

# REVISIONS TO THE LOW-INCOME ENERGY EFFICIENCY STATEWIDE POLICIES AND PROCEDURES MANUAL AND WEATHERIZATION INSTALLATION STANDARDS MANUALS

## 1. Introduction

On October 22, 2004, the Assigned Commissioner Ruling (ACR) adopted the Phase 5 work plan, budget, and schedule as proposed by the Joint Utilities Low Income Energy Efficiency (LIEE) Standardization Project Team (Team). The ACR directed the Team to review the LIEE Policy and Procedures (P&P) Manual and the Weatherization Installation Standards (WIS) Manual and file recommended manual changes with the Commission. Once approved by the Commission, the changes to these manuals will be implemented for the 2005 LIEE program year.

This document summarizes the Team's recommended changes to the P&P and WIS manuals. The revised manuals are attached hereto.

## 2. Summary of Changes

Most of the changes recommended by the Team are designed to update these manuals to Program Year 2005, and/or to reflect recent changes in Program offerings and procedures previously authorized by the Commission. Some substantive changes are also being recommended on the basis of field experience with the Program over the past year. Recommended changes are summarized below, by manual and section.

### ***2.1. Recommended Changes to the P&P Manual***

#### ***Section 1. Introduction***

Changes in this section are minor. They include changing the Program Year and deleting two references that are no longer relevant.

#### ***Section 2. Customer and Structural Eligibility***

This section contains several clarifications and some substantive changes, as follows:

In Subsection 2.2.1, the definition of the two tiers relating to income eligibility is clarified, the process of setting income guidelines is clarified, and the specific income guidelines are updated for the period June 1, 2004 through May 31, 2005.

In Subsection 2.2.2, the list of examples reflecting the types of income is expanded and a clarification of the meaning of the acronym SSP is made in Table 2-2.

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In Subsection 2.2.3, the wording relating to the use of CARE income verification for the verification of LIEE income eligibility is made more explicit, the definition of a current award letter is changed to reflect the intent of the requirement, and the term “weatherization” is changed to “Program services” whenever the intent is to refer to the full range of Program services. These changes are also made throughout the manual to avoid confusion. Given that weatherization refers to only a subset of Program services, the term has been used inappropriately in the past. Finally, several references in Table 2.3 are updated to be consistent with current Internal Revenue Service (IRS) forms.

In Subsection 2.2.4, the definition of gross income for self-employed persons is clarified.

In Subsection 2.2.6, the treatment of multi-family buildings and mobile homes has been changed. Specifically, the Team proposes to drop the 80% rule for income eligibility for all measures other than ceiling insulation in common attic spaces of multi-family buildings. The rationale for this change is that with limited budgets, Program services should only be offered to households that satisfy income eligibility requirements. Initially, the 80% rule was meant to provide that Program measures would be installed in multi-family units that were not occupied by income-eligible households at the time of treatment, but that would be likely to be occupied by eligible households at some later date. The implicit assumption underlying the provision was that Program measures would stay with the dwelling, and would eventually benefit low-income households. However, the Program offers an increasingly wide range of measures that are transportable, and are likely to go with the current occupants. Examples would be compact fluorescents, refrigerator replacements, evaporative coolers, and high efficiency window/wall air conditioners. In light of this, and given the need to concentrate Program funds on households that meet the income eligibility requirements, the Team recommends that the 80% rule be dropped for both multi-family buildings and mobile homes, with the exception noted for ceiling insulation.

In Subsection 2.3.1, two changes are recommended. The first would institute a requirement that the household be served by an active utility meter to be eligible for the Program. The second would provide that in overlap areas (areas served by different gas and electric investor-owned utilities (IOUs)) that the utility providing the heating fuel be the primary provider of weatherization services (services that affect heating and/or air conditioning). It also provides that in the event that the home has air conditioning but uses a non-IOU heating fuel, the electric IOU be primarily responsible for weatherization other than infiltration reduction.

Also in Subsection 2.3.1, a reference is added to recognize that water heaters may be repaired or replaced in owner-occupied homes if necessary to mitigate natural gas appliance testing (NGAT) problems.

In section 2.4, the 80% rule is dropped for master-metered mobile homes and multi-family buildings, to make this consistent with Subsection 2.2.6.

In Subsection 2.5, the income eligibility requirement for migrant housing centers is changed. Under the new wording, a residential facility on non-residential rates would be considered income-eligible if the facility is participating in the CARE program. No additional income verification would be required for LIEE. It is the Team's position that this modification is consistent with the spirit of AB 868 (which provides that migrant housing centers are presumed to be income-eligible without verification), as well as the general treatment of other group facilities under CARE.

Subsection 2.7.2 has been modified to incorporate approved Commission policy on the replacement of water heaters in owner-occupied homes.

Subsection 2.9 has been modified to add window-wall air conditioners to the list of individual measures that would satisfy the requirement for the need for LIEE services. A clarification has been added to emphasize the requirement that all feasible measures must be installed in participating homes.

### **Section 3. Customer Outreach and Customer Relations**

This section contains only minor editorial changes.

### **Section 4. Procedures for Pre-Installation Contacts**

Subsection 4.2 has been modified to delete the reference to customer rights and to clarify the types of services offered under the Program. The reference to customer rights is unnecessary because the Commission has previously rejected the Standardization Team's proposed Customer Bill of Rights, and no other statement of these rights has been developed.

Subsection 4.7 clarifies that income documentation and owner approval must be collected prior to installation of measures, but not necessarily during the initial home visit. This is consistent with current practice.

### **Section 5. Program Measures for PY 2005**

Section 5.3 has been modified to recognize that the Commission now has a process for considering new measures for the Program.

Table 5-1 in Section 5.3 has been updated to reflect current Program offerings. It has also been revised to characterize furnace and water heater repairs and replacements as types of

minor home repairs, rather than free-standing measures. Under the proposed change, these measures fall under minor home repairs because they are offered only to accommodate the installation of infiltration-reduction measures when the NGAT fails. It should be noted that high efficiency water heaters were recently dropped as a free-standing measure, so this change is consistent with Commission policy. The Team feels that furnace repairs and replacements should also be considered a minor home repair for the sake of consistency.

Table 5-1 has also been updated to reflect the current agreement between SCE and SoCalGas in their overlap area.

### **Section 6. Minor Home Repairs**

Subsections 6.1, 6.2 and 6.3 have been changed to specifically recognize furnace and water heater repairs and replacements as types of minor home repairs rather than free-standing measures.

Section 6.3 has been modified in three ways. First, it has been altered to include a set of caps for water heater repairs and replacements. The cap is set slightly above the current installed cost of natural gas water heaters. Second, the caps for furnace repairs and replacements have been changed to recognize differences in costs across heating system types and to recognize the increase in the cost of replacements of central furnaces. The Team has adopted the practice of using high efficiency central furnaces as replacements in order to enhance energy savings; and this change has resulted in increased replacement costs. The average replacement cost for central furnaces has been in the vicinity of \$2,500, thus necessitating a change to the cap. Third, the overall cap on all minor home repairs has been increased to reflect the increased cost of central furnace replacements as well as the addition of water heater repairs and replacements as minor home repairs.

Section 6.4 has been edited to include the mitigation of NGAT fails as a priority in the choice of minor home repairs when providing all minor home repairs to a home would exceed the per-home cap.

### **Section 7. Measure Installation Policies and Procedures**

A variety of changes are proposed for Section 7. These changes would:

- Recognize the repair/replacement of natural gas water heaters under the NGAT policy (Subsections 7.3.1 and 7.3.19);
- Clarify that measures are non-feasible if the measure is already present, even if it has not been installed strictly in accordance with the current Weatherization Installation Standards (several subsections);

- Clarify the non-feasibility conditions relating to the presence of Program measures (several subsections) and bring the wording of these conditions into consistency with the wording used in the Weatherization Installation Manual;
- Clarify attic clearance requirements (Subsection 7.3.4);
- Bring policies relating to furnace repairs and replacements into consistency with adopted NGAT policy (Subsection 7.3.18);
- Modify non-feasibility conditions and other policies for natural gas water heater repair or replacement to recognize that this is no longer a measure but rather a minor home repair offered only to mitigate NGAT fails (Subsection 7.3.19)
- Revise the age requirement for refrigerators to be replaced, using 1993, the year in which efficiency standards were revised significantly, as the threshold year (Subsection 7.3.20); and
- Revise the age requirement for window/wall air conditioners from 10 years to 15 years to better reflect the expected lifetime of these units (Subsection 7.3.21).

**Section 8. Inspection Policies**

Subsection 8.3 has been updated to reflect current pre-inspection policies followed by the four investor-owned utilities.

**Section 9. Contractor Eligibility**

No substantive changes are recommended for this section.

**Section 10. Natural Gas Appliance Testing**

Section 10.2.2 has been modified to exclude reference to Rapid Deployment policy and to clarify language relating to LIEE services.

Section 10.3, which provides a description of NGAT protocols has been expanded significantly to provide more explicit detail on the sequence of steps to be undertaken under those protocols.

Section 10.4 has been changed to provide for the completion of the NGAT on the same day as infiltration reduction measures are installed. The purpose of this change is to minimize inconvenience for participants and to avoid any potential safety problems.

Section 10.5 has been edited to clarify the difference between services/adjustments and repairs of appliances under the NGAT protocols.

Section 10.7 has been added to provide explicit non-feasibility criteria for NGAT. These criteria are consistent with current LIEE policy.

## ***2.2. Recommended Changes to the WIS Manual***

As with the P&P manual, most of the changes recommended by the Team are designed to update the WIS manual for Program Year 2005 and to add procedures previously authorized by the Commission. The most substantive recommended changes were made to Section 29 "Natural Gas Appliance Testing." These changes were made on the basis of field experience gained over the past year and are intended to bring the program into compliance with Commission directives. For sections with substantive revisions, the changes are summarized below by section for the Conventional Home WIS. When applicable, the identical changes were made in the Mobile Home WIS.

### **WIS Definitions**

Definitions, primarily NGAT related, were added for clarification and to aid in eliminating differing interpretations by individuals.

### **WIS Preface Pages and Non-feasibility Criteria**

Modifications were made to establish consistent language within the Conventional Home WIS, Mobile Home WIS, and the LIEE P&P.

### **WIS Section 3. Ceiling Insulation**

The minimum R-value requirement for attic access doors on page 3-20 was changed to be consistent with the CEC retrofit insulation requirements. On page 3-45, crawl clearance criteria were added to address obstructions in the attic.

### **WIS Section 5. Water Heater Insulation Standards**

Language was added to recognize the presence of a "gas shutoff valve", which may be used in lieu of a Temperature and Pressure (T & P) relief valve when installation of a T & P gravity drain line is impractical. The ID label location was changed from "mark but don't cut" to "mark and cut". This makes product information on the ID label readily accessible. Language was also included to address floors that are not adequately sound to support the weight of the water heater. Several edits and sentence structure modifications were made to the Non-Feasibility Criteria to clarify language and remove ambiguity.

**WIS Section 14. Thread-Based Compact Florescent Lamps (CFLs)**

The size and weight of CFLs has been reduced significantly, especially during the past few years; thus the precautionary language related to weight, table lamp balance, cluster lighting, and cord lamp holders was modified or removed.

**WIS Section 16. Window and Wall Evaporative Cooler**

The clearance requirements for sidewalks, and minimum above-floor requirement, were modified to allow less clearance when permitted by local code.

**WIS Section 17. Refrigerator Replacement**

The 10-years-old criterion for replacing an existing refrigerator was changed to allow for replacement only of refrigerators manufactured before 1993. In 1993, significant changes in efficiency requirements were implemented. This provision eliminates replacement of more efficient 1993-or-later units, which would not achieve desired energy savings.

**WIS Section 19. Natural Gas Wall & Floor Furnace Repair & Replacement**

Criteria were added on page 19-9 to accommodate the option on some wall furnace models allowing installation of the thermostat on the side of the furnace cabinet instead of on the wall.

**WIS Section 22. Wall and Window Air Conditioner**

Similar to the evaporative cooler standards, clearances for wall and window air conditioners were modified. Distance from sidewalks and height above the floor were modified to permit less clearance when allowed by local code. This condition is significant in multi-family settings where clearance requirements in the code at time of construction were less stringent than the current LIEE WIS.

**WIS Section 25. Natural Gas Water Heater Replacement**

The 10-year age limit for replacement, which had inadvertently been left in, was removed. Criteria were modified to comply with the NGAT testing protocol and Section 6 and 10 of the P&P.

**WIS Section 29. Natural Gas Appliance Testing (NGAT)**

In addition to criteria changes, the entire section was divided into five stand-alone Parts, which are geared to three categories of users: Assessors, NGAT Technicians, and Appliance Repair/Replacement Technicians. The five Parts are:

1. General Criteria (for all users)
2. Pre-Weatherization NGAT Evaluations (for Assessors)

3. Weatherization Crew Verifications (for NGAT Technicians, to verify that problems which preclude Infiltration Reduction Measures are addressed)
4. Post-Weatherization NGAT Testing (for contractors' NGAT Technicians)
5. Post-Repair/Replacement Checks (for Repair/Replacement Technicians)

The designated Parts contain all pertinent criteria for each user category, arranged in the sequence utilized—which eliminates searching through the section to find needed information. Some criteria did change (as noted below), to reflect field experience gained over the past year and bring the program into compliance with Commission directives. .

*[Part 1]* NGAT applicability was clarified, “inaccessible” appliances became exempt, and definitions of Abandoned” and “Inaccessible” appliance were moved to the Definitions section. Minimum distance from a door/window was reduced from 10 ft. to 4 ft. consistent with the California Mechanical Code (CMC) 4-ft. clearance requirement for vent terminations near windows and doors.

*[Part 2]* This is an abbreviated version of Parts 3 and 4, so explanations are included.

*[Part 3]* Pre-Weatherization Crew Verifications are intended to ensure that conditions which preclude infiltration measures, and are unfeasible to correct, are not discovered *after* weatherization. Previously overlooked criteria were added.

*[Part 4]* Wording was added to clarify that only appliances that fail NGAT and were repaired or replaced will undergo post repair/replacement testing, which is described in Part 5. The term “qualified technician” was defined as a “utility gas service technician or designee.”

- Item 10 was modified to (a) eliminate the misunderstanding that liquid may be sprayed on the gas *control* valve, and (b) to include Soldered Gas Connectors, which had been unintentionally omitted.
- In Item 11, (a) Combustion Ventilation Air (CVA) criteria were expanded and reworded to be more easily understood; (b) the single upper vent CVA option was reinstated, because it is in the 2003 International Fuel Gas Code (IFGC), and it provides a valuable option for homes in which installing a lower CVA vent is problematic; (c) language was modified to clarify attic clear height, acceptable duct/sleeve materials, and that screening is required only on vents to outdoors; and (d) criteria were added for CVA in garages and partial basements, which have been a source of confusion but were not addressed.
- Item 12, “Flue and Vent System Examination” was extracted from “Flue and Vent System Examination and Repair” and moved forward to coincide with appliance-off examinations. Flue/vent Repair criteria stayed in its original location. Reference to CMC Chapter 8 was removed, because the sum total of *new construction* criteria is beyond the scope of *retrofit weatherization testing*. Distance of vent pipes from a wall was reduced from 8 feet (current CMC) to 4 feet (pre-1994 CMC), which is more appropriate for housing stock typical of retrofit weatherization. Criteria were



added to address water heaters in enclosures attached to the outside wall of a dwelling, often encountered but not previously addressed.

- Item 13, Visual Appliance Checks, was extracted from “Additional Appliance Examinations” and moved forward to coincide with appliance-off appliance checks (the remaining items apply to appliance-on checks and were not moved), and additional needed criteria were added.
- Items 14 – 18 include terminology changes to reduce confusion. “Room Ambient CO Test #1” was changed to “Room Ambient CO Test,” and “Room Ambient CO Test #2” was changed to “Appliance Ambient CO Test,” to more accurately describe the work actually performed in each step.
- Item 16 wording was revised for clarity, but criteria did not change.
- In Item 17, (a) garage and attic/crawl space criteria were modified to address “worst case” conditions; (b) the instruction to operate all appliances that can affect the tested appliance (applicable when Flue CO is measured) was removed, because appliances are operated *individually* for Ambient CO testing; (c) the door position *Exception* was added to include a condition that is “worst case” when a room with a clothes dryer also contains a water heater; and (d) installation of existing interior cooler covers was added, because it is also a “worst case” condition.
- In Item 18, (a) in Ducted unit CO measurement locations, “Forced air” was changed to “Ducted” to avoid excluding Gravity furnaces; (b) criteria were added for tankless water heaters, which are now being encountered in the low-income sector; (c) reference to Gas Fireplaces was removed, because the NGAT protocol does not address them; (d) CO Action Level text was inserted for Water Heaters and Cooking Appliances, to reduce confusion and eliminate the need to reference an earlier Item; and (e) text was added to clarify cook top and oven/broiler testing protocol.
- Item 19 was renamed because Draft Testing of ovens vented outdoors was added.
- Item 20 was reworded for clarity, and “CO Action Level” was inserted to eliminate the need to reference an earlier Item.
- In Item 21, the strikeout removed language not applicable to Ambient CO testing.
- Item 22 was renamed and combined with heat exchanger examination criteria. It now addresses only “additional appliance examinations” performed with appliances *operating* (appliance-off checks were moved up to Item 13).
- Item 23 was modified to address only Flue/Vent *Repairs* (simple examinations were moved up to Item 12).

[*Part 5*] Post-Repair/Replacement checks were moved to this section. Item 27 clarifies that CO Testing can be *either* Ambient CO or Flue CO measurements. *Table 29-2 is a place holder for standardized Flue CO maximums when they are established.*

[*Non-Feasibility Criteria*] The page was modified for accuracy and improved clarity. Because of the consumer safety and liability issues associated with not performing NGAT, “Customer Refuses” was removed.