- ~~The customer refuses installation of air conditioner vent covers.~~

**~~Other Policies.~~** The following other policies apply to evaporative cooler and room air conditioner covers:

- ~~A shop built wooden vent cover can be used only when a commercially manufactured cover is not available.~~
- ~~Each cover must be checked for proper fit. Removal and reinstallation must be demonstrated to the customer.~~
- ~~In the cooling season when the cooler or room air conditioner is in use, the Contractor can leave the cover uninstalled after the initial installation and customer instruction.~~

### **7.3.11. Exterior Door Replacements**

**~~Non-Feasibility Criteria.~~** An exterior door shall not be replaced if:

- ~~The door can be repaired rather than replaced;~~
- ~~The door is structurally sound and provides an adequate barrier to infiltration;~~
- ~~Door jamb is not structurally sound and cannot be repaired or replaced within the Minor Home Repair cap, or~~
- ~~The customer refuses door replacement.~~

**~~Other Policies.~~** There are no other policies relating to door replacement.

### **7.3.12. Window Replacements**

**~~Non-Feasibility Criteria.~~** An exterior window shall not be replaced if:

- ~~The window can be repaired rather than replaced;~~
- ~~The window is structurally sound and provides an adequate barrier to infiltration;~~

- The window is located above the first floor of a structure and installation will present unsafe working conditions;
- In mobile homes, window replacement will require removal of siding, or
- The customer refuses door/window replacement.

**Other Policies.** All window replacements require written pre-approval from the LIEE Program Manager.

### **7.3.13. Glass Replacement**

**Non-Feasibility Criteria.** Window glass shall not be replaced if:

- A small hole, 1/4" or less, is present and can be patched with clear silicone or clear glass repair tape;
- There is only one crack less than 6" long, extending from edge to edge, that cannot come loose from the frame to pose a safety hazard;
- The complete window will be replaced, or
- The customer refuses glass replacement.

**Other Policies.** The following other policies apply to glass replacement.

- When only one pane in a dual pane window is cracked, the unit does not require repair/replacement. If one pane of a dual pane window is broken, all shards must be removed.
- Polycarbonate glazing is allowed only with written pre-approval from the LIEE Program Manager.

### **7.3.14. Thread-Based Compact Fluorescent Lamps (CFLs)**

**Non-Feasibility Criteria.** A thread-based CFL shall not be installed:

- In a socket/fixture that is nonfunctional;
- In a fixture that already has a functional CFL;
- If hazardous conditions exist at the socket/fixture;
- In a circuit that is controlled by a solid state timer;
- In a circuit that is controlled by a dimmer that is not compatible with available CFLs;
- In a fixture located in a storage room, closet, or multifamily common area;
- In any fixture that is not operable by the customer (i.e., on their electric meter/bill), or

- If the customer refuses installation of CFLs.

**Other Policies.** The following other policies apply to Thread Based Compact Fluorescent Lamps (CFLs):

- Incandescent light bulbs are to be removed after a CFL has been installed unless the customer asks to keep the old bulb(s).

**7.3.15. Exterior Hard-Wired Compact Fluorescent Lamp Light Fixtures Non-Feasibility Criteria.** An exterior hard-wired CFL fixture shall not be installed:

- If the existing location of the fixture is not suitable;
- If a thread based CFL will fit in the existing fixture;
- In an electrical box that is substandard and/or cannot be properly secured;
- Where wiring is substandard, in a deteriorated condition, and/or rewiring is necessary;
- In a circuit that does not operate properly (e.g., defective switch);
- In a circuit that is controlled by a solid state timer;
- In a circuit that is controlled by a dimmer that is not compatible with available hard-wired CFL fixtures;
- Existing fixture is in a wet location, and a grounding conductor is not available;
- If the existing fixture is not on the customer's electric meter/bill, or
- If the customer refuses installation of CFL fixture(s).

**Other Policies.** There are three other policies relating to hard-wired CFL exterior light fixtures:

- Hard-wired CFL exterior light fixtures may be installed only in single family non-mobile homes;
- No more than an average of three fixtures may be installed, and
- Replaced exterior light fixtures may be left with the customer or the property manager only if requested.

**7.3.16 Room Evaporative Cooler Installation**

**Non-Feasibility Criteria for Room Evaporative Coolers.** A room evaporative cooler shall not be installed if:

- The customer has an operational evaporative cooler;

- Proper electrical service is not present;
- Substandard wiring exists (e.g., ungrounded outlets or decayed insulation and/or exposed wires);
- Proper exhaust ventilation is not present;
- No feasible window or wall location is available;
- Exterior clearance requirements cannot be met;
- Egress requirements cannot be met;
- Wood windows are decayed or deteriorated;
- Siding is decayed or damaged; or
- The customer refuses installation of the evaporative cooler.

**Other Policies.** There are three other policies for this measure:

- Customer must have an operational refrigerated air conditioning unit;
- For single family homes and mobile homes, evaporative coolers are available only in those climate zones reflected in Table 5-1, and
- Evaporative coolers may not be installed in multi family homes.

### **7.3.17. Furnace Repair and Replacement**

**Non-Feasibility Criteria for All Furnaces.** A furnace shall not be repaired or replaced if:

- The property is renter occupied;
- Fuel used by the existing unit is not supplied by the utility providing LIEE-Program services;
- The existing furnace is inaccessible;
- Ducts cannot be brought into compliance with the Duct Sealing Section of the Installation Standards Manual.
- No furnace is present and no natural gas line or electric outlet is available to accommodate the installation of a furnace;
- The customer refuses furnace repair or replacement;

**Non-Feasibility Criteria for (Central/Ducted) Furnaces in Conventional Homes.** A central furnace in a conventional home shall not be repaired or replaced if:

- For roof mounted units, the roof is not structurally adequate to support the installation;

- Adequate access and/or combustion air cannot be provided, or
- Disconnected or damaged space heating ducts are present and cannot be repaired.

**~~Non-Feasibility Criteria for (Central/Ducted) Furnaces in Mobile Homes.~~** A

~~central furnace in a mobile home shall not be repaired or replaced if:~~

- Required furnace drawing combustion air from outdoors, and/or furnace components or flue system that are listed and labeled for manufactured home installation, cannot be obtained,
- Adequate access and/or combustion air cannot be provided,
- Depressurization by the forced air unit's non-ducted return system adversely affects an open combustion appliance, and correction is not feasible,
- Disconnected ducts or catastrophic leaks are present and cannot reasonably be repaired, or
- A leaky belly cavity or roof cavity return exists and a central return system will not be installed.

**~~Non-Feasibility Criteria for Wall/Floor (Non-Ducted) Furnaces.~~** A wall or floor furnace shall not be repaired or replaced if:

- Adequate access and/or combustion air cannot be provided, or
- Existing open combustion appliance is in a location prohibited by the replacement unit instructions or local code, and relocation to an approved location is not feasible.

**~~Non-Feasibility Criteria for Installation or Repairs Requiring Attic or Crawl Space Access.~~** In the event that attic or crawl space access is required for the installation or repair of wall/floor furnaces, the installation or repair of a furnace will be considered nonfeasible if:

- Attic clearance is less than 24" between the top of ceiling joists and the bottom of the ridge board, or
- Crawl space clearance is less than 18" from the ground to the bottom of the floor joist system, or
- Any of the following conditions is present in the crawl space area where access is required: hazardous insect infestation; excessive ground moisture (standing water or mud); or sewage waste on ground or other unsanitary conditions posing a health and safety hazard.

**~~Non-Feasibility Criteria for Central Air Conditioner Replacement.~~** Central air conditioner replacement as part of furnace replacement is non-feasible if:

- ~~The heating system can be repaired with the existing refrigeration equipment intact,~~
- ~~For roof mounted units, the roof is not structurally adequate to support the installation,~~
- ~~Electrical service requirements cannot be met,~~
- ~~Split system line set is inadequate, or~~
- ~~System airflow is inadequate.~~
- ~~In mobile homes, a leaky belly cavity or roof cavity return exists, and a central return system will not be installed.~~

**~~Non-Feasibility Criteria for the Installation of Programmable/Setback Thermostats.~~** Programmable/Setback Thermostats shall not be installed if:

- ~~The furnace is not being replaced or repaired,~~
- ~~The furnace is being repaired, and a properly functioning thermostat is present,~~
- ~~A programmable/setback thermostat is already present and operational.~~
- ~~The measure is refused by the customer.~~

**~~Non-Feasibility Criteria for HVAC Air Filters.~~** HVAC unit air filters shall not be replaced if:

- ~~A serviceable filter is already present,~~
- ~~The furnace will not be repaired,~~
- ~~The types of filters provided by the program are specifically prohibited by the appliance manufacturer,~~
- ~~Filter replacement would require removal of a flue, duct, or pipe, or~~
- ~~The proper filter support or retaining device is not present and installation is not feasible.~~

**~~Other Policies.~~** The following other policies apply to furnace repairs and replacements:

- ~~Furnace repair or replacement may be provided only when the appliance fails NGAT, and correction cannot be achieved with Service/Adjustment<sup>21</sup> by utility gas service personnel (or their designated representative).<sup>22</sup>~~

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<sup>21</sup>Service/Adjustment of an appliance entails providing services that are within the scope of the gas service department for customers in general.

<sup>22</sup>Note that NGAT fails include cases where a furnace is non-operable, or where no furnace is present in the case where another gas appliance is used for space heating.

- ~~Furnace replacements and major furnace repairs may be provided only if the residence is owner-occupied. Service/Adjustment may also be conducted in renter-occupied homes.~~
- ~~A furnace will not be replaced if Title 24 provisions relating to alternations cannot be satisfied.~~
- ~~A furnace that is not abandoned or inaccessible and that cannot be made operable through servicing, fails the NGAT.~~
- ~~Furnace repairs and replacements will be provided only if the fuel used by the furnace is supplied by the utility providing LIEE Program services.~~
- ~~Furnace replacement will not include hazardous material abatement, major structural alteration, concrete work, painting, or floor covering.~~
- ~~A central furnace may be repaired only if the cost of repairing the unit would be less than 50% of the cost of replacement. A wall, floor or direct vent furnace may be repaired only if the cost of repairing the unit would be less than 40% of the cost of replacement.~~
- ~~An air conditioning unit may be replaced in conjunction with a furnace replacement if:
  - ~~the unit being replaced is a combined forced air heating and central AC package system, also referred to as a dual pack (i.e. the AC and furnace is manufactured as one unit and is housed in a single sheet metal housing); or~~
  - ~~the furnace being replaced is part of a split forced air heating and AC system and the AC evaporative coil and/or the outside system cannot be matched with the new furnace. However, AC replacement must not require refrigerant line replacement.~~~~
- ~~Replaced units must be de-manufactured in compliance with all laws and regulations.~~
- ~~Installer must have a C-20 license.~~
- ~~A programmable thermostat may be installed only if (a) a central furnace or central air conditioner is replaced (a programmable thermostat is required by Title 24 when a central heating system and/or a central air conditioner is replaced), or (b) a central furnace or central air conditioner is repaired and a properly functioning thermostat is not present.~~
- ~~Prior to installation, contractors installing programmable thermostats shall explain the operation of these thermostats and provide the customer an opportunity to refuse the measure.~~
- ~~Thermostats may be moved to resolve short cycling problems in mobile homes.~~
- ~~HVAC filters may be replaced only as part of central furnace repair or central air conditioner replacement.~~
- ~~Contractors who replace filters must show customers how to remove, clean and re-install the filters.~~

### **7.3.18. Natural Gas Water Heater Repair or Replacement**

**~~Non-Feasibility Criteria for Natural Gas Water Heater Replacement.~~** A natural gas water heater shall not be replaced if:

- ~~The property is renter occupied,~~
- ~~Fuel used by the existing unit is not supplied by the utility providing LIEE-Program services,~~
- ~~The existing water heater is inaccessible,~~
- ~~The drain line for the T&P valve or drain pan cannot be properly terminated outdoors or to an approved indoor drain if required by local code, or a gas shutoff valve and pressure relief valve cannot be installed in lieu of a T&P valve and drain line,~~
- ~~Required access, clearance or combustion air cannot be provided,~~
- ~~Structure/floor cannot properly and safely support the installation,~~
- ~~No suitable mounting locations for seismic bracing are available,~~
- ~~A safety hazard is present which cannot be repaired (e.g., vent system defect, nonconforming gas piping),~~
- ~~A watertight pan cannot be installed under the unit when required,~~
- ~~A plumbing condition exists which prevents achieving satisfactory water pipe connections,~~
- ~~A whole house fan is present, the existing water heater is in the attic, and a closed-combustion unit cannot be installed,~~
- ~~The unit is a central water heater serving more than one unit, or~~
- ~~The customer refuses water heater replacement.~~

**~~Non-Feasibility Criteria for Natural Gas Water Heater Repair.~~** A natural gas water heater shall not be repaired if:

- ~~The property is renter occupied,~~
- ~~Fuel used by the existing unit is not supplied by the utility providing LIEE-Program services,~~
- ~~The existing water heater is inaccessible,~~
- ~~Proper combustion air cannot be provided,~~
- ~~A safety hazard is present which cannot be repaired,~~
- ~~The unit is a central water heater serving more than one unit, or~~

- ~~The customer refuses water heater repair.~~

**Other Policies.** The following other policies apply to water heater repairs and replacements:

- ~~Water heater repair or replacement may be provided only when (a) the appliance fails NGAT, and correction cannot be achieved with Service/Adjustment by utility gas service personnel (or their designated representative) or (b) the tank has a water leak.~~
- ~~Water heater replacements and major repairs may be provided only if the residence is owner-occupied. Service/Adjustment may also be conducted in renter-occupied homes.~~
- ~~Water heater repairs and replacements will be provided only if the fuel used by the appliance is supplied by the utility providing LIEE Program services.~~
- ~~Water heater replacement will not include hazardous material abatement, major structural alteration, concrete work, painting, or floor covering.~~
- ~~A water heater may be repaired only if the cost of repairing the unit would be less than 50% of the cost of replacement.~~

### **7.3.19. Refrigerator Replacement**

**Non-Feasibility Criteria.** Refrigerators shall not be replaced if:

- ~~Any refrigerator to be removed was manufactured after 1992.~~
- ~~The electrical outlet used by the existing refrigerator is not properly grounded and cannot be properly grounded,~~
- ~~Floor is not level and cannot safely support a new refrigerator,~~
- ~~The refrigerator is not accessible for removal (e.g., doors from room are too small, refrigerator is encased in tile),~~
- ~~Hazardous electrical conditions exist at the outlet used by the existing refrigerator, or~~
- ~~The customer refuses refrigerator replacement.~~ **Other Policies.** Other policies

that apply to refrigerator replacement include the following.

- ~~The minimum size for primary refrigerators replaced under the LIEE Program is 10 cubic feet.~~
- ~~One of the refrigerators replaced under the Program must be a primary refrigerator. The primary refrigerator is the main refrigerator in the home, usually the kitchen refrigerator.~~

- ~~The size of the replacement refrigerator shall be approximately equal to the size of the existing unit. When two refrigerators and/or freezers are exchanged for a single unit, the replacement unit may not be larger than the combined size of the two existing units, and may not be larger than 23 cubic feet.~~
- ~~Space must be physically large enough to accommodate the new refrigerator, with entrance and passageways sufficient to allow removal of the existing refrigerator.~~
- ~~Contractor shall dispose and recycle (de-manufacture) replaced refrigerators in an environmentally safe manner and in accordance with federal, state, and local regulations and codes. Contractor represents that it has knowledge of the Metal-Discard Act, effective January 1, 1994, which prohibits disposal of refrigerators/freezers in landfills.~~

### **7.3.20. High Efficiency Room Air Conditioner**

**Non-feasibility Criteria.** High efficiency room air conditioners shall not be installed:

- ~~If the air conditioner to be replaced is operational and is less than 15 years old.~~
- ~~If electric service requirements cannot be met.~~
- ~~If a structurally sound mounting platform and/or suitable mounting location is not available.~~
- ~~If the measure is refused by the customer. **Other**~~

**Policies.** The following other policies apply to this measure:

- ~~High efficiency room air conditioners may be installed only in those climate zones reflected in Table 5-1.~~
- ~~Replacement unit must have a minimum EER of 10.7.~~
- ~~Replaced units must be de-manufactured in compliance with all laws and regulations.~~
- ~~All units must be adequately supported and braced.~~

### **7.3.21. High Efficiency Central Air Conditioners**

**Non-feasibility Criteria.** The replacement of high efficiency air conditioners will be considered non-feasible if:

- ~~The existing air conditioner is not operational,~~
- ~~For PG&E and SDG&E, the central AC has a SEER greater than 9.0,~~
- ~~For SCE, the central air conditioner has a SEER greater than 10.0 or is less than 10 years old,~~
- ~~The property is renter-occupied, except in SCE territory,~~

- Existing system is a combined HVAC unit and the unit has not passed the pre-weatherization NGAT;
- For a roof-mounted unit, the roof is not structurally adequate to support the installation;
- Electrical service requirements cannot be met;
- Ducts cannot be brought into compliance with the Duct Sealing Section of the Installation Standards Manual;
- Existing HVAC unit is a combined fuel unit and the gas is not provided by one of the IOUs;
- Duct system is inadequate;
- Split system refrigerant line set is inadequate; or
- Customer refuses.

The unit is a mobile home, and either of the following conditions is present:

- Depressurization by the FAU non ducted return system adversely affects an open-combustion appliance, and correction is not feasible; or
- Abandonment of a leaky belly cavity or roof cavity return is required but not feasible.

In the event that the replacement of the central air conditioning system requires attic or crawl space access, replacement will be considered non-feasible if:

- Attic crawl clearances do not meet required minimums:
  - Clearance between top of ceiling joist and bottom of ridge board is less than 24 inches; or
  - Access requires crawling over/under HVAC ducts, and clearance is less than 18 inches.
- Crawl space clearance is less than 18" from the ground to the bottom of the floor joist system;
- There is hazardous insect or pest infestation;
- There is excessive ground moisture (standing water or mud);
- There is sewage waste on the ground or other unsanitary conditions posing a health and safety hazard.

***Non-feasibility Criteria for Programmable/Setback Thermostats.*** Programmable/Setback Thermostats shall not be installed:

- If a programmable/setback thermostat is already present and operational.
- If the measure is refused by the customer.

**Other Policies.** The following other policies will apply to central air conditioner replacements:

- Central air conditioner replacements will be offered only in Title 24 climate zones 14 and 15 and other climate zones as reflected in Table 5-1.
- A programmable/setback thermostat may be installed only if a central air conditioner is replaced (a programmable thermostat is required by Title 24 when a central air conditioning system is replaced).
- Prior to installation, contractors installing programmable thermostats shall explain the operation of these thermostats and provide the customer an opportunity to refuse the measure.
- Thermostats may be moved to resolve short cycling problems in mobile homes.
- HVAC filters may be replaced only as part of central furnace repair or central air conditioner replacement.
- Contractors who replace filters must show customers how to remove, clean and re-install the filters.
- Replacement of refrigerant line sets is beyond the scope of this Program.

#### **7.3.22. Duct Testing and Sealing as a Program Measure**

**Non-feasibility Criteria for Duct Testing as a Program Measure.** Duct testing as a program measure will be considered non-feasible if:

- Ductwork contains excessive damage or deterioration that would preclude proper testing;
- If the replacement of 40 or more feet of duct in unconditioned space would be necessary;
- Ductwork contains or is made of asbestos;
- Ductwork is insulated or sealed with asbestos;
- Ductwork is inaccessible or an unsafe condition exists, causing duct testing to be unfeasible;
- A hazardous condition exists requiring repair or replacement per NGAT policy, and repair/replacement is not feasible;
- Forced air heating unit is inoperative and cannot be repaired;
- Forced air heating unit is abandoned or inaccessible, or
- The customer refuses.

**Non-feasibility Criteria for Duct Sealing as a Program Measure.** Duct sealing as a program measure will be considered non-feasible if:

- Duct leakage is below the threshold leakage per the Duct Testing and Sealing Form;
- Replacement of 40 or more feet of duct in unconditioned space would be necessary;
- A natural gas appliance hazard exists, and repair is not feasible;
- Duct system has been abandoned;
- Duct system is damaged and deteriorated beyond repair;
- A health or safety hazard is present, such as insect infestation, hazardous electrical wiring, or structural hazard, which prevents safe access to the duct system;
- Ducts and/or components are made of or insulated with asbestos;
- Access to the duct system does not meet minimum accessibility criteria specified in the Program Policy & Procedures Manual;
- For ducts in the crawl space: sewage waste is on the ground, or excessive ground moisture (standing water or mud) is present;
- Forced air heating unit is inoperative and cannot be repaired;
- Forced air heating unit is abandoned or inaccessible, or
- Customer refuses.

**Other Policies.** The following other policies will apply to duct testing and sealing when conducted as a free-standing measure:

- Duct testing and sealing as a measure will be offered only in Single Family and Mobile Homes.
- Duct testing and sealing as a measure will be offered in those climate zones reflected in Table 5-1.
- For homes with electric space heat provided by the IOU, duct testing and sealing as a measure will be offered in those climate zones reflected in Table 5-1.
- Duct sealing is not required unless initial leakage is at least 28% of airflow.
- In order to be considered as a Program measure, potential duct leakage reduction must be at least 13% of total fan flow.
- For a duct system to be considered sealed, (a) the duct leakage reduction must equal or exceed 13% of airflow; (b) the final duct leakage must be reduced to less than 15% of airflow, or, if this cannot be reached, all accessible duct leaks must be sealed as verified by smoke tests.

- ~~□ The utility or its designee will verify initial and final duct leakage rates, in accordance with the procedures in the Duct Testing Standards of the Installation Standards Manual.~~

### **7.3.23. Duct Testing and Sealing as a Means of Title 24 Compliance**

**Non-feasibility Criteria.** Since Title 24 is a state law, there are no Program non-feasibility criteria. When required by Title 24, duct testing and sealing must conform to all provisions of Title 24 (applicable to conventional homes but not mobile homes).

**Other Policies.** The provision of duct testing and sealing as a means of Title 24 compliance will be governed by the following other policies:

- ~~□ Beginning October 1, 2005, when “alterations” are made to HVAC systems in conventional homes located in climate zones 2 & 9-16, the following requirements for duct testing and duct sealing apply:
  - 1) HVAC Contractors must:
    - a) Ensure that duct leakage is at an acceptable level—which involves duct testing and, as needed, duct sealing, or
    - b) Utilize a Title 24 High Efficiency Alternative in lieu of duct testing and sealing.
  - 2) When duct testing and sealing is performed:
    - a) All accessible ducts must be sealed by the HVAC Contractor, and
    - b) A minimum of 1 in 7 of each contractor’s completed installations must be verified by a HERS Rater to be in compliance with Title 24 Standards.
  - 3) Exceptions: Duct testing and sealing requirements do not apply when:
    - a) Total length of ducts located in unconditioned space is less than 40 linear feet.
    - b) Ducts are constructed, insulated, or sealed with asbestos.
    - c) Ducts have been previously verified by a HERS rate to be in compliance with Title 24.~~
- ~~□ HERS verification of duct testing and sealing is tied to the building permit process. Under Title 24, a building permit for an HVAC alteration cannot be finalized until a form CF-6R has been completed and submitted to the HERS rater and a form CF-4R is completed by a HERS Rater and submitted to the Building Department.~~
- ~~□ The Title 24 definition of an HVAC “alteration” is:
  - 1) Installation or replacement of an HVAC unit (central furnace and/or air conditioner or heat pump), or~~

- 2) Replacement of any of the following major HVAC components (the entire component, not a part within the component):
- a) Air handler
  - b) Condenser (outdoor unit)
  - c) Indoor coil
  - d) Furnace heat exchanger
  - e) More than 40 feet of new ductwork in unconditioned space

By contrast, a “repair” is servicing an HVAC unit or fixing/replacing a defective part within a major component—such as the fan motor or blade within the air handler, or the compressor or cooling fan motor or blade within the condenser (outdoor unit). “Repairs” are not within the scope of Title 24 standards and do not mandate duct testing and sealing.

- When Title 24 duct testing and duct sealing is required, final duct leakage must be in conformance with the following criteria:

*Primary Duct Leakage Options*

- 1) Measured duct leakage shall be less than 15% of fan flow, or
- 2) Measured duct leakage shall be reduced by more than 60% compared to measured duct leakage prior to the alteration, with visual inspection and smoke test by a HERS Rater performed to verify that all accessible leaks have been sealed.

*Secondary Duct Leakage Option.* If it is not possible to meet the duct sealing options listed above:

- 1) All accessible duct leaks shall be sealed, and
- 2) A HERS Rater shall verify that all accessible leaks have been sealed by performing a visual inspection and a smoke test.

- When a primary duct leakage option is selected, conformance with Title 24 duct leakage criteria must be verified by a HERS Rater for a minimum of 1 in 7 jobs completed by each HVAC contractor. However, Title 24 gives the homeowner the option to request HERS verification for his/her home, rather than being part of a 1 in 7 sample.
- When the secondary duct leakage option is selected, 100% HERS verification is required.

#### **7.3.24. Pool Pump Replacement**

*Non-feasibility Criteria.* High efficiency pool pumps shall not be installed if:  The existing pool pump and pool pump motor is not in working condition.

- The pool is abandoned.
- Electric service requirements cannot be met.
- The plumbing in the pool area is substandard, or will not accept the new pool pump and pool pump motor.
- The filtration system is not in good working condition and operational.
- The existing controller is not compatible with available replacement pumps, and installation of a new controller is not feasible.
- A suitable installation location is not available.
- The measure is refused by the customer.

**Other Policies.** The following policies also apply to pool pumps:

- The existing pool pump motor must be single speed.
- Pool pump and pool pump motors can only be installed in Single Family homes.
- Pool must be a private, **in-ground** pool filled with water.

### **7.3.25. High Efficiency (HE) Clothes Washer**

**Non-feasibility Criteria.** High efficiency clothes washers shall not be provided if:

- Household consist of 3 or less members.
- Water heating source energy is not supplied by the utility providing LIEE program services.
- The existing clothes washer and/or dryer is not in working condition.
- The existing clothes washer and/or dryer is not accessible.
- A properly grounded electrical receptacle is not located within reach of the washer's power cord.
- A suitable water supply and or drain system is not available.
- A suitable location, with acceptable floor and proper clearances, is not available.
- The existing clothes washer is a stacked unit.
- The existing clothes washer was manufactured after 1/1/2004.
- The dwelling is served by a central water heater.
- The measure is refused by the customer.

**Other Policies.** The following policies also apply to HE Clothes washers:

- HE Clothes Washers are available to both home owners and renters in all housing types and climate zones.
- HE Clothes Washers will not be offered in cases where the home is renter occupied and the landlord owns the existing washing machine.

### **7.3.26. Energy Efficient Torchiere Lamps**

**Non-feasibility Criteria.** Energy Efficiency Torchiere Lamps shall not be installed if:

- An existing free-standing Torchiere floor lamp that qualifies for replacement is not present, i.e., none of the following is currently in use in the home:
  - A halogen Torchiere floor lamp, or
  - An incandescent Torchiere floor lamp with dimmer or 3-way switch, or
  - A Torchiere with a screw base not compatible with standard CFLs.
- Acceptable electrical service in compliance with this P&P document is not available, i.e., electrical equipment is not compatible or is substandard, such as the following:
  - The only available electrical outlet is:
    - Damaged or otherwise unsafe
    - Non-polarized
    - Controlled by a dimmer or solid state timer
  - Extension cord to be used is deteriorated or in poor condition.
- Fluorescent Torchiere floor lamp is already existing.
- The measure is refused by the customer.

**Other Policies.** The following policies also apply to Energy Efficient Torchiere Lamps:

- Existing free-standing Torchiere Floor lamp must be currently used in the Home and must be either a Halogen Torchiere floor lamp or other incandescent Torchiere floor lamp that cannot feasibly be retrofitted with CFLs.
- Power source must be a properly installed 2 prong polarized receptacle or a 3 prong grounded outlet.
- Energy Efficient Torchiere Lamps may be performed in those climate zones and dwelling types reflected in Table 5-1.

### 7.3.27. LED Night Lights

**Non-feasibility Criteria.** LED Night Lights shall not be installed if:

- Socket is non functional.
- Socket already has a functional LED night light.
- Hazardous conditions exist at the socket.
- Socket is located in storage room, closet or multifamily common area.
- Socket is not operable by the customer (i.e., on their electric meter bill).
- Customer refuses.

### 7.3.28. Microwaves

**Non-feasibility Criteria.** Microwaves shall not be provided if:

- The residence is not equipped with at least one electric/natural gas cooktop, range or oven.
- Functional microwave oven already present.
- Appropriate location is not available.
- Acceptable electrical outlet is not available.

- Customer refuses.

**Other Policies.**

- One extension cord may be used when allowed by appliance manufacture's instructions:
- Extension cord shall be:
  - UL listed and in accordance with manufacturer's specifications.
  - A 3 conductor cord with a 3 prong grounded plug.
  - Rated appropriately for the appliance, minimum 14 AWG.
  - The shortest feasible length, 6' maximum.
- Appliance cord and extension cord shall **not** be draped over a countertop or furnishings in a manner which:
  - Allows access to children (to reach and pull on them).
  - Creates a walking hazard (where people can trip).

**7.3.29. Furnace Clean and Tune**

**Non-feasibility Criteria.** *Furnace Cleaning and Tune up shall not be provided if:*

- Space heating source energy is not supplied by the utility providing LIEE program services.
- Major repairs are required which exceed the scope of this measure.
- Furnace is a condensing type or other closed combustion unit.
- Furnace is a ducted gravity type located in a basement.
- Furnace is inaccessible.
- Furnace is located on a roof.
- Inadequate clearance in attic or crawlspace.
- Unsafe/unsanitary conditions exist in crawlspace or attic.
- Conditions are such that the furnace cannot be left operating safely and properly.
- The duct system cannot be brought into compliance with the Duct Sealing section of the Installation Standards manual.
- The condition or location of the furnace makes it unsafe to provide the service.
- An NGAT issue exists that cannot be mitigated (e.g., inadequate CVA, vent system defect etc).
- The measure is refused by the customer.

**7.3.30. FAU Standing Pilot Light Conversion** **Non-feasibility Criteria.** *FAU Pilot Light Conversion shall not be installed if:*

- Space heating source energy is not supplied by the utility providing LIEE program services.
- Furnace is not a 24 volt AC natural draft FAU with a standing pilot.
- Furnace and/or pilot is not operational and cannot be made operational.

- Furnace will be replaced.
- Furnace will be repaired using a standing pilot retrofit kit.
- An appropriate standing pilot retrofit kit is not available.
- Furnace cleaning and tune-up has not been performed.
- The duct system cannot be brought into compliance with the Duct Sealing section of the Installation Standards manual.
- The condition or location of the unit makes it unsafe to perform the procedure.
- The measure is refused by the customer.

**Other Policies:**

- There are no other policies relating to FAU standing pilot light conversion.

### **7.3.31. Thermostatic Shower Valve**

**Non-feasibility Criteria.** *Thermostatic Shower Valve shall not be installed if:*

- Existing showerarm:
  - Is made of plastic (including ball joint).
  - Is cracked, broken or missing.
  - Requires removal.
- A showerarm adapter is needed, and standard metal adapters will not work.
- Piping is in such poor condition that Thermostatic Shower Saver installation could cause plumbing problems.
- Hot water is supplied by an on-demand or Tankless water heater.
- Hot water is supplied by a continuously circulating system (i.e., water is always hot, with little or no wait at the shower).
- Customer refuses.

**Other Policies:**

- Thermostatic Shower Savers shall be installed only on functional showers—not on showers that are not functional due to plumbing or physical defects.

### **7.3.32. Occupancy Sensors**

**Non-feasibility Criteria,** *Occupancy Sensors shall not be serviced if:*

- Electrical box and/or wiring is not safe.
- Occupancy sensor already exists.
- Compact Florescent Light (CFL) are installed.
- Location is not acceptable.
- The measure is refused by the customer.

**Other Policies:**

- Occupancy Sensors may be performed in those climate zones and dwelling types reflected in Table 5-1.

### **7.3.33. Central Air Conditioner Service/Tune-up**

**Non-feasibility Criteria.** *Central air Conditioners shall not be serviced if:*

- The existing air conditioner is in need of repair or is non operational.
- The duct system contains disconnections and/or excessive damage or deterioration and cannot be brought into compliance with the Installation Standards manuals Duct Sealing standards.
- The supply air is not cool, and/or suction line is not cold.
- The airflow is below manufacturer's minimum specifications and required corrections cannot feasibly be made.
- The air conditioning system has a refrigerant leak.
- The condition or location of the unit makes it unsafe to perform one or more of the procedures.
- The measure is refused by the customer.

**Other Policies.**

- Central air conditioner service/tune up may be performed in those climate zones and dwelling types reflected in Table 5-1.
- Air conditioner service/tune up may be performed in intervals not to exceed the utility's maximum interval allowance.

### **7.3.34. Interior Hardwired CFL Fixtures**

**Non-feasibility Criteria.** *Interior Hardwired CFL Fixtures shall not be installed if:*

- Existing location of the fixture is not suitable.
- A thread based CFL will fit in the existing fixture.
- Electrical box is substandard and/or cannot be properly secured.
- Wiring is substandard, in a deteriorated condition, and/or rewiring is necessary.
- Circuit does not operate properly (e.g., defective switch).
- Circuit is controlled by a solid state timer.
- Circuit is controlled by a dimmer not compatible with available hard wired fixtures CFL fixtures.
- Existing fixture is in a wet location and a grounding conductor is not available.
- Existing fixture is not on the customer's electric/meter bill.
- Customer refuses.

## 8. Inspection Policies

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### 8.1 Introduction

This section summarizes the inspection policies used in the LIEE-ESA Program to ensure safety and quality control in the installation of measures and minor home repairs. Subsection 8.2 discusses the designation of the responsibilities for inspections. Subsection 8.3 describes policies relating to pre-installation inspections. Subsection 8.4 presents policies on post-installation inspections.

### 8.2 Inspection Personnel

Utilities will use in-house personnel, contract employees, or contractors to conduct inspections. However, each utility will undertake in-house either the prime contractor (administration) function or the inspection function, but not both, with the very limited exceptions discussed in D. 00-07-020.

### 8.3 Pre-Installation Inspection

The IOUs may implement a pre-installation inspection process for their respective ESA Program. As part of this process, each IOU can select the percentage of homes to be evaluated for program eligibility prior to the installation of measures. ~~four investor-owned utilities have different pre installation inspection policies, as follows:~~  
~~PG&E may perform pre inspections on homes receiving program services. PG&E's Energy Specialist performs a minimum measure feasibility evaluation. This evaluation determines if the home requires enough work to be eligible for the program. If eligible, the Energy Specialist will then deliver an energy education to the customer. Then, while still on the customer's premises, the Energy Specialist will call PG&E's Central Inspection Program's toll free number and report the proposed minimum weatherization measures and quantities, report the type of all combustion appliances present, and if a pre inspection is selected, coordinate the pre inspection appointment with the customer and PG&E. At the time of the PG&E visit, the inspector will confirm that the measures identified by the Energy Specialist are feasible. PG&E will also verify that the home is eligible for infiltration reduction measures. Additionally, the inspectors will verify that a refrigerator application was filled out, if required and check the refrigerator outlet for proper grounding.~~

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*California Statewide LIEE Policy and Procedures Manual*

☐—SDG&E’s outreach and assessment contractor performs an initial combustion air assessment and an initial feasibility assessment of the need for measures, prior to assigning a home for installation by the installation contractor. The installation contractor then does a more detailed audit and installs feasible measures. SDG&E may pre-inspect a percentage of homes prior to installation of measures.

☐—In the SoCalGas weatherization program, the installation contractor (or a subcontractor) does the initial measure assessment. SoCalGas may pre-inspect a percentage of homes prior to installation of measures. Furnace and water heater replacements require pre-authorization. Every service provider performing outreach and assessment under the program contracts with or hires personnel to enroll qualified customers in the program. These outreach and assessment personnel are required to attend extensive training, which provides them with the tools for enrolling customers and assessing the measures that are feasible to install under program guidelines. The certified outreach and assessment personnel recruit customers for the service providers and are responsible for ensuring both the customer and the dwelling are eligible for program services. They also provide energy education to the customer and perform an assessment (pre-inspection) of the home for feasible measures to be installed. The customer is advised of the measures identified for installation but is told that the installation contractor will make final determination for feasibility of installation.

☐ SCE contracts outreach and assessment agencies/personnel to conduct home assessments for SCE’s Energy Management Assistance (EMA) program. The outreach and assessment personnel must receive certification for home assessment services by attending an EMA Assessment Workshop. Upon passing the exam, the assessor is given a certificate that allows him/her to perform assessments. Assessors then examine low-income customers’ homes for all qualifying measures. This assessment process is a “check and balance” system that assures the right conditions are present for measure installation. Through this process, after verifying the customer’s eligibility, assessors pre-screen the home and existing appliances to determine the need for measures. The results of the pre-screening determine if the assessor should conduct a thorough measure feasibility audit to determine measure eligibility. The assessment form is then processed in SCE’s database and all eligible measures are assigned for installation. To ensure program integrity, SCE may pre-inspect a percentage of homes prior to installation of measures.

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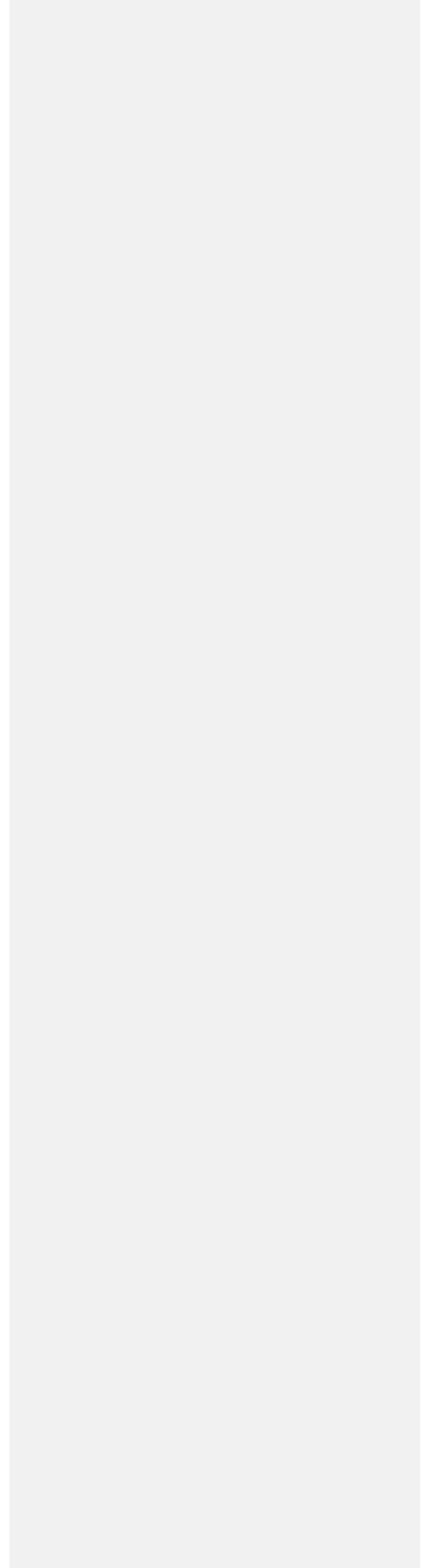
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## 8.4 Post-Installation Inspection

### 8.4.1. General Polices on Post-Installation Inspection

Post-installation inspections are used to assure that Contractors install measures in accordance with the California Installation Standards of the LIEE-ESA Program. In this subsection, specific polices relating to post-installation inspections are presented. These policies encompass the types of pass rates used in program administration, the frequency of post-

installation



inspections, the treatment of ~~failed inspections, hazardous fails~~, resolution of disputes relating to inspections, ~~charges for reinspection~~, inspection waivers, and minor job corrections.

**8.4.2. Types of Pass Rates**

Utilities or their designees will collect information on both per-home and per-measure pass rates. Per-home pass rates will be used for the purposes of determining minimum sample sizes for tracking performance. Per-measure pass rates will be used to tailor training and technical assistance for contractors, as well as to manage programs in a prudent manner.

**8.4.3. Post-Installation Inspection Frequency**

Utilities or their inspection contractors will select<sup>23</sup> for inspection all attic insulation and furnace replacement jobs. For all other jobs not involving attic insulation or furnace replacement, random inspections will be conducted for a sample of dwelling units.

~~Minimum sample sizes will be determined for each contractor, and will depend upon the contractor's previous pass rates and the total number of units completed by the contractor.~~

Suggested minimum sample sizes are shown in Table 8-1. These sample sizes are designed to provide 90% confidence that the true pass rate is within 5% of the estimated value.

**Table 8-1: Minimum Sample Sizes for Inspections (90%/±5% precision)**

Pass Rate	Number of Homes Completed By Contractor					
	200	500	1000	2000	5000	10000
0.70	140	241	317	377	425	444
0.75	129	210	265	306	337	348
0.80	115	176	213	239	257	264
0.85	98	139	161	175	184	188
0.90	76	97	108	114	118	119
0.95	45	51	54	56	57	57

Utilities or their inspection contractors may exceed these minimum sample sizes if, in the judgment of the administrator, larger sample sizes are necessary to preserve program quality control. Circumstances that may justify larger sample sizes include, but are not limited to, the following.

<sup>23</sup> It is understood that selecting 100% of jobs for inspection does not necessarily mean that 100% of inspections will be completed, since the utilities and their inspection contractors cannot compel program participants to be present for inspection appointments.

1. If the utility's program or the amount of additional post-inspections undertaken is small enough to conduct additional post inspections without substantially increasing total 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 improvement of its inspection pass 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 program **installation** standards, as shown by 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, since there are economies associated with conducting post-installation inspections and post-installation natural gas appliance testing **at the same time.**<sup>24</sup>
8. If larger sample sizes are necessary to resolve disputes with contractors over estimated billing fail rates.
- 8-9. If a new measure has been added to the Program.

Utilities will keep records of actual inspection frequencies by contractor.

#### **8.4.4. Hazardous Fails/Failed Inspections**

If a feasible measure is installed incorrectly or is not installed at all, Contractor may be issued a correction fail which must be resolved as required by the IOU. Hazardous fails must be addressed within 24 hours of notification by the utility and/or its designee.

Contractors are required to correct hazardous fails within 24 hours of notification by the utility and/or its inspector.

#### **8.4.5. Failed Inspection Dispute Resolution**

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.

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<sup>24</sup> The rationale here is that there are economies associated with conducting post-installation inspections and post-installation natural gas appliance testing.

| (*August, 2010,*)

~~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 and service provider may agree to utilize in-house personnel to hear and determine appropriate action on any unresolved dispute between ~~LIEE~~-service providers and inspectors. In the event that an agreement cannot be reached between the utility and service provider, a neutral third party may be utilized. The costs of such service shall be paid by the party that “loses” the arbitration.

#### **~~8.4.6. Failure to Install Feasible Measures~~**

~~In the event that a contractor fails to correctly install a feasible measure, it will be accorded the following treatment:~~

- ~~If the measure is installed, but installed incorrectly, the measure will be given a correction fail;~~
- ~~If the measure is feasible but was not installed, and is not included on the invoice the measure will be issued a correction fail.~~
- ~~If the measure is included on a pre-approval list but not installed, and the measure is feasible, the measure will receive a correction fail.~~
  
- ~~If the measure is not installed at all, and is not feasible, but is included in the invoice for the dwelling, the measure will be given a fail.~~

#### **~~8.4.7. Charge for Reinspection~~**

~~The utility may levy a charge in the event that a job fail or a job correction is issued and the contractor contests this action. If the failure or correction is upheld, the utility will charge the contractor for the reinspection of the job by the utility arbitrator. If the utility uses an inspection contractor and the job fail or correction is reversed, the utility will charge the inspection contractor for the reinspection of the job by the utility arbitrator, and will reimburse the installation contractor for any direct costs associated with the reinspection of the job.~~

#### **~~8.4.8. Inspection Waivers~~**

~~Policies on inspection waivers vary between mandatory and non-mandatory inspections, as follows.~~

- ~~**Mandatory inspections** are ~~those~~ required for projects ~~in~~ which include attic insulation or furnace replacement is installed. For mandatory inspections, three attempts will be made to arrange for a post-installation inspection within 30 calendar days of the notification of job completion. After three such attempts, the inspection provider will send a certified letter to the participant asking for permission to inspect the home. If the~~

participant does not respond to this certified letter within two weeks, the inspection provider need not conduct the inspection but must notify the utility that the inspection could not be completed. ~~prior to making final approval of payment for the weatherization job.~~

- **Non-mandatory inspections** relate to projects not involving attic insulation or furnace replacement. They are non-mandatory in the sense that only a sample of projects must be inspected. For non-mandatory inspections, three attempts will be made to arrange for a post-installation inspection within 30 calendar days of the notification of job completion. A non-mandatory inspection of a sampled project may be waived by the utility after three attempts to contact the participant, provided that attempts are made in an effort to overcome barriers attributable to language preference or disability. The inspection provider shall replace a waived inspection with another inspection and shall complete a sufficient number of inspections as provided in the policy on post inspection frequency (see above).
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*(August, 2010.)*

## 9 Contractor Eligibility

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### 9.1 Introduction

This section outlines contractor eligibility conditions under the ~~LIEE-ESA~~ Program. Subsection 9.2 deals with insurance requirements. Subsection 9.3 relates to licensing requirements. Subsection 9.4 relates to workforce, education, and training. The purpose of this section is to provide general information on these requirements. It may not include all of the requirements specified in the contracts between contractors and Program Administrators.

Contractors interested in participating in the ~~LIEE-ESA~~ Program can obtain information at each utilities respective website.

### 9.2 Insurance Requirements

Contractors shall maintain insurance in full force and effect during the life of the contract with ~~the utility, LIEE,~~ with responsible insurance carriers authorized to do business in California and having a Best Insurance Guide (or equivalent) rating ~~that meets the guidelines of each utility, of not less than A:VII. All policies shall be endorsed to require at least 30 days notice to the utility of any change or cancellation. Original certificates of insurance shall be provided to the Program Administrator prior to the commencement of any work for this program.~~

The following insurance shall be provided:

- ~~Workers' Compensation and Employer's Liability Insurance;~~
- ~~Comprehensive General Liability Insurance; and~~
- ~~Comprehensive Automobile Liability Insurance.~~

~~Required insurance of coverage will be provided by the utility.~~

~~Workers' Compensation Insurance is required to maintain a contractor's license in good standing with the Contractors State License Board (CSLB). The CSLB will suspend the contractor's license of any contractor whose insurance lapses or is canceled. It is the responsibility of each LIEE contractor to provide documentation that all required insurance is in effect. This includes but is not limited to providing LIEE staff with new Certificates of Insurance, as necessary, at the renewal date of insurance.~~

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~~When records indicate a lapse of insurance coverage, contractors will be immediately suspended from working in LIEE.~~

### 9.3 Licensing Requirements

Any organization or company contracting ~~with a Program Administrator~~ under the ~~LIEE-ESA~~ Program must comply with all applicable federal, state and local laws and regulations, as well as with utility guidelines. Contractors and subcontractors must also comply with any applicable CSLB licensing requirements, including current requirements for electrical, plumbing and HVAC, and must remain in good standing with the CSLB.

### 9.4 Workforce Education and Training (WE&T)

Contractors should make every effort to hire and train from the local low income communities. Additionally the contractors are required to work with the utilities to better track the training and hiring of a low income energy efficiency workforce.

## 10 Natural Gas Appliance Testing

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### 10.1 Introduction

This section summarizes the statewide policy on ~~LIHEAP~~ *ESA Program* natural gas appliance testing (NGAT). Subsection 10.2 discusses the circumstances when such testing must be conducted. Subsection 10.3 presents the general protocols that are followed in the course of natural gas appliance testing. Subsection 10.4 addresses the timing of testing. Subsection 10.5 considers actions to be taken when one or more test is failed by appliances in a participating home. Finally, Subsection 10.6 discusses the types of personnel used for the assessments. ~~Finally, Subsection 10.7 provides NGAT nonfeasibility criteria.~~

Note that specific standards for these natural gas appliance testing (NGAT) protocols are described in the ~~LIHEAP~~ *ESA Program California Installation Standards Manual*.

### 10.2 Applicability of Natural Gas Appliance Testing

#### 10.2.1. General Applicability

In general, natural gas appliance testing will be conducted for all homes that receive infiltration reduction measures and that have at least one natural gas appliance affecting the living space.<sup>25</sup> In addition, the repair and replacement of a natural gas furnace or water heater involves appliance testing. See the Natural Gas Appliance Testing section in the California Installation Standards ~~Manual for Conventional Homes or Mobile Homes~~, as applicable.

#### 10.2.2. Applicability to Combustion Fuels other than IOU Natural Gas

Homes with non-IOU (e.g., propane) space heating fuels are not eligible for infiltration reduction measures. As a consequence, they are not eligible for natural gas appliance testing. Homes with IOU space heating but which use a non-IOU combustion fuel for another appliance (i.e., say, water heating) are also ineligible for NGAT due to the inability of the IOUs to service combustion appliances using non-IOU fuels. The IOUs will refer these latter homes to local LIHEAP agencies, ~~to conduct testing and do any repairs or replacement of non-IOU combustion fuel appliances and charge such services to the LIHEAP agencies' CSD-funded weatherization programs. Whether the LIHEAP agencies would also install infiltration reduction measures, or any other weatherization measures under their LIHEAP~~

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<sup>25</sup> The NGAT section of the ~~LIHEAP~~ *ESA Program Installation Standards Manual* describes the conditions under which an appliance is determined to affect the living space.

~~programs, would be subject to voluntary agreements freely entered into by the IOUs and the local LIHEAP agencies.~~

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~~Any agreement between an IOU and a local LIHEAP agency which does not contract with that IOU to provide weatherization services under the IOU's LIEE program will be voluntarily negotiated on a case-by-case basis, given different geographic areas served, and different situations which might occur in different parts of each IOU's service area.~~

~~In any part of a given IOU service area where the local LIHEAP agency chooses NOT to enter into such an agreement, the IOU will continue to install all feasible non-infiltration weatherization measures under its LIEE program, then refer customers to the local LIHEAP agency if they want to have their non-IOU fuel combustion appliances tested, repaired or replaced, and/or want to have infiltration reduction measures installed by the LIHEAP agency.~~

### 10.3 Natural Gas Appliance Testing Protocols

#### 10.3.1. General Protocols

General natural gas appliance testing (NGAT) protocols are presented below. Note again that detailed procedures are described in the NGAT section of the [California ~~LIEE~~ Installation Standards Manual](#). The types of checks conducted as part of NGAT are described in this section.

#### 10.3.2. Pre-Weatherization Evaluations of Gas Appliances

In order to avoid cases in which post-weatherization NGAT would discover nonconforming conditions that (a) preclude installation of infiltration reduction measures, and (b) cannot be corrected within the scope of the program, some pre-weatherization evaluations of gas appliances are performed as part of the initial-home assessment. ~~Pre-weatherization appliance evaluations include the following components:~~

- ~~**Gas Leaks.** Each gas burning appliance is checked for the presence of gas leaks. When a natural gas leak is found, the utility is contacted for gas service repairs. Non-IOU gas leaks are treated in accordance with utility-specific policies. All gas leaks must be repaired before weatherization commences.~~
- ~~**Combustion and Ventilation Air (CVA) Evaluations.** CVA is evaluated for furnaces and water heaters to determine if it is adequate and, if inadequate, whether correction is feasible/possible.~~
- ~~**Flue and Vent Pipe Termination Evaluations.** Flue and vent pipe terminations are checked to determine if any violate NGAT criteria and, if nonconforming, whether correction is feasible.~~

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- ~~☐ **Appliance Operation and Accessibility.** All gas-burning appliances are checked to determine whether (a) they are accessible for testing, and (b) they are operable. Non-operable natural gas appliances are referred to the appropriate utility service department.~~
- ~~☐ **Unvented Space Heater.** The dwelling is checked for presence of an unvented combustion appliance used for heating the living space (which will preclude installation of infiltration reduction measures if not removed/eliminated).~~
- ~~☐ **Whole House Fan.** When a whole house fan exhausting into the attic is present, the attic is checked for the presence of a gas water heater or gas furnace with standing pilot (which will preclude installation of infiltration reduction measures).~~
- ~~☐ **Gas Clothes Dryer.** If located within the living space, the clothes dryer moisture exhaust is checked to determine if it is properly vented outdoors. If not properly vented outdoors, infiltration reduction measures will not be installed. This restriction does not apply to a gas clothes dryer located in an attached garage.~~
- ~~☐ **Gas Range with Heater/Incinerator.** When a gas range has a built-in space heater and/or incinerator, if the appliance is not properly vented outdoors, infiltration reduction measures will not be installed.~~
- ~~☐ **Water Heater in Bedroom.** If an open combustion water heater is present in a sleeping area, infiltration reduction measures will not be installed.~~
- ~~☐ **Mobile Homes.** Additional checks will be made in mobile homes to determine if (a) gas cooking is present and the kitchen exhaust to outdoors is nonconforming, (b) an exterior accessed appliance enclosure has unacceptable isolation of furnace return air, and (c) an open combustion space or water heater is present within the living space. Items (a) and (b) may be corrected as a Minor Home Repair only if infiltration reduction measures are feasible, AND the work does not involve extensive repairs. Item (c) precludes the installation of infiltration reduction measures.~~

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Required corrections will be performed before weatherization commences. The ~~owner/customer~~ will be informed of conditions that preclude installation of infiltration reduction measures and cannot be remedied by the ~~LIEE-ESA p~~Program (e.g., exhausting clothes dryers outdoors, and repair or replacement of appliances and gas vents for which repair or replacement is not available).

### 10.3.3. Post-Weatherization Natural Gas Appliance Testing (NGAT)

After completion of weatherization that includes infiltration reduction measures, NGAT is ~~performed for all natural gas appliances affecting the living space. Post-~~  
~~(August, 2010.)~~

weatherization NGAT includes the following components:

- **Visual Examinations.** Visual examination steps include the following: flue and vent system checks; appliance component checks; re-check for gas leaks,

~~inoperable or inaccessible appliances, nonconforming appliances, and whole house fan vented into attic; and check for properly blocked fireplace damper if gas log is used as the primary heat source.~~

~~□ **Combustion and Ventilation Air (CVA) Verification.** CVA adequacy is verified.~~

~~□ **Carbon Monoxide (CO) Tests.** A variety of ambient carbon monoxide tests are conducted on natural gas appliances. The specific nature of these tests is considered in 10.3.4.~~

~~□ **Draft Tests.** Smoke tests are used to check for proper drafting of appliances for which these tests are applicable (e.g., open combustion natural draft space and water heaters and gas logs).~~

#### ~~10.3.4. Ambient CO Testing of Natural Gas Appliances~~

~~The assessment of non IOU gas appliances was considered above. For IOU fueled gas appliances (appliances using natural gas provided by SDG&E, PG&E or SoCalGas), ambient CO testing is conducted using the following protocols:~~

~~□ **Space Heating Appliances.** Appliance Ambient CO Test is performed for all space heating appliances.~~

~~□ **Water Heaters.** Appliance ambient CO Test is also performed for water heaters in a location defined in the Installation Standards as affecting the living space.~~

~~□ **Cooking Appliances.** Room Ambient CO tests are performed in the kitchen separately during operation of each cooking appliance component (cook top, oven, and broiler).~~

~~□ **Gas Logs.** Exhaust gas CO test is conducted inside the top edge of the fireplace opening on gas logs.~~

~~**Clothes Dryers.** No CO tests are conducted on gas clothes dryers.~~

#### ~~□ 10.3.5. Disposition of Appliance Fails/Problems~~

~~If a problem is identified through the application of the overall natural gas appliance testing protocol (i.e., elevated CO, inadequate draft, or defect causing an unsafe condition), the case will be referred for resolution to qualified utility-trained personnel or a contractor licensed to repair appliances. Such resolution may involve the use of flue CO testing as well as other~~

~~(August, 2010),~~ procedures.

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## 10.4 Timing of Combustion Appliance Testing

### 10.4.1. Homes with Natural Gas Appliances

For homes with natural gas appliances, post-weatherization NGAT protocols are conducted after weatherization. Post-weatherization NGAT shall be conducted within five (5) working days from the date that infiltration reduction measures are installed.

### ~~10.4.2. Homes for which Infiltration Reduction is Simulated~~

~~Temporary sealing/blocking of defective windows and doors, in order to perform post-weatherization NGAT, is allowed when required materials (such as specialty glass or special-order windows or doors) are not available to be installed concurrently with the other weatherization measures. NGAT will be conducted with the defect sealed/blocked (e.g., with plastic sheeting) to simulate infiltration reduction achieved by the completed window/door repair/replacement. A repeat of NGAT following the completed repair/replacement is not required.~~

## 10.5 Actions to be Taken When Appliances Fail NGAT

The following actions will be taken when appliances fail NGAT:

- In owner-occupied homes, natural gas space heaters failing one or more of the tests covered by the NGAT protocol will be provided with Service/Adjustment and, if necessary, will be repaired or replaced subject to Program policies and procedures.<sup>26</sup>
- In owner-occupied homes, natural gas water heaters failing one or more of the tests covered by the NGAT protocol will be provided with Service/Adjustment and, if necessary, will be repaired or replaced subject to Program policies and procedures.<sup>27</sup>
- In owner-occupied homes, non-program appliances<sup>28</sup> failing one or more of the tests covered by the NGAT protocols will be provided with Service/Adjustment.<sup>29</sup> If Service/Adjustment does not correct the problem in question, the appliance will be tagged, shut off, and/or capped and reported to the customer, owner.

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<sup>26</sup> Note that the absence of a furnace in cases where another gas appliance is used for space heating will constitute an NGAT fail.

<sup>27</sup> Water heater repairs and replacements are ~~also considered minor home repairs, and are~~ provided only to mitigate NGAT fails or to replace leaking water heaters.

<sup>28</sup> Appliances for which LIEE-ESA Program repair or replacement is not available.

<sup>29</sup> In this context, Service/Adjustment of an appliance entails providing services that are within the scope of the gas service department for customers in general.

- In renter-occupied homes, appliances failing one or more of the tests covered by the NGAT protocol will be provided with Service/Adjustment. <sup>30</sup> If Service/Adjustment does not correct the problem in question, the appliance ~~be~~ will be tagged, shut off, and/or capped and reported to the customer, tenant and the landlord.
  
- In owner-occupied homes receiving infiltration-reduction measures, furnace repair or replacement and water heater repair or replacement may be necessary to mitigate natural gas appliance testing (NGAT) fails that cannot be corrected with service by utility gas service personnel (or their designated representative). Such NGAT fails may include, but are not limited to, CO above the action level, inadequate draft, unsafe flue/vent pipe/system, unacceptable flame or flame change when air handler comes on, a non-operable appliance, or the absence of a furnace in cases where another gas appliance is used for space heating.

There are cost restrictions to be considered when determining whether to repair the furnace measure. The cost to repair the measure should not be more than the cost to replace the measure as follows:

Central Furnaces - 50% (Does not include the costs of Title 24 compliance.)

- Wall/Floor/Direct Vent Furnaces - 40% (Does not include the costs of Title 24 compliance.)

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## 10.6 Personnel Performing Natural Gas Appliance Assessments and Testing

The utilities have the option of conducting natural gas appliance assessments and testing using in-house staff or contracting with third parties to provide these services.

## ~~10.7 Nonfeasibility Criteria for Natural Gas Appliance Testing~~

### ~~Nonfeasibility Criteria for Natural Gas Appliance Testing for the Entire Dwelling.~~

~~Natural Gas Appliance Testing shall not be conducted in a dwelling when:~~

- ~~□ No infiltration-reduction measures are installed,~~

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~~No natural gas appliance affecting the living space is present.~~

~~A non IOU combustion fuel is used for space heating.~~

~~**Nonfeasibility Criteria for Natural Gas Appliance Testing for Individual Appliances.** Natural Gas Appliance Testing shall not be conducted for an appliance if it:~~

~~Is abandoned.~~

~~Is inaccessible.~~

~~Uses non IOU combustion fuel.~~

<sup>30</sup>In this context, Service/Adjustment of an appliance entails providing services that are within the scope of the gas service department for customers in general.

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California Statewide LIEE Policy and Procedures Manual

Furnaces Repair & Replacement	N/A	3.4
A/C Replacement – Room	93.3	12.1
A/C Replacement – Central	144.4	N/A
A/C Tune-up – Central	135.8	N/A
Evaporative Coolers	190.1	N/A
Duct Sealing	78.3	25.2
Attic Insulation	N/A	49.8
Water Heater Replacement – Gas	N/A	12.1
CFLs	16.0	N/A
Ext. Porchlights Fixture Replacement	16.0	N/A
Interior Hard-wired CFL Fixtures	56.9	N/A
Refrigerators	752.3	N/A
Torchieres	203.9	N/A
Occupancy Sensor	213.8	N/A
Clothes Washer	287.9	17.4
Microwave	87.6	28.6
<b>Air Sealing/Envelope Repair* – All Measures</b>		<b>8.0</b>
Outlet Cover Plate Gaskets	N/A	1.3
Evaporative Cooler/AC Cover	N/A	1.3
Attic Access Weatherization	N/A	1.3
Door Weatherstripping	N/A	1.3
Caulking	N/A	1.3
Minor Home Repairs	N/A	1.3
<b>Water Heating Conservation* – All Measures</b>		<b>13.0</b>
Water Heater Blanket	N/A	3.3
Low-Flow Showerhead	N/A	3.3
Water Heater Pipe Wrap	N/A	3.3
Faucet Aerators	N/A	3.3

**Southern California Edison**

Measures	kWh Savings	Therms
A/C Replacement – Room	117.0	N/A
A/C Replacement – Central	621.0	N/A
A/C Services – Central	1076.9	N/A
Heat Pump	793.9	N/A
Evaporative Coolers	215.5	N/A
Evaporative Cooler Maintenance	70.7	N/A
Duct Sealing	276.4	N/A
CFLs	16.0	N/A
Exterior Hard-wired CFL fixtures	254.0	N/A
Torchiere	191.0	N/A
Refrigerators – Primary	753.6	N/A
Refrigerators – secondary	753.6	N/A
Pool Pumps	1399.6	N/A

<b>Air Sealing/ Envelope Repair* - All Measures</b>	<b>53.0</b>	<b>N/A</b>
Outlet Cover Plate Gaskets	8.8	N/A
Evaporative Cooler/AC Cover	8.8	N/A
Attic Access Weatherization	8.8	N/A
Door Weatherstripping	8.8	N/A
Caulking	8.8	N/A
Minor Home Repairs	8.8	N/A
<b>Water Heating Conservation* - All Measures</b>	<b>299.0</b>	<b>N/A</b>
Water Heater Blanket	75.0	N/A
Low-Flow Showerhead	75.0	N/A
Water Heater Pipe Wrap	75.0	N/A
Faucet Aerators	75.0	N/A

**Southern California Gas Company**

Measures	kW (Annual)	Therm Savings
Furnaces	N/A	28.2
Duct Sealing	N/A	24.4
Attic Insulation	N/A	41.0
Water Heater Replacement - Gas	N/A	42.4
Tankless Water Heater - Gas	N/A	28.0
High-Efficiency Clothes Washer	N/A	37.0
Forced Air Unit Furnace Standing Pilot Retrofit	N/A	44.0
Furnace Clean and Tune	NA	2.7
High Efficiency Forced Air Unit Furnace	N/A	88.0
<b>Air Sealing/ Envelope Repair* - All Measures</b>		<b>6.0</b>
Outlet Cover Plate Gaskets	N/A	1.0
Evaporative Cooler/AC Cover	N/A	1.0
Attic Access Weatherization	N/A	1.0
Door Weatherstripping	N/A	1.0
Caulking	N/A	1.0
Minor Home Repairs	N/A	1.0
<b>Water Heating Conservation* - All Measures</b>		<b>13.0</b>
Water Heater Blanket	N/A	3.3
Low-Flow Showerhead	N/A	3.3
Water Heater Pipe Wrap	N/A	3.3
Faucet Aerators	N/A	3.3

**Footnotes**

*California Statewide LIEE Policy and Procedures Manual*

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- ~~□ All energy saving values are derived from the budget applications (PY 2009-2011 Planning Assumptions Table— Attachment A2) submitted by the Investor Owned Utilities. The 2009 annual planned energy savings were divided by the total number of installations in 2009, for each measure the IOUs provided, to arrive at an energy saving value for each household. While these numbers are not the exact values for the energy savings for each measure, they are reasonable approximations for determining if the measure/measures qualify for installation under the “three measure minimum” rule.~~
- ~~□ The revised Attachment G will serve as a reference for the IOUs, the Commission, and interested stakeholders, in understanding the measures available in qualifying a home for LIEE program service. This attachment will NOT be used to calculate actual IOU program energy savings — which currently uses a separate methodology not related to this table.~~
- ~~□ Attachment G will be updated after Impact Evaluation 2009.~~

---

.Value provided by SDGE

..Value provided by SoCalGas

\*The measure group energy saving value is divided by the number of individual measures within the group, thereby assigning an ‘average’ savings value across all individual measures. The energy saving values for these sub-measures are expected to be updated after the 2009 Impact Evaluation.



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# APPENDIX D

**Statewide Energy Savings Assistance Program  
Policy and Procedures  
Manual**

Applicable to:  
Pacific Gas & Electric Company  
Southern California Edison Company  
Southern California Gas Company  
San Diego Gas & Electric Company

# California Statewide Energy Savings Assistance Program Policy and Procedures Manual

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# California Statewide Energy Savings Assistance Program Policy and Procedures Manual

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## 1 Introduction

### 1.1 Overview

This *Statewide Energy Savings Assistance Program Policy and Procedures Manual*<sup>1</sup> (*P&P Manual*) describes the policies and procedures followed in the Energy Savings Assistance (ESA) Programs administered by Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), Southern California Gas Company (SoCalGas), and San Diego Gas & Electric Company (SDG&E) (collectively referred to as the utilities or investor-owned utilities (IOUs)). The Statewide ESA Program policy and procedures are adopted by the California Public Utilities Commission (Commission or CPUC). This Manual provides policies and procedures for implementation of the ESA Program and is being updated pursuant to the changes in the Program in Commission Decision (D.) 12-08-044. This *P&P Manual* is accompanied by the ESA Program California Installation Standards Manual which all contractors working in this Program must comply.

An electronic copy of this Statewide P&P Manual may be obtained at the CPUC website at [www.cpuc.ca.gov/PUC/energy/Low+Income](http://www.cpuc.ca.gov/PUC/energy/Low+Income). In situations where there are questions regarding the interpretation of a certain policy or procedure, the Utilities shall use Commission D.12-08-044 as the overriding authority.

The policies and procedures in this *P&P Manual* are supplemented by the general and specific terms and conditions incorporated into contracts between the utilities and their contract service providers as part of the ESA Program.

Updates in Program policies and procedures may be issued by the utilities during the course of the Program Year subject to approval by the CPUC. ESA Program Managers have the flexibility to deviate from established procedures to respond to cases of customer hardship and unusual circumstances. The Program Managers shall document any exceptions in the customer file. Changes in the means of implementing policies, procedures and standards will be discussed with contractors prior to being made.

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<sup>1</sup> Formerly known as the Statewide Low Income Energy Efficiency Policy and Procedures Manual.

# California Statewide Energy Savings Assistance Program Policy and Procedures Manual

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## 1.2 Structure of this Manual

The remainder of this *P&P Manual* is organized as follows:

- Section 2 specifies general statewide policies and procedures relating to customer and home eligibility for the ESA Program.
- Section 3 discusses policies relating to customer outreach and customer relations.
- Section 4 describes the services that are provided under the ESA Program in the initial home visit.
- Section 5 lists the energy efficiency measures that are available to participants in the ESA Program.
- Section 6 discusses policies relating to minor home repairs.
- Section 7 describes policies and procedures relating to the installation of energy efficiency measures.
- Section 8 summarizes general statewide inspection policies and procedures.
- Section 9 discusses contractor eligibility.
- Section 10 describes policies and procedures relating to natural gas appliance testing and furnace repairs and replacements.
- Appendix A provides a list of the cities comprising the California Energy Commission (CEC) climate zones used in the determination of attic insulation levels and Program eligibility of other measures.

# California Statewide Energy Savings Assistance Program Policy and Procedures Manual

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## 2 Customer and Structural Eligibility

### 2.1 Overview

This section discusses the eligibility of individual households for ESA Program services. Eligibility of a household for measures offered through the Program depends on several factors, including:

- Household income;
  - Actual income documentation
  - Categorical eligibility
  - Self certification
- The utility services provided by the utility to the dwelling;
- The specific type of structure in which the household resides;
- The ability to obtain the approval of the property owner or authorized agent in the event the household resides in rental property;
- Previous ESA Program services provided for the property in question; and
- The dwelling's need for energy efficiency measures offered through the Program.

These eligibility requirements are explained below.

### 2.2 Customer Eligibility Requirements

#### 2.2.1. *Income Guidelines*

All the utilities use the ESA Program income guidelines established by the CPUC to qualify participants in the ESA Program.

These guidelines are provided to the utilities by the CPUC on an annual basis. As set forth in D.05-10-044, the income eligibility level is based on 200% of the Federal Poverty Guidelines. The CPUC updates the ESA Program income guidelines every year for inflation. The current ESA Program income guidelines can be obtained at the CPUC website at [www.cpuc.ca.gov/PUC/energy/Low+Income](http://www.cpuc.ca.gov/PUC/energy/Low+Income).

# California Statewide Energy Savings Assistance Program Policy and Procedures Manual

## 2.2.2. Types of Income Included in Household Income

For the purposes of determining Program eligibility, all income is considered, from all household members, from all sources listed in Table 2-1, whether taxable or non-taxable income, including (but not limited to) wages, salaries, interest, dividends, child support, spousal support, disability or veteran’s benefits, rental income, Social Security, pensions and all social welfare program benefits before any deductions are made. Table 2-1 indicates the specific items included as income, but is not limited for the purpose of determining eligibility for the ESA Program.

The following types of receipts **are not** considered household income for the purposes of determining eligibility:

- Loan proceeds; including reverse mortgages
- Assets (money in bank accounts, a house, a car or other property of possessions);
- Funds transferred from one applicant account to another; or
- Liquidation of assets (other than the portion representing capital or other gains).

**Table 2-1: Items Included in Income**

Wages, salaries and commissions	401K payments or withdrawals <sup>1</sup>
Alimony payments	Rental income and royalties <sup>2</sup>
Child support payments	School grants, scholarships or other aid <sup>1</sup>
Disability benefits	Self-employment earnings <sup>2</sup>
Foster care payments	Social security payments
Realized capital gains on assets	Housing subsidies
Interest and dividends on assets	Supplemental Security Income (SSI) payments and State Supplemental Payments (SSPs)
Food stamps	Temporary Assistance to Needy Families (TANF) payments
Gambling/lottery winnings	Unemployment Benefits payments
General relief	Veterans Administration Benefit payments
Monetary gifts (both one-time and recurring)	Workers Compensation payments
Insurance settlements or legal settlements <sup>1</sup>	Union strike fund benefits
Pension payments or withdrawals <sup>1</sup>	

<sup>1</sup> Other than loans.

<sup>2</sup> For rental income and self-employment income, only positive values of income are included. Negative net rents and negative self-employment income are ignored.

# California Statewide Energy Savings Assistance Program

## Policy and Procedures Manual

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### **2.2.3. Verification of Income**

#### **2.2.3.1 Actual Income Documentation Required**

When income documentation is required, income documentation must be reviewed, recorded, copied and securely stored by service providers prior to the installation of measures for all prospective participants.

CARE **self-certification** does not automatically qualify a household for ESA Program, except in the case of group homes or targeted self certification areas, where it is specifically allowed.

In the case where the utility has **verified** that the customer is CARE-eligible within the past year, such income verification may be used for ESA Program participation.

The utility will periodically audit enrollment information and /or income documentation retained by the contractor. In the event that information and/or documentation is not complete and correct for a participant, payment to the contractor for the provision of Program services to that unit may be disallowed.

The kinds of income documentation required by the Program include but are not limited to those presented in Table 2-2. In applying these documentation requirements, the following stipulations must be observed:

- Current award letters must include the value of the award and the period of time in question. They must also be dated within one year of the customer's signature date and must list the customer's name.
- Affidavits relating to gifts must indicate the amount and frequency of the gift(s). They must also contain the name, phone number, address and signature of the giver.
- In determining rental income, a renter-landlord relationship exists between household members when a room or rooms in the house is being rented and the renter is not a dependent of anyone in the household. Therefore, the renter is not counted as a household member and the rent paid is counted as part of the total household income. If the renter is a dependent, the renter is counted as a household member (even if he or she is paying rent) and his or her income is considered part of the total household income. A dependent is anyone claimed on the applicant's income tax return.
- Federal income tax documentation must include copies of all 1099s and W-2 forms.

# California Statewide Energy Savings Assistance Program Policy and Procedures Manual

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- Affidavits from an employer who pays the applicant cash wages must include the company name, address and phone number. It must also include the name of the applicant, total amount paid to the applicant, and the frequency of payments, and must contain a signature from the employer's authorized representative.
- If the applicant receives cash wages for jobs like mowing lawns, babysitting, handyman services, casual day labor, etc., a self-employment affidavit from the applicant is acceptable if it meets all Program criteria.
- In cases where a household claims no income for the past 12 months, the applicant must demonstrate his or her means of financial support other than income. In the event that the applicant cannot provide documentation of either income or other means of support, Program services will not be performed until such information is provided.

## **2.2.3.2. Categorical Eligibility**

Categorical eligibility is another enrollment procedure designed to ease enrollment processes in both ESA and CARE programs. Customers may be eligible to participate under categorical eligibility<sup>2</sup> and enroll in the ESA Program based on their current participation in another local, state, or federal means-tested program if those income guidelines are at or below current CARE/ESA program income guidelines as set forth by the Commission. The categorical programs that have been adopted can be found at [www.cpuc.ca.gov/PUC/energy/Low+Income](http://www.cpuc.ca.gov/PUC/energy/Low+Income) .

Applicants utilizing the categorical eligibility option to enroll in ESA Program must present documentation reflecting current participation in one of the Commission approved programs in order to satisfy the “income documentation” component. Such documentation must be reviewed, recorded, copied and securely stored by service providers prior to the installation of measures for all prospective applicants.

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<sup>2</sup>Categorical eligibility approved in Decision 06-12-038 for SCE, PG&E, SoCalGas, and SDG&E. Utilities, Energy Division staff and DRA to determine acceptable categorical eligibility programs.

# California Statewide Energy Savings Assistance Program

## Policy and Procedures Manual

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### ***2.2.3.3. Targeted Self-Certification***

Targeted Self Certification is a third enrollment procedure designed to ease enrollment processes in ESA Program. Eligibility for self certification is determined by each utility based on their identification of geographic areas of their service territory where 80% of the customers are at or below 200% of the federal poverty line. Applicants residing within these targeted self certification areas must sign a “self certification statement” certifying that they do indeed meet the current income guidelines established for participation in the ESA Program. This self certification statement is to be retained in lieu of other income documentation or proof of participation in a categorical eligibility program. A current CARE self certification statement is allowed.

## California Statewide Energy Savings Assistance Program Policy and Procedures Manual

**Table 2-2: Types of Income Documentation**

Type of Income	Documentation
Wages, salaries and Commissions	Copy of customer's payroll check stub(s) OR Federal income tax filing showing gross income OR affidavit from employer (for cash wages only, and only where just one employer)
Alimony or Child Support Payments	Copy of check, bank statement, OR most recent court document stating amount
Disability benefits, Foster Care payments, Unemployment Benefits, VA Benefits, Workers Compensation	Copy of checks stubs OR copy of most recent award letter
Capital or Other gains	Federal Income Tax filing showing capital or other gains
Food stamps	Copy of most recent award letter OR food stamp/cash issuance letter (indicate TANF or General Relief)
Gambling/lottery winnings	determined on case-by-case basis
General relief	Copy of most recent award letter (Notice of Action) OR copy of un-cashed check(s) OR copy of direct deposit statement(s)
Monetary gifts	Copy of customer's bank statement OR affidavit from gift giver
Proceeds from insurance settlements or legal settlements	Copy of settlement document
Interest and dividend income	Copy of customer's bank statement(s) OR copy of customer's investment statement(s) OR Federal Income Tax filing showing gross income
Pension or 401K payments or Withdrawals	Copy of customer's check stubs OR copy of most recent award letter OR Form 1099R from prior year OR copy of most recent bank statement
Rental income <sup>3</sup>	Tax return (Form 1040, Schedule E, Total Rental Real Estate and Royalty Income or Loss) showing rental income OR copy of rental receipts OR copy of rental agreement specifying rent amount and affidavit from tenant
School grants, scholarships or other aid	Copy of award letter OR copies of cancelled checks
Self-employment earnings <sup>3</sup>	Income statement showing most recent quarterly adjusted earnings plus prior year's tax return (1040 Schedule C, Net Profit or Loss) OR written affidavit from an accountant or applicant
Housing subsidies	award letter
SSI payments, TANF payments, or Social Security payments	Copy of most recent award letter (Notice of Action) OR copy of un-cashed check(s) OR copy of customer's direct deposit statement
Union strike fund benefits	Copy of benefits payment stub

<sup>3</sup> For rental income and self-employment income, only positive values of income are included. Negative net rents and negative self-employment income are ignored.

# California Statewide Energy Savings Assistance Program

## Policy and Procedures Manual

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### **2.2.4. Household Income Calculation Procedures**

Household income guidelines are based on gross (*pre-tax*) annual income. For self-employed individuals, gross (pre-tax) income is defined to be net profit or loss from self-employment. In the event that a full 12 months of income information is not available, or if there has been a change in the employment status of the household over the past 12 months, it may be necessary to annualize income from a shorter period of time. If, for instance, a household member has been employed for six months, the income earned over this period would be annualized by multiplying it by 2.

It is the intention of the ESA Program for all outreach personnel to compute annual income as accurately as possible. The calculations used will depend on the type of records available from each household member. Since all household members may not have the same type of income records, it may be necessary, and appropriate, to use more than one method when documenting income for different members of the same household.

### **2.2.5. Determining Household Size**

Household size is the current number of people living in the home as permanent residents. Friends or family on a temporary visit (less than 6 months) are not considered household members nor are their earnings part of household income.

Children and/or other dependents residing in the household *only* on weekends, holidays, or vacations may be counted as part of the household only if the family claims them as dependents on their federal income tax filing. Children by previous marriages who do not reside in the home cannot be considered household members, even if they are receiving child support, unless they are claimed as dependents on the applicant's federal income tax filing.

### **2.2.6. Qualifying Multifamily Complexes**

The ESA Program makes use of fractional income qualification for certain measures for multifamily complexes. The terms of income qualification are as follows:

- For the purposes of determining income eligibility, multifamily complexes are defined as those with five (5) or more dwelling units. Duplexes, triplexes, and fourplexes will be qualified as single family homes for the purposes of determining income eligibility.
- For multi-family buildings, refer to Table 5-1 herein for the measures available to multi-family buildings.

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- To qualify an entire multifamily building for other measures offered by the Program (defined as 80-20 measures), at least 80% of all (occupied and unoccupied) dwelling units must be occupied by income-qualified households. However, if at least 80% of all units adjacent to a common attic space satisfy the 80% rule, that attic space may be treated even if the 80% rule is not satisfied for the entire building. In the event that fewer than 80% of the dwelling units are occupied by income-qualified households, individual dwelling units occupied by qualifying households may still receive all feasible 80-20 measures.
- Service providers must review, record, copy and securely store income documentation for all households used to qualify an apartment building. The provider must also make its best effort to review and record income documentation for all other households in the multifamily building (i.e., those not used to meet the 80% qualification standard).
- Unoccupied and other non-qualified multifamily dwellings may be weatherized, as long as the multifamily building satisfies the 80% rule for income qualification.

### 2.3 Service Eligibility

#### 2.3.1. General Service Eligibility Conditions

To be eligible for the ESA Program, a customer must be served by an active utility account/meter (includes master meter). In an area served by different investor-owned gas and electric utilities (e.g., the SoCalGas-SCE overlap area) the fuel source for the dwelling's space heat shall determine which utility will be the provider of air sealing/envelope and attic insulation measures to the dwelling as long as that fuel source is either natural gas or electricity. In the event that a non-IOU heating fuel is used *and* the home has air conditioning, the electric IOU will be the provider of weatherization measures other than infiltration-reduction measures.

Measure-specific eligibility requirements will be followed in the ESA Program. Not all measures are offered in all utility services territories or climate zones. Table 5-1 shows the measures offered by each utility.

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### **2.3.2. Referrals**

In order to provide the maximum opportunity for eligible customers to receive all feasible measures, the four IOUs—PG&E, SCE, SoCalGas, and SDG&E—will set up a referral system with each other. In addition, the utilities will work with community agencies and local governments including their local Department of Community Services and Development (DCSD) agencies to expand leveraging opportunities. This will increase the number of measures available to eligible customers by sharing the cost of measures offered by both programs.

In areas where a customer receives natural gas and electric services from two different IOUs, the utilities will work together to ensure the customer receives all feasible measures. The utility installing infiltration measures will conduct natural gas appliance testing as long as the utility serves natural gas somewhere in its service area (and thus has trained gas service representatives). In the event that the customer has electric space heat served by an electric-only utility, the electric utility will not install infiltration measures if natural gas appliances are present.

In order to mitigate the duplication of costs that could otherwise be associated with customers participating in two utility programs, two steps shall be taken:

- First, customers that have provided proof of income qualification or deemed categorically eligible by one IOU, shall be considered eligible by all other IOU's serving this customer; and
- Second, gas and electric utilities will offer common energy education in overlap areas so that customers will need to receive education from only one utility.

Additionally, the minimum measure requirement for eligibility (see Section 2.8) will not apply to homes referred by one IOU to another, if the first IOU establishes that a home meets this minimum for the combination of gas and electricity.

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## 2.4 Structural Eligibility

**Public Housing.** Public housing is eligible for participation in the ESA Program, but must meet the program eligibility requirements in order to participate. (Note that this does not include on-base military housing, insofar as these dwelling units are not served by the investor-owned utilities.)

### **Housing Type**

Single family homes, multifamily dwelling units, and mobile homes are eligible to participate in the program.

- Duplexes, triplexes, and fourplexes will be qualified as single family homes.
- Multifamily complexes are defined as those with five (5) or more dwelling units.
- Mobile homes are defined by California Department of Housing and Community Development as having “over 320 square feet of gross floor area, more than eight feet in width, and more than 40 feet in length.” A mobile home is a manufactured home regulated by the U.S. Department of Housing and Urban Development code (Sec. 3280) and built on a trailer chassis and designed for highway delivery to a permanent location, and it can be a single-, double-, or triple-wide home.

The utilities may promote or limit the treatment of housing types in individual program years as long as these actions are consistent with the achievement of the programmatic initiative.

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**Housing on Non-Residential Rates.** In general, only residential customers on residential rates are eligible to participate in the ESA Program. However, group homes on non-residential rates are eligible for ESA Program services as long as they are currently eligible for CARE under current CARE guidelines applicable to group living facilities,<sup>4</sup> and the structure in question is a single family, multifamily or mobile home suitable for weatherization under ESA Program standards.<sup>5</sup>

CARE-eligible facilities include but are not limited to the following.

- Migrant farm worker housing centers, as defined in Section 50710 of the Health and Safety Code, provided that 70% of all energy usage in master-metered facilities and 100% of all energy usage in individually-metered facilities is residential.
- Privately owned employee housing, as defined in Section 17009 of the Health and Safety Code, that is licensed and inspected by the state and local agencies pursuant to Part I of Division 13, and in which 100% of all energy use is residential.
- Housing for agricultural employees operated by non-profit entities, as defined in Subdivision (b) of Section 1140.4 of the Labor Code, and that has an exception from local property taxes pursuant to subdivision (g) of the Revenue and Taxation Code, provided that 70% of all energy usage in master-metered facilities and 100% of all energy usage in individually-metered facilities is residential.
- Non-profit group living facilities, defined as transitional housing (such as a drug rehabilitation or halfway house), short- or long-term care facilities (such as a hospice, nursing home, children's home or seniors' home), group homes for physically or mentally challenged persons, or other nonprofit group living facilities.
- Homeless shelters, hospices and women's shelters with the primary function of providing lodging and which are open for operation with at least six beds for a minimum of 180 days and/or nights (including satellite facilities in the name of the licensed corporation, where 70% of the energy supplied is for residential purposes).

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<sup>4</sup> See D. 92-04-024, April 8, 1992; D. 92-06-060, June 17, 1992; D. 95-10-047, October 18, 1995. Also see *Commission Advisory and Compliance Division, Workshop Report on California Alternate Rates for Energy (CARE): The Development of Guidelines to Implement CARE for Migrant Farmworker Housing, Agricultural Employee Housing, and Employee Housing*, May 1995

<sup>5</sup> It should be noted that CARE income eligibility requires that 100% of the residents of the facility (other than live-in staff) meet the CARE income guideline. This income eligibility criterion will be applied to group homes for the purposes of determining ESA Program income eligibility.

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As mandated by AB 868 and reiterated by an October 1, 2004 Administrative Law Judge's Ruling,<sup>6</sup> migrant housing centers are presumed to meet CARE income eligibility guidelines without verification. This presumption will also be used in determining ESA Program income eligibility of such facilities. For the purpose of determining eligibility of other types of housing on non-residential rates, income qualification shall be considered satisfied if the facility is on CARE. These facilities represent a unique situation and this income verification procedure shall not be considered a precedent for other circumstances.

## 2.5 Home Ownership Documentation

### 2.5.1. Overview

Home ownership must be verified in order to ensure that the legal owner or authorized agent signs the Property Owner Waiver. It is the responsibility of the contractor to review the documents and ensure proof of home ownership. If a home is in the name of a deceased spouse, the surviving spouse should be considered as the owner. For example, if the home is in the husband's name and never transferred to the widow, the widow is considered the current homeowner.

Any of the following may be used for home ownership documentation.

- Current loan or mortgage documents;
- Property tax records or bills;
- Home owner property insurance (fire insurance);
- Mortgage payment invoices or book;
- Data Quick or similar title search service;
- Deeds; and
- Current Mobile Home Registration from Department of Housing and Community Development.

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<sup>6</sup> Administrative Law Judge's Ruling Seeking Input Regarding Assembly Bill 868 (Care Eligibility for Migrant Housing Centers), October 1, 2004.

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### **2.5.2. Multiple Ownership**

If the home is owned by more than one person, the homeowner will be considered any one of the persons whose name appears on the document.

### **2.5.3. Life Estate/Living Trust**

A homeowner may have established a "Life Estate" or "Living Trust." With either, the property is deeded to another individual or trust but the original owner maintains control of the property. The original owner may sign as the property owner only if he or she has a copy of Life Estate or Living Trust documents. Contractor must review and verify that the individual signing the Property Owner Waiver is authorized to do so within the "Life Estate" or "Living Trust". Contractor and individual signing POW shall sign a statement to document that they are authorized to sign agreement to participate in ESA Program and a copy of the signed statement must be maintained in the customers file.

### **2.5.4. Power of Attorney (POA)**

In cases where the property owner is not available to sign on the Agreement, any person having a Power of Attorney (POA) for that owner may sign the Agreement. Contractor and individual signing POA shall sign a statement to document that they are authorized to sign agreement to participate in ESA Program and a copy of the signed statement must be maintained in the customer's file.

### **2.5.5. Property Management Companies**

Authorized representatives of property management companies may sign for property owners for both single family and multifamily agreements under the following conditions: the property management company has a standard Power of Attorney agreement with the property owner; or the property management company has a signed Management Agreement with the owner authorizing the property management company to act as the agent for the specific property; or any other documentation that the utility may require to establish that an agreement exists between the property owner and the management company. A copy of any support documentation must be kept in the customer's files for that customer.

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## **2.6 Treatment of Rental Units**

### **2.6.1. Property Owner Approval**

In general, rental units may not receive Program Services and Measures until a Property Owner's Waiver has been received. This approval must cover the participation of the unit in the Program as well as the installation of specific measures. Such approval is valid for a period of 12 months from the date it is signed by the Property Owner or authorized agent. If approval of the Property Owner is not received before the installation of such services, the Contractor will be required to reimburse the utility for all payments received from the utility for the measures in question. However with prior written authorization from the utilities' Program Manager, a contractor may proceed with the installation of services and measures that do not directly affect the condition and/or structure without the signed Property Owner Waiver.

### **2.6.2. Eligibility of Rental Units for Certain Measures**

Assuming that the Property Owner's permission is required and has been obtained and that other eligibility conditions are met, rental units may be treated under the Program. However, the following policies relating to specific measures shall be applied. Not all measures listed are offered in all utility service territories or climate zones. See Table 5-1.

- Rental units are not eligible for furnace replacements or major furnace repairs associated with the mitigation of NGAT failures. However, service and adjustments may be made to furnaces and water heaters if these actions would improve the performance of the system at a minimal cost.
- Refrigerator and air conditioner replacements may be provided at no charge to either the tenant or the property owner, except in the instance where the property owner owns the refrigerator or air conditioning unit that is replaced 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.
- The utilities may opt to provide, at a nominal charge to the property owner, evaporative coolers, refrigerator replacement, and replacement air conditioners and heat pumps.

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## 2.7 Previous Program Participation

In order to provide services to the widest range of low-income households possible, D.08-11-031 places the following restrictions on the participation of homes that have previously been treated under the ESA Program.

- The IOUs are allowed to go back and treat any dwelling served prior to 2002, but they will first seek out new dwellings that have yet to be treated.

## 2.8 Need for ESA Program Services

A home must receive all feasible measures offered under the ESA Program. In D.08-11-031, the Commission modified the “3 Measure Minimum Rule” to allow utilities to install one or two measures, as long as the installed measures meet the specified minimum energy savings threshold. Decision 09-06-026 issued June 18, 2009 further modified the “3 Measure Minimum Rule” to clarify the allowable measures under the “3 Measure Minimum Rule”. For homes that need fewer than 3 measures, the energy savings achieved must meet certain minimums as established by the Commission. Energy savings of at least 125 kWh annually or 25 therms annually must be achieved in homes where only one or two measures are to be installed. Each IOU will provide its contractors with the individual measures that qualify for installation if a home requires less than three measures. The total energy savings achieved by either one or two measures combined should yield savings of at least either 125 kWh annually or 25 therms annually. The IOUs are to use the most current energy savings estimates as determined in the Final Report of the Load Impact Evaluation for the applicable program cycle, unless directed otherwise by the Commission. For measures not reflected in the Load Impact Evaluation, those energy savings can be derived from DEER, engineering calculations, etc. as appropriate.

Homes that require three or more individual measures qualify for ESA Program participation regardless of energy savings. For homes that require more than three individual measures, refer to Table 5-1.

In an area served by multiple investor-owned gas and electric utilities (investor-owned or municipal), the minimum number of measures will be defined as if the home were served by a combined gas and electric utility, and the utilities will use a referral system to ensure the installation of all feasible measures.

For all homes meeting the minimum for necessary measures, all feasible measures must be installed.<sup>7</sup> As stipulated in the standard non-feasibility criteria, if a measure is already in place and operating properly, even if it does not meet the current Installation Standards for new installations, it should not be removed and replaced.

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<sup>7</sup> If a customer refuses a measure, that measure is considered non-feasible. See Section 7.

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## 3 Customer Outreach and Customer Relations

### 3.1 Introduction

This section presents statewide ESA Program policies and procedures in the areas of customer outreach and customer relations. Subsection 3.2 discusses policies relating to the recruitment of participants for the Program, while Subsection 3.3 focuses on the maintenance of proper relationships with customers. It should be understood that the policies in this section are supplemented by additional provisions in both specific and general terms and conditions included in formal agreements between utilities and contractors.

### 3.2 Customer Outreach

Contractors recruiting customers for participation in the ESA Program are required to follow strict policies relating to customer outreach. Customer outreach policies cover promotional guidelines, limitations on representations made by contractors and their employees, outreach interactions, and tracking.

#### ***3.2.1. Promotional Guidelines***

Only promotional materials approved by the Utility Program Manager may be used to promote participation in the ESA Program.

#### ***3.2.2. Representations by Contractor and Contractor's Employees***

Neither the contractor nor his/her employees may imply that they are employees of the Utility or affiliated with the Utility in any way other than through the ESA Program.

#### ***3.2.3. Outreach Interaction***

Outreach personnel must effectively contact and interact with a diverse set of customers. These personnel shall have available any necessary multilingual staff and/or translators and shall make every effort to resolve barriers to communication attributable to disabilities.

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### **3.2.4. Targeted Outreach**

Outreach efforts should target those customers with the highest energy usage, energy burden and/or energy insecurity but not at the expense of all other customers. Contractors shall also serve those customers who are disabled. Such customers may be identified based on their enrollment in the Medical Baseline Program, their enrollment in the Deaf and Disabled Telecommunications Program (DDPT), their enrollment in ESA Program through a disability-based community-based organization (CBO), their request for accessible formats of written materials or use of Tele-Typewriter/Telecommunications Device for the Deaf (TTY/TDD), the visibility of an observed disability and/or their self-identification as having a disability. Contractors shall not ask the customer if he/she is disabled.

## **3.3 Customer Relations**

### **3.3.1. Introduction**

It is imperative that both contractors and utility employees maintain proper customer relationships. The ESA Program is a customer service program, and should be delivered accordingly. Specific policies with respect to customer relations are specified below.

### **3.3.2. Expedient Service**

Service must be provided to participants in a reasonable time frame, as determined by the utility. Crews must inform customers of the approximate amount of time required for installations, inspections and gas appliance testing (if required), and shall provide services as expeditiously as possible. The number of visits to a home shall be kept to a minimum.

### **3.3.3. Other Work**

Only work directly associated with providing ESA Program authorized services to participating customers may be billed to the ESA Program. The contractor is prohibited from selling other services to the customer or charging the customer for any other service.<sup>8</sup>

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<sup>8</sup> Note that this provision does not preclude the possibility of requiring a co-payment for the installation of one or more measures, if approved by the utility.

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### **3.3.4. Staff Identification**

All contractor or subcontractor employees who engage in customer contact must wear identification badges provided or approved by the utility at all times. Each badge must include a color photo of the employee. If the contractor produces badges, templates for identification badges will be provided by the utility. The contractor shall immediately return the ID badges of all personnel no longer working for the contractor or its subcontractors on the ESA Program. In the event the contractor is unable to return a badge, the contractor shall immediately notify the Program Administrator.

### **3.3.5. Crew Appearance**

ESA Program contractors are responsible for the courtesy and appearance of their employees. Discourteous personnel and unprofessional appearance will not be tolerated in this program and may constitute grounds for contract termination.

### **3.3.6. Customers 18 Years or Older**

In general, contractors shall enter customer's residences only when adults, eighteen (18) years of age or older are present. The only exception to this rule is that contractors may enter the home of a customer under eighteen (18) years of age if the customer is married or has been declared an emancipated minor by the courts.

### **3.3.7. Customer Complaint Procedures**

The contractor must make every effort to resolve barriers to communication attributable to factors including language preference and disabilities. The contractor must make every effort to resolve and document customer complaints. The Contractor must notify the utility or its designee of the status of each complaint within 24 hours of the contractor's receipt of the complaint. If the complaint deals with customer safety, the contractor must resolve it within 24 hours. If the complaint does not relate to customer safety, the contractor must resolve the complaint to the satisfaction of the customer as required by the IOU. The acceptability of the contractor's resolution of complaints will be determined at the sole discretion of the utility. If the contractor has not resolved the complaint within the mandated period, the contractor shall notify the utility or its designee of this failure.

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### ***3.3.8. Substance Abuse and Smoking Policy***

In addition to local and state laws, contractor personnel shall not be under the influence of drugs or alcohol nor be using drugs or alcohol anytime when performing ESA Program work. Smoking is prohibited within the residence being served at all times and on the customer's property.

### ***3.3.9. Incident Report***

Contractors must immediately contact the utility or its designee if during a home visit there is damage to a customer's home and/or property or if the contractor's employee has been accused of an illegal act. Within 24 hours, the contractor will inform the utility or its designee of the resolutions of all such incidents.

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## 4 Procedures for Pre-Installation Contacts

### 4.1 Introduction

This section describes the procedures to be followed by outreach workers and contractors during pre-installation visit or visits to a participating home. These procedures cover the provision of general program information, the collection of data on the household and the home, the administration of home energy education, the completion of the home energy assessment, and the installation of measures as approved by each IOU.

### 4.2 Description of Program Services

In the course of the customer enrollment, the outreach worker shall provide a thorough description of the program services available to the income qualified household. At a minimum, this description must cover the following services:

- The ESA Program, including program goals, eligibility requirements, eligible measures, and procedures. The procedures to be covered by this description must encompass energy education, available energy efficiency services and minor home repairs, general installation procedures, inspection procedures, and natural gas appliance testing procedures (if applicable).
- Other programs designed to repair/replace furnaces or install other energy efficiency measures (if these are offered as separate programs).
- The California Alternate Rates for Energy (CARE) Program. Outreach workers will also provide assistance in enrolling the customer in CARE if the customer chooses to participate in it.
- Other utility programs designed to provide services to low-income customers, including level-payment programs, medical baseline programs, and other energy efficiency programs for which the customer may be qualified.
- Similar programs offered by DCSD and other known energy related programs.

The outreach worker may also describe other utility and non-utility low income assistance and energy efficiency programs. At no time shall Program personnel promote or provide fee-based services to customers in lieu of free services offered under the ESA Program.

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### 4.3 Data Collection

During the initial interview, the outreach worker will also collect data needed to document eligibility and to meet tracking and reporting requirements. In general, information including, but not limited to the following must be collected:

- Name, address and phone number of applicant,
- Senior/disability status of applicant or other permanent household member, as observed by the assessor or voluntarily provided by the applicant,
- Residence type and owner/renter status,
- Gas and/or electric account information,
- Appliance/HVAC system information,
- Customer unwillingness/inability to participate, and
- Home square footage.

Demographic data may also be collected if offered by the customer.

### 4.4 In-Home Energy Education

In-home energy education will be provided to all income-eligible applicants whose dwellings require the minimum number of measures, using forms and checklists provided by the utilities. Energy education will cover the following general areas: heating and cooling usage, water heating system usage, major electric and gas appliance usage, small appliance usage, benefits of energy efficiency programs in reducing green house gas emissions, water conservation, and lighting usage. At a minimum, topics to be covered in the course of energy education must include:

- The general levels of usage associated with specific end uses and appliances,
- The impacts on usage of individual energy efficiency measures offered through the ESA Program or other Programs offered to low-income customers by the utility,
- Practices that diminish the savings from individual energy efficiency measures, as well as the potential cost of such practices,
- Ways of decreasing usage through changes in practices,
- Information on CARE, the Medical Baseline Program, and other available programs,

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- Appliance safety information,
- The way to read a utility bill,
- Green house gas emissions,
- Water conservation,
- CFL disposal and recycling, and
- The procedures used to conduct natural gas appliance testing (if applicable).

## **4.5 In-Home Energy Assessment**

An assessment of the structure will be completed on homes with income-qualifying applicants using utility approved forms and/or tools. The assessment will identify measures which may be installed through the Program.

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## 5 Program Measures

### 5.1 Introduction

This section identifies the energy efficiency measures available through the ESA Program and discusses the means by which changes in eligible measures are made over time. Subsection 5.2 focuses on measures offered under the program, while Subsection 5.3 outlines the process that will be used to evaluate measures for inclusion in the Program in future years.

### 5.2 Program Measures

Table 5-1 indicates the specific Program measures that may be provided to participants for the ESA Program in accordance with the California Installation Standards Manual.

### 5.3 Consideration of Changes to Measure List

Utilities will jointly evaluate existing Program measures in the course of developing recommendations for programs in subsequent years. The utilities evaluate these measures using all available information on both costs and benefits (including energy benefits as well as non-energy benefits), and develop a set of recommendations for CPUC approval. If warranted by the evidence, these recommendations may vary across climate zones. The utilities will also implement a process for considering new measures to be added to the Program. This process will entail the issuance of a solicitation for recommendations for new measures and the assessment of the cost-effectiveness of these measures.

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**Table 5-1 Eligible Measures**

Measure	PG&E			Avail. to Renters	SDG&E			Avail. to Renters	SCE			Avail. to Renters	SCG			Avail. to Renters
	S/F	M/F	M/H		S/F	M/F	M/H		S/F	M/F	M/H		S/F	M/F	M/H	
<b>Heating, Ventilation &amp; Air Conditioning</b>																
<b>Gas Furnace</b> <sup>4</sup> Repair/Replace CZ 1,2,3,4,5,6,11, 12, 13,14, 16	√	√	√													
<b>Gas Furnace</b> <sup>4</sup> Repair/Replace - CZ -7, 10, 14,15					√	√	√									
<b>Gas Furnace</b> <sup>4</sup> Repair/Replace - CZ -4, 5, 6, 7, 8, 9,10,13,14,15,16													√	√	√	
<b>Forced Air Unit Standing Pilot Light Conversion</b> - All - CZ					√	√	√	√					√	√	√	√
<b>Room A/C Replacement</b>																
-CZ 10					√	√	√	√								
- CZ 10,13,14, 15	√								√	√	√	√				
<b>Central A/C Replacement</b>																
- CZ 14	√															
- CZ 14 & 15									√	√	√	√				
<b>Heat Pump - CZ 14 &amp; 15</b>									√	√	√	√				
<b>AC Time Delay</b> - CZ 1, 2, 3, 4, 5, 6, 11, 12, 13, 14, 16, (Except SF & MF CZ 1,5,6 and MF CZ 3)	√	√	√	√												
<b>Duct Sealing</b> CZ 1, 2, 3, 4, 5, 11, 12, 13, 16	√		√	√												
- CZ 7, 8, 10, 14,15 (Except CZ 8 Gas)					√		√	√								
- CZ 4, 5, 6, 7, 8, 9,10,13,14,15,16													√		√	√
<b>Evaporative Coolers</b>																
-CZ 10,13,14,15,16									√		√	√				
- CZ 1, 2, 3, 4, 11, 12,13, 14, 16 (Except MH CZ 1)	√		√	√												

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**Table 5-1 Eligible Measures (Continued)**

Measure <sup>1</sup>	PG&E			Avail. to Renters	SDG&E			Avail. to Renters	SCE			Avail. to Renters	SCG			Avail. to Renters
	S/F	M/F	M/H		S/F	M/F	M/H		S/F	M/F	M/H		S/F	M/F	M/H	
<b>Maintenance</b>																
Furnace Clean & Tune CZ 4,5, 6,7, 8, 9,10,13,14,15,16													√	√	√	√
- CZ 7,10,14,15					√	√	√	√								
<b>Central A/C Tune-up/Services</b>																
- CZ 2, 4, 6, 11, 12, 13, 14, 16	√	√	√	√												
- CZ 6,7, 8, 14, 15					√	√	√	√								
All CZ									√	√	√	√				
<b>Enclosure</b>																
<b>Envelop/Air Sealing Measures<sup>2</sup></b>																
- CZ 1, 2, 3, 4, 5, 6,11,12,13,14,16	√	√	√	√												
- CZ 4,5,6,7,8,9,10, 13,14, 15,16													√	√	√	√
- CZ 6,8, 9, 10, 13, 14, 15, 16 Electric Heated Home									√	√	√	√				
- CZ 6, 7, 8,10,14, 15 Electric Heated Home					√	√	√	√								
- CZ 7, 10,14, 15 Gas Heated Home					√		√	√								
<b>Attic Insulation</b>																
CZ 1, 2, 3, 4, 5, 6, 11, 12, 13, 14, 16	√	√		√												
- CZ 4,5,6,7,8,9,10 13, 14, 15, 16													√	√		√
- CZ 6,7,8,10,14,15 Electric					√	√		√								
- CZ 7,10,14,15 Gas					√	√		√								
<b>Minor Home<sup>3</sup> Repairs - All - CZ</b>	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√

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**Table 5-1 Eligible Measures (Continued)**

Measure <sup>1</sup>	PG&E			Avail. to Renters	SDG&E			Avail. to Renters	SCE			Avail. to Renters	SCG			Avail. to Renters
	S/F	M/F	M/H		S/F	M/F	M/H		S/F	M/F	M/H		S/F	M/F	M/H	
<b>Domestic Hot Water</b>																
Faucet Aerators All - CZ	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Low Flow Showerhead All - CZ	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Water Heater <sup>4</sup> Repair/ Replacement - Gas - All CZ	√	√	√		√	√	√						√	√	√	
Water Heater Blanket All - CZ	√	√	√	√	√	√	√	√	√	√	√	√	√	√ <sup>5</sup>	√	√
Water Heater Pipe Insulation All - CZ	√	√	√	√	√	√	√	√	√	√	√	√	√	√ <sup>5</sup>	√	√
Thermostatic Shower Valve - All - CZ	√	√	√	√	√	√	√	√					√	√	√	√
<b>Lighting Measures</b>																
CFL Lighting - All - CZ	√	√	√	√	√	√	√	√	√	√	√	√				
Interior Hard wired CFL fixtures - All - CZ	√	√	√	√	√	√	√	√								
Exterior Hard wired CFL fixtures - All - CZ	√	√	√	√	√			√	√			√				
Torchiere All - CZ	√	√	√	√	√	√	√	√	√	√	√	√				
Occupancy Sensors - All C	√	√	√	√												
LED Night Light - All CZ					√	√	√	√								
<b>Appliances</b>																
Refrigerators - All - CZ	√	√	√	√	√	√	√	√	√	√	√	√				
High Efficiency Clothes Washer - All - CZ					√	√	√	√					√	√	√	√
LIHEAP Appliances All CZ	√	√	√	√												
Microwave Ovens - All - CZ	√	√	√	√	√	√	√	√								
<b>Miscellaneous</b>																
Pool Pumps - All CZ										√			√			
Smart Power Strip All - CZ					√	√	√	√	√	√	√	√				

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## Table 5-1 Footnotes:

<sup>1</sup> Table 5-1 indicates the specific Program measures that may be provided to participants for the ESA Program in accordance with the California Installation Standards Manual

<sup>2</sup> Includes Caulking, Outlet Cover Plate Gaskets, Evaporative Cooler Cover, Air Conditioner Cooler Cover, Attic Access Weather-Stripping Doors and Minor Home Repairs (which include repairs such as ceiling repair, cover plates, door jams, door patch/plate, door replacement, exhaust fan vents, exterior wall repair, foam wall patch, interior wall repair, glass replacements, glazing compounds, lock sets (exterior door) windowsill repair, thresholds, vent repair and alignment, and window repair). For the purposes of qualifying a home for the Program, these measures count as a single measure. If contractors are installing less than three measures in a home, they should refer to Section 2.8.

<sup>3</sup> There are multiple sub-measures included under minor home repairs. Minor home repairs are constituted by services that either reduce infiltration (e.g., window repairs), mitigate a hazardous condition, or accommodate the installation of Program measures (e.g., attic venting). For the purposes of qualifying a home for the Program, all minor home repairs (combined) count as a single measure.

<sup>4</sup> For owner occupied, furnace repairs and replacements are provided only when necessary to mitigate NGAT fails and pursuant to the installation of infiltration-reduction measures. Water heater repairs and replacements are also provided only to mitigate NGAT fails or to replace leaking water heater tanks.

<sup>5</sup> The water heater blanket and water heater pipe insulation measures are not currently approved for installation in owner-occupied multi-family dwellings for SoCalGas.

### Note:

In situations where there are questions regarding the interpretation of a certain measure, the Utilities shall use D.12-08-044 as the overriding authority.

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## 6 Minor Home Repairs

### 6.1 Introduction

This section describes the ESA Program policies and procedures relating to minor home repairs. Section 6.2 discusses the minor home repairs that may be provided through the ESA Program. Section 6.3 describes Program limits on expenditures on general types of minor home repairs. Finally, Section 6.4 describes the prioritization criteria that will be used by Program Managers to prioritize repairs for a specific home when not all needed minor home repairs can be made within the constraints of the budget limits for that home.

### 6.2 Minor Home Repairs

Minor home repairs are repairs required to enable installation of weatherization measures, to reduce infiltration, or to mitigate a hazardous condition. Minor home repairs shall be done in a manner that maintains accessibility for customers with observed disabilities.

In owner-occupied homes receiving infiltration-reduction measures, minor home repairs may be necessary to mitigate natural gas appliance testing (NGAT) fails that cannot be corrected with service by utility gas service personnel (or their designated representative). Such NGAT fails may include, but are not limited to, CO above the action level, inadequate draft, unsafe flue/vent pipe/system, unacceptable flame or flame change when air handler comes on, a non-operable appliance, or the absence of a furnace in cases where another gas appliance is used for space heating.

In all homes receiving infiltration-reduction measures, minor home repairs also include other corrections needed to pass the NGAT protocol, including but not limited to, adding combustion and ventilation air (CVA) venting, and other corrections. It is the general policy of the ESA Program that these repairs must be made if they are needed and feasible, subject to budgetary limits.

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## 6.3 Limits on Minor Home Repairs

There are two types of limits on costs incurred for minor home repairs.

- **Average Cost Limits.** These are limits on the average cost of categories of service across all homes receiving the service in question. They are designed to provide overall cost control for the provision of these services.
- **Individual Home Limits.** These are defined as limits on the cost that can be incurred for an individual home without the specific approval of the utility Program Manager. Individual home limits are meant to provide for equity in the distribution of program funds across individual households but yet provide Program Managers enough flexibility to respond to individual customer needs and hardship situations.

These limits are presented in Table 6-1. It should be noted that the expenditure limits apply to all minor home repairs, including any actions taken to respond to gas leak/carbon monoxide emission problems identified during the utility's gas appliance testing procedures.

**Table 6-1 Caps on Minor Home Repairs**

Service	Average Cost per Home Receiving Service	Maximum Cost for Individual Home
Minor Home Repairs	\$300	\$750

## 6.4 Prioritization of Minor Home Repairs

In the event that a contractor requests permission from the utility Program Manager to exceed the limit on minor home repairs, the Program Manager will base a decision on the status of the Contractor's minor home repair budget, the overall program budget, and the need for the repairs in question. If the Program Manager deems it necessary to limit expenditures on the home, measures will be prioritized using the following general priority list:

- Repairs needed to mitigate immediate hazards (e.g., repairs made to mitigate natural gas appliance testing (NGAT) fails, or door repairs where doors will not close or lock),
- Repairs needed to mitigate major infiltration sources (e.g., broken windows, holes in doors, etc.),
- Repairs required to permit the installation of a measure, and
- Other repairs.

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## 7 Measure Installation Policies and Procedures

### 7.1 Introduction

This section presents ESA Program policies for Program measures that are covered in the ESA Program Installation Standards Manual. Subsection 7.2 specifies general policies that apply to all measures, including contractor installation, installation standards, safety, site clean up, and other policies.

### 7.2 General Installation Policies

#### ***7.2.1. Introduction***

Several general policies relating to the installation of Program measures must be followed by installation personnel. These policies are presented below.

#### ***7.2.2. Installation by Contractor***

Measures must be installed by the contractor. Dropping off materials for later installation by the customer is not permitted under this Program.

#### ***7.2.3. Installation Standards***

All measures must be installed in conformance with the ESA Program Installation Standards Manual. These standards are intended to meet or exceed existing codes and regulations, and to conform to accepted building practices. When a conflict exists between these installation standards and local codes, the more stringent requirement shall take precedence. Copies of these Installation Standards Manual may be obtained by using the contact information provided in Section 1.1.

#### ***7.2.4. Safety***

Contractors must plan and conduct all work in a manner that is consistent with the safety of persons and property. All work shall be conducted in compliance with reasonable and safe working practices and with applicable federal, state, and local laws. For instance, the Contractor is responsible for complete compliance with California Occupational Safety and Health Standards.

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It is the responsibility of each program contractor to establish and maintain a safety program for all work undertaken for the ESA Program. It is also the responsibility of each contractor to ensure that all employees observe safety rules by complying with all required safety precautions and regulations. Contractors must ensure that their staff members receive appropriate training in the safe and proper use of the tools associated with the installation of each ESA Program measure.

### ***7.2.5. Installation of Feasible Measures***

It is the policy of the CPUC that ESA Program Contractors must install all feasible measures unless after communicating the benefits of installing the new measure(s), the customer specifically refuses the measure(s). If the installer determines that a measure cannot be installed, the reason shall be recorded and made available to the utility or its designee.

### ***7.2.6. Lead-Safe Practices***

Contractors shall conduct lead-safe practices when working with pre-1978 painted materials in accordance with federal, state, and local regulations and codes. Lead-safe practices for specific measures are listed in the California Installation Standards Manual.

### ***7.2.7. Site Clean-Up Policies***

The Contractor must maintain all work sites and related structures, equipment and facilities in a clean, orderly condition during all work conducted under the ESA Program. Any unused or leftover materials, garbage and debris must be promptly removed from the customer's premises by the Contractor and disposed of at the Contractor's expense. The customer's premises must be left in a clean and orderly condition at the end of each day and at the completion of work.

### ***7.2.8. Recycling and Disposal Policy***

The contractor shall properly dispose and recycle replaced measures in an environmentally safe manner and in accordance with federal, state, and local regulations and codes. Specific disposal and recycling policies and procedures of measures are listed in the California Installation Standards Manual.

### ***7.2.9. Weatherization of Mobile Homes***

Mobile homes with open combustion furnaces or water heaters drawing air from inside the conditioned space may not have infiltration reduction measures installed under the ESA Program. In addition, attic insulation (and therefore attic duct reconnection) is not a measure for mobile homes.

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## 8 Inspection Policies

### 8.1 Introduction

This section summarizes the inspection policies used in the ESA Program to ensure safety and quality control in the installation of measures and minor home repairs. Subsection 8.2 discusses the designation of the responsibilities for inspections. Subsection 8.3 describes policies relating to pre-installation inspections. Subsection 8.4 presents policies on post-installation inspections.

### 8.2 Inspection Personnel

Utilities will use in-house personnel, contract employees, or contractors to conduct inspections. However, each utility will undertake in-house either the prime contractor (administration) function or the inspection function, but not both, with the very limited exceptions discussed in D. 00-07-020.

### 8.3 Pre-Installation Inspection

The IOUs may implement a pre-installation inspection process for their respective ESA Program. As part of this process, each IOU can select the percentage of homes to be evaluated for program eligibility prior to the installation of measures.

### 8.4 Post-Installation Inspection

#### ***8.4.1. General Polices on Post-Installation Inspection***

Post-installation inspections are used to assure that Contractors install measures in accordance with the California Installation Standards of the ESA Program. In this subsection, specific polices relating to post-installation inspections are presented. These policies encompass the types of pass rates used in program administration, the frequency of post-installation inspections, the treatment of failed inspections, resolution of disputes relating to inspections, inspection waivers, and minor job corrections.

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## 8.4.2. Types of Pass Rates

Utilities or their designees will collect information on both per-home and per-measure pass rates. Per-home pass rates will be used for the purposes of determining minimum sample sizes for tracking performance. Per-measure pass rates will be used to tailor training and technical assistance for contractors, as well as to manage programs in a prudent manner.

## 8.4.3. Post-Installation Inspection Frequency

Utilities or their inspection contractors will select<sup>9</sup> for inspection all attic insulation and furnace replacement jobs. For all other jobs not involving attic insulation or furnace replacement, random inspections will be conducted for a sample of dwelling units.

Suggested minimum sample sizes are shown in Table 8-1. These sample sizes are designed to provide 90% confidence that the true pass rate is within 5% of the estimated value.

**Table 8-1: Minimum Sample Sizes for Inspections (90%/±5% precision)**

Pass Rate	Number of Homes Completed By Contractor					
	200	500	1000	2000	5000	10000
0.70	140	241	317	377	425	444
0.75	129	210	265	306	337	348
0.80	115	176	213	239	257	264
0.85	98	139	161	175	184	188
0.90	76	97	108	114	118	119
0.95	45	51	54	56	57	57

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<sup>9</sup> It is understood that selecting 100% of jobs for inspection does not necessarily mean that 100% of inspections will be completed, since the utilities and their inspection contractors cannot compel program participants to be present for inspection appointments.

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Utilities or their inspection contractors may exceed these minimum sample sizes if, in the judgment of the administrator, larger sample sizes are necessary to preserve program quality control. Circumstances that may justify larger sample sizes include, but are not limited to, the following.

1. If the utility's program or the amount of additional post-inspections undertaken is small enough to conduct additional post inspections without substantially increasing total 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 improvement of its inspection pass 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 program **installation** standards, as shown by 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, since there are economies associated with conducting post-installation inspections and post-installation natural gas appliance testing **at the same time.**<sup>10</sup>
8. If larger sample sizes are necessary to resolve disputes with contractors over estimated billing fail rates.
9. If a new measure has been added to the Program.

Utilities will keep records of actual inspection frequencies by contractor.

### **8.4.4. Failed Inspections**

If a feasible measure is installed incorrectly or is not installed at all, Contractor may be issued a correction fail which must be resolved as required by the IOU. Hazardous fails must be addressed within 24 hours of notification by the utility and/or its designee.

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<sup>10</sup> The rationale here is that there are economies associated with conducting post-installation inspections and post-installation natural gas appliance testing.

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### **8.4.5. Failed Inspection Dispute Resolution**

In those instances where a dispute arises between inspectors and contractors, the utility and service provider may agree to utilize in-house personnel to hear and determine appropriate action on any unresolved dispute between service providers and inspectors. In the event that an agreement cannot be reached between the utility and service provider, a neutral third party may be utilized. The costs of such service shall be paid by the party that “loses” the arbitration.

### **8.4.6. Inspection Waivers**

Policies on inspection waivers vary between mandatory and non-mandatory inspections, as follows:

- **Mandatory inspections** are required for projects which include attic insulation or furnace replacement. For mandatory inspections, three attempts will be made to arrange for a post-installation inspection within 30 calendar days of the notification of job completion. After three such attempts, the inspection provider will send a certified letter to the participant asking for permission to inspect the home. If the participant does not respond to this certified letter within two weeks, the inspection provider need not conduct the inspection but must notify the utility that the inspection could not be completed.
  
- **Non-mandatory inspections** relate to projects not involving attic insulation or furnace replacement. They are non-mandatory in the sense that only a sample of projects must be inspected. For non-mandatory inspections, three attempts will be made to arrange for a post-installation inspection within 30 calendar days of the notification of job completion. A non-mandatory inspection of a sampled project may be waived by the utility after three attempts to contact the participant, provided that attempts are made in an effort to overcome barriers attributable to language preference or disability. The inspection provider shall replace a waived inspection with another inspection and shall complete a sufficient number of inspections as provided in the policy on post inspection frequency (see above).

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## 9 Contractor Eligibility

### 9.1 Introduction

This section outlines contractor eligibility conditions under the ESA Program. Subsection 9.2 deals with insurance requirements. Subsection 9.3 relates to licensing requirements. Subsection 9.4 relates to workforce, education, and training. The purpose of this section is to provide general information on these requirements. It may not include all of the requirements specified in the contracts between contractors and Program Administrators. Contractors interested in participating in the ESA Program can obtain information at each utilities respective website.

### 9.2 Insurance Requirements

Contractors shall maintain insurance in full force and effect during the life of the contract with the utility, with responsible insurance carriers authorized to do business in California and having a Best Insurance Guide (or equivalent) rating that meets the guidelines of each utility.

### 9.3 Licensing Requirements

Any organization or company contracting under the ESA Program must comply with all applicable federal, state and local laws and regulations, as well as with utility guidelines. Contractors and subcontractors must also comply with any applicable CSLB licensing requirements, including current requirements for electrical, plumbing and HVAC, and must remain in good standing with the CSLB.

### 9.4 Workforce Education and Training (WE&T)

Contractors should make every effort to hire and train from the local low income communities. Additionally the contractors are required to work with the utilities to better track the training and hiring of a low income energy efficiency workforce.

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## 10 Natural Gas Appliance Testing

### 10.1 Introduction

This section summarizes the statewide policy on ESA Program natural gas appliance testing (NGAT). Subsection 10.2 discusses the circumstances when such testing must be conducted. Subsection 10.3 presents the general protocols that are followed in the course of natural gas appliance testing. Subsection 10.4 addresses the timing of testing. Subsection 10.5 considers actions to be taken when one or more test is failed by appliances in a participating home. Finally, Subsection 10.6 discusses the types of personnel used for the assessments.

Note that specific standards for these natural gas appliance testing (NGAT) protocols are described in the *ESA Program California Installation Standards Manual*.

### 10.2 Applicability of Natural Gas Appliance Testing

#### 10.2.1. General Applicability

In general, natural gas appliance testing will be conducted for all homes that receive infiltration reduction measures and that have at least one natural gas appliance affecting the living space.<sup>11</sup> In addition, the repair and replacement of a natural gas furnace or water heater involves appliance testing. See the Natural Gas Appliance Testing section in the California Installation Standards Manual, as applicable.

#### 10.2.2. Applicability to Combustion Fuels other than IOU Natural Gas

Homes with non-IOU (e.g., propane) space heating fuels are not eligible for infiltration reduction measures. As a consequence, they are not eligible for natural gas appliance testing. Homes with IOU space heating but which use a non-IOU combustion fuel for another appliance (i.e., water heating) are also ineligible for NGAT due to the inability of the IOUs to service combustion appliances using non-IOU fuels. The IOUs will refer these latter homes to local LIHEAP agencies.

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<sup>11</sup> The NGAT section of the ESA Program Installation Standards Manual describes the conditions under which an appliance is determined to affect the living space.

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## 10.3 Natural Gas Appliance Testing Protocols

### 10.3.1. General Protocols

General natural gas appliance testing (NGAT) protocols are presented below. Note again that detailed procedures are described in the NGAT section of the *California Installation Standards Manual*. The types of checks conducted as part of NGAT are described in this section.

### 10.3.2. Pre-Weatherization Evaluations of Gas Appliances

In order to avoid cases in which post-weatherization NGAT would discover nonconforming conditions that (a) preclude installation of infiltration reduction measures, and (b) cannot be corrected within the scope of the program, some pre-weatherization evaluations of gas appliances are performed as part of the home assessment.

Required corrections will be performed before weatherization commences. The customer will be informed of conditions that preclude installation of infiltration reduction measures and cannot be remedied by the ESA Program (e.g., exhausting clothes dryers outdoors, and repair or replacement of appliances and gas vents for which repair or replacement is not available).

### 10.3.3. Post-Weatherization Natural Gas Appliance Testing (NGAT)

After completion of weatherization that includes infiltration reduction measures, NGAT is performed for all natural gas appliances affecting the living space.

### 10.3.4. Disposition of Appliance Fails/Problems

If a problem is identified through the application of the overall natural gas appliance testing protocol (i.e., elevated CO, inadequate draft, or defect causing an unsafe condition), the case will be referred for resolution to qualified utility-trained personnel or a contractor licensed to repair appliances. Such resolution may involve the use of flue CO testing as well as other procedures.

## 10.4 Timing of Combustion Appliance Testing

### 10.4.1. Homes with Natural Gas Appliances

For homes with natural gas appliances, post-weatherization NGAT protocols are conducted after weatherization. Post-weatherization NGAT shall be conducted within five (5) working days from the date that infiltration reduction measures are installed.

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### 10.5 Actions to be Taken When Appliances Fail NGAT

The following actions will be taken when appliances fail NGAT:

- In owner-occupied homes, natural gas space heaters failing one or more of the tests covered by the NGAT protocol will be provided with Service/Adjustment and, if necessary, will be repaired or replaced subject to Program policies and procedures.<sup>12</sup>
- In owner-occupied homes, natural gas water heaters failing one or more of the tests covered by the NGAT protocol will be provided with Service/Adjustment and, if necessary, will be repaired or replaced subject to Program policies and procedures.<sup>13</sup>
- In owner-occupied homes, non-program appliances<sup>14</sup> failing one or more of the tests covered by the NGAT protocols will be provided with Service/Adjustment.<sup>15</sup> If Service/Adjustment does not correct the problem in question, the appliance will be tagged, shut off, and/or capped and reported to the customer.
- In renter-occupied homes, appliances failing one or more of the tests covered by the NGAT protocol will be provided with Service/Adjustment.<sup>16</sup> If Service/Adjustment does not correct the problem in question, the appliance will be tagged, shut off, and/or capped and reported to the customer.
- In owner-occupied homes receiving infiltration-reduction measures, furnace repair or replacement and water heater repair or replacement may be necessary to mitigate natural gas appliance testing (NGAT) fails that cannot be corrected with service by utility gas service personnel (or their designated representative). Such NGAT fails may include, but are not limited to, CO above the action level, inadequate draft, unsafe flue/vent pipe/system, unacceptable flame or flame change when air handler comes on, a non-operable appliance, or the absence of a furnace in cases where another gas appliance is used for space heating.

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<sup>12</sup> Note that the absence of a furnace in cases where another gas appliance is used for space heating will constitute an NGAT fail.

<sup>13</sup> Water heater repairs and replacements are provided only to mitigate NGAT fails or to replace leaking water heaters.

<sup>14</sup> Appliances for which ESA Program repair or replacement is not available.

<sup>15</sup> In this context, Service/Adjustment of an appliance entails providing services that are within the scope of the gas service department for customers in general.

<sup>16</sup> In this context, Service/Adjustment of an appliance entails providing services that are within the scope of the gas service department for customers in general.

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There are cost restrictions to be considered when determining whether to repair the furnace measure. The cost to repair the measure should not be more than the cost to replace the measure as follows:

Central Furnaces - 50% (Does not include the costs of Title 24 compliance.)

Wall/Floor/Direct Vent Furnaces - 40% (Does not include the costs of Title 24 compliance.)

## **10.6 Personnel Performing Natural Gas Appliance Assessments and Testing**

The utilities have the option of conducting natural gas appliance assessments and testing using in-house staff or contracting with third parties to provide these services.

# APPENDIX E

Appendix E - Summary of Installation Standards Manual Proposed Updates

Section	Summary of Changes
All	<ul style="list-style-type: none"> <li>• Editorial and grammatical fixes, rewording for clarity and consistency</li> <li>• Removed “CEC” when referencing climate zones (mostly in preface pages)</li> </ul>
Titlepage/Introduction	<p>Reworded some statements to more accurately reflect the content and intent of the document</p>
Abbreviations & Acronyms	<ul style="list-style-type: none"> <li>• Added additional acronyms as applicable</li> <li>• Removed: ARI, WIS, Weatherization</li> </ul>
Definitions	<ul style="list-style-type: none"> <li>• Added additional definitions as applicable</li> <li>• Removed: UL references (relocated to Referenced Standards)</li> </ul>
Referenced Standards	<p>Added UL references from Definitions and other referenced standards as applicable</p>
00: Minor Home Repair Policies (NEW)	<p>Added this section to reflect measure-specific criteria removed from the Statewide P&amp;P manual</p>
01: Caulking (preface)	<ul style="list-style-type: none"> <li>• Added item 2.3: reference to Prop 65 requirement (relocated from pg. 1-1)</li> <li>• Item 3.1: added installation policy specifying the exception of exterior utility penetration when installing in Mobile Homes</li> </ul>
01: Caulking	<p>Removed reference to Prop 65 requirement and relocated criteria to preface page</p>
02: Weatherstripping (preface)	<ul style="list-style-type: none"> <li>• Item 1.4: modified NFC specifying fire rating greater than 20 minutes; too restrictive</li> <li>• Item 1.8: added NFC (for closet doors) specifying that adequate CVA cannot be added as MHR</li> <li>• Item 2.1: clarified wording</li> <li>• Item 2.2: added installation policy requiring weatherstripping be installed as a complete set and not just a single piece</li> <li>• Item 2.4: clarified wording</li> <li>• Item 2.6: added installation policy for strike plates</li> </ul>
02: Weatherstripping	<ul style="list-style-type: none"> <li>• Items 3: removed fire rating criteria (covered in item 7)</li> <li>• Item 7: removed criteria referencing fire rating over 20 minutes; deferred to terms of listing and manufacturer’s instructions re: weatherstripping installation</li> <li>• Item 13: added criteria for installing self-adhesive compression material when pile cannot be installed</li> </ul>
03: Attic Insulation (preface)	<ul style="list-style-type: none"> <li>• Added preface information for Attic Ventilation</li> <li>• Added footnote describing MHR situations for exhaust vents</li> </ul>

Appendix E - Summary of Installation Standards Manual Proposed Updates

Section	Summary of Changes
	<ul style="list-style-type: none"> <li>Item 1.4: added NFC to make insulation unfeasible when blocking cannot be installed</li> <li>Item 1.12: specified NF when insulation over K&amp;T wiring is prohibited by utility policy</li> <li>Item 2.1: added installation policy which prohibits attic assessment when vermiculite insulation is present; H&amp;S issue</li> <li>Items 2.4-2.7: added to provide guidelines for evaluating existing insulation</li> <li>Items 2.14-2.17: added policy installation criteria for K&amp;T, protecting the home and furnishings, clarification that HPDs and CVA vents that are inaccessible do not prevent insulating where they are accessible</li> </ul>
03: Attic Insulation	Combined Attic Insulation (Part 1) and previous Section 4: Attic Ventilation (Part 2) into one section as attic ventilation is not a stand-alone measure
(previous) 04: Attic Ventilation	Removed as a separate section; not a stand-alone measure, so added criteria to Sec. 3: Attic Insulation
04: Central A/C Tune-up (NEW)	New measure/section added to 2013 IS Manual
05: Water Heater Insulation (preface)	<ul style="list-style-type: none"> <li>Added item 1.4: NFC specifying no drain line directed away from front of tank; safety consideration</li> <li>Added 1.10: NFC specifying unable to install three blanket straps</li> <li>Added item 1.22: NFC specifying non-FVIR water heater located in garage is not 18" off the floor; code change</li> </ul>
06: Water Heater Pipe Insulation	None
07: Cover Plate Gaskets	None
08: Energy-Saver Showerheads and Faucet Aerators (preface)	<ul style="list-style-type: none"> <li>Items 1.2.a and 1.4: removed references to specific manufacturers</li> <li>Item 2.2: specified that replaced showerheads must be left with customer</li> </ul>
08: Energy-Saver Showerheads and Faucet Aerators	Added clarification for WaterSense labeling requirement
09: Evaporative Cooler and A/C Vent Covers (preface)	<ul style="list-style-type: none"> <li>Added item 1.8: External cover is NF when interior damper is present</li> </ul>
10: Duct Testing and Sealing (preface)	<ul style="list-style-type: none"> <li>Added NFC for Duct Sealing</li> <li>Item 1.2: clarified NF when total length of ducts located in unconditioned space is less than 40</li> </ul>

Appendix E - Summary of Installation Standards Manual Proposed Updates

Section	Summary of Changes
	<p>linear feet</p> <ul style="list-style-type: none"> <li>Removed DTS “as a free-standing measure”</li> <li>Removed installation policies re: DTS as a means of T24 compliance; added item 2.3 to address meeting T24 requirements when required by code</li> <li>Added item 2.4 to allow for repair/sealing of obvious duct leaks even when total duct length is 40 feet or less</li> </ul>
10: Duct Testing and Sealing	<ul style="list-style-type: none"> <li>Combined Duct Testing (Part 1) and previous Section 20: Duct Sealing (Part 2) into one section</li> <li>Item 1: removed criteria for instrumentation minimum specifications; added reference to T24 instead</li> <li>Item 9: removed references to specific subsections of Title 24 and replaced with general reference to T24 Residential Compliance Manual Chapter 4 and CMC Chapter 6</li> </ul>
11: Exterior Door Replacement (preface)	<p>Clarified that exterior door replacement is allowed only when the existing door is damaged and/or deteriorated to the extent that catastrophic leakage is present or the door will not support installation of jamb weatherstripping or door bottom.</p>
11: Exterior Door Replacement	<ul style="list-style-type: none"> <li>Item 1: modified criteria to cite requirements of local code, because door requirements vary considerable, based on location and other factors too numerous to identify in the IS. Clarified that like-for-like replacement is only when allowed by local code.</li> <li>Item 9: clarified that lockset height is 36" from floor (not 3/16").</li> </ul>
12: Window Replacement (preface)	<p>Added installation policy stating that window replacement is allowed only when required to stop catastrophic envelope leakage.</p>
13: Glass Replacement (preface)	<p>Item 2.2b was removed, because it was decided that IGU replacement should not be allowed when the home is NIM.</p>
14: Thread-Based CFLs (preface)	<p>Removed installation policy stating maximum of 5 may be installed, because that number is determined by utility-specific policy.</p>
15: Hard-Wired CFFs (preface)	<ul style="list-style-type: none"> <li>Item 2.1: specified that interior and exterior installations are allowed</li> <li>Removed installation criteria limiting installation to SF non-mobile homes</li> <li>Removed installation policy stating maximum allowed to install; refer to utility policy</li> <li>Item 3.1: added installation policy stating not approved for exterior installation in mobile homes</li> </ul>
15: Hard-Wired CFFs	<ul style="list-style-type: none"> <li>Clarified that both interior and exterior fixtures may be installed, and maximum number to be</li> </ul>

Appendix E - Summary of Installation Standards Manual Proposed Updates

Section	Summary of Changes
	<p>installed is based on utility-specific policy. Also added policy not allowing exterior fixtures on mobile homes (based on the possible safety considerations in some types of mobile homes).</p> <ul style="list-style-type: none"> <li>Removed criteria regarding dimmers, photosensors and occupancy sensors, because requirements are addressed in manufacturer's instructions.</li> </ul>
<p>16: Window/Wall Evaporative Cooler Installation</p>	<ul style="list-style-type: none"> <li>Item 11: (a) specified compliance with local code and manufacturer's specifications; (b) for wall mount units, height above floor must be in accordance with manufacturer's specifications and when there are none, IS guidelines are provided based on best practice; (c) setback criteria was changed to allow 1' clearance (instead of 5') between the cooler (not the wall in which it is installed) and the adjacent fence or wall; and (d) for vent termination near a cooler, added exception for space heaters (to match that in Sec. 24), when a cooler vent cover is in place and occupants are advised to install the cover during the heating season.</li> </ul>
<p>17: Refrigerator Replacement</p>	<p>Item 7: grounding criteria removed and reference made to Appendix C</p>
<p>18: Natural Gas Central Forced Air Heating System R&amp;R</p>	<p>None</p>
<p>19: Natural Gas Wall and Floor Furnace R&amp;R</p>	<p>None</p>
<p>(previous) 20: Duct Sealing</p>	<p>Removed as a stand-alone section; incorporated into Section 10: Duct Testing and Sealing</p>
<p>20: LED Night Lights (NEW)</p>	<p>New measure/section added to 2013 IS Manual</p>
<p>21: Central HE Air Conditioner and Heat Pump Replacement (preface)</p>	<ul style="list-style-type: none"> <li>Added NFC for heat pumps</li> <li>Items 1.2-1.5 added to be in agreement with utility-specific policy</li> <li>Removed NFC for thermostats; covered in Section 18</li> </ul>
<p>21: Central HE Air Conditioner and Heat Pump Replacement</p>	<ul style="list-style-type: none"> <li>Added criteria for heat pumps</li> <li>Item 1 reorganized and reworded for clarity</li> <li>Item 1: added clarification of package units and dual packs for A/Cs and heat pumps</li> <li>References to "ARI" changed to "AHRI Directory" throughout</li> <li>Condenser "coil" changed to condenser "unit" throughout</li> <li>Item 9: clearance from condenser: top clearance of 48 inches added, side clearance reduced to 24 inches based on manufacturer's recommendations</li> <li>Removed criteria for Combustion Units and Wall Thermostat Installation; covered in Section 18</li> <li>Item 16: reworded to match same language in Section 18</li> </ul>

Appendix E - Summary of Installation Standards Manual Proposed Updates

Section	Summary of Changes
	<ul style="list-style-type: none"> <li>Item 16: added criteria re: cabinet plenum: for a split system, the return shall be isolated from combustion air</li> <li>Removed criteria for Isolation of Return Air-Split Systems; relocated to item 16</li> </ul>
22: HE Window/Wall Air Conditioner and Heat Pump Replacement (preface)	<p>Item 3.1: added installation policy stating in metal homes with metal siding, cutting new openings is not allowed</p>
22: HE Window/Wall A/C and Heat Pump R&R	<ul style="list-style-type: none"> <li>Added criteria for heat pumps</li> <li>Item 3: added/reworded criteria for unit to comply with recommendations and guidelines rather than specific information in table; less stringent</li> <li>Item 6: Changed extension cord maximum length to 6' or maximum allowed by manufacturer.</li> <li>“Gas meter” changed to “gas meter set assembly” throughout</li> <li>Item 10: removed criteria for brace supports (deferred to manufacturer’s instructions).</li> <li>Item 17: clarified that wall-mount units in mobile homes may be installed only in <u>existing</u> wall openings.</li> </ul>
23: Natural Gas Storage Water Heater Replacement (preface)	<p>Item 1.1: added NFC specifying existing unit is tankless and replacement with storage unit is not feasible or allowed</p>
23: Natural Gas Storage Water Heater Replacement	<ul style="list-style-type: none"> <li>Retitled section to Natural Gas “Storage” Water Heater</li> <li>Removed all references to tankless units throughout; no longer a measure</li> <li>“Gas meter” changed to “gas meter set assembly” throughout</li> </ul>
24: NGAT (preface)	<ul style="list-style-type: none"> <li>Removed NFC re: customer refusal</li> <li>Item 2.1: added installation policy explaining customer notification</li> <li>Item 2.5: simplified wording to reference IS criteria; items a-k removed because they are covered in the standards</li> <li>Item 2.6: deleted criteria already covered in the standards</li> <li>Item 2.7 and 2.8: removed duplication and simplified wording</li> <li>Item 2.11.b and c: criteria removed from Statewide P&amp;P was inserted into preface</li> </ul>
24: NGAT	<ul style="list-style-type: none"> <li>Item 1: added requirement of a Nox filter to increase accuracy of flue gas CO readings</li> <li>Item 3: in accordance with code requirements text was added re: dryer moisture exhaust, modular homes, and in mobile homes: required kitchen exhaust and isolation of return air</li> <li>Table 24-1: item 3.c added to clarify vent termination requirements; item 8.b added to address</li> </ul>

Appendix E - Summary of Installation Standards Manual Proposed Updates

Section	Summary of Changes
	<p>dryer vent passing through an FAU plenum; item 14.b added to address mobile home kitchen exhaust and isolation of return air</p> <ul style="list-style-type: none"> <li>● Table 24-2: item 2 modified to specify appliances located outdoors; item 2.c criteria added to identify nonconforming vent terminations as advisory conditions; item 8 removed because situation re: open combustion water heater or FAU located in a sleeping room is addressed in Table 24-1, item 5; item 9 added to address condition listed in Item 8 (double wall pipe requirement); item 10.a added criteria re: prohibiting moisture exhaust penetrating an FAU plenum (per Mechanical Code)</li> <li>● Item 7: added clarification that upper CVA vent can <u>begin</u> within 12 inches of the ceiling and lower CVA vent can <u>begin</u> within 12 inches of the floor</li> <li>● Item 8: clarified that vent termination criteria on page 24-14 does not apply to mechanical draft and direct vent appliances or package units; clarified that criteria on page 24-15 applies to package units, mechanical draft appliances, and through the wall terminations, but does not apply to direct vent appliances; criteria added to address 10 foot clearance from a forced air inlet</li> <li>● Item 9: added criteria to address inaccessible appliances; added criteria re: clothes dryer moisture exhaust passing through an FAU plenum</li> <li>● Item 13: added clarification that appliance ambient CO maximum is determined by individual utility policy</li> <li>● Item 24: added upper only CVA criteria for mobile homes</li> </ul>
25: Microwave Ovens	Item 5: grounding criteria removed and reference made to Appendix C
26: Furnace Cleaning and Tune-up (preface)	● Items 1.8 and 3.5: removed NFC stating Tune-up is unfeasible if unit is located on a roof
27: Thermostatic Shower Valves (preface)	<ul style="list-style-type: none"> <li>● Items 1.1.a and 1.2: removed references to specific manufacturers</li> <li>● Item 1.4 reworded to clarify that if hot water is supplied by continuously circulating pump, installation is feasible when allowed by utility policy</li> </ul>
27: Thermostatic Shower Valves	● Retitled section to Thermostatic Shower “Valves”
28: HE Clothes Washer Replacement (preface)	Item 1.2: reworded NFC to clarify that the energy source for washer and dryer <u>and/or water heater</u> must be provided by utility providing service
28: HE Clothes Washer Replacement	Item 6: reference made to Appendix C for grounding criteria
29: FAU Standing Pilot Light Conversion	Item 1.8: reworded for clarity

Appendix E - Summary of Installation Standards Manual Proposed Updates

Section	Summary of Changes
<p>(preface)</p> <p>30: Energy Efficient Variable Speed Pool Pump Replacement (preface)</p>	<ul style="list-style-type: none"> <li>Item 1.7: removed NFC re: separate controller; separate controllers are not installed</li> <li>Item 2.4: added installation policy for anti-entrapment pool drain cover (relocated from Item 3: General Requirements)</li> </ul>
<p>30: Energy Efficient Variable Speed Pool Pump Replacement (preface)</p>	<ul style="list-style-type: none"> <li>Retitled section to Energy-Efficient “Variable Speed” Pool Pump and Motor Replacement, because units installed in the program include a motor</li> <li>Preface 2.4: anti-entrapment criteria moved from standards (Item 3) to the preface.</li> <li>Item 1: removed criteria for separate controller, because units installed in the program include an integral controller</li> <li>Items 3 and 8: Separate motor criteria removed, because units installed in the program include a motor</li> <li>Item 4: (a) revised criteria for “turnover time” from 6-10 hours to be in accordance with manufacturer’s guidelines and local regulations; (b) for water velocity and lowest flow rate of pump, deferred to manufacturer’s recommendations and changed IS criteria in Table 30-1 to be a “guide”; and (c) removed formulas for TDH and Total Resistance and deferred to manufacturer’s instructions.</li> <li>Removed all criteria for controller, because units installed in the program include an integral controller</li> <li>Item 7: added criteria clarifying code requirements for the disconnecting means</li> </ul>
<p>31: Natural Gas Water Heater Repair (preface)</p>	<ul style="list-style-type: none"> <li>Item 1.8: added NFC when water heater compartment floor is structurally unsound and/or the tank is leaning (condition shall be reported to homeowner)</li> <li>Items 3.1 and 3.2: include installation policy re: water heater enclosure for all homes, not just mobile homes</li> </ul>
<p>32: Smart Fan Delay</p>	<p>Retitled section to Efficient HVAC Fan Controller Smart Fan Delay</p>
<p>33: Smart Power Strips (preface)</p>	<ul style="list-style-type: none"> <li>Removed items that pertained to training</li> <li>Transferred items which were more applicable to standards criteria to the installation standards part of the section</li> <li>Removed table; too specific and may contradict manufacturer’s instructions</li> <li>Made minor editorial changes for clarity and simplification</li> </ul>
<p>33: Smart Power Strips</p>	<ul style="list-style-type: none"> <li>Removed excessively restrictive criteria; defer to terms of UL listing</li> </ul>

Appendix E - Summary of Installation Standards Manual Proposed Updates

Section	Summary of Changes
	<ul style="list-style-type: none"> <li>Removed references to receptacle grounding, because manufacturer's instructions must be followed, and grounding will be addressed there if applicable</li> <li>Simplified and/or moved some standards-related criteria to preface pages</li> </ul>
34: Occupancy Sensor Switches (preface)	Items 1.3.c and 2.3.d clarified that occupancy sensors are allowed to be installed in walk-in closets
35: Fluorescent Torchiere Lamp Replacement (NEW)	New measure/section added to 2013 IS Manual
Appendix A: CVA Requirements for Natural Gas Appliances	<ul style="list-style-type: none"> <li>Item 3.2: clarified that the upper CVA vent must <u>begin</u> within 12" of the ceiling, and the lower CVA vent must <u>begin</u> within 12" of the floor. The change is intended to eliminate the possible misinterpretation that the <i>entire</i> vent must be located within the 12 inches.</li> <li>Added footnote clarifying that CVA venting to outdoors for existing appliances may be <u>upper and/or lower</u></li> </ul>
Appendix B: NFVA Charts	None
Appendix C: Grounding Guidelines for Electric Measures (NEW)	<ul style="list-style-type: none"> <li>Removed previous appendix (HDD and CDDs) from 2013 IS manual; no longer relevant</li> <li>Created Appendix C to address grounding guidelines for electric measures</li> </ul>
Appendix D: Methods for Determining Airflow	None
Appendix E: Lead-Safe Wx Risk Factors	Revised Lead-safe Risk Factor Evaluation Table to include new measures/sections added to 2013 IS Manual
Appendix F: Minimum Warranty Requirements (NEW)	<ul style="list-style-type: none"> <li>Removed specific warranty criteria from each section of IS manual and added reference to Appendix F</li> <li>Created Appendix F to address minimum warranty requirements for each measure/category</li> </ul>

(END OF APPENDIX B)

## **Addendum to ESAP Cost-Effectiveness Working Group White Paper**

### **Working Group Final Recommendations**

The White Paper submitted by the Working Group on February 15, 2013 included five recommendations to modify and improve the cost-effectiveness framework used for the ESA Program. Since that time, the Working Group has continued to discuss these five recommendations. This Addendum to the White Paper contains the Working Group's refined recommendations for Energy Savings Assistance (ESA) Program cost-effectiveness framework modifications. Please note that some of the specific recommendations in this addendum are different than the original recommendations in the White Paper and that **recommendations stated here supersede what was stated in the White Paper.**

#### **Executive Summary**

The Working Group's recommendations are summarized as:

1. For the 2015-17 cycle, and all subsequent ESA program cycles, the Commission should base ESA program approval on the cost-effectiveness results of the entire program, rather than at the measure level.
2. For the 2015-17 cycle, and all subsequent ESA program cycles, utilities should categorize all measures as resource or non-resource,<sup>1</sup> depending on their ability to provide significant energy savings. This categorization would be reported in the utilities' ESA program applications and updated each cycle, as needed (e.g., if a new measure is added or an existing measure is retired).
3. For the 2015-17 cycle, and all subsequent ESA program cycles, utilities should use the proposed ESA Cost-effectiveness Test (ESACET) and Resource Measure TRC test, rather than the current tests, to assess cost-effectiveness of the ESA program. Similarly, the Commission should use the results of the proposed ESACET and the Resource Measure TRC test to determine ESA program approval
4. During the 2015-17 cycle, for informational purposes only, utilities should conduct a preliminary, qualitative Equity Evaluation; the results of this preliminary evaluation will be subject to stakeholder comment. The preliminary results and associated stakeholder comments will be used to determine how to proceed in subsequent cycles.
5. For the 2015-17 cycle, the non-energy benefits (NEBs) calculation should remain as it currently is, with the intention to modify the calculation method for future cycles. Prior to the forthcoming Guidance Decision for the 2015-17 cycle, the Working Group will continue to discuss how NEBs could be calculated as a combination of both quantified

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<sup>1</sup> As explained in the White Paper Background, the ESA Program, originally created as an 'equity' program, includes measures which may not save energy but provide non-energy benefits such as health, comfort, and safety to program participants. Those measures have been called "equity measures." The Working Group believes changing the term to "non-resource measures" would be more transparent and understandable for decision-makers and the public.

values and an adder. Quantified values will be used for participants' water savings, reduced arrearages for the utility, and fewer customer calls for the utility; the remainder of the NEBs will be valued using an adder.

6. During the 2015-17 cycle, for use in future ESA program cycles, the Commission should fund a study to produce a workable spreadsheet model to replace the currently used modified LIPPT workbook to estimate NEBs and participant bill savings for the ESA program. The study will also address the appropriate value for a NEBs adder and update inputs to the calculations for the three directly estimated NEBs.
7. For informational purposes only, utilities should also report cost-effectiveness results by "household typologies," which could also be thought of as "sub-programs" within the ESA program. The household typologies would cover dwelling type and climate characteristics and will be reported annually. These household typologies would be reported in addition to the cost-effectiveness results of the proposed ESACET and the Resource Measure TRC to better understand ESA program impacts and program design improvements; the household typologies results are informational only and will not be used for program approval purposes.

The Working Group found that several of the recommendations warrant further discussion. As such, the Working Group recommends that we continue to meet on a regular basis with the intent to provide more specific details to the ALJ in this proceeding regarding a few of the recommendations above:

1. Specific thresholds for program approval for the ESACET and the Resource Measure TRC.
2. The appropriate adder value for NEBs.

The Working Group expects to meet monthly, with the potential for additional meetings, as needed, in order to provide additional input prior to the forthcoming ESA program Guidance Decision.

## Clarification of Goals

The Working Group was given the goal of making recommendations for improving the ESA Program cost-effectiveness framework. The Working Group has tried to make recommendations that would make the cost-effectiveness framework not only more accurate, but also more transparent to stakeholders. While it is necessary, at times, to use complex models and confidential data, we believe that elements of the ESA cost-effectiveness framework have become overly-complicated, making it difficult for some stakeholders to understand it and thereby making it difficult to achieve full stakeholder participation. Nevertheless, our primary goal remains to increase the accuracy of the cost-effectiveness framework, so as to enable decision-makers to improve the design of the ESA program.

## Program Level vs. Measure Level Analysis

Probably the most significant change proposed by the Working Group is the recommendation to base ESA Program approval on the cost-effectiveness of the entire program, rather than approve each ESA measure based on its cost-effectiveness. The Working Group believes that this recommendation will result in a more accurate and realistic analysis of the value of the ESA program. It will allow more flexibility in program design, and should result in a more robust and beneficial ESA Program. It eliminates two major problems in the current cost-effectiveness framework – the difficulty of accurately allocating administrative costs and non-energy benefits (NEBs) to individual measures.

Currently, administrative costs are calculated for the entire ESA Program, and then allocated to individual measures' costs based on the energy savings of that measure. Similarly, NEBs are calculated at the household-level, summed to the program level, and then allocated to individual measures' benefits based on the energy savings of that measure. The Working Group believes that this practice is likely to distort the differences among cost-effectiveness of individual measures. For example, under the current cost-effectiveness framework, measures that provide little or no energy savings but significant health, comfort and safety benefits, are not allocated a significant proportion of administrative costs or NEBs. However, measures with few energy savings are generally included in the ESA program specifically for the NEBs they provide and they theoretically should not cost more to administer than measures with significant energy savings. The Working Group finds that this allocation method does not help decision-makers or the public better understand the cost-effectiveness of the ESA program or measures. Therefore, as further described in the Update of Recommendation 2, the Working Group is recommending that ESA program approval be based on program-level, rather than measure-level, cost-effectiveness analysis so that this distortion no longer occurs and so the ESA program can be considered more holistically by all stakeholders.

## Update of Recommendation 1 (Non-Resource/Resource Categorization)

The ESA program includes measures that provide both energy savings and improved quality of life (e.g., NEBs such as health, comfort, and safety). To better understand which benefits the individual measures provide, the Working Group categorized measures as “resource,” “equity,” or “uncertain” in the White Paper. “Resource” measures are those that are intended to provide energy savings, and bill savings, to participants. “Equity” measures, which we will refer to as “non-resource” measures in this White Paper Addendum, are those that provide little to no energy savings, but significant non-energy benefits, such as health, comfort, and/or safety.<sup>2</sup> “Uncertain resource” measures are those measures that may provide energy savings in some climate zones and/or utility service territories, but not all.

The Working Group recommends that the initial measure classification proposed by SDG&E in the White Paper (Table 2), with one modification, be used as the initial categorization of measures as “resource,” “non-resource,” and “uncertain.” The modification is to categorize air conditioning measures as “uncertain.” This leaves only two non-resource measures – furnace repair or replace, and hot water heater repair or replace. The results are shown in Table 1.

**Table 1: Measure Categorization**

Category	Measure
Non-resource	Furnace repair or replace
Non-resource	Hot water heater repair or replace
Resource	Lighting
Resource	Refrigerators
Resource	Hot water conservation measures
Resource	Clothes washers
Resource	Microwaves
Resource	Smart Strip
Resource	Furnace pilot light conversion
Resource	Central AC Tune-up
Uncertain	Air Sealing
Uncertain	Attic Insulation
Uncertain	Duct Test & Seal
Uncertain	Furnace Clean & Tune
Uncertain	Air conditioning in all climate zones

The Working Group reviewed the measure-level cost-effectiveness from the most recent application and found that SDG&E’s initial categorization corresponded to the results. That is, those measures with relatively higher cost-effectiveness values were categorized as resource and

<sup>2</sup> As explained in the White Paper Background (pg. 6-7), the ESA Program, originally created as an “equity” program, includes measures that may not save energy but provide non-energy benefits, such as health, comfort, and safety to program participants. Those measures have historically been called “equity” measures. The Working Group believes that changing the term to “non-resource measures” would be more transparent and understandable for decision-makers and the public.

those with low cost-effectiveness values were categorized as non-resource. Measures categorized as “uncertain” were measures that were cost-effective in some climate zones for some dwelling types, however, the results were not consistent enough to definitively categorize the measures as either resource or non-resource.

It is expected that many, if not most, of the measures defined here as “uncertain” can be categorized as either non-resource or resource measures for certain climate zones or housing types. We recommend, for the purposes of short-term cost-effectiveness analysis, that in the application for the 2015-17 ESA program, each IOU propose those cases for which an uncertain measure should be categorized as a non-resource or resource measure. For example, we expect that in hot climate zones air conditioning measures are likely to be considered non-resource measures.

The Working Group proposes that a tentative definition of a non-resource measure--subject to further discussion among stakeholders--is any measure that mitigates a substantial health or safety hazard.

## **Update of Recommendation 2 (Test and Thresholds)**

The cost-effectiveness evaluation should align with the goals and objectives of the ESA program while incorporating the perspectives of the various actors and the costs and benefits associated with each. The actors of the ESA program include the participants, the utility and non-participating ratepayers. Costs and benefits that accrue to these actors are: avoided costs of energy saved, measure costs, administration costs, participant NEBs, utility NEBs, and bill savings. Table 2 provides additional detail on which costs and benefits are included in each cost-effectiveness test.

The current cost effectiveness tests--the Utility Cost Test (UCT) and the Modified Participant Test (MPT) together--capture all costs and benefits of the ESA program. However, while the UCT accurately reflects the viewpoint of the utility (and non-participants), the MPT does not accurately reflect the viewpoint of the participant. Instead, the MPT measures the cost effectiveness of the transfer of funds from the utility to the participant.

## **Retirement of the MPT**

Additional background on the MPT test provides context for its existence and why parties believe it should be retired. As noted in D.02-08-034, pursuant to D.01-12-020, the Reporting Requirements Manual Working Group and Standardization Project Team appointed a joint Cost-Effectiveness Subcommittee to consider use of new tests and application of NEBs. The Subcommittee recommended that cost effectiveness testing:

“Calculate UC [*Utility Cost*] and PC [*Participant Cost*] benefit-cost ratios for the program as a whole and for each measure. Because the PC benefit-cost ratio is an undefined

number (participants costs are zero), use a modified PC or ‘PCm,’ whereby the participant benefits are divided by the utility costs.”

The CPUC concurred, writing that:

“ ... the Subcommittee’s approach to addressing the denominator problem with the PC test produces a benefit-cost ratio that maximizes the participants benefits given the program dollars.”

The Subcommittee’s recommendation was adopted in D.02-08-034 and remains in use today.<sup>3</sup>

There was general consensus among the Working Group that the MPT should no longer be used as a cost effectiveness test for the ESA program. The MPT deviates from the core Standard Practice Manual (SPM) tests in that it does not fit a single perspective. It uses the costs of the utility and the benefits of the participant in order to measure the cost effectiveness of the utility’s funds in producing benefits for the participant. The MPT does not accurately represent the ESA Program’s cost effectiveness to the participants as they bear no (or very little) costs. It is important to evaluate program impacts on the participant but the Working Group finds that this may not be best illustrated with a cost-effectiveness benefit cost ratio.

The UCT does not have the structural perspective issues associated with the MPT. While the test does provide a reasonable estimate of the benefit to the program from the perspective of non-participating ratepayers, placing priority on this perspective would not be consistent with the goals and objectives of the ESA program. Thus, the Working Group does not recommend using the UCT to analyze cost-effectiveness for the ESA Program. Instead, the Working Group proposes two new tests, which we believe will better represent all actors and Commission objectives below.

### **Proposed New Cost Effectiveness Tests**

Most Working Group members believe there is a need for new cost-effectiveness tests in order gain consistency with the core energy efficiency portfolio approval and that of other DSM programs. First, the Working Group recommends use of an ‘all-in’ test or a modified version of the TRC (the ESACET defined below). The ESACET would include all costs and benefits, including participant and utility NEBs, associated with the ESA program and therefore the perspectives of the utility, participant, and non-participant. The second proposed test is a TRC test applied only to “resource” measures (refer to Table 1) and without the inclusion of any NEBs. The Working Group finds that the ESACET and the Resource Measure TRC to be more appropriate than the current tests because one reflects the perspective of all actors in the ESA program and the other reflects the value of the ESA program as a resource procurement program.

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<sup>3</sup> D.12-08-034, page 15, “In sum, we find that the Subcommittee’s modified PC test is consistent with the purpose defined by this Commission. It makes use of the tests defined in the Standard Practice Manual, while appropriately compensating for the insufficiency of the PC to be defined as a benefit-cost ratio without some modification.”

### *The ESA Cost-Effectiveness Test (ESACET)*

The Working Group recommends reporting program cost effectiveness using the ESACET, which includes participant and utility NEBs. In addition, the ESACET includes “copayments,” which are the portion of the measure costs that are paid by landlords or third parties. The ESACET would include all the costs and benefits--both energy and non-energy--associated with the ESA program, and it is therefore comparable with the TRC currently used for evaluating other energy efficiency programs. The Working Group finds that it represents the perspective-based analysis that is foundational within the core SPM.

The Working Group believes it is logical to start with the TRC test, then add the participant and utility NEBs to account for health, safety, and comfort benefits--provision of which are also goals of the ESA Program. A test based on the TRC--which is used for all demand-side programs--with modifications appropriate to the ESA program, provides a strong foundation that the Working Group finds will facilitate acceptance of this test as a means to evaluate the total resource efficiency of the ESA Program. Table 2 shows the results of the ESACET using data from the utilities’ 2012 program. Please note that because the results in Table 2 are based on 2012 program data, they are for illustrative purposes only to show what the ESACET results would have looked like for the 2012 ESA Program. The results in Table 2 may not reflect program cost-effectiveness of any future ESA Program applications.

**Table 2: ESACET Results for 2012 ESA Program**

<b>PG&amp;E</b>	<b>SCE</b>	<b>SDG&amp;E</b>	<b>SoCalGas</b>
0.73	0.80	0.86	0.68

### *The Resource Measure TRC*

The Working Group also recommends reporting program cost effectiveness using the Resource Measure TRC. This test is identical to the traditional TRC, but would exclude administrative costs and only be applied to resource measures. The Working Group finds that since the primary purpose of resource measures is to produce energy savings and avoid supply side costs, they should be evaluated without the inclusion of NEBs. The Resource Measure TRC evaluates the ESA program as a resource program, which is consistent with Commission goals.<sup>4</sup>

The Working Group believes that at least one ESA program cost-effectiveness test should focus solely on the resource measures, without administrative costs, because they are designed to produce energy and bill savings, a specific Commission goal. This way the program’s energy-

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<sup>4</sup> “Today we clarify that the complementary objectives of LIEE [*Low Income Energy Efficiency*] programs are to provide an energy resource for California, consistent with our “loading order” that establishes energy efficiency as our first priority, while reducing low-income customers’ bills and improving their quality of life.” (D.07-12-051, p. 2)

“The LIEE programs will be an energy resource by delivering increasingly cost-effective and longer-term savings.” (California Energy Efficiency Strategic Plan, January 2011 update, Section 2, pp. 23-24)

related benefits are more transparent to decision makers and stakeholders. We believe that the Resource Measure TRC is better suited for assessing impacts of the ESA program as an energy efficiency program.

Based on the illustrative results run using data from the utilities’ 2012 programs, the percentage of the ESA program funding supporting “resource measures” is less than half of the cost of the program. Please note that this test does not consider administrative costs.

**Table 3: Portion of the ESA Program costs\* comprised of “resource measures”**

PG&E	SCE	SDG&E	SoCalGas
24%	30%	48%	16%

**Table 4: Resource Measure TRC\* Results for 2012 ESA Program**

PG&E	SCE	SDG&E	SoCalGas
0.75	1.23	1.63	0.67

\*Excluding Administrative Costs

Results in Tables 2 and 4 reflect 2012 program data and likely do not reflect program cost-effectiveness in the 2015–2017 program applications for various reasons, including but not limited to possible revisions in measure offerings, the lack of program administrative costs, and revised energy savings impacts for measures based on the Impact Evaluation of the 2011 ESA Program currently underway. These are illustrative examples only, based on data from 2012, and likely do not reflect the cost-effectiveness of any future ESA Program applications.

### *Presenting the Participants Perspective*

Since the Working Group recommends retiring the MPT, we were concerned that the participant’s perspective would not be uniquely presented. Since participant well-being remains a program priority, we find that it is important to continue to evaluate program impacts on the participant. The SPM cost-effectiveness test from the participant perspective, the Participant Cost Test (PCT), includes all costs incurred by--and benefits accruing to--program participants. A problem specific to the ESA Program is that participants bear no (or very little) cost. Because participant costs are essentially zero, it is not possible to determine a useful benefit cost ratio using the PCT.

The Working Group recommends that, for informational and tracking purposes only, the IOUs continue to report participant bill savings in the Annual Report. We believe that this will help decision-makers and stakeholders better understand the benefits to the participants and any potential trends in participant bill savings over time. The Working Group does not, however, recommend that the participant bill savings be used for program approval purposes.

Table 5 below details the costs and benefits analyzed in the current and proposed cost-effectiveness tests used in the ESA program. As shown, all costs and benefits analyzed in the current tests would also be analyzed in the proposed tests

**Table 5: Costs and Benefits in the ESA Program Cost-effectiveness Framework**

	Current Tests			Proposed Tests	
	TRC	MPT	UCT	ESACET	Resource Measure TRC
Administrative costs	COST	COST	COST	COST	
Avoided costs of supplying electricity	BENEFIT		BENEFIT	BENEFIT	BENEFIT
Net Bill Reductions		BENEFIT			
Capital (measure) costs to landlords/ 3 <sup>rd</sup> parties	COST*			COST	
Capital (measure) costs to utility	COST	COST	COST	COST	COST
Participant non-energy benefits		BENEFIT		BENEFIT	
Utility non-energy benefits			BENEFIT	BENEFIT	

*\*Costs of third parties have been included, although not consistently, by some utilities.*

## Thresholds

The Working Group recommends that only the ESACET and the Resource TRC test be used in determining the cost-effectiveness of the ESA program. The ESACET test includes all costs and benefits and represents all perspectives. The Resource Measure TRC prioritizes energy savings and evaluates the program as a resource.

The Working Group is continuing to discuss possible combinations of the proposed tests to determine a recommendation regarding the best approach for ESA Program approval. However, we agree that we do not have enough information at this point to set a threshold, given that any threshold could potentially require significant program design modifications. As such, the Working Group proposes that we continue to discuss this issue on a monthly basis and submit a supplemental recommendation to the ALJ before the forthcoming Guidance Decision. This will allow time for the Working Group to consider the results of the Impact Evaluation, the proposed NEBs adder (see below), the Multifamily Study, and how the other recommendations

included in this White Paper Addendum (such as measure categorization) may impact the ESA program.

Outstanding questions include:

- Should the threshold for ESA program approval be “firm” (e.g. the benefit-cost ratio on a particular test or tests must be greater than a certain number), or should it be based on past performance (e.g., the benefit-cost ratio on a particular test or tests must be greater in one year than it was in a previous year), or something else?
- To what extent should the threshold for ESA program approval be based on tests which include only resource measures, and to what extent on tests which include both resource and non-resource measures?

### **Update of Recommendation 3 (Equity Evaluation)**

The intention of the Equity Evaluation is to provide an additional level of analysis of relatively qualitative non-energy benefits (e.g., health, comfort, and safety) and to address the difficulty of monetizing all relevant non-energy benefits. We recognize that there may be some overlap between the Equity Evaluation and the NEBs calculations. However, since we are recommending that tests such as the ESACET be applied on the program level, and the Equity Evaluation applied on the measure level, we do not think that any overlap will result in any sort of double-counting of benefits. Additionally, we recommend that at least for the 2015-17 program cycle, the Equity Evaluation be used for informational purposes only to better understand program impacts and design, and that the Equity Evaluation not be used for ESA program approval.

The White Paper included general recommendations for both the 2015-17 program cycle and for the post-2017 period. This Addendum focuses on the Working Group’s recommendation for the 2015-17 program cycle. . We propose that, during the 2015-17 program cycle, all measures be assessed based on the following four criteria:

1. *Eliminates combustion-related safety threat* – Prolonged exposure to high levels of carbon-monoxide (CO) can have adverse effects on human health, including CO poisoning that can lead to severe headaches, fatigue, shortness of breath, dizziness, and nausea. Extended and severe exposure can lead to permanent neurological damage and even death. Ambient air readings in participant homes should not exceed certain maximum ambient air CO levels, both in the center of the room(s) and near combustion appliances. A Natural Gas Appliance Test (NGAT) is performed to check for dangerous levels of CO. Any or all faulty natural gas-fired water heaters or furnaces that contribute to excessive levels of CO in the room(s) are shut off, becoming candidates for ESA repair or replacement. If ventilation/infiltration measures have been installed, a second NGAT

will be conducted to ensure that tightening the building envelope did not adversely affect operation of any gas appliances.

2. *Eliminates fire safety threat/Improves home security (crime prevention) and building integrity* – While not necessarily within the scope of the ESA program at present, non-resource measures may address specific safety issues such as fire safety and improved home security/building integrity. This would include fire safety from hazards in the home with the exception of natural-gas combustion. An on-site property assessment, similar to what is performed as part of the ESA program, would identify fire safety threats and home security issues, including poor exterior lighting, broken/unsecure windows and doors, inadequate/makeshift heating and cooking devices, and structural deficiencies.
3. *Reduces or eliminates extreme temperatures and temperature variations inside the home/improves customer ability to manage in-home temperatures* – Extreme temperatures in the home can lead to significant adverse health effects, including cold stress/hypothermia and heat stress/hyperthermia. Infiltration measures can help reduce temperature variation by minimizing air leakage into and out of the building envelope. Additionally, measures that reduce or eliminate extreme temperatures may also mitigate issues that arise from the use of inadequate, faulty and makeshift heating and cooling devices, leading to increased safety/security and decreased incidences of fire and asphyxiation. Attic insulation may help by decreasing the amount of conditioned air lost in the summer and the winter. Additional measures that address extreme temperatures may include new windows and heating/cooling units.
4. *Improves air quality, ventilation and/or air flow (e.g., reduces drafts and leakage)* – Poor air quality, ventilation and air flow can lead to increased health risks from mold, dust mites, and other contaminants. These risks may be mitigated by reducing the number of entry points for pollen, insects, rodents and other pests. Improved air quality and ventilation may also diminish condensation. Measures in this category, such as new windows and doors, duct sealing, and improved temperature/humidity control, may address one or more air quality issues, and can help reduce temperature variation by minimizing air leakage into and out of the building envelope. Reducing temperature variation within the home may also minimize the flow of warm air to cool spaces.

The Working Group recommends that the Equity Evaluation be performed by rating the extent to which every ESA measure achieves each particular health or safety improvement. A rating of “5” indicates that the measure almost always results in that particular improvement. In other words, almost all homes which receive the measure will see that improvement. For example, a measure which replaces faulty natural gas appliances would receive a “5” on criteria #1. Another way to think about a score of “5” is that it indicates that a measure has an extremely high probability of achieving the improvement in a home when it is installed.

A rating of “3” indicates that the measure results in that particular improvement for about half the homes which receive it. For example, if a measure which provides insulation will likely reduce the occurrence of extreme temperatures in about half the homes where it is installed, that measure would receive a “3” on criteria #3. For certain measures, a more useful way to think about a score of “3” is that it indicates that a measure has about a 50% probability of making the improvement in a home when it is installed. For other measures, it may be more appropriate to think of a score of “3” as a result of a measure that partially achieves the improvement. For example, a measure may result in moderate, but not extreme, improvements in temperature variation in each home.

A rating of “1” indicates that the measure results in that particular improvement for only a small number of homes which receive it. For example, if a measure which replaces non-energy-efficient appliances results in the replacement of appliances which are actually fire hazards about 10% of the time, that measure would receive a “1” on criteria #2. For certain measures, a more useful way to think about a score of “1” is that it indicates that a measure has less than 25% probability of making the improvement in a home when it is installed. For other measures, it may be more appropriate to think of a score of “1” as a result of a measure that somewhat achieves the improvement. For example, a measure may result in a small improvement in temperature variation in each home.

The Working Group recommends that the utilities attempt an Equity Evaluation based on the criteria and rankings identified above for *all* ESA 2015-17 Program measures during the 2015-17 program cycle, whether they are classified as non-resource, resource or uncertain. Utilities will base the Equity Evaluation on their understanding of and experience with the ESA Program measures in their respective territories. We believe that this will provide valuable information about each measure that can assist us in better classifying and analyzing each measure in the future.

The Working Group also recommends that the utilities use their discretion to group the measures for the purpose of the Equity Evaluation. For example, some measures (e.g., lighting) provide the same benefits across the state, and it would not be sensible to provide a separate Equity Evaluation for each climate zone and every type of housing. Some measures are weather-sensitive, or have different impacts in different housing types, and maybe require a more granular evaluation.

The Equity Evaluation, particularly for the 2015-17 program cycle, is likely to be somewhat subjective and clearly experimental. For this reason, the Working Group further recommends that all stakeholders be encouraged to comment on the utilities’ Equity Evaluations, and provide their own scores or suggestions for grouping measures. We hope that through this stakeholder process, we can come to better understand the true value of each ESAP measure, and eventually improve the design of both the individual measures and the overall ESA program so as to provide the maximum value to program participants.

The Equity Evaluation results are not intended to be used as the sole determinant of whether a measure should be included in the ESA program because it provides health, comfort, and/or safety benefits. Rather, it is intended to provide additional information about ESA Program measures which, in conjunction with other data, could be used to better understand program impacts, make a determination about measure inclusion in the ESA Program, and/or improve measure or program design.

### **Update of Recommendation 4 (Non-Energy Benefits)**

Recommendations for treating NEBs in the cost-effectiveness calculations are presented below. Where applicable, the recommendations are further specified by short term and long term periods.

In general, the recommendation is to estimate a few specific NEBs directly and to provide an adder that will estimate other NEBs which would be difficult or expensive to quantify. The NEBs recommended to estimate directly include:

- Water savings for the participant household,
- Reduced arrearages costs for the utility, and
- Fewer customer calls for the utility.

Each of these along with the adder is described in more detail below.

#### **Water Savings**

Water savings for the participant household are currently calculated in the modified Low Income Public Purpose Test (LIPPT) workbook in the following manner:

- The number of annual gallons of water saved per faucet aerator is added to the number of annual gallons of water saved per showerhead; this amount is then multiplied by the percentage of program participants who received these measures.
- The annual gallons of water saved are divided by 748 to convert them to hundred cubic feet (ccf).
- The ccf are then multiplied by an average water and sewer rate; the original average rate was determined in 2000 and has been escalated each year since then by approximately 38 percent.
- The present value of the savings over the life of the benefit (in this case, three years has been used) is then calculated.

The recommendation is to use the same calculation. In the short term, the calculation will be made with the values that are currently used in the modified LIPPT model. In the long term, the calculation will be modified by making the following updates:

- Estimate the annual gallons of water saved for faucet aerators, showerheads, high efficiency washers and thermostatic shower valves.
- Estimate the average water and sewer rate; this will vary by area.

### Reduced Arrearages

Reduced arrearages costs for the utility are calculated in the modified LIPPT workbook in the following manner:

- The average arrearage dollar value for low income customers is estimated by the utility.
- The average arrearage value is multiplied by the percentage of arrearages reduced by the program. This percentage was estimated as 28% when the LIPPT model was developed and is an average of 23 values reported in the literature during the period 1991 through 1999.
- The result is multiplied by an estimated interest rate for the utility to carry the cost (8.15% was used when the LIPPT model was developed).

The recommendation is to use the same calculation. In the short term, the calculation will be made with the values that are currently used in the modified LIPPT model. In the long term, the calculation will be modified by making the following updates:

- Average arrearage dollar value for low income customer; this will vary by utility;
- Program impact on arrearages; and
- Utility interest rate.

### Fewer Customer Calls

Fewer customer calls for the utility are calculated in the modified LIPPT workbook in the following manner:

- The average number of calls from low-income customers per year is estimated by the utility.
- The average number of calls is multiplied by the percentage of calls reduced by the program. This percentage was estimated as 25% when the LIPPT model was developed and is an average of 25 values reported in the literature during the period 1990 through 2000.
- The result is multiplied by the marginal cost per customer call as estimated by the utility.

The recommendation is to use the same calculation. In the short term, the calculation will be made with the values that are currently used in the modified LIPPT model. In the long term, the calculation will be modified by making the following updates:

- Average number of calls from low-income customers per year; this will vary by utility;

- Program impact on number of calls; and
- Marginal cost per customer call; this will vary by utility.

### Adder to Estimate Remaining NEBs

The recommendation is to develop an adder to estimate the remaining NEBs which are difficult or expensive to estimate. To get an idea of what NEBs are currently being estimated, the results of the cost-effectiveness analyses for the 2012 Annual Report were reviewed. Table 2 shows some selected values from those analyses.

**Table 6: Values from ESA Cost Effectiveness Analyses for the 2012 Annual Report (dollars)**

	Water NEB	Arrearages NEB	Customer Calls NEB	Remaining NEBs	Electric Avoided Cost Benefits	Gas Avoided Cost Benefits	Total Avoided Cost Benefits
<b>SDG&amp;E</b>	761,087	290,448	665,074	5,343,201	9,262,638	2,234,338	11,496,975
<b>SCG</b>	4,448,053	468,143	3,551,226	36,365,554	n/a	9,874,792	9,874,792
<b>PG&amp;E</b>	4,004,747	6,645,918	1,553,654	37,279,741	31,787,104	10,816,705	42,603,808
<b>SCE</b>	141,353	2,830,385	1,104,194	3,957,960	22,459,280	n/a	22,459,280

In reviewing these results, a number of scenarios were considered, including separate adders for electric and gas, for participants and utilities, or for the four IOUs. Other considerations included whether the adder should be a percentage of bill savings or avoided costs and whether it should result in a set of similar estimates or estimates that are larger or smaller than what is currently used. None of the scenarios considered resulted in a basis for NEBs that was not arbitrary or demonstrated to improve the current methodology, and the working group concluded that more discussion and analysis was needed to develop a reasonable basis for the adder.

Therefore, in the short term, the recommendation is for this Working Group to continue to meet on a regular basis for the remainder of 2013 to discuss a working recommendation and basis for developing the adder. In the long term, the recommendation is to fund a study to produce a workable spreadsheet model to replace the currently used modified LIPPT workbook. The study could additionally research what is currently used in other programs, the recent relevant literature, and perform a more in-depth analysis on ESA program data and results from the four ESA studies currently underway,<sup>5</sup> each of which could potentially inform a better understanding of the benefits resulting from the program. It is also recommended that this study review and update the inputs to the three directly estimated NEBs described above. The result of the study would be a report describing the development of the adder and the other updated values, and a spreadsheet for calculating NEBs and participant bill savings that can replace the currently used modified LIPPT model. This study should be funded in the 2015 to 2017 program cycle.

<sup>5</sup> The four studies include an impact evaluation, research on the multi-family sector, an evaluation of energy education, and a comprehensive low-income needs assessment.

## Summary of Recommendations for NEBs

Overall: Directly estimate the three NEBs of water savings for participant households, reduced cost of arrearages for utilities, and reduced cost of customer calls for utilities. Develop an adder to estimate the remaining NEBs.

Short-term: Continue to use the modified LIPPT model as needed while the Working Group continues to meet regularly this year to discuss an appropriate basis for a NEBs adder.

Long-term: Fund a study in the 2015 to 2017 program cycle to deliver the following:

- A summary of findings and recommendations related to the estimation of NEBs and cost-effectiveness tests for the ESA program based on current industry practice, recent literature, an in-depth analysis of program data, and results from the four ESA studies completed in the 2012 to 2014 cycle.
- Updated inputs to the calculations for the three directly estimated NEBs;
- Adder(s) to be used for estimating remaining NEBs;
- A spreadsheet model to take the place of the currently used modified LIPPT model for estimating NEBs and participant bill savings for the ESA program.

## Update of Recommendation 5 (Household Typology Reporting)

The Working Group recommends reporting program-wide cost-effectiveness results by groups of aggregated measures called “household typologies.” Essentially, the total program will be divided according to a few key characteristics such as dwelling type and/or climate area and cost-effectiveness will be reported for these sub-program types. This will allow stakeholders a quantitative overview of select program parts without an overwhelming list of cost-effectiveness values.

The ESA program is statewide and serves a variety of dwelling types. As described in the background section, it is also a comprehensive program in that the program offers building shell services, many appliances, as well as energy education. The utilities currently report cost-effectiveness annually at a program level. Approximately every three years they also report cost-effectiveness at the very granular level of utility, climate zone, dwelling type, owner type, and, in some instances, fuel type. Depending on utility, the number of cost-effectiveness values reported at the granular level is between 70-150 values.

Cost-effectiveness reporting of a few select segments of the program will provide stakeholders additional information about program performance and allow stakeholders to differentiate among more or less cost-effective parts of the program in a simple manner. By segregating cost-effectiveness by program characteristics, stakeholders will have a better idea of where the most costs are accrued. It will give an idea of where the most potential for cost-effective energy efficiency installations is likely to occur. It will allow program evaluators to explore the impact

of overall cost-effectiveness of modifying program characteristics. If the cost-effectiveness values reported for some sub-program types are similar or identical, stakeholders can see that the program characteristics defining sub-programs do not impact costs or benefits.

The proposal is to segregate the benefits and costs into the following groupings for assessment:

- Dwelling type
- Climate characteristics (e.g., large amount of heating required, minimal cooling required)

The Working Group also explored additional groupings

- Fuel impacted
- Weather-sensitive, non-weather-sensitive measures
- Type of fuel used for heating the dwelling

The Working Group also analyzed the various combinations of groupings and decided that the simplest divisions are the most appropriate at this time.<sup>6</sup> The Working Group recommends two separate divisions of the program, one by dwelling type and one by climate area.

Preliminary examples of this segregated analysis are provided below, using the data from the 2012 program year. The sub-program assessment would utilize the ESACET recommended in this Addendum for overall program approval. However, the ESACET includes administrative costs. If it were to be used for sub-program reporting, the administrative costs would need allocation among the sub-program types. As described in the beginning of this document, in the “Program Level versus Measure Level Analysis” section, the allocation of administrative costs by energy savings creates benefit distortions to various program elements. The administrative (or non-measure costs) comprise approximately 30% of the portfolio. Therefore, the Working Group recommends assessing sub-program components using the ESACET test with and without administrative costs.

**Table 7: Illustrative Example of ESACET Cost-effectiveness Results by Dwelling Type**

<b>Utility</b>	<b>Multifamily</b>	<b>Single Family</b>	<b>Mobile Home</b>	<b>ESACET without admin costs</b>	<b>ESACET with admin costs</b>
PG&E	0.68	1.00	1.11	0.96	0.73
SCE	1.15	1.13	1.01	1.12	0.80
SoCalGas	2.02	0.84	1.36	0.95	0.68
SDG&E	2.63	1.1	1.51	1.29	0.86

<sup>6</sup> The utilities may be able to provide data that allows for additional groupings on an as-needed basis.

The household typology assessment would also segregate values according to climate areas. This Working Group consolidated the California Energy Commission’s sixteen building climate zones into three areas for ease of assessment. These three areas are:

Climate Area Description	CEC Climate Zone
Heating & Most Cooling	11 - 16
Some heating & some cooling	6 - 10
Most Heating & Minimal Cooling	1 - 5

These climate areas are based on the number of Heating Degree Days and Cooling Degree Days for four representative cities within each Climate Zone and match the climate areas created for the ESA Impact Evaluation of the 2009 program year.

The Working Group recommends that the household typologies cost-effectiveness results be reported for informational purposes only, in addition to the program level cost-effectiveness results of the ESACET and Resource Measure TRC, discussed in Recommendation 2 of this Addendum. These results would be reported annually on a prospective basis only, beginning with program year 2015.

In conclusion, exploring ways to analyze sub-components of the ESA program may provide several advantages. It will provide information to those interested in particular dwelling types or regions. There may be a particular public interest in certain dwelling types of regions of the state. It may highlight areas of the program to reform or adjust to help the portfolio reach required thresholds. Specifically, it may help demonstrate which parts of the program generate the most benefits, and how this allows other, less cost-effective services and installations to occur.

(END OF APPENDIX C)

## Appendix D

1. Do you agree that applying cost-effectiveness tests to the entire ESA Program, rather than to each individual ESA measure, will result in more accurate measurement of ESA cost-effectiveness?
2. Do you agree with basing ESA Program approval on the cost-effectiveness of the entire program, rather than approving individual ESA measure based on the measure's cost-effectiveness?
3. Do you agree that ESA measures should be categorized as "resource" or "non-resource?" Is the categorization proposed in the ESA Program Cost-effectiveness White Paper and Addendum reasonable? If not, how could it be made more accurate?
4. Do you agree that the proposed new cost-effectiveness tests – the ESACET and the Resource Measure TRC – are better metrics of ESA Program cost-effectiveness than the existing cost-effectiveness tests?
5. The ESA Cost-effectiveness Working Group has not yet made a proposal for what threshold should be used for ESA program approval (i.e., what benefit cost ratio on the ESACET and/or Resource Measure TRC must be reached for the ESA program to be approved). Do you have any suggestions for the benefit cost ratio threshold, based on the ESACET and/or Resource Measure TRC, that should be set for the overall ESA program to be considered cost-effective and approved? Or, do you have any suggestions for how to determine this threshold?
6. Do you believe that the proposed equity evaluation can provide useful information about non-resource ESA measures? How do you think this information should be used?
7. Do you think that the proposal to research possible changes to the NEBs calculation, but to leave them as is for the short term, is acceptable? Is there an alternative that would be preferable?

**(End of Appendix D)**