

Florida

Weatherization Assistance Programs

Procedures & Guidelines



*Weatherization Works
in Florida*



Florida Department of Community Affairs
Housing and Community Development
Community Assistance Section

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Definitions

Air infiltration: the exchange of air through the envelope of the dwelling. Most common air infiltration areas are around doors, windows, heating and cooling units and wall top plates in attics.

Air Sealing: activities implemented to reduce the amount of air infiltration in a dwelling.

Blower door: an apparatus used to identify the amount of air exchange measured in Cubic Foot per Minute (CFM). This tool draws air in through all openings by depressurizing the dwelling.

Carbon monoxide (CO): an odorless, tasteless, and colorless toxic gas produced when insufficient combustion air is supplied to an appliance, the burner is improperly tuned, and/or the appliance is malfunctioning. Combustion appliances produce exhaust gases that should be directly vented to the outside to avoid introducing combustion by-products into the dwelling.

Conditioned living space: the most occupied area to be weatherized, i.e., the exterior and interior door(s), and windows making up the conditioned living space will be weatherized (weather-stripping and threshold). Heating and cooling provided only for this area. An option to consider when the whole dwelling can not be weatherized due to the envelope condition or the number of measures needed exceed allowable program funding guidelines.

Coordinator: the subgrantee individual responsible for the implementation of the program, i.e., assuring that the diagnostic testing, inspections, work write ups, bidding, and final inspections are performed in accordance to program guidelines. This individual is also required to attend mandatory DCA/WAP meetings and trainings.

Dwelling Unit: a house, a stationary manufactured home, an apartment, a group of rooms, or a single room occupied as separate living quarters.

Incidental Repairs – additional allowance for unexpected costs associated with performing **Air Sealing** activities, example: finding rotten wood in the window frame during window replacement.

Measures: generic term used for all items to be addressed (repaired, replaced or installed) in a dwelling.

MHEA (Manufactured Home Energy Audit): diagnostic software utilized to evaluate the existing central heating & cooling equipment (and refrigerator in approved circumstances) to determine if replacement will be cost effective and appropriate size for dwelling. This software is utilized on manufactured dwellings only.

Minor Repair – non-structural related repairs (walls, floors or ceiling)

Monoxor: a tool for determining CO level of combustible appliances in the dwelling.

NEAT (National Energy Audit): diagnostic software utilized to evaluate the existing central heating & cooling equipment (and refrigerator in approved circumstances) to determine if replacement will be cost effective and appropriate size for dwelling. This software is utilized on site built dwellings only.

Priority List: a list of measures in order of energy efficiency and energy savings that will be addressed on each single family dwelling. Multi-family dwellings will require running the NEAT.

SIR: Savings to Investment Ratio is the calculated payback in energy savings based upon dollars invested through the installation/replacement of an inefficient energy consumption measure. SIR rating must exceed 1.0 to be cost effective.

SECTION I – General Information**Expenditure of Funding**

The U.S. Department of Energy (DOE) provides a targeted amount of funds to be expended on a dwelling each year. This amount may be expended in both the WAP and the WAP/LIHEAP on a dwelling.

Until a subgrantee's WAP funds are 100% expended, all homes weatherized will have WAP funding utilized. When WAP funds have been depleted, subgrantees may expend the total amount allowed on a dwelling in the WAP/LIHEAP. Attachment A-2, Scope of Work in the WAP and WAP/LIHEAP Agreements provides expenditure guidelines.

Dwellings receiving weatherization services are also to be evaluated for household health and safety needs that are allowable in the Low Income Emergency Home Repair Program (LEHRP). The targeted expenditure average per dwelling for the LEHRP is \$2,000.

LEHRP may also be expended on a dwelling without weatherization services being provided on an emergency basis to address a health or safety problem for the occupants of the household. However, it should be determined during the initial inspection, if weatherization measures would be beneficial to the dwelling.

SECTION II – Applicants

These program services must be made available to the low-income population of each county. Any type of dwelling unit (site-built, manufactured, apartment, group of rooms or a shelter) may receive weatherization services although priority is given to owner occupied dwellings.

Obtaining Clients

Subgrantee requirement:

1. Document outreach activities performed to make services available to low-income households throughout the entire contracted service area.
2. Establish a partnership with the local Low-Income Home Energy Assistance Program (LIHEAP) provider for referral of those clients who are high energy users and those that are repeat recipients of LIHEAP services. The LIHEAP agreement requires that a memorandum of understanding (or agreement) be initiated with the local WAP provider agency. *The WAP subgrantee should also be proactive on this issue.* Then the WAP subgrantee will:
 - a) Provide a copy of the priority selection criteria for clients to the LIHEAP provider.
 - b) Indicate a targeted number of referral clients to be served in a quarter or annually. *Note that a minimum of ten (10) percent of dwellings weatherized in an agreement period will be LIHEAP referral clients.*

Eligibility

Client eligibility is determined by obtaining the appropriate household documentation and completing the Client Intake Form (CIF). All items on the CIF are to be addressed. Copies of all documentation must be included in the client file:

1. Income qualification – total the past 12 month’s earnings for each occupant in the household to determine if the household meets the 150% of poverty requirement. Income data for a part of a year may be annualized to determine eligibility by multiplying the amount of income received during the most recent three months by four.
 - a) The DOE Poverty Income Guidelines and Definitions of Income are provided annually and outline current income thresholds and define what is considered allowable income.
 - b) Client income must be re-verified if the Pre-Work Order Agreement (PWOA) has not been signed within 180 days of client signing the CIF.

Note: Client file records - only the last 4 digits of the social security number to be readable.
2. Automatic qualification if an occupant is receiving:
 - a) Supplemental Social Security (SSI).
 - b) Temporary Assistance for Needy Households (TANF).

Note: Social Security Disability (SSD) is not an automatic qualifier. Jobs submitted that are over the income threshold with an SSD occupant(s) will be rejected resulting in disallowed costs.
3. Photo Identification for applicant:
 - a) Driver’s license or State ID Card (available at the Drivers License office for \$3.00).

Note: Waiver for a client without a photo ID - a signed affidavit by a family member or the WAP Coordinator and a copy of some form of client ID must be obtained and placed in the client file.
4. Determining energy burden:
 - a) A copy of the most recent utility bill and the same month’s income amount will be obtained during the client intake process.
 - b) Dividing the monthly utility bill by monthly income will determine percentage of burden.
 - c) At 14% or higher, there is an energy burden.
 - d) The client priority list should include awarding more points the higher the percentage calculation.
5. Household characteristics information - these 7 items must be recorded on the CIF:
 - a. Year dwelling was built
 - b. Number of occupants residing in the dwelling.
 - c. Characteristics of all occupants of the household. (People in House)
 - d. Characteristics of the client only. (Units by Occupancy)
 - e. Type of structure
 - f. Main heating fuel source
 - g. LIHEAP Referral or not
6. Ownership/Rental documentation:
 - a) Ownership - the deed, property tax receipt or homestead exemption.
 - b) For any rental dwellings, the “Landlord Agreement Form” (LLAF) and “Permission to Enter Premises Form” (PEP) must be completed.
7. Client signature on the CIF:
 - a) Confirmation that the information provided is accurate and complete.
 - b) That a copy of the subgrantee grievance policy was provided.
 - c) Discussed any existing waiting list and position on list.

8. Brief client on the process:
 - i. physical inspections and access required to interior,
 - ii. diagnostic testing to be performed,
 - iii. the Pre-Work Order Agreement - purpose,
 - iv. access by contractor during working hours,
 - v. final inspection and testing processes.

9. Client file documentation and recommended file set-up. **(See Appendix C)**

Prioritizing Services and Waiting or Contact List - Eligible clients must be prioritized for receiving services utilizing the DOE guidelines. Those guidelines should be used to also for placement on a backup waiting or contact lists.

It is recommended that subgrantees:

- a) estimate the number of clients to be served in an agreement period,
- b) divided into quarterly production quotas,
- c) performed the full application/qualification process on first quarter number of clients,
Note: Clients who are placed on the backup list may be re-prioritized if a new client ranks higher. Services are provided based on priority ranking, not on a first-come-first served basis.
Note: Subgrantees should re-evaluate the back up list annually by mailing a survey to applicants requesting an update (or re-verification) of the household status (occupants, characteristics and income).

DOE Guidelines - Subgrantees must prioritize service delivery:

1. Priority of clients to be served (documentation obtained to support):
 - a. Persons age 60 or older.
 - b. Persons with disabilities.
 - c. Children age 12 and under.
 - d. Native Americans.
 - e. Household with a recurring high energy burden (high utility bills)
 - f. A repeat recipient of LIHEAP services (Referral).

2. Priority of dwelling types to be weatherized:
 - a. Owner occupied – either site built or manufactured.
 - b. Renter occupied - either site built or manufactured.
 - c. Multi-family dwellings (Owner participation with costs).
 - d. Multi-family dwellings (Owner participation without costs)

Reweatherization –

Utilize the eGrants social security number (last 4 digits) query to check for prior service to an applicant before providing services.

- a) A dwelling should only receive weatherization services once during a 10 year period. This timeframe starts with the Building Work Report signature date.

- b) An applicant can receive services a second time. However, prior approval from the State Office is required for any re-weatherization situation.

SECTION III – Lead Paint, Mold & Moisture, and Asbestos Policies

This section covers potential hazardous materials or conditions. The on-site dwelling inspection will focus on determining the existence of these situations and could result in a postponement of services and/or specific activities to be implemented in order to protect the health and safety of both the household occupants and the weatherization providers.

LEAD PAINT

The WAP, WAP/LIHEAP and LEHRP are not lead abatement programs. Only labor and materials costs associated with measures installation and Health & Safety funding may be used for performing Lead Safe Weatherization (LSW). The Florida Weatherization Program Manual details guidelines and procedures for performing LSW.

The Coordinator must evaluate the condition of all painted surfaces, especially around the doors and windows. If extensive deterioration is evident, a postponement of services situation exists due to possible health and safety risks for the client and workers. The process for addressing a Postponement of Work due to the presence of lead paint is covered in this Section III.

The following situations require LSW being implemented:

- a. pre-1978 construction,
- b. areas have not been clearance tested (not an allowable weatherization cost),
- c. more than 2 sq. ft. of surface disturbed,
- d. visible flaking or chalking painted surfaces

Note: Working with other housing repair programs may enable clearance testing to be performed on dwellings slated to receive weatherization. Testing results must be included in client file to justify why no LSW activities were performed.

Note: Starting with Program Year (PY) 2009, clearance testing associated with any door or window replacement will be an allowable program charge. During PY 2008, a revision to the Procedures and guidelines will be provided.

Annual Reporting Requirements

- a. Photo documentation of LSW procedures being performed on the first pre 1978 weatherized dwelling submitted for reimbursement that has any of the following measures addressed - exterior doors or windows, exterior or interior wall repair or ceiling repair.
- b. If no photos are received for the first home, the next pre 1978 dwelling meeting the criteria for performing LSW must be met. No reimbursements requests will be processed until LSW practices are photo documented and submitted.
- c. After the initial LSW photo documentation requirement has been met, no more photo documentation may be required to be submitted (but should be taken to include in the client file). However, LSW procedures (a dwelling in progress) may be requested to be visited during the monitoring visit.

LSW requirements to be reviewed during monitoring visits:

- a. Pollution Occurrence Insurance coverage (continual).
- b. Confirmation/documentation of crews or contractors receiving LSW training.
- c. Photo documentation of LSW being performed on pre 1978 dwellings being weatherized.
- d. Site visit to a dwelling in progress utilizing LSW.

Mold & Moisture

The WAP, WAP/LIHEAP and LEHRP are not a mold mediation programs. Only if the source of the moisture contributing to mold development can be stopped during the course of installing an allowable measure, should an agency proceed with work. Example – leaking water heater pipes are causing a mold problem.

To avoid “inheriting” a problem that can not be addressed within the scope of the program, the inspection and evaluation process will determine whether weatherization work can be performed.

If there is no visible mold, it is highly recommended that photos of around the water heater, heating and cooling units and vents are taken to document no existing mold or moisture problem.

Proceed with weatherization activities.

If Mold is found during the inspection process:

- a. Document the mold with photos.
- b. Determine what may be causing the problem.
- c. If the exposed surface area of the mold is less than two square feet, you may consider proceeding with weatherization if addressing the measure will stop the moisture problem. *It is highly recommended that photo documentation of before and after work is taken and placed in the client file.*
- d. If more than two square feet of mold or moisture present and it is determined that the work would probably not stop the water intrusion, or the scope of work required is beyond allowable measures, a Postponement of Services situation exists.

Asbestos

In general, asbestos removal is not an approved health and safety weatherization cost however asbestos should not be disturbed if at all possible. Guidelines are:

- Removal or encapsulation is allowed and may be necessary when the measure will provide a cost-effective savings-to-investment ratio, normally true of large, multifamily heating systems.
- Removal and replacement of asbestos siding for purposes of wall cavity insulation is permissible if allowed by state and local codes. Subgrantees are required to contact local building codes department to determine the correct course of action.
- When permitted by code or EPA regulations, encapsulation (usually less costly measures that fall short of asbestos removal) may be used.
- WAP Subgrantees encountering an asbestos situation should contact the state office for direction before proceeding with blower door testing or work is performed.

Note: Refer major asbestos problems to the Florida Department of Environmental Protection (DEP) and/or the US Environmental Protection Agency (EPA).

NOTES:

SECTION IV – Postponement and Grievances Policies**Postponing Services**

The formal course of action utilized for placing services on hold until a situation has been rectified by either the dwelling owner or another funding source or program. A written notification must be sent by certified letter to the dwelling owner (or landlord and client).

Reasons for initiating:

- a. The inspection process reveals that there are structural problems or the condition of the dwelling warrants rehabilitative services.
- b. The integrity of the weatherization measures to be installed will be compromised.
- c. The client refuses any items listed on the Pre-Work Order Agreement (PWOA).
- d. The client refuses to sign the PWOA.
- e. A dangerous Carbon Monoxide situation exists.
- f. Extensive (obvious) flaking or chalky painted surfaces (indicative of lead paint).
- g. More than two square feet of visible mold is present.
- h. Existing health or safety issues (unsanitary conditions, pests, etc. that would endanger workers.
- i. While performing work the client is non cooperative or abusive (documented by two individuals).

Correspondence to include:

- a. The results of the dwelling inspection.
- b. Describing the situation(s) that prohibits work from proceeding.
- c. Detailing what needs to be done before weatherization can proceed.
- d. Noting that the situation may not be addressed in the program.
- e. Requesting that the agency be contacted after situation has been rectified.
- f. Indicate that the situation must be resolved within 180 days.
- g. File placed in a pending status.
- h. After 180 days the file may be administratively closed.
- i. Send a copy of the letter to the Department.

Client Grievances

WAP Agencies must:

- a. have a written appeals/grievance system adopted by the Board of Directors as required in the agreements,
- b. post a copy of the appeals/grievance process in the client intake area of the agency, and
- c. provide a copy to the client when applying for services.

A grievance situation exists if the client:

- a. has a problem with work being performed,
- b. is not satisfied with the work completed, or
- c. refuses to sign the Building Work Report (BWR).

The Coordinator determines the relevance of the client's dissatisfaction to determine plausibility and possible activity within program guidelines to rectify the situation. If a resolution can not be reached:

- a. the Coordinator again provides the client with a copy of the grievance procedures, and
- b. reference the agreement requirement of submitting a written grievance.

The Agency, upon receipt of the written grievance from the client, will review the grievance through the agencies internal review process as outlined in the contract agreement. Once a course of action has been determined, the agency will then:

- a. Send a certified letter to the client (copy state consultant):
 - i. outlining the issue,
 - ii. clarifying applicable program guidelines,
 - iii. indicate the action required by client (if applicable), or
 - iv. indicate action the agency will take to either resolve the issue or justify its position.
 - v. Provide an appropriate time frame for client response (2 – 4 weeks suggested).

After the time frame has expired, if no response is received, a follow-up second certified letter (copy state consultant) is sent indicating that the file will be administratively closed (copy the state consultant). The dwelling may then be reported as completed in the next Financial Status Report with notation in BWR comments box as an administrative close-out.

SECTION V - Coordinating Weatherization Work

The Pre Work Order Agreement (PWOA) form is completed after the initial dwelling inspection and diagnostic testing is performed. It is highly recommended that the PWOA form is prepared, presented and signed by the client before beginning the process of procuring a contractor for/and coordinating any work to be performed. If client refuses to sign this form, work can not commence and a postponement of services situation exists. However, a client can refuse a measure and still receive services.

Pre-Work Order Agreement

This form includes:

- a) language describing the programs;
- b) a list of all work to be performed on the dwelling (the more detailed the better), following Priority List order, in the event funds to not allow the last measure(s) to be performed;
- c) disclaimer language regarding mold;
- d) language to confirm that copies of the Environmental Protection Agency's booklets titled ***Protect Your Family from Lead in Your Home*** and ***A Brief Guide to Mold, Moisture, and Your Home*** have been provided to the client;
- e) receipt of a copy of the subgrantee grievance policy; and
- f) signature and date blocks for the client and subgrantee representative.

After the PWOA is signed:

- a) the work order is prepared and contractor is procured,
- b) when applicable, permits must be obtained and inspections performed by the local building inspector to ensure compliance with local building codes,
- c) the client is then notified as to the work schedule to assure access to dwelling.

While work is in progress the Coordinator should:

- a) perform a site visit at least once while the work is in process,
- b) document (photos) Lead Safe Weatherization procedures,
- c) confirm that there is clear communication and coordination between the client and contractor in regard to meeting work schedule,
- d) spot check that measures installation is in compliance with program guidelines, and

- e) periodically check with the client to address any concerns.

Note: Unexpected incidental repairs may increase a dwelling's total expenditures above the program limit. Should this situation occur, the BWR Comments box should include a brief notation or submit an email explanation with the submitted Financial Status Report.

The Bid Package

Dwellings may be bid out as a package or single dwelling. This is an agency decision, often contingent upon the availability of interested contractors. Copies of bid packages will be reviewed during monitoring visits.

The subgrantee is responsible for:

- a. Ensuring that all bids and services contracted are in a manner to provide, to the maximum extent practical, open and free competition.
- b. Advertising at least once a year, the availability of this work to all contractors in the service area, i.e., in a public publication, posted signs in the county building or permitting offices, building supply stores, etc.
- c. Providing all prospective contractors with a copy of the *Florida Weatherization Handbook – Materials, Installation and Workmanship Standards* and training on guidelines for the installation of weatherization measures.
- d. Assuring that all work being performed is under the supervision of a state licensed contractor.
- e. Keeping copies of current license and insurance for all contractors on file at the agency.
- f. Assuring that all allowable measures are addressed.
- g. Determining that costs charged to the programs for material and labor are indicative of the local rates.
- h. That the overall bid amount does not exceed average expenditure allowed per program.

SECTION VI –Initial Evaluation for Health & Safety

Evaluation

Evaluating the dwelling is the most important and time-consuming activities in the weatherization services delivery process. A thorough dwelling inspection and diagnostic testing may take 2.5 to 3.5 hours and consists of:

- a) preparing a simple site survey drawing to include dwelling shading landscape,
- b) taking dwelling measurements of the exterior of the dwelling (including crawl space),
- c) documenting heating and cooling appliance data and fuel source,
- d) performing an interior inspection (including attic),
- e) completing a pollutant survey (type and storage location),
- f) diagnostic testing and discussions with the client.

However, before any time is spent on the whole dwelling evaluation process, the Coordinator should first determine if there are combustible fuel appliances utilized by the household. If there are, a Carbon Monoxide (CO) and a gas analyzer (leak detector) test must be performed on the combustible appliance(s) and the fuel source before proceeding with any other inspection or testing process.

All weatherization providers must:

- a. Utilize a Monoxor III with printing capabilities
- b. Perform a final CO test of any new combustible fuel appliance(s) installed.
- c. Perform a final ambient CO test in the room with each existing appliance if no replacement combustible fuel appliances are installed.

- d. Have copies of the pre and final readout in the client file, each listing the appliance tested, and/or the ambient test(s) results with room listed.

No weatherization services will be provided on a dwelling with an appliance testing over the acceptable limit until the CO problem is addressed.

Test results will determine how or when to proceed in regard to performing weatherization on the dwelling

- a. If combustible appliances test within acceptable limits, proceed with weatherization.
- b. If combustible appliances test results are above the allowable CO level, repair or replacement is coordinated along with weatherization (allowable measures only).

There are various aspects to be considered regarding the CO testing procedures and results along with addressing different combustible fuel appliances and weatherization activities. The following subsections address these situations and provide the required activities.

1) No Fuel Situation:

- a. Assist client by referring to the local LIHEAP provider agency for home energy assistance or winter crisis funds to obtain fuel (allowable as long as the fuel and heating system are attached and contingent upon available funding).
- b. Follow-up with LIHEAP agency for status (could help meet the 10% LIHEAP referral requirement).
- c. Contact local fuel provider for assistance (partial fuel donation to allow for installation and required testing – install and final).
- d. Postpone services until fuel is obtained, perform testing, then if acceptable levels of CO, prioritize providing weatherization services to client.

Note: For additional information in performing a thorough inspection and testing procedures to identify dangerous fuel leaks, the potential for CO poisoning, and fire hazards, the U. S. DOE Hot Climate Initiative, “Combustion Appliance Safety & Efficiency Testing” pamphlet should be referenced. A copy of that pamphlet is located in Section Two of the Florida Weatherization Programs Manual.

2) Dangerous Level of CO:

- a. If any combustible appliances test above the allowable CO level, the test results must immediately be brought to the client’s attention.
- b. The fuel source may need to be temporarily turned off until the problem is corrected.
- c. That appliance may be disconnected if other combustible appliances are safe and need to be operational for the household.
- d. If the high CO reading is from an allowable weatherization measure (space heater or water heater), that measure can be prioritized as the first item to be taken care of.
- e. If the unacceptable CO reading is from a stove, other funding sources must be utilized to rectify the situation before weatherization is performed. (See stove venting section below.)
- f. If the unacceptable CO situation can not be rectified, then a Postponement of Services situation exists.

3) Unvented Heaters:

- b. If an existing unvented heater (fixed or portable) is the primary heating source and is not going to be replaced, weatherization services can not be performed.
- c. Vented heater must be installed in order to proceed with performing weatherization on the dwelling.
- d. An unvented heater may be left in a dwelling as a secondary heating source if it tests acceptable.
- e. If it does not test acceptable, it must be removed before weatherization can be performed.

4) CO Alarms:

Must be installed in occupied rooms that contain a combustible appliance (State Program Notice 07-08 & 07-12). Installation of any CO Alarm must be in compliance with the local building codes and follow these requirements:

- a. May include the CO alarm cost with a new combustible appliance(s) installation.
- b. If no combustible appliance is installed, charge the CO alarm(s) under Health & Safety.
- c. Hard wired into the dwellings electrical system or utilizes a tamper resistant five year lithium battery.
- d. Battery is enclosed within a compartment which is locked closed with a tamper resistant screw.
- e. Must be UL listed and meet the latest standard (UL-2034-05 or LAS 6-96).
- f. Located in the room(s) that contains the combustible appliance(s).
- g. Mounted at eye level and the mounting must be tamper resistant.
- h. Any other manufacture requirement listed with product.

5) Stove Venting:

An unvented gas stove can be more dangerous than an unvented gas heater because the burners can be easily blocked with spilled food, creating a high level of CO. Venting **must** be performed for any dwelling with a gas stove. Stove venting requirements:

- a. Vented to the outside either through roof or wall. (NO ATTIC VENTING.)
- b. Relocating stove to allow for venting through wall.
- c. Waiver for additional charge (if needed) is obtainable to perform exterior venting through the roof.
- d. This is a Health and Safety charged item.
- e. If this measure is not installed, a detailed justification must be recorded on the Priority List Assessment and Testing form as documentation in client file.

6) Waiver Request:

On a stove, if there is a high pre inspection CO stove reading and it is determined that this is due to lack of maintenance of unit (cleaning spilled food), a stove vent and CO alarm must be installed before weatherization services are provided.

Note: Only in an extreme situation will a gas stove replacement be considered. A waiver request to include photo of existing stove and gas technician statement must be submitted and approved by the state weatherization office prior to installation. Lack of maintenance (cleaning up spilled food) is not a justification even though this may result in a high CO reading and replacement would not eliminate problem in the future. Installation without a written waiver will result in a disallowed cost.

7) Smoke Alarms:

- a. An allowable measure if there are combustible appliances existing or installed.
- b. To be charged to the Health and Safety category.
- c. Follow manufactured recommendation regarding number of and placement in a dwelling.

SECTION VII– Data Collection & Diagnostic Testing**Data Collection**

The Priority List Assessment and Testing (PLAT) evaluation data collection form must be completed for each dwelling receiving WAP, WAP/LIHEAP and LEHRP measures and be placed in the client file. The PLAT format follows the Priority List and covers:

- a. pollutants survey and client questionnaire,
- b. a site plan drawing
- c. the diagnostic testing data collection results – pre, post and final,
- d. dwelling data required for utilizing an audit,
- e. heating and cooling units specifications for using an audit, and
- f. health and safety abatement in WAP & WAP/LIHEAP,
- g. occupant health and safety in LEHRP.

Note: For replacement of a central heating and cooling unit, the **General House Data** package must be utilized to collect information for populating the **National Energy Audit (NEAT)** or the **Manufactured Home Energy Audit (MHEA)**. The audit will recommend the appropriate sized central unit for replacement.

The following diagnostic testing (as applicable) will be performed during the initial inspection and after all measures have been installed on every dwelling receiving WAP and WAP/LIHEAP services:

- a. Carbon Monoxide - Monoxer III, Gas Analyzer (Required in LEHRP when applicable)
- b. General Air Sealing - Blower Door, Infrared Camera, Smoke Puffer
- c. Duct leakage – Blower Door, Infrared Camera, Duct Blaster, Pressure Pan, Manometer
- d. Room Pressure and Zonal testing, Manometer
- e. Water temperature/ water heater – Laser Temperature Gauge (Required in LEHRP), Manometer, Smoke Puffer
- f. Attic, wall and floor insulation - Blower Door, Infrared camera, Smoke Puffer
- g. Refrigerator - Watt meter

Using an Infrared Camera

The blower door (pre, post and final) exaggerates the pressure differences between the dwelling and the outdoors for determining air infiltration areas however, the infrared camera can further provide:

- a. a clearer picture of the actual heating or cooling loss,
- b. pinpoint those areas that may not be physically accessible,
- c. a view into the wall/ceiling to determine if any insulation exists,
- d. an image of the effectiveness of existing (and post installation) ceiling and wall insulation,
- e. possibly locate moisture problems, and
- f. electrical overloads.

Note: Supplemental guidelines, requirements and directions for performing the all diagnostic testing procedures are included in the *Florida Weatherization Programs Manual*.

No Blower Door test performed - Client Health Problem

In the event that a household has an occupant with a medical situation that prohibits disturbing the dwelling atmosphere (such as asthma or respiratory condition):

- a. The condition must be documented in the client file:
 - i. doctor's letter,

- ii. a signed statement from a family member,
 - iii. a notation by the Coordinator on the PLAT based upon visual observations, i.e., respiratory medication, oxygen for breathing.
- b. Any work performed should be least disturbing of dwelling environment.
 - c. A reference on the Building Work Report (BWR) comments box when the dwelling is reported.

Blower Door Testing Procedure

Pre Test

- a. Performed with the windows and exterior doors shut from the inside.
- b. All tests are performed at 50 pascals or a factor thereof.
- c. Record reading on the BWR.

Scenario #1 - A dwelling may have a 7500 CFM reading or above during the pre blower door test due to:

- a. gaping holes in the walls, floor or ceiling that can be addressed easily,
- b. multiple leaks that will take time to find but can be patched,
- c. duct leaks (if applicable),
- d. attic access opening leaks,
- e. windows with broken panes or are jalousie type, or
- f. doors with visible deterioration.

Scenario #2 - A dwelling that tests 1500 CFM or lower must have a Minimum Ventilation Rate/ Building Tightness Limit (MVR/BTL) calculation performed to determine if additional ventilation will need to be installed. (See the **Air Sealing** handout located in **Section Two** for determining MVR/BTL.) Venting may be accomplished through:

- a. a bathroom exhaust fan,
- b. stove vent,
- c. wall vent.

Note: the final Blower Door reading must be at or above the MVR/BTL calculated CFM.

Post Test - The post blower door maximum air infiltration level is 3000 CFM.

With the blower fan still on, loose closing windows should be taped shut, and all areas at which air infiltration is determined to be present (easily identified by using the smoke puffer, laser thermometer or infrared camera) should be covered with duct mask or blocking. All registers and vents from heating and cooling units should be masked off also during the post test.

Scenario #1 continued: temporary blocking of air infiltration areas will determine:

- a. if weatherization services to the whole dwelling can be performed (within allowable guidelines and expenditure limits),
- b. if only a conditioned living space can be weatherized, (determined by closing interior doors and blocking undercuts to stop air infiltration until acceptable post blower door readings can be achieved).

Option #1: If the targeted post blower door level (3000 CFM) can not be achieved, either for the whole dwelling or a conditioned living space, then the dwelling is not a candidate for weatherization services unless other leverage resources can be utilized with WAP or WAP/LIHEAP.

Note: It may be possible for a subgrantee to be compensated for the time spent inspecting and testing a dwelling that is determined to not be a candidate for weatherization services. The subgrantee would have to submit a written request to include a justification and cost for compensation, to the Department for consideration.

Option #2: If the targeted post blower door reading could be achieved but would require exceeding the allowable air sealing expenditure limit, the state consultant should be contacted, a cost estimate provided, the situation explained and a waiver request will be considered.

After completing the post blower door air infiltration evaluation, the ducts and registers should be unmasked and the blower door brought back up to 50 pascals. Significant changes in the blower door readings would indicate duct leakage that needs to be addressed. Costs for Duct Sealing and Insulation are not included in the Air Sealing expenditure amount.

In addition, (if applicable) a Pressure Pan test will be performed during the post blower door testing.

SECTION VIII -Audits

The General House Data forms are to be used for data collection required to populate either the NEAT or MHEA. It must be filled in for dwellings with existing central heating and cooling units that are to be considered for replacement. A heating and cooling unit will only be replaced if recommended by an audit.

The Audit Output Report will recommend the replacement of an inefficient central heating and cooling unit. Based upon the data entered in the materials set-up data screen, this will be the correctly sized unit for the dwelling.

Each subgrantee has been provided a compact disc containing the two softwares and user manuals. The manuals should be printed out for easy reference. There is a sample house in each audit for reference. The new version of the NEAT 8.3.3.8 mirrors the old 7.0 AudiT. Navigation and Data entry is close to the same. The MHEA manual should be reviewed prior to implementation of the audit. In both audits, the appropriate "Candidate Measures" must be selected under "Setup". (See Appendix A)

Exception to Audit Recommendation of Central Heating and Cooling unit

If the audit does not recommend replacement but a maintenance inspection (by a licensed heating and cooling contractor) indicates that the central unit requires excessive work to bring it to an efficient functioning level, the unit may be replaced. However, the following requirements apply:

- a. The unit must be operational at the time of inspection.
- b. There must be a detailed inspection report on the contractor's invoice or letterhead indicating the problem and estimated cost to address and cost of recommended replacement unit.
- c. For households with only one occupant, it may not be cost effective to replace a central unit even if recommended. A reverse cycle wall unit in a conditioned living space should be considered.
- d. All documentation placed in client file.
- e. A notation must be made in the BWR Comment Box – "Maintenance report justifies replacement."
- f. A copy of that inspection report must be submitted when the dwelling is being reported on the Financial Status Report (FSR).
- g. No documentation equals a disallowed cost and the BWR not accepted until costs are removed.

SECTION IX - Priority List and Measures

General Information

The Priority List is made up of those weatherization measures that should be in all Florida single-family dwellings. These measures have been determined to be the most cost effective based upon projected energy savings, energy costs, and climatic conditions. Florida's Priority List ranks the most cost-effective measures in order starting with the number one measure or activity – **Air Sealing**.

At a dwelling to be weatherized, if a Priority List item is already present and meets guidelines or is not applicable to the dwelling, move on to the next Priority List item to be addressed. The PLAT will have a space to be filled in justifying why a Priority List item is not addressed.

All Priority List measures may be charged to the either the WAP or WAP-LIHEAP. The LEHRP measures are specifically related to the health and safety of the household occupants and priority of measure selection to address will be determine by the Coordinator and based upon the physical inspection. Some allowable LEHRP measures may tie in with the WAP or WAP/LIHEAP, i.e., minor envelope repairs along with electrical or plumbing work or installing a window air conditioning unit for health and safety.

Note: Four Priority List items, air sealing, attic insulation, duct repair and dense-pack sidewall insulation may overlap each other regarding the initial inspection and ensuing work to be performed. **Example:** Adding attic insulation should only be performed after the other three measures have been addressed and completed.

For installation standards of all measures to be addressed in the programs, refer to the *Florida Weatherization Handbook: Materials, Installation and Workmanship Standards* Section Three of the *Florida Weatherization Programs Manual*.

Line Item Categories

These are charges allowed for activities related to installation of weatherization measures. Each item is reported on the Building Work Report in the appropriate line item section.

- 1) **WAP Health & Safety (H&S) for Hazard Abatement** – For each dwelling weatherized, there is a set-aside amount of funds to be utilized for addressing any activity required to assure the safe installation and protection of a weatherization measure. **Example:** utilized in upgrading wiring for installing a heating and cooling unit or maybe a water heater; minor roof patching around vents to protect new attic insulation.

Guidelines include:

- a. Limited to \$600 per dwelling (exceeding amount must be pre-approved by state office).
- b. Use for performing Lead Safe Weatherization (LSW) activities.
- c. Used for performing Mold and Moisture related activities.
- d. Charged amount for this activity is itemized – material & labor.
- e. Total amount is not included with the other material and labor charges on the BWR.
- f. Notation in BWR Comments section regarding what H&S funds were used for.
- g. Reported as a separate line item charge on the Financial Status Report (FSR).

Note: The LEHRP is a health and safety repair program. Its measures are those items that need to be addressed in a dwelling to assure the health and safety of the household occupants. These are line item reported charges (material and labor), i.e., electrical repair, plumbing, accessibility, etc., that may be addressed as the Coordinator deems required.

2) Disposal Fees

- a. For site cleanup materials.
- b. Hazardous materials (lead, asbestos)
- c. De-manufacturing of refrigerator.
- d. Receipt in client file.
- e. Multiple job disposals fees are pro rated to each job.
- f. Local rate applies.

3) Permits

- a. Coordinator is responsible for knowing what local permitting requirements are.
- b. Must be obtained to meet local compliance.
- c. Documentation as available locally (intranet, sign, sticker, etc.)
- d. Coordinator is also responsible for inspecting work performed – sign BWR.
- e. Copy of approved permit after work in client file.

Required General Heat Waste Measures

All dwellings receiving weatherization services must have the following General Heat Waste measures addressed. Costs for these measures (labor and material) are exclusive of Air Sealing but inclusive of the overall targeted expenditure on a dwelling. These measures, their guidelines and the reporting entries are:

<u>Measure</u>	<u>Guideline / Parameters</u>	<u>Notation on BWR</u>
Air filters (2)	install on unit, leave extra one	No unit or Washable
Low Flow Showerhead	max 2.5 gal. per minute flow rate	Refused, Existing or Done
Faucet Aerators*	kitchen and bathrooms	Refused, Existing or Done
Water Heater Wrap	gas and electric (to R-11.5**)	New or No space
Water Line Insulate	5 ft of cold in and hot out	Existing or No Space

*Exception – dwellings on well water or client not able to perform routine maintenance.

** Bring existing or new unit to this level. Manufacture guidelines for additional insulation must be followed.

NOTES:

Priority Item #1 – Air Sealing

The physical inspecting of plumbing, electrical, and HVAC penetrations through ceiling, flooring, and exterior walls are the most important part of the dwelling inspection process. Often the greatest reduction in air infiltration may be realized by these overlooked areas. Recording the location of those air infiltration spots and then temporarily blocking them during the post blower door test may assure reaching the targeted final blower door reading of 3000 CFM.

Note: Although **Seal and Insulate Ducts** is listed as **Priority Item # 7**, when performing the initial dwelling inspection of the attic area, the duct system should be visually inspected. The pressure Pan testing would also indicate leakage. Any duct repair would be prioritized and performed when addressing the attic air sealing and before adding any insulation. Duct work activity is reported as a line item on the BWR and costs are not to be included in the air sealing expenditure amount allowed.

The **Air Sealing** handout in **Attachment Two** provides a detailed checklist for performing a thorough air infiltration inspection. Since there is a limit to the amount of funds to be spent on air sealing, as long as the final blower door reading is not below 1500 CFM, no MVR/BTL will need to be calculated.

Guidelines:

- a. Final blower door reading on all dwellings can not exceed 3000 CFM
- b. Air Sealing Measures expenditure limit \$3,000 (in either WAP or WAP/LIHEAP – but not both)
- c. Incidental Repair - \$1,000 – only allowed if needed to reach 3000 CFM threshold (must be reached)

Air Sealing Measures

Guideline / Parameters

Wall top plates	<ul style="list-style-type: none"> >Loose insulation covered with fiber board, wood, metal patch, two part foam. >Removal (attic and crawl space) and replacement of attic insulation for performing air sealing on high CFM air leakage dwellings must be cost effective.
Caulking	<ul style="list-style-type: none"> >No clear silicone caulk allowed.
Ceiling, Floor & Walls	<ul style="list-style-type: none"> >Minor repair (non structural) – under \$1,500. (part of air sealing expenditure)
Doors	<ul style="list-style-type: none"> >One door per dwelling initially allowed. (1 sq.ft. of glass allowed) >Tight un-insulated doors in good condition should not be replaced. >Replace only when door is damaged beyond repair or deteriorated to the point of allowing air infiltration. >Second door must have photo documentation in client file to clearly support replacement need (no photo = disallowed cost). >Site built home - solid core with peephole and dead bolt. >Mobile home - screen/storm/door combo permitted (must have a cost comparison to single door unit on file.)
Threshold	<ul style="list-style-type: none"> >Solid wood or metal.
Weather-stripping	<ul style="list-style-type: none"> >Exterior doors, windows and attic access hatch, outlet gaskets. >Interior doors for a conditioned living space.
Window MH & Site built	<ul style="list-style-type: none"> >Four windows per dwelling initially allowed. >Up to four additional windows allowed only if photo documentation in client file to clearly support replacement need –damaged or jalousie (no photos = disallowed cost). >Additional windows - only allowed with a state waiver. >Low-E windows should be installed if cost effective. >Note: Impact resistant windows* and storm shutters not allowed. (*Documentation to support cost versus energy savings for impact resistant windows will be considered for any possible waiver exceptions.)

Priority Item #2 – Attic & Floor Insulation

The attic insulation guidelines regarding the R-value of insulation for dwellings are based upon the climate zone. New or additional attic insulation will be installed to meet R38 in the northern and R-30 in the central and southern climate zones. Attic insulation is an allowable measure for both site-built and manufactured dwellings.

Note: Do not insulate over knob-and-tube wiring. Either build dams over the wiring or consider re-wiring the knob-and-tube circuits. Health & Safety Abatement funds may be utilized if installing insulation

The following activities are to be addressed prior to installing attic insulation where none exists:

- a. All air sealing activities have been completed.
- b. The electrical circuits have been checked and any exposed wires and connections are sealed in junction boxes and the junction boxes are flagged.

The following activities are to be addressed when adding to existing insulation or a new installation:

- a. Assure adequate attic ventilation to provide 1 square foot of attic venting for every 300 ft of ceiling,
 - i. half of the vent area should be installed low and half installed high to induce good ventilation,
 - ii. gable and soffit vents may be installed to ensure adequate natural air exchange in the attic,
 - iii. roof fans that vent through the soffit may be installed,
 - iv. turbine vents are not an allowable measure. They may be removed (if not operating) and gable or soffit vents installed. (Suggest consider the feasibility of capping the base of the turbine instead of removing the whole unit down to the roof.)
 - v. ridge vents are not an allowed measure.
 - c. When blown insulation is installed, at least one depth marker must be stapled to rafters.
 - d. Blocking installed to the height of insulation around the attic access opening.
 - e. Blocking or v-board installed in front of soffit vents.
 - f. Access hatch opening is weather stripped, (stair encasements allowed).*
 - g. Batt of R-19 insulation or 6 inch styrofoam adhered to hatch attic side surface. Suggestion -consider installing a ¾ inch piece of plywood for hatch. The added weight would assure good weather stripping seal and paint to match ceiling. *
- * Note: items f. & g. above will be performed even if no insulation is installed if access is a conditioned living space.
- h. New insulation to match existing insulation type.
 - i. Installers card attached to rafter and visible from access.

Roof Coating

At the recommendation of the Coordinator, manufactured homes may also have an elastomeric coating applied to the roof. The following guidelines apply for installation of this measure:

- a. Applied only to manufactured dwellings.
- b. Adequate preparation required.
- c. Must cover all conditioned living areas.
- d. Application should not require any walking on the roof.
- e. Not allowed for site-built metal roofs. (Based on product guidelines.)

Floor Insulation

Although not included as a Priority List item, dwellings to be weatherized in the northern and central climate zones may have floor insulation installed. Both site-built and manufactured dwellings qualify. Coordinator will determine cost effectiveness of installing this measure based on the following:

- a. Minimum of a two foot crawl space.
- b. Match existing insulation type.
- c. Minimum of R-19.
- d. Can be installed in conjunction with a minor floor repair.

For installation standards of insulation, refer to the *Florida Weatherization Handbook: Materials, Installation and Workmanship Standards*, Section Three of the *Florida Weatherization Programs Manual*.

Priority Item #3 - Dense Pack Sidewalls

Dense-pack sidewall insulation can be one of the most cost-effective weatherization measures to be addressed in Florida single family dwellings. All manufactured and wood constructed dwellings receiving weatherization services should be evaluated to determine the need for this measure.

The first step is for the subgrantees to find contractors experienced in performing dense pack wall insulation. Then the following should be discussed with the contractor:

- a. Will the contractor work on site-built and/or mobile homes?
- b. Would the contractor need and participate in training?
- c. What type of insulation does the contractor use for dense packing?*
- d. Cost estimates for installation?

***Note:** Cellulose is the preferred material for dense packing because of its high R-value and ability to fill cracks and crevices within wall cavities. However, if using cellulose is an issue or concern with the contractor, the state office should be contacted. A dwelling without a vapor barrier could possibly develop moisture problems. Waivers may be granted.

Note: For step by step guidance in performing a building assessment, preparation of installation, blowing the insulation and the care and maintenance of equipment, the **Dense-Pack Sidewall Insulation** handout should be referenced.

Any agency unable to find a contractor to perform this measure must document the attempt to provide these services. (Name of contractor, date of contact, results.) This documentation will be reviewed during monitoring visits and may be requested at any time during an agreement year. The state office should be contacted for additional directions or any questions.

NOTES:

Priority Item #4 - Solar Window Screens & Film

The site plan drawing (in the **PLAT**) will indicate the percentage of shading from roof overhang and foliage of windows located on the east, south and west side of the dwelling to be weatherized. If a window does not receive more than 25% of sunlight, solar screens or window film would not be cost effective. Client should be informed about reduction of light into the dwelling prior to signing the Pre Work Order Agreement.

Measure

Guidelines

Sun Screens

Client refusal documented.
 Spleen must be on the outside of the frame – to allow for egress.
 Frame must not be fixed to the wall – removable.
 Installed only on the east, south and west wall windows.
 Can not be installed inside of awning or jalousie windows.
 Fabric material only.
 Costs for solar screens (material & labor) contingent upon local quotes.*
 * Reference Table 2 in the Priority List for Single Family Homes handout for estimated maximum installed cost guideline.

Window Films

Guidelines

Window film must have at the minimum a .045 shading coefficient.
 Window film material must have a minimum 15 year warranty from the manufacturer.
 Installation must comply with local codes.
 Mitigation (shatterproof) window film is allowed; however, the cost should be cleared with the state office prior to proceeding with the first job.
 Can not be installed on jalousie windows; however, allowed on awning type.
 The installation must meet manufacturer instructions and specifications.
 Window Film is to be installed on the entire glass area. In addition, film must be neatly trimmed around edges and free of wrinkles, air bubbles or puckers.
 A boarder of no less than 1/32 inch to no more than 1/8 inch must be left between the film edge and the window frame.
 Charge the window film cost to the Solar Screen Building Work Report line item.
 The client registers with the manufacturer, a copy of the registration kept in the client file.

Priority Item #5 – Smart Thermostat

For central heating/cooling systems, setback/smart thermostats can be cost effective for both existing and new heating and cooling central units. However, proper use of the thermostat is required.

The following guidelines apply:

- a. An inspection of the central unit by a heating and cooling contractor must be performed.
- b. Thermostat may be installed on existing or new unit.
- c. The thermostat should be shown to the client and operation explained before the PWOA is signed to assure that the client will not have any difficulty in using the thermostat.
- d. Client agrees to the installation.
- e. Client refuses thermostat.
- f. Install a tamper proof cover for households with children.

Priority Item #6 – Compact Fluorescent Lamps (CFLs)

On average, there are 6 -12 lights in a dwelling that are on for more than one hour a day, and should be CFL.

Guidelines

- a. Replace as many incandescent bulbs as possible within the expenditure limit - \$100.
- b. CFL sized approximately 1/3 of the wattage of the incandescent lamp they replace.
- c. Maintain or moderately improve existing lighting levels in most occupied rooms only.
- d. Client is to be provided with the “CFL Breakage and Disposal Guidelines” handout.
- e. Follow local building codes replacement of any lighting fixtures, (the touch it you own it all scenario).
- f. Replacement of a broken or unsafe fixture may be considered as a Health & Safety activity.

Priority Item #7 – Seal and Insulate Ducts

At the beginning of this section it was stated that a visual inspection of the duct system should be performed while evaluating the attic for air infiltration and determining the required air sealing activities. Also, the pressure pan testing of the ducts is required as it may indicate hard to detect leaks.

If it is determined that duct repairs are required, those repairs should be planned to be performed before any new or additional attic insulation is installed. If the central unit is recommended to be replaced by audit, Coordinator will determine if there will be sufficient funding to address all measures in Priority List order prior to client signing PWOA so as to assure that the duct repair is prioritized.

Note: If a monitoring visit reveals no data was collected or if data can not be provided upon request by the state office, the subgrantee will be required to re-visit the home and perform pressure pan tests at their own cost. If results indicate leakage, repairs must be coordinated and results provided (photo documentation and final test results) to the consultant. Reimbursement processing may be suspended until data is provided.

The following guidelines apply for addressing ductwork:

- a. Central unit must be in operating condition.
- b. Seal accessible ducts, connections and boots with mastic.
- c. Mastic must overlap joints a minimum of 2 inches.
- d. Insulate ducts located outside the conditioned space:
 - i. Duct must be exposed for performing this activity and easily accessible,
 - ii. Suggest photo documentation taken to support decision,
 - iii. A cost justification for not performing.
 - iv. Use foil-faced insulation.
 - v. Duct insulation must have an R-value of R-4 to R-11.
- e. New duct must be insulated.
- f. Repaired duct insulation must match existing R value.
- g. If existing duct work passes pre inspection, pressure pan testing and no repairs or air sealing is performed or attic insulation installed, no final test is required.

NOTES:

Priority Item #8 – Refrigerator

Whether or not a refrigerator should be replaced can not be decided by the age and/or appearance of the unit. The energy efficiency of the unit must be determined.

Note: A minimum of ten percent (10%) of all refrigerators replaced by a subgrantee in an agreement period must have been metered. Multiple county subgrantees may purchase a second watt meter if needed to meet metering requirement.

There are three options for determining replacement:

OPTION #1 - Metering the refrigerator for a 24 hour period will provide actual real life sample electricity consumption. (Photo documentation of meter reading must be in client file.)

OPTION #2 - Metering the refrigerator for a 2 hour period will provide an estimation of the annual electricity consumption however, the defrost cycle switch must be adjusted to prevent defrosting during metering. (Photo documentation to show switch location and of meter reading must be in client file.)

Note: For Options # 1 & # 2 only, reference the **Priority List for Single Family Dwellings** pamphlet, Table 3 chart located in **Section Two** of the **Florida Weatherization Program Manual for cost effective replacements**.

OPTION #3 - Entering refrigerator data into either the NEAT or MHEA audit will provide a recommendation to replace if the unit is not energy efficient. Utilizing audit will require entire dwelling data to be entered. It may be more applicable to use the audit to see if a replacement will be recommended when addressing a heating and cooling unit replacement.

The following guidelines apply:

- a. Photo documentation of metering results must be in client file.
- b. Pre Work Order Agreement includes notation that replaced unit must be removed from premises and disposed.
- c. No size or amenity upgrades.
- d. No water or ice dispensers in the door.
- e. No new water plumbing allowed.
- f. Cost must include delivery, installation and removal (if applicable).
- g. Use “Energy Star™” appliances when possible.
- h. Old unit must be decommissioned/de-manufactured and taken off of the grid.
- i. Line item for disposal charge to document recycling of unit.
- j. Maximum expenditure of \$825 (purchase, delivery, installation).
- k. Disposal can be charged to disposal fee line item on the BWR.

NOTES:

Priority Item #9 – Heating and Cooling Systems**General Information**

The Coordinator determines the most cost effective and energy efficient way to assure that the dwelling being weatherized will be capable of providing the household with a controlled environment.

Switching out an existing heating and/or cooling appliance with a new one may not be the best option or even an allowable process, i.e., unvented combustible fuel space heaters. Also, the condition of the dwelling or the size of the household may dictate a different measure to provide.

The following guidelines may not cover every scenario a Coordinator may encounter. Contacting the state office for clarification and direction is highly recommended to avoid any situations where a disallowed cost could be incurred by a subgrantee.

In situations where additional activities (beyond standard material and labor) are required for site preparation of an installation, WAP or WAP/LIHEAP Health & Safety Abatement funds may be applied. Use of these funds would be reported separately in the BWR and comment box.

In all situations, the Coordinator may need to:

- a. consider dwelling condition,
- b. perform a cost comparison of options to include manufacture recommendations for sizing,
- c. determine the most cost effective approach,
- d. consider any fuel switching options,
- e. cover planned activity in PWOA (and review with client).

Central Units

Replacement of a central heating (furnace) or a central heating and cooling unit is only allowed if recommended by either the NEAT or MHEA. SECTION VIII – Audits covers other replacement guidelines.

General Guidelines for Central Heating & Cooling units:

- a. Audit must be populated with all sized units.
- b. Duct work must have been inspected and tested to meet pressure pan guidelines.
- c. Pressure pan testing results must be recorded.
- d. Exterior unit should be installed level and on a base.
- e. Seer of 13 or more.
- f. Installation by certified contractor.

Note: Replacing a central unit when there is only one occupant in a dwelling may result in increasing the energy usage and the unit not operating efficiently. Most likely the doors to unoccupied rooms would be shut. Installing a window unit, closing off ducts and creating a conditioned living space may be a more cost effective and energy saving option.

Window Units

Coordinator determines and documents need for replacement.

General Guidelines for window units:

- a. Photo documentation in file to show condition.
- b. Replace with appropriate sized (refer to manufactures sq. ft coverage for maximum efficiency)
- c. Upgrade to reverse cycle allowed if heating source warrants replacement also.
- d. Dwelling with single person occupancy – window unit allowed as an alternative to central unit replacement.
- e. Creating a conditioned living space.

Scenario: Installing a window cooling unit when creating a conditioned living space (weather-stripping the exterior and interior doors leading to a room). This and a safe (low CO reading) vented heater in a room, would provide a temperature controlled environment.

Scenario: If no cooling unit exists (or one that is deemed to be replaced) and the heater is un-vented, (or vented but unsafe - high CO readings), installing a reverse cycle window unit may be a viable option.

Unvented Space Heaters

Electric

DOE will not permit any DOE-funded weatherization work other than incidental repairs on electric space heaters. DOE will not preclude the use of other funding sources for the replacement or major repair of electric space heaters, but the Department does not encourage it because of:

- a. The high cost of electricity as compared to fossil fuels;
- b. Lower output ratings (size);
- c. Risk of fire hazards - especially in older homes; and,
- d. Inadequate electrical systems in older homes frequently cannot safely carry the power required to operate an electric heater.
- e. Work on such systems may make local agencies liable for inadequate electric wiring and damages that may result.

Guidelines

- a. A dwelling unit may not be weatherized if an unvented gas or liquid fueled space heater will remain as the primary heat source. This applies to natural gas, propane and kerosene fuels.
- b. unvented gas or liquid-fueled space heaters may remain as a secondary heat sources in single family dwellings
- c. Installation of unvented space heaters is not allowed – not even radiant type heaters.
- d. If client will not agree to the unvented guidelines (as discussed when the Pre Work Order Agreement is presented to the client) services may be postponed.
- e. Postponement requires a certified letter sent to client.
- f. Installed vented space heater to match existing fuel source.
- g. Limit one primary heating source installed per dwelling.
- h. Consider creating a conditioned living space

Any secondary unvented combustible fueled space heater that remains must:

- a. Comply with the International Residential Code and the International Fuel Gas Code.
- b. Meet CO emission guidelines.
- c. Not have an input rating in excess of 40,000 Btu/hour;

- d. Not be located in, or obtain combustion air from sleeping rooms, bathrooms, toilet rooms, or storage closets, unless:
 - i. Space heaters in bathrooms have an input rating less than 6,000 Btu/hour
 - ii. Space heaters in bedrooms have an input rating less than 10,000 Btu/hour,
 - iii. For both of the above locations, space heaters must be equipped with an oxygen depletion sensing safety shut-off system, and the rooms meet the required volume criteria to provide adequate combustion air (venting)

WAP, WAP/LIHEAP or LEHRP funds may only be used to replace the primary heating source. Replacement of unvented space heaters to be used as the secondary heating source is not allowed.

Priority Item #10 – Water Heater Replacement

As listed under **Required General Heat Waste Measures** in this section, wrapping the water heater and insulating the water lines must be done on every dwelling (site-built and manufactured) receiving weatherization services. Any water line leaks must be fixed before insulating.

The water heater should be evaluated and these situations may warrant a replacement:

- a. The water heater unit has visible rust and/or is leaking water.
- b. Temperature can not be adjusted down (temperature exceeds 120 degrees indicating possible calcium build-up on elements – more likely when water source is a well).
- c. Water does not get up to 120 degrees.
- d. Unit never turns off (electrical problem or calcium build-up).
- e. Unit does not work.

However, replacement is contingent upon available funding after all other required and priority list measures are addressed. This is also an allowable LEHRP measure.

Note: The state office will consider installation of tankless water heating units. A cost comparison and literature about the unit must be submitted to the Department for review and approval before installation occurs.

The following guidelines apply when a water heater is replaced:

- a. Factory insulation of R-11.5 minimum.
- b. Include a drip pan.
- c. Same size as existing unit.
- d. Pressure Relief Valve Plumbing:
 - i. Into drip pan or container.
 - ii. Through adjacent exterior wall (less than 5 ft.) if concrete floor
 - iii. Through floor if crawlspace
- e. Check for the presence of polybutylene piping. (Replacement would be an allowable Health and Safety measure – within the \$600 limit.)

If the water heater is not replaced, the following guidelines are recommended:

- a. If no drip-pan exists, provide container next to water heater (minimum one gallon), overflow line to extend 2” below top of container.
- b. Plumb through adjacent exterior wall (less than 5ft.).
- c. Plumb into an existing drain line.

SECTION X – Final Inspection and Testing

When all of the work has been completed on the dwelling, the final blower door test and any other required diagnostic tests (CO, pressure pan, etc.) are performed. Testing data will be recorded in the PLAT and BWR. Work must comply with program guidelines (Weatherization Workmanship Standards Handbook) and where applicable, local building codes.

Final Blower Door Test - If the targeted post blower door reading of 3000 CFM is not reached, a written justification email as to why the targeted reading was not met must be submitted to the consultant when the dwelling is included for reimbursement. Additional photo documentation may be requested and the reimbursement process will be held up until received.

Final Infrared Camera Evaluation - With the blower door running, repeat the pre interior evaluation, and especially focus on any items revealed in the post testing phase. Each Priority List measure addressed should be checked for heat/cooling loss reduction and pertinent photographs included in the client file.

A walk through review of the work with the client is then performed and the client and Coordinator will sign the BWR.

If a client will not sign the BWR, and the situation causing the client's dissent can not be rectified, the state consultant should be contacted immediately. Then the subgrantee will send a certified letter with the appeals form (copying the state consultant) stating the position of the subgrantee, referencing program guidelines as applicable and request that the BWR be signed and returned within two weeks.

Note: Clients are to have been provided a copy of the subgrantee's grievance policy when applying for program services, and can respond appropriately in writing if in disagreement with the subgrantee letter.

The signed BWR will constitute a completed dwelling. This dwelling is then eligible to be included in that month's Financial Status Report production to be submitted to the Department by the 10th of the following month.

NOTES:

APPENDIX A: Candidate Measures**7.4.3.3 and 8.2.7.6 NEAT and MHEA****NEAT**

Attic Insulation R-30
Attic Insulation R-38*
Floor Insulation R-19**
Wall Insulation*
Furnace Tune-up
Replace Heating System
High Efficiency Furnace
Tune A/C*
Replace A/C
Replace Heat Pump
Refrigerator Replacement

MHEA

Wall Cellulose Loose Insulation
Wall Cellulose Loose Insulation in Addition
Replace Heating System
Tune Heating System
Tune Cooling System
Replace DX Cooling Equipment - All Types of Cooling Units
Refrigerator Replacement

*Northern Climate Zone

**North and Central Climate Zones

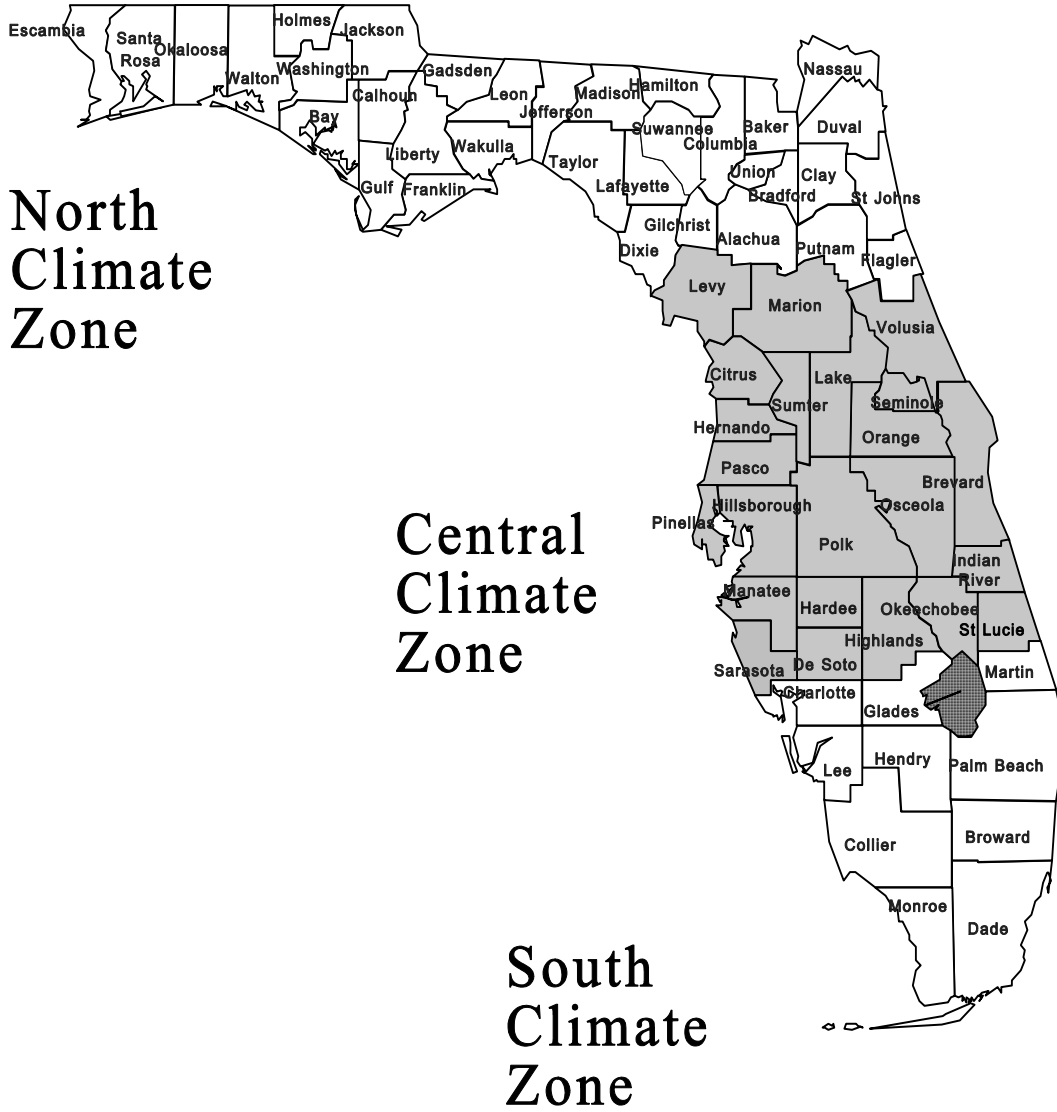
Enter appropriate vendors and cost parameters for your service area(s). Please see the Help section on Set-up Information (Parameter Sets) for detailed information and instructions.

Since the audits must be used for replacement of a central heating and/or cooling unit, these candidate measures are to remain checked as they may have a direct bearing on the central heating and cooling unit replacement recommendation.

When the State WAP office receives a clarification on this, a program notice will be issued. The candidate measures screens will be reviewed during each monitoring.

APPENDIX B

CLIMATE ZONES



APPENDIX C

Client File Documentation

1. **Client Intake Form:** completed; signed and dated by the client
2. **Client Selection (Priority) Criteria Form**
3. **Copy of the Complaint/Appeal Procedures Form** signed and dated by the client
4. **Copies of Social Security Cards** for all household members with all but last four digits covered up
5. **Copy of photo ID for applicant: drivers license or State ID card** (State ID cards may be obtained at any Driver License office for \$3.00. Waiver for a client without a photo ID may be obtained by contacting your consultant.)
6. **Income documentation** (for past twelve months): Total for all household members
7. **Documentation of ownership or signed landlord agreement form**
8. **Utility Bill** prior to work being done and 6 months after work completed.
9. **Inspection Data and Results**
 - a. Copy of NEAT or MHEA page one (date on audit follows date on Client Intake Form)
 - b. Priority List Assessment and Testing (PLAT-07) package
 - i. Household Pollution Survey Data Sheet
 - ii. House site plan
10. **Copy of Pre Work Order Agreement:** signed and dated by client and inspector
 - a. Include all required measures or document in file
 - b. Include all Priority List measures to be addressed
11. **Building Work Report (BWR)**
 - a. Signed and dated by Client
 - b. Signed and dated by Inspector
 - c. All required measures addressed (notation whether completed or not)
 - d. Blower door dates and readings
 - e. Pre and Post monoxor readings (and Monoxer reading printout stapled to the second page of the BWR) or “No Gas” in comments section
 - f. MBTUs saved (from Audit recommended heating and cooling units and refrigerators)
 - g. Air infiltration maximum allowed by Priority List \$2,000 and total spent. (Formerly Air Infiltration Allowance from NEAT/MHEA audits.) Also, documentation of incidental expenses.
12. **Copy of invoices and payment vouchers** separated by program
13. **Copies of any approved waivers** from the Department of Community Affairs
14. **Copies of any permits** issued for the work being completed

APPENDIX D

Recommended Set-up of Client Files

The client file should be organized for easy reference. The recommend set-up is as follows:

Either purchase a four part folder or staple two manila folders together. The inside of the folder will be divided into four sections:

- **SECTION 1** – all information pertaining to the client qualification documentation, items 1. - 8 on the previous page, i.e., income, dwelling ownership, landlord agreement, prioritization for receiving service (scoring), signed client intake form.
- **SECTION 2 – WAP Section:** PLAT, Pre-Work Order Agreement, invoices for all materials and labor charged to the program – separated by program, copy of purchase orders or checks issued for payment, NEAT/MHEA audit printout when used, completed (all sections) and signed BWR. Also, copies of building permits.
- **SECTION 3 – WAP-LIHEAP Section:** if all work is charged to the WAP-LIHEAP, then the same items listed under WAP above will be placed in this section. If only some measures are charged to the program (split charges), invoices for material and labor charges will be filed here, and for multiple program charged invoices, copies included with the WAP-LIHEAP charged measures highlighted. Also, copies of building permits.
- **SECTION 4 – LEHRP Section:** if all work is charged to the LEHRP, then the items listed under WAP (except the PLAT and NEAT/MHEA audit printout), will be in this section. If only some measures are charged to this program, invoices (or copies if multiple charges invoice with measures highlighted) for material and labor charges, and match documentation forms. Also, copies of building permits.

APPENDIX E

Forms

Hardcopy forms for administering and reporting on all Weatherization Assistance Programs are provided in this section. Electronic copies are available from the State office.

Building Work Report (BWR): Complete this form for all dwellings served indicating appropriate measures with charges. Ensure that the form is **signed and dated** by the client and your subgrantee staff person. Retain the form in your client file for monitoring review.

Client Intake Form (CIF-07): Complete this form for all program applicants. Ensure that the form is **signed and dated** by the applicant. Use information from the form to prioritize your waiting list. A copy of this form is electronically submitted with each program BWR.

Energy Conservation Guidelines: Provide a copy of this flyer to all program participants. You may also post this flyer in your client waiting area.

Landlord Agreement Form (LA-04) and Permission to Enter Premises (PEP-04) Form: These forms are required for renter dwellings served and are placed in the client files for monitoring review.

Pre-Work Order Agreement (PWOA-08): This form is required for all dwellings served and reflects all work to be completed on the dwelling. Items listed will be reflected on the BWR. Ensure that the form is **signed and dated** by the client and your subgrantee staff person. Retain the form in your client file for monitoring review.

Priority List Assessment and Testing (PLAT-08): evaluation data collection package of forms that must be completed for each dwelling receiving WAP, WAP/LIHEAP and LEHRP activities

Success Story Report: Complete this report as often as your programs experience success. This report must be submitted at least twice during the program year and is due on April 15th and October 15th.

Semi-Annual Leveraging Report: Complete this report twice during the program year to reflect leveraging efforts and successes. This report is due on April 15th and October 15th.

WAP-LIHEAP Household Quarterly Report: Complete this report for each quarter of your WAP-LIHEAP contract year. Quarterly due dates are as follows:

1st Quarter Report (October 1 through December 31) is due January 21st

2nd Quarter Report (January 1 through March 31) is due April 21st

3rd Quarter Report (April 1 through June 30) is due July 21st

4th Quarter Report (July 1 through September 30) is due October 21st