



WEATHERIZATION HEALTH AND SAFETY PLAN

TEXAS WEATHERIZATION CONTACT INFORMATION

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Weatherization Grantee Health and Safety Plan

1.0 – GENERAL INFORMATION

Grantees are encouraged to enter additional information here that does not fit neatly in one of the other sections of this document.

Allowable Department of Energy (DOE) related health and safety (H&S) actions and expenditures are those necessary to maintain the physical well-being of both the occupants and/or weatherization workers where:

- Costs are reasonable as determined by The Department of Energy (DOE) in accordance with this approved Master Plan;
- The actions must be taken to effectively perform weatherization; or
- The actions are necessary as a result of weatherization work.

This plan will provide guidance to the Texas Weatherization Network. Health and Safety issues will be identified by Program Assessors during the initial assessment. Weatherization Crews (either subcontracted or in house) will perform the task(s) identified in the initial assessment and listed in the work order(s).

Weatherization agencies and their representatives, including subcontractors, are required to take all reasonable precautions against performing work on homes that will subject the occupants or themselves to health and/or safety risks. In cases where an occupant's health is fragile, or an occupant has been identified to have a health condition, including allergies, and/or the crew work activities would themselves constitute a health and/or safety hazard, the occupant(s) at risk shall be required to leave during the performance of the work activities. In cases where an occupant is identified as having an allergy to a specific weatherization material, that material will not be installed. If comparable alternative materials are available and the occupant has no known allergies to the alternative materials and they meet DOE regulations, crews/contractors may substitute the alternative material(s). If no safe alternative material meeting DOE standards is available, the measure shall not be installed. This must be well documented in the client file.

This health and safety plan is taken from a DOE approved template. The text at the top of the template is boilerplate language and may not always apply to activities described in TDHCA's DOE plan. Capitalized terms in the Plan have definitions in Chapters 1, 2, or 6 of Part 1, Title 10 of the Texas Administrative Code.

2.0 – BUDGETING

Grantees are encouraged to budget Health & Safety (H&S) costs as a separate category and, thereby, exclude such costs from the average cost per unit cost (ACPU) limitation. This separate category also allows these costs to be isolated from energy efficiency costs in program evaluations. Grantees are reminded that, if H&S costs are budgeted and reported under the program operations category rather than the H&S category, the related H&S costs must be included in the calculation of the ACPU and cost-justified through the approved energy audit.

Select which option is used below.

Separate Health and Safety Budget

Contained in Program Operations

3.0 – HEALTH AND SAFETY EXPENDITURE LIMITS

Pursuant to [10 CFR 440.16\(h\)](#), Grantees must set H&S expenditure limits for their Program, providing justification by explaining the basis for setting these limits and providing related historical experience.

Low percentages should include a statement of what other funding is being used to support H&S costs, while larger percentages will require greater justification and relevant historical support. It is possible that these limits may vary depending upon conditions found in different geographical areas. These limits must be expressed as a percentage of the ACPU. For example, if the ACPU is \$5,000, then an average expenditure of \$750 per dwelling would equal 15 percent expenditures for H&S.

15 percent is not a limit on H&S expenditures but exceeding this amount will require ample justification. These funds are to be expended by the Program in direct weatherization activities. While required as a percentage of the ACPU, if budgeted separately, the H&S costs are not calculated into the per-house limitation. DOE strongly encourages using the table below in developing justification for the requested H&S budget amount. Each H&S measure the Grantee anticipates addressing with H&S funds should be listed along with an associated cost for each measure, and by using historical data the estimated frequency that each measure is installed over the total production for the year.

It is also recommend reviewing recent budget requests, versus expenditures to see if previous budget estimates have been accurate. The resulting "Total Average H&S Cost per Unit" multiplied by the Grantee's production estimate in the Annual File should correlate to the H&S budget amount listed in the Grantee's state plan.

Should a Grantee request to have more than 15 percent of Program Operations used for health and safety purposes, DOE will conduct a secondary level of review. DOE strongly encourages use of this H&S template and matrix to help expedite this process

Grantee has developed a comprehensive written deferral/referral policy that covers both H&S, and other deferral reasons?

Yes No

Where can this deferral/referral policy be accessed?

[10 TAC RULE §6.415](#)

6.0 – HAZARD IDENTIFICATION AND NOTIFICATION FORM(S)

Documentation forms must be developed that include at a minimum: the client's name and address, dates of the audit/assessment and when the client was informed of a potential H&S issue, a clear description of the problem, a statement indicating if, or when weatherization could continue, and the client(s) signature(s) indicating that they understand and have been informed of their rights and options.

Documentation Form(s) have been developed and comply with guidance?

Yes No

7.0 – HEALTH AND SAFETY CATEGORIES

For each of the following H&S categories identified by DOE:

- Explain whether you concur with existing guidance from WPN 17-06 and how that guidance will be implemented in your Program, if you are proposing an alternative action/allowability, or if the identified category will not be addressed and will always result in deferral. Alternatives must be comprehensively explained and meet the intent of DOE guidance.
- Where an Action/Allowability or Testing is “required” or “not allowed” through WPN 17-06, Grantees must concur, or choose to defer all units where the specific category is encountered.
- “Allowable” items under WPN 17-06 leave room for Grantees to determine if the category, or testing, will be addressed and in what circumstances.
- Declare whether DOE funds or alternate funding source(s) will be used to address the particular category.
- Describe the explicit methods to remedy the specific category.
- Describe what testing protocols (if any) will be used.
- Define minimum thresholds that determine minor and major repairs
- Identify minimum documentation requirements for at-risk occupants
- Discuss what explicit steps will be taken to educate the client, if any, on the specific category if this is not explained elsewhere in the Plan. Some categories, like mold and moisture, require client education.
- Discuss how training and certification requirements will be provided for the specific category. Some categories, like Lead Based Paint, require training.
- Describe how occupant health and safety concerns and conditions will be solicited and documented

Grantees may include additional H&S categories for their particular Programs. Additional categories must include, at a minimum, all of the same data fields as the DOE-provided categories. Two additional tables have been created to utilize.

7.1 – AIR CONDITIONING AND HEATING SYSTEMS

Concurrence, Alternative, or Deferral

Concurrence with Guidance Alternative Guidance Results in Deferral

Air Conditioning Unallowable Measure Heating Unallowable Measure

Funding

DOE LIHEAP State Utility Other

How do you address unsafe or non-functioning primary heating/cooling systems?

“Red tagged”, inoperable, or nonexistent primary heating and/or cooling system replacement, repair, or installation is allowed due to extreme climate conditions in Texas for Vulnerable Populations.

Texas’ climate conditions include climate zones 2A, 2B, 3A, 3B, and 4B which can be described as Hot-Humid, Hot-Dry, and Mixed-Dry. This diversity in climate conditions requires Texas to have the flexibility to address all scenarios related to providing heating and cooling to Vulnerable Populations.

Subgrantee will use Manual J and/or NEAT/MHEA outputs to determine proper sizing of replacement heating and cooling appliances. All heating and cooling systems will be evaluated as an energy conservation measure before consideration as a health and safety measure.

If the heating/cooling system issue is determined to be beyond the scope of DOE WAP, weatherization agencies will defer the work and refer the client to other resource agencies who may be able to address the problem. Texas’ deferral policy and protocols shall always be strictly adhered to when deferring weatherization work. If the client is completely without cooling or heating, the weatherization agencies shall make a referral to an agency with funding that can provide Vulnerable Population clients with a portable air conditioner or temporary means of heat, such as a portable heat pump or blankets.

Texas requires HVAC system installation to follow local and state code and it must be performed by a licensed HVAC professional. Weatherization agencies may subcontract licensed HVAC companies/individuals to perform heating/cooling systems installations and repairs if they follow proper state procurement procedures.

When replacing a primary wood stove in a mobile/manufactured home the new unit must be listed for use with manufactured homes and must be installed in accordance with their listings. Units that are not manufacturer approved, discovered during an initial assessment, should be replaced with an approved manufactured home appliance, under H&S. All state and local codes must be followed.

Vented space heaters shall be treated as furnaces. Combustion safety testing is required when combustion appliances are present. Weatherization Assessors and Final Inspectors must conduct the combustion appliance safety inspection. This includes all of the following: carbon monoxide testing, draft measurement, spillage evaluation, worst case depressurization of the combustion appliance zone (CAZ), a safe flue pipe, chimney or vent, adequate combustion air, and gas leakage as applicable. Combustion safety test results must be acted upon appropriately according to the Standard Work Specifications and BPI protocols.

How do you address unsafe or non-functioning secondary heating systems, including unvented secondary space heaters?

Maintenance and repair of secondary heating units is allowed.

Minor maintenance activities can be performed for traditional open masonry fireplaces and wood burning stove/pellet stoves. This would be a health and safety issue requiring photo documentation and receipt of services by the professional with a description of what services were performed. Inspection, repair and or cleaning shall be sub-contracted to a qualified solid fuel heating system vendor

An unsafe, unrepairable open masonry fireplace would be treated similarly to that of an unvented space heater if it is the primary source of heat. The fireplace must be rendered inoperable and replaced with a vented heating unit. The type of existing fuel will dictate the replacement. If the client has a combustion fuel source (e.g. - gas, propane, etc) then seal up the fireplace, and add a vented gas heater.

Testing will be required to assure adequate supply of electricity is available for existing stand alone electric space heaters. This will be accomplished through the use of three wire circuit testers, GFI electrical outlet testers, and line voltage testers. Repair, replacement or installation is not allowed. Removal is recommended.

Removal is required, except as secondary heat where the unit conforms to ANSI Z21.11.2. Units that do not meet ANSI Z21.11.2 must be removed prior to weatherization but may remain until a replacement heating system is in place.

Testing for air-free carbon monoxide (CO) is to be performed. All units must have an ANSI Z21.11.1 label, and meet IRC and IFGC codes. The client must be informed of the dangers of unvented space heaters – CO, Moisture, and NO2. CO can be dangerous even if CO alarm does not sound.

Assessors must calibrate the CO tester outside the home and test the ambient air in the home; following the standards in the Standard Works Specifications:

- Perform an inspection of the heater. Any of the following conditions are grounds for repair or replacement:
 - Carbon monoxide (CO) test indicates ambient CO levels above 35 PPM
 - Bad burners (missing, broken, or otherwise un-repair-able)
 - Cross-fueled (between NG and LPG) and the orifices and/or pressure regulator have not been changed
 - Missing radiants
 - Open flame burners
 - Rubber supply lines
 - Charring or scorching

If the cause cannot be determined, Subgrantee must calibrate equipment and re-test. If still indeterminable, refer to local gas company. Any time replacement is deemed necessary, first consider performing the replacement as an ECM (energy saving measure) before replacing as a Health & Safety measure.

Indicate Documentation Required for At-Risk Occupants
The application will be used to determine if a household includes Vulnerable Populations (also known as at-risk occupants). Vulnerable Populations are defined as Elderly (60 or older), Disabled or Children 5 and younger.
Testing Protocols
<p>Make sure primary systems are present, operable, and performing correctly.</p> <p>Check DOE-approved audit to determine if the system can be installed as an energy conservation measure (ECM) prior to replacement as an H&S measure.</p> <p>Determine and document presence of Vulnerable Populations when installing air-conditioning as a Health and Safety (H&S) measure.</p> <p>On combustion equipment, inspect chimney and flue and test for Combustion Appliance Zone (CAZ) depressurization.</p> <p>For solid fuel appliances look for visual evidence of soot on the walls, mantel or ceiling or creosote staining near the flue pipe.</p>
Client Education
<p>When deferral is necessary, provide information to the client, in writing, describing conditions that must be met in order for weatherization to commence. A copy of this notification must also be placed in the client file.</p> <p>Discuss appropriate use and maintenance of units.</p> <p>Provide all paperwork and manuals for any installed equipment.</p> <p>Discuss and provide information on proper disposal of bulk fuel tanks when not removed as part of the weatherization work.</p> <p>Where combustion equipment is present, provide safety information including how to recognize depressurization.</p>
Training
<p>Licensing and/or certification for HVAC installers as required by authority having jurisdiction (AHJ).</p> <p>CAZ depressurization test and inspection training.</p> <p>Additional training will be handled on an ongoing and as-needed basis as identified by new requirements, new staff hires, results of monitoring reports, requests by Subgrantees etc.</p>

7.2 - ASBESTOS - ALL		
What is the blower door testing policy when suspected Asbestos Containing Material (ACM) is identified?		
This is not allowed if vermiculite is present. Subgrantee will inspect pipe and other coverings for asbestos. Encapsulation is allowed by an AHERA asbestos control professional, and should be conducted prior to any blower door testing if the materials are friable.		
7.2a – Asbestos - in siding, walls, ceilings, etc.		
Concurrence, Alternative, or Deferral		
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>
Funding		
DOE <input checked="" type="checkbox"/>	LIHEAP <input type="checkbox"/>	State <input type="checkbox"/> Utility <input type="checkbox"/> Other <input type="checkbox"/>

How do you address suspected ACM's in siding, walls, or ceilings that will be disturbed through the course of weatherization work?
Asbestos is the name given to a number of naturally occurring fibrous minerals with high tensile strength, the ability to be woven, and resistance to heat and most chemicals. Because of these properties, asbestos fibers have been used in a wide range of manufactured goods, including roofing shingles, ceiling and floor tiles, paper and cement products, textiles, coatings, and friction products such as automobile clutch, brake and transmission parts. It is difficult to tell whether a material contains asbestos simply by looking at it, unless it is labeled. If in doubt, treat the material as if it contains asbestos. Do not dust, sweep, or vacuum debris that may contain asbestos. Never saw, sand, scrape, or drill holes in asbestos materials.
Removal of siding is allowed to perform energy conservation measures. All precautions must be taken not to damage siding. Asbestos siding should never be cut or drilled. It is recommended, where possible, to insulate through home interior to avoid disturbing or removing the asbestos siding on the exterior of the home.
Testing Protocols
Testing is allowed by a certified AHERA tester. Visual inspection of exterior wall surface and subsurface, floors, walls, and ceilings for suspected ACM is required prior to drilling or cutting.
Client Education
In every instance, clients shall be informed both verbally and in writing that suspected asbestos containing materials are present. Clients shall also be informed as to the precautions that will be taken. Client written materials shall include information about the potential health risks associated with asbestos.
Training and Certification Requirements
The OSHA Fact Sheet on Asbestos is available on the Department's website under Health and Safety for all Subgrantees' use: http://www.tdhca.state.tx.us/community-affairs/wap/guidance.htm On-going Health & Safety training will continue via regional training, Q&As, and postings of FAQs to Department Website. http://www.tdhca.state.tx.us/community-affairs/wap/guidance.htm . Additional training will be handled on an ongoing and as-needed basis as identified by new requirements, new staff hires, results of monitoring reports, requests by Subgrantees, etc. AHERA certification required for testing and allowable removal.

7.2b – Asbestos - in vermiculite				
Concurrence, Alternative, or Deferral				
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>		
Funding				
DOE <input checked="" type="checkbox"/>	LIHEAP <input type="checkbox"/>	State <input type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
How do you address suspected ACM's in vermiculite that will be disturbed through the course of weatherization work?				
When vermiculite is present, unless testing determines otherwise, take precautionary measures as if it contains asbestos, such as not using blower door tests and utilizing personal air monitoring while in attics. Where blower door tests are performed, it is a best practice to perform pressurization instead of depressurization. Encapsulation by an AHERA certified asbestos control professional shall be allowed. Removal shall not be allowed.				
Testing Protocols				
Testing is allowed by a certified AHERA tester.				

Client Education
In every instance, clients shall be informed both verbally and in writing that suspected asbestos containing materials are present. Clients shall also be informed as to the precautions that will be taken. Client written materials shall include information about the potential health risks associated with asbestos.
Training and Certification Requirements
The OSHA Fact Sheet on Asbestos is available on the Department's website under Health and Safety for all Subgrantees' use: http://www.tdhca.state.tx.us/community-affairs/wap/guidance.htm On-going Health & Safety training will continue via regional training, Q&As, and postings of FAQs to Department Website. http://www.tdhca.state.tx.us/community-affairs/wap/guidance.htm . Additional training will be handled on an ongoing and as-needed basis as identified by new requirements, new staff hires, results of monitoring reports, requests by Subgrantees, etc. AHERA certification required for testing and allowable removal.

7.2c – Asbestos - on pipes, furnaces, other small covered surfaces				
Concurrence, Alternative, or Deferral				
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>		
Funding				
DOE <input checked="" type="checkbox"/>	LIHEAP <input type="checkbox"/>	State <input type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
How do you address suspected ACM's (e.g., pipes, furnaces, other small surfaces) that will be disturbed through the course of weatherization work?				
Inspect pipes, furnaces, and other coverings for asbestos. Encapsulation is allowed by an AHERA asbestos control professional and should be conducted prior to any blower door testing. Removal may also be allowed by an AHERA asbestos control professional based on the situation as determined by the inspector or Agency Representative				
Testing Protocols				
Testing is allowed by a certified AHERA tester.				
Client Education				
In every instance, clients shall be informed both verbally and in writing that suspected asbestos containing materials are present. Clients shall also be informed as to the precautions that will be taken. Client written materials shall include information about the potential health risks associated with asbestos.				
Training and Certification Requirements				
The OSHA Fact Sheet on Asbestos is available on the Department's website under Health and Safety for all Subgrantees' use: http://www.tdhca.state.tx.us/community-affairs/wap/guidance.htm On-going Health & Safety training will continue via regional training, Q&As, and postings of FAQs to Department Website. http://www.tdhca.state.tx.us/community-affairs/wap/guidance.htm . Additional training will be handled on an ongoing and as-needed basis as identified by new requirements, new staff hires, results of monitoring reports, requests by Subgrantees, etc. AHERA certification required for testing and allowable removal.				

7.5 – BIOLOGICALS AND UNSANITARY CONDITIONS (ODORS, MUSTINESS, BACTERIA, VIRUSES, RAW SEWAGE, ROTTING WOOD, ETC.)		
Concurrence, Alternative, or Deferral		
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>
Unallowable Measure <input type="checkbox"/>		

Funding				
DOE <input checked="" type="checkbox"/>	LIHEAP <input type="checkbox"/>	State <input type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
What guidance do you provide Subgrantees for dealing with biological and/or unsanitary conditions in homes slated for weatherization?				
<p>Remediation of conditions that may lead to or promote biological concerns and unsanitary conditions is allowed. Addressing bacteria and viruses is not an allowable cost. Deferral may be necessary in cases where a known agent is present in the home that may create a serious risk to occupants or weatherization workers.</p> <p>The use of personal protective equipment shall be strictly enforced. Respirators, protective eyewear, and protective clothing will be worn when there is suspicion or knowledge that biological agents may be present in order to eliminate or minimize crew exposure.</p> <p>In the past, remediation of conditions listed under this health and safety category was not allowed. It is allowable under WPN 17-7, except for the removal of known bacteria and viruses. Texas will assess the cost effectiveness and necessity of remediation of conditions that lead to or promote biological concerns and unsanitary conditions on a case by case basis.</p>				
Testing Protocols				
A sensory inspection is required.				
Client Education				
Client must be informed of observed conditions. Clients must be provided information and explanation on how to maintain a sanitary home and steps to correct deferral conditions, if applicable.				
Training				
<p>On-going Health & Safety training will continue via regional training, Q&As, and postings of FAQs to Department Website. http://www.tdhca.state.tx.us/community-affairs/wap/guidance.htm.</p> <p>Additional training specific to identifying structural and roofing issues will be handled on an ongoing and as-needed basis as identified by new requirements, new staff hires, results of monitoring reports, requests by Subgrantees, etc.</p>				

7.6 – BUILDING STRUCTURE AND ROOFING				
Concurrence, Alternative, or Deferral				
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>		
Funding				
DOE <input checked="" type="checkbox"/>	LIHEAP <input type="checkbox"/>	State <input type="checkbox"/>		
<td>Utility <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td>			Utility <input type="checkbox"/>	Other <input type="checkbox"/>

What guidance do you provide Subgrantees for dealing with structural issues (e.g., roofing, wall, foundation) in homes slated for weatherization?

Building rehabilitation is beyond the scope of the WAP. Homes with conditions that require more than incidental repair should be deferred.

While conducting the initial audit, the building structure shall be inspected for structural integrity. Minor repairs to protect the DOE materials installed may be performed to protect the energy saving investment. Dwellings whose structural integrity is in question should be referred to agencies that deliver HUD funds or other appropriate local and state agencies. Weatherization services may need to be delayed or deferred until the dwelling can be made safe for crews/contractors and occupants. Incidental (minor) repairs necessary to effectively perform or preserve weatherization materials/measures are allowed. Examples of these include sealing minor roof leaks to preserve new attic insulation and repairing water-damaged flooring as part of replacing a water heater. Incidental structural repairs shall not include cosmetic applications, such as replacing a floor covering such as a carpet or linoleum. Only the structural part shall be replaced/repaired.

How do you define “minor” or allowable structure and roofing repairs, and at what point are repairs considered beyond the scope of weatherization?

Minor repairs would be repairs that are necessary for weatherization work to proceed, but that can be justified in the whole house SIR by the site-specific audit. Repairs would be beyond the scope of weatherization when causing the whole house SIR to drop below one.

If priority lists are used, and these repairs are designated as Incidental Repairs, at what point is a site-specific audit required?

N/A – Priority List is not used.

Client Education

Clients shall be notified verbally and in writing regarding any structurally compromised areas. Appropriate referral resources shall also be provided to the client.

Training

On-going Health & Safety training will continue via regional training, Q&As, and postings of FAQs to Department Website. <http://www.tdhca.state.tx.us/community-affairs/wap/guidance.htm>. Additional training specific to identifying structural and roofing issues will be handled on an ongoing and as-needed basis as identified by new requirements, new staff hires, results of monitoring reports, requests by Subgrantees etc.

7.7 – CODE COMPLIANCE

Concurrence, Alternative, or Deferral

Concurrence with Guidance Alternative Guidance Results in Deferral

Funding

DOE LIHEAP State Utility Other

What guidance do you provide Subgrantees for dealing with code compliance issues in homes receiving weatherization measures?

Correction of pre-existing code compliance issues is not an allowable cost other than where weatherization measures are being conducted. When correction of preexisting code compliance issues is triggered and paid for with WAP funds, Subgrantee must cite specific code requirements with reference to the weatherization measure(s) that triggered the code compliance issue in the client file.

State and local (or jurisdiction having authority) codes **must** be followed while installing weatherization measures. Condemned properties and properties where “red tagged” health and safety conditions exist that cannot be corrected under this guidance should be deferred.

WAP funds may be used when weatherization measures are being conducted. They may not be used simply to correct pre-existing code compliance issues.

Acquire all required permits and licenses pertinent to installing weatherization measures. These vary by jurisdiction and it is the responsibility of each Subgrantee agency to know what the codes are in each of the areas they work, as well as what permits and licenses are required in each of the areas they work.

What specific situations commonly trigger code compliance work requirements for your network? How are they addressed?

Condemned properties shall be deferred. Properties where “red-tagged” health and safety conditions exist, structural instability or damage (roof), electrical wiring type, condition or provisioning deficiencies, sewage drainage deficiencies that cannot be addressed with DOE H&S funding, should be deferred.

Client Education

Inform client of observed code compliance issues. Make appropriate referrals as necessary.

Training

The Department is working with the State Energy Conservation Office (DOE State Energy Program Subgrantee and is the State Authority to adopt code) on a collaborative effort to address code compliance issues. The group will address code education throughout the state of Texas. Classes will be available to all Subgrantees to attend at a nominal fee set by the group to cover costs.

7.8 – COMBUSTION GASES

Concurrence, Alternative, or Deferral

Concurrence with Guidance Alternative Guidance Results in Deferral

Funding

DOE LIHEAP State Utility Other

Empty text area for additional information.

Testing Protocols

A complete mechanical systems assessment is required to be completed on every home. The procedure includes collecting general information; collecting and recording mechanical systems information; visual and diagnostic inspection of the venting and distribution system; and, combustion analysis and diagnostic testing of gas/propane fired equipment, and post-installation safety tests for CO. Combustion safety testing is required when combustion appliances are present. Pre and post combustion appliance safety inspections include all of the following: carbon monoxide testing, draft measurement, spillage evaluation, and worst case depressurization of the combustion appliance zone (CAZ).

As applicable, every combustion appliance will be checked for a safe flue pipe, chimney or vent, adequate combustion air, and gas leakage. DOE will not permit any DOE-funded weatherization work where the dwelling unit is heated with an unvented gas- and/or liquid-fueled space heater as the primary heat source. In such cases the primary space heater must be removed and a vented code compliant heat source must be installed prior to the installation of weatherization measures. DOE will allow unvented gas- or liquid-fueled space heaters to remain as secondary heat sources provided they comply with ANSI Z21.11.2, the IRC, and the IFGC. LIHEAP-WAP may replace non-compliant secondary unvented gas- or liquid-fueled space heaters.

Per ASHRAE 62.2, at least one CO alarm must be present in every home. CO alarms must be installed in all homes with combustion appliances; combustion appliances include: cook stoves, furnaces, water heaters, wood and coal burning stoves. Combustion appliances must be installed to the IRC or local code regulations.

Client shall be provided with combustion safety and hazards information, including the importance of using exhaust ventilation when cooking and keeping burners clean to limit the production of CO.

Best Practice:

- [Combustion Appliance Zone \(CAZ\) Testing](#)
- [Isolating the Combustion Appliance Zone \(CAZ\)](#)

How are crews instructed to handle problems discovered during testing, and what are the specific protocols for addressing hazards that require an immediate response?

Proper venting to the outside for combustion appliances, including gas dryers, is required. Correction of venting is allowed when testing indicates a problem.

Standard Work Specifications CO Action Levels

Client Education

Client shall be provided with combustion safety and hazards information, including the importance of using exhaust ventilation when cooking and the importance of keeping burners clean to limit the production of CO.

Training

On-going Health & Safety training will continue via regional training, Q&As, and postings of FAQs to Department Website. <http://www.tdhca.state.tx.us/community-affairs/wap/guidance.htm>.

Additional training will be handled on an ongoing and as-needed basis as identified by new requirements, new staff hires, results of monitoring reports, requests by Subgrantees etc.

7.9 – ELECTRICAL

Concurrence, Alternative, or Deferral

Concurrence with Guidance Alternative Guidance Results in Deferral

Funding				
DOE <input checked="" type="checkbox"/>	LIHEAP <input type="checkbox"/>	State <input type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
What guidance do you provide Subgrantees for dealing with electrical hazards, including knob & tube wiring, in homes slated for weatherization?				
<p>Minor electrical repairs are allowed where health or safety of the occupant(s) may be at risk. Upgrades and repairs are allowed when necessary to perform specific weatherization measures.</p> <p>Aluminum wiring should be thoroughly inspected before any insulation work is done. If aluminum wiring is found to be active and in the areas to be insulated, no insulation should be added. When electrical repairs within the scope of the DOE WAP are required, the typical standard of remedy shall be to subcontract the repair work to a licensed electrician. All appropriate procurement procedures shall be followed when subcontracting. Testing shall include visual inspection, as well as voltage drop and voltage detection testing. Provide client information on overloading circuits and electrical safety and risks.</p>				
How do you define “minor” or allowable electrical repairs, and at what point are repairs considered beyond the scope of weatherization?				
<p>Minor upgrades and repairs necessary for weatherization measures and where the health or safety of the occupant(s) is at risk may be allowed. Examples of minor repairs include exposed electrical connections, damaged or nonworking switches and receptacles, and damaged or unsafe electrical wire conditions.</p> <p>Prior to insulating around Knob and Tube wiring, cost effectiveness must be evaluated and barriers must be installed to keep insulation at least three inches from the K&T. If K&T is permanently disabled (cannot be energized again) then it may be insulated over.</p> <p>Best Practice:</p> <ul style="list-style-type: none"> • Knob & Tube Wiring 				
If priority lists are used, and these repairs are designated as Incidental Repairs, at what point is a site-specific audit required?				
N/A – Priority List is not used.				
Client Education				
Provide information on overloading circuits and electrical safety and risks.				
Training				
<p>On-going Health & Safety training will continue via regional training, Q&As, and postings of FAQs to Department Website. http://www.tdhca.state.tx.us/community-affairs/wap/guidance.htm.</p> <p>Additional training for how to identify electrical hazards and code compliance will be handled on an ongoing and as-needed basis as identified by new requirements, new staff hires, results of monitoring reports, requests by Subgrantees etc.</p>				

7.10 – FORMALDEHYDE, VOLATILE ORGANIC COMPOUNDS (VOCs), FLAMMABLE LIQUIDS, AND OTHER AIR POLLUTANTS

Concurrence, Alternative, or Deferral		
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>

Funding				
DOE <input checked="" type="checkbox"/>	LIHEAP <input type="checkbox"/>	State <input type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
What guidance do you provide Subgrantees for dealing with formaldehyde, VOCs, flammable liquids, and other air pollutants identified in homes slated for weatherization?				
<p>WAP workers may not remove pollutants. Removal of pollutants must be done by the client or a contracted professional prior to weatherization work being performed. If pollutants pose a risk to workers and removal cannot be performed by a professional or the client refuses to remove the pollutants, the unit must be deferred.</p> <p>Visual, sensory, combustion appliances inspection/testing and completion of Client Questionnaire & Inspection Checklist shall be the primary detection method. All reasonable steps shall be taken to limit worker exposure to VOCs, air pollutants and biological contaminants utilizing OSHA PPE guidelines. Many VOCs are human-made chemicals that are used and produced in the manufacture of paints, paint thinner, petroleum fuels, sealants, and refrigerants. When using products known to emit VOCs, increase ventilation is required. Meet or exceed any label precautions. Identify, and if possible, have client or a contracted professional remove the source. Biological contaminants include bacteria, molds, mildew, viruses, animal dander and cat saliva, house dust, mites, cockroaches, and pollen. Identification of these contaminants can indicate elevated relative humidity level in a home and improper ventilation which would need to be addressed. State and local codes and regulations regarding disposal of toxic household wastes must be followed. Texas WAP crews/contractors shall take every precaution necessary to minimize exposure to air pollutants.</p> <p>When using chemicals and products that may contain any of the pollutants within this category, strict adherence to label instructions and precautions shall be required. Known pollutants must be removed by the client or a contracted professional prior to performance of weatherization work.</p> <p>Health and Safety Guidance</p> <ul style="list-style-type: none"> • EPA Guidance on Common Household Wastes & Materials • Indoor Air Quality 				
Testing Protocols				
Sensory inspection shall be the primary detection method.				
Client Education				
Clients must be informed of any conditions and/or associated risks observed. Client must be given written information on safety and proper disposal of household pollutants, if applicable.				
Training				
<p>Guidance on how to recognize potential hazards and when removal is necessary is posted to the Department Website: http://www.tdhca.state.tx.us/community-affairs/wap/guidance.htm</p> <p>On-going Health & Safety training will continue via regional training, Q&As, and postings of FAQs to Department Website. http://www.tdhca.state.tx.us/community-affairs/wap/guidance.htm</p> <p>Additional training will be handled on an ongoing and as-needed basis as identified by new requirements, new staff hires, results of monitoring reports, requests by Subgrantees etc.</p>				

7.11 – FUEL LEAKS		
(PLEASE INDICATE SPECIFIC FUEL TYPE IF POLICY DIFFERS BY TYPE)		
Concurrence, Alternative, or Deferral		
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>
Funding		
DOE <input checked="" type="checkbox"/>	LIHEAP <input type="checkbox"/>	State <input type="checkbox"/> Utility <input type="checkbox"/> Other <input type="checkbox"/>
Remediation Protocols		
<p>Natural gas and LP gas piping system inspection and leakage testing will be conducted. An inspection of the accessible gas piping and connections, from the natural gas meter or LP gas tank to a point where the supply line connects to the gas valve of all appliances shall be completed.</p> <p>When a minor gas leak is found on the utility side of service, the utility service must be contacted before work may proceed.</p> <p>Where the auditor confirms gas leakage or identifies deficiencies in gas piping materials, connections, components, or supports, the deficiencies shall be marked and noted in project documentation. The homeowner/occupant shall be notified that repairs must be made. The auditor shall recommend that the homeowner/occupant immediately notify the gas company and/or a qualified professional to evaluate and perform all necessary repairs. Notify utilities and temporarily halt work when leaks are discovered that are the responsibility of the utility to address.</p>		
How do you define allowable fuel leak repairs, and at what point are repairs considered beyond the scope of weatherization?		
<p>Allowable repairs/replacement includes but is not limited to: Worn and/or leaking flexible gas lines and any flexible connectors manufactured prior to 1973 Worn or damaged gas valves Appliance gas valve/regulator housing and connections</p>		
Client Education		
Inform clients in writing if fuel leaks are detected.		
Training		
Fuel leak testing.		

7.12 – GAS OVENS / STOVETOPS / RANGES		
Concurrence, Alternative, or Deferral		
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>
Funding		
DOE <input checked="" type="checkbox"/>	LIHEAP <input type="checkbox"/>	State <input type="checkbox"/> Utility <input type="checkbox"/> Other <input type="checkbox"/>

What guidance do you provide Subgrantees for addressing unsafe gas ovens/stoves/ranges in homes slated for weatherization?
<p>Replacement of cook stoves may be done with unrestricted funds from a funding source other than DOE. Repair and cleaning are allowed.</p> <p>Cook Stoves with high CO:</p> <ul style="list-style-type: none"> • Clean or repair. • If still has high CO levels, then see if another funding source is able to pay for the stove replacement. • If no other source, the house must be deferred until the occupant can address the stove. • Document all steps. • Houses with stoves with CO levels of 200 ppm or higher which cannot be remedied must be deferred. The money spent trying to fix it, unsuccessfully, would be charged to Program Support.
Testing Protocols
<p>Test gas ovens for CO. Inspect cooking burners and ovens for operability and flame quality.</p>
Client Education
<p>Inform clients of the importance of using exhaust ventilation when cooking and the importance of keeping burners clean to limit the production of CO.</p>
Training
<p>Testing techniques CO action levels</p>

7.13 – HAZARDOUS MATERIALS DISPOSAL
[LEAD, REFRIGERANT, ASBESTOS, MERCURY (INCLUDING CFLS/FLUORESCENTS), ETC.]
(PLEASE INDICATE MATERIAL WHERE POLICY DIFFERS BY MATERIAL)
Concurrence, Alternative, or Deferral
<p>Concurrence with Guidance <input checked="" type="checkbox"/> Alternative Guidance <input type="checkbox"/> Results in Deferral <input type="checkbox"/></p>
Funding
<p>DOE <input checked="" type="checkbox"/> LIHEAP <input type="checkbox"/> State <input type="checkbox"/> Utility <input type="checkbox"/> Other <input type="checkbox"/></p>
Client Education
<p>Inform client in writing of hazards associated with hazardous waste materials being generated/handled in the home.</p>
Training
<p>Appropriate Personal Protective Equipment (PPE) for working with hazardous waste materials. Disposal requirements and locations. Health and environmental risks related to hazardous materials.</p>

Disposal Procedures and Documentation Requirements
Refrigerants shall be pumped into a recovery tank and disposed at an EPA approved site.
Proper disposal procedures for Asbestos are available at Texas Commission on Environmental Quality (TCEQ):
Special Waste Disposal: http://www.tceq.texas.gov/permitting/waste_permits/msw_permits/msw_specialwaste.html
Texas WAP crews/contractors will follow all EPA RRP requirements for disposal of lead as well as state and local code requirements.
Disposal procedures for mercury will follow TCEQ guidance available here: https://www.tceq.texas.gov/assets/public/comm_exec/pubs/rg/rg-377.pdf

7.14 – INJURY PREVENTION OF OCCUPANTS AND WEATHERIZATION WORKERS (MEASURES SUCH AS REPAIRING STAIRS AND REPLACING HANDRAILS)		
Concurrence, Alternative, or Deferral		
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>
Funding		
DOE <input checked="" type="checkbox"/>	LIHEAP <input type="checkbox"/>	State <input type="checkbox"/> Utility <input type="checkbox"/> Other <input type="checkbox"/>
What guidance do you provide Subgrantees regarding allowable injury-related repairs (e.g., stairs, handrails, porch deck board)?		
Workers must take all reasonable precautions against performing work on homes that will subject workers or occupants to health and safety risks. Porch or stair repairs that would be required to make a home safe for weatherization workers are not an allowable measure in the program. Such situations are considered to be beyond the scope of Texas WAP.		
How do you define “minor” or allowable injury prevention measures, and at what point are repairs considered beyond the scope of weatherization? Quantify “minor” or allowable injury prevention measures.		
Minor injury prevention measures can include minor electrical repairs as described in section 7.9. Proper safety protocols should be followed to reduce risk of injury as described in sections 7.20 and 7.23. Any other injury prevention measure would be considered beyond the scope of WAP and shall result in unit deferral.		
Training		
OSHA 10 for crew members and OSHA 30 for supervisors.		

7.15 – LEAD BASED PAINT		
Concurrence, Alternative, or Deferral		
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>
Funding		
DOE <input checked="" type="checkbox"/>	LIHEAP <input type="checkbox"/>	State <input type="checkbox"/> Utility <input type="checkbox"/> Other <input type="checkbox"/>

Safe Work Protocols

Weatherization requires all weatherization crews/contractors working in pre-1978 housing to be trained in Lead Safe Weatherization (LSW) and follow EPA's Lead; Renovation, Repair and Painting Program (RRP) rule. Deferral is required when the extent and condition of lead-based paint in the house would potentially create further health and safety hazards.

In all pre-1978 homes, crews/contractors must assess the physical condition of the home prior to conducting an audit. Texas recommends assuming that lead paint may be present in any house built prior to 1978 and to follow the proper DOE LSW protocols, OSHA regulations and EPA regulations in all pre-1978 homes. Mobile homes are exempt because lead was not used in the original manufacture of mobile homes. However, crews/contractors must be alert to any mobile home remodels/add-ons that could have contained lead-based paint or varnish.

Texas WAP crews/contractors will follow all EPA RRP requirements for disposal as well as state and local code requirements.

Deferral is required when the extent and condition of lead-based paint in the house would potentially create further H&S hazards.

Only those costs directly associated with the testing and lead safe practices for surfaces directly disturbed during weatherization activities are allowable.

State policy mandates all workers on site on any weatherization project, whether they be a crew based employee of one of the sub-contractors or a private sector contractor, must complete an eight (8) hour Lead Safe Worker Practices Workshop.

Best Practice:

- [Lead-safe Process and RRP Requirement](#)

WX Videos

- [12 Steps to Lead Safety](#)
- [Health & Safety Series: Respirators & Personal Protective Equipment](#)

Health and Safety Guidance

- [Lead; Renovation, Repair, and Painting Program; Lead Hazard Information;](#)
- [Renovate Right](#)

Testing Protocols

Testing is allowed per RRP requirements. Job site set up and cleaning verification is required by a Certified Renovator. Texas WAP crews/contractors will use LSW work practices that decrease the amount of dust generated.

Client Education
All Subgrantees are required to provide a copy of "Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools" to an adult occupant prior to work starting on the home. This procedure is documented by a written acknowledgement that the adult occupant has received the brochure and that the information was not only distributed, but also explained, or certify in writing that a brochure had been delivered to an adult occupant and the provider has been unsuccessful in obtaining a written acknowledgement, as directed in the publication. Confirmation of receipt of this brochure by the client will be maintained in the client file.
Training and Certification Requirements
Each Subgrantee must be an EPA Certified Firm and have a Certified Lead Renovator on staff. The Subgrantee is responsible to obtain and maintain the required certifications.
Documentation Requirements
Documentation in the client file must include Certified Renovator certification; any training provided on-site; description of specific actions taken; lead testing and assessment documentation; and, photos of site and containment set up. Include the location of photos referenced if not in file.

**7.16 – MOLD AND MOISTURE
(INCLUDING BUT NOT LIMITED TO: DRAINAGE, GUTTERS, DOWN SPOUTS, EXTENSIONS,
FLASHING, SUMP PUMPS, DEHUMIDIFIERS, LANDSCAPE, VAPOR RETARDERS, MOISTURE
BARRIERS, ETC.)**

Concurrence, Alternative, or Deferral		
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>

Funding				
DOE <input checked="" type="checkbox"/>	LIHEAP <input type="checkbox"/>	State <input type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>

What guidance do you provide Subgrantees for dealing with moisture related issues (e.g., drainage, gutters, down spouts, moisture barriers, dehumidifiers, vapor barrier on bare earth floors) in homes slated for weatherization?

Limited water damage repairs can be addressed by weatherization workers. Correction of moisture and mold creating conditions are allowed when necessary in order to weatherize the home and to ensure the long term stability and durability of the measures. Where severe mold-like substance and moisture issues cannot be addressed, deferral is required.

Visual assessment is required and diagnostics such as moisture meters are recommended pre-assessment and prior to final inspection. The assessment shall assure existing mold-like conditions are noted, documented and disclosed to the client; and, shall assure existing building envelope conditions do not contribute to mold-like growth when weatherization measures are applied. Mold-like substance assessment means a visual assessment combined with certain allowable diagnostics. It does not mean testing for mold. **DOE funds may not be used to test for mold-like substances.**

Texas WAP crews/contractors shall follow the Mold/Moisture Assessment Checklist when conducting the mold-like substances assessment at the time of the audit. Assessment shall include a general examination of the building, to include:

- Examine structure, maintenance activities, occupancy patterns
- Visually look for mold-like substances and water staining
- Look for evidence of standing water
- Look for evidence of condensation
- Check basement or crawl space and attic for proper venting and exhaust

Outdoors:

- Soil grade or drainage toward foundation
- Standing water adjacent to foundation
- Wall and roof damage allowing water intrusion
- Missing or blocked rain gutters
- No downspout extensions
- Firewood stacked adjacent to house
- Excessive shrubbery around foundation

Heating/cooling systems:

- Air intakes: debris (organic) vs. clean air
- Filters: dirty, damp, poor type
- Heat exchangers: dirty & damp coils, condensate pans, drainage, stagnant water
- Ducts: contamination, moisture

Occupied Space:

- Plumbing leaks
- Water stains on walls, ceilings and around windows
- Musty odor
- Surface Condensation (especially during mild weather)
- Mold-like substances on carpeting
- Humidifiers
- Window air conditioners
- Lack of bathroom, kitchen exhaust
- Clothes dryer not vented to outside
- Firewood stored indoors
- Wet clothes drying indoors

The DOE Training Resource:

- [Mold and Moisture](#) given by Michael Vogel of MSU Weatherization Training Center is available to all Subgrantees through TDHCA's website
- [Energy Related Mold and Moisture...awareness and impacts for weatherization](#)

Best Practice:

- [Mold-safe Process](#)

How do you define "minor" or allowable moisture-related measures, and at what point is work considered beyond the scope of weatherization?

Defined in Mold-Safe process flow-chart <http://www.tdhca.state.tx.us/community-affairs/wap/docs/WAP-BP-Mold-Flowchart.pdf>

Client Education
Provide client notification and disclaimer on mold-like substances and moisture awareness. The unified weatherization form that identifies if there are mold-like substances, must be included in the client files, regardless of whether there is mold-like substance in the home or not. A Mold -Like Substance Notification and Release Form for Texas Weatherization Programs must be filled out if mold or mold-like substances are found in the home. Texas Department of State Health Services, Consumer Mold Information Sheet is required to be given to clients who have moisture problems or mold-like substances, as part of client education.
Training
The DOE power-point presentation training on Mold and Moisture given by Michael Vogel of MSU Weatherization Training Center is available to all Subgrantees through TDHCA's website: http://www.tdhca.state.tx.us/community-affairs/wap/wap-training-videos.htm . Additional training will be handled on an ongoing and as-needed basis as identified by new requirements, new staff hires, results of monitoring reports, requests by Subgrantees etc.

7.17 – PESTS				
Concurrence, Alternative, or Deferral				
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>		
Funding				
DOE <input checked="" type="checkbox"/>	LIHEAP <input type="checkbox"/>	State <input type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
What guidance do you provide Subgrantees for dealing with pests and pest intrusion prevention in homes slated for weatherization?				
Pest removal is allowed only where infestation would prevent weatherization or poses a health and safety concern for workers. Infestation of pests may be cause for deferral where it cannot be reasonably removed.				
Determine whether the pest infestation would prevent or hamper the weatherization work. If removal is a viable and cost-effective option, take the necessary steps to remove the pest infestation problem so that the weatherization work can proceed. If removal is not a viable and cost-effective option or significant health and safety risks exist, defer the weatherization work and provide client with appropriate referral information.				
Best Practice:				
<ul style="list-style-type: none"> • Pests 				
Define Pest Infestation Thresholds, Beyond Which Weatherization Is Deferred				
Costs beyond \$50 in labor and materials to mitigate pest infestations will be addressed by TDHCA to determine if deferral is necessary.				
Testing Protocols				
Assessment of presence and degree of infestation and risk to worker.				
Client Education				
Inform client of observed pest condition and associated risks and document in client file.				
Training				
How to assess presence and degree of infestation, associated risks, and deferral policy. Additional training will be handled on an ongoing and as-needed basis as identified by new requirements, new staff hires, results of monitoring reports, requests by Subgrantees etc.				

7.18 – RADON				
Concurrence, Alternative, or Deferral				
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>		
Funding				
DOE <input checked="" type="checkbox"/>	LIHEAP <input type="checkbox"/>	State <input type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
What guidance do you provide Subgrantees around radon?				
<p>TDHCA will provide subgrantees with a Radon Informed Consent Form and the EPA's <i>A Citizen's Guide to Radon</i>.</p> <p>State specific resources can be found at: https://www.epa.gov/radon/find-information-about-local-radon-zones-and-state-contact-information#stateradon</p> <p>The Texas Department of State Health Services website also contains useful information:</p> <ul style="list-style-type: none"> • Radon 				
Testing Protocols				
Testing is not authorized in Texas WAP as Texas has no areas of "Highest Potential," according to the United States Environmental Protection Agency standards.				
Client Education				
Provide all clients EPA's <i>A Citizen's Guide to Radon</i> and inform them of radon related risks. https://www.epa.gov/radon/citizens-guide-radon-guide-protecting-yourself-and-your-family-radon				
Training and Certification Requirements				
Training will be provided regarding updated requirements per WPN 17-7 including use of the informed consent form.				
Documentation Requirements				
Client signed informed consent form.				

7.19 – SAFETY DEVICES: SMOKE AND CARBON MONOXIDE ALARMS, FIRE EXTINGUISHERS				
Concurrence, Alternative, or Deferral				
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>		
Funding				
DOE <input checked="" type="checkbox"/>	LIHEAP <input type="checkbox"/>	State <input type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>

What is your policy for installation or replacement of the following:

Smoke Alarms:

Smoke alarms may be installed where alarms are not present or are inoperable.

At minimum, all Dwelling Units should have at least one smoke alarm on each level, including one near the combustion zone and at least one near the bedrooms. Ceiling-mounted smoke alarms must be mounted at least 6 inches from any wall. Wall-mounted smoke alarms must be installed at least 6 but less than 18 inches from the ceilings. They should always be installed according to applicable local codes or ordinances.

Don't install smoke alarms in these cases:

- In a home that already has a functioning smoke alarm
- Within 12 inches of exterior doors and windows
- With an electrical connection to a switched circuit
- With a connection to a ground-fault interrupter circuit (GFCI)

Carbon Monoxide Alarms:

CO alarms must be installed where alarms are not present or are inoperable.

A CO alarm should also be installed in accordance with SWS. CO alarms should be installed in all homes with unvented space heaters (all unvented space heaters must comply with ANSI Z21.11.2) and in all homes where backdrafting could occur in a furnace, space heater, wood stove, fireplace, or water heater. Always install CO alarms according to the manufacturer's instructions.

Don't install CO alarms in these cases:

- In a room that may get too hot or cold for alarm to function properly
- Within 5 feet of a combustion appliance, vent, or chimney
- Within 5 feet of a storage area for vapor-producing chemicals
- Within 12 inches of exterior doors and windows
- Within a furnace closet or room
- With an electrical connection to a switched circuit
- With a connection to a ground-fault interrupter circuit (GFCI)

Fire Extinguishers: A fire extinguisher may be provided in homes with solid fuel burning equipment. The fire extinguisher must be installed according to the manufacturer's standards and local code in the vicinity of the primary heating source.

Testing Protocols

Check existing alarms for operation.
Verify operation of installed alarms.

Client Education

The client will be provided with the manufacturer's information sheet on use of smoke/CO detectors.

Training

Location and code requirements for installation of alarms.

7.20 – OCCUPANT HEALTH AND SAFETY CONCERNS AND CONDITIONS

Concurrence, Alternative, or Deferral		
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>
Funding		
DOE <input checked="" type="checkbox"/>	LIHEAP <input type="checkbox"/>	State <input type="checkbox"/>
Utility <input type="checkbox"/>	Other <input type="checkbox"/>	
What guidance do you provide Subgrantees for soliciting the occupants' health and safety concerns related to components of their homes?		
<p>A Health & Safety Questionnaire/ Checklist for use by Subgrantees can be found under Client and Field Assessment Forms on the Department Website: http://www.tdhca.state.tx.us/communityaffairs/wap/guidance.htm</p>		
What guidance do you provide Subgrantees for determining whether occupants suffer from health conditions that may be negatively affected by the act of weatherizing their home?		
<p>Subgrantee must discuss results of survey with clients and potential measures list to determine if any measures could have an effect on the client's health.</p>		
What guidance do you provide Subgrantees for dealing with potential health concerns when they are identified?		
<p>When a person's health may be at risk and/or the work activities could create an H&S hazard the at risk occupant will be required to take appropriate action based on the severity of the risk.</p> <p>Temporary relocation of Vulnerable Populations may be allowed. Failure or inability to take appropriate actions will result in a deferral.</p>		
Client Education		
<p>Provide client information of any known risks. Provide worker contact information so client can inform of any issues.</p>		
Documentation Form(s) have been developed and comply with guidance?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

7.21 – VENTILATION AND INDOOR AIR QUALITY

Concurrence, Alternative, or Deferral		
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>
Funding		
DOE <input checked="" type="checkbox"/>	LIHEAP <input type="checkbox"/>	State <input type="checkbox"/>
Utility <input type="checkbox"/>	Other <input type="checkbox"/>	
Identify the Most Recent Version of ASHRAE 62.2 Implemented (optional: identify Addenda used)		
<p>Texas WAP has adopted the ASHRAE 62.2 2016 standard.</p>		
Testing and Final Verification Protocols		
<p>Required measurements, including fan flow of existing fans installed equipment, will be captured on the TDHCA provided Blower Door and Duct Blower Data Sheet (XLS). Pre and post measurements must be calculated using the ASHRAE 62.2-2016 Calculator or other certified software.</p>		

Client Education
<p>Provide client with information on function, use, and maintenance (including location of service switch and cleaning instructions) of ventilation system and components.</p> <p>Provide client with equipment manuals for installed equipment.</p> <p>Include disclaimer that ASHRAE 62.2 does not account for high polluting sources or guarantee indoor air quality.</p>
Training
<p>Training for use of the new ASHRAE 62.2-2016 Calculator is available on the RedCalc website and TDHCA provides training on the difference between the 2013 and 2016 standard on an as needed basis.</p> <p>Tools and Guides:</p> <ul style="list-style-type: none"> • Exhaust Fan Flow Meter Quick Guide (PDF) • Single-Family Homes: Standard Work Specifications Field Guide (PDF)

7.22 – WINDOW AND DOOR REPLACEMENT, WINDOW GUARDS		
Concurrence, Alternative, or Deferral		
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>
Funding		
DOE <input checked="" type="checkbox"/>	LIHEAP <input type="checkbox"/>	State <input type="checkbox"/> Utility <input type="checkbox"/> Other <input type="checkbox"/>
What guidance do you provide to Subgrantees regarding window and door replacement and window guards?		
<p>Replacement, repair, or installation is not an allowable health and safety cost but may be allowed as an efficiency measure if cost justified.</p> <p>When working on windows follow LSW requirements for pre-1978 homes.</p>		
Testing Protocols		
Not applicable		
Client Education		
Provide written information on lead risks wherever issues are identified.		
Training		
<p>Guidance is provided through two best practices:</p> <p>Window Repair or Replacement</p> <p>Door Repair or Replacement</p>		

7.23 – WORKER SAFETY (OSHA, ETC.)		
Concurrence, Alternative, or Deferral		
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>
Funding		
DOE <input checked="" type="checkbox"/>	LIHEAP <input type="checkbox"/>	State <input type="checkbox"/> Utility <input type="checkbox"/> Other <input type="checkbox"/>
How do you verify safe work practices? What is your policy for in-progress monitoring?		

Workers must follow OSHA standards and Safety Data Sheets (SDS) and take precautions to ensure the health and safety of themselves and other workers. SDS must be posted wherever workers may be exposed to hazardous materials.

As part of the safety for crew, assessors will identify health and safety hazards according to the OSHA method "Focus Four" which includes, electrical, fall protection, caught in and between, and struck-by hazards. The client will be informed in writing of any hazards and the associated risks that may have been observed.

Health and Safety Guidance

[OSHA Focus Four](#)

Training and Certification Requirements

OSHA 10-hour training for all crew level WAP employees
 OSHA 30-hour training for all crew leaders
 All OSHA training shall be updated as required and kept current.
 SDS must be present at the work sites.

7.24 – WATER HEATERS

Concurrence, Alternative, or Deferral

Concurrence with Guidance Alternative Guidance Results in Deferral

Funding

DOE LIHEAP State Utility Other

Remediation Protocols

Replacement or repair of water heaters is allowed on a case by case basis. The Subgrantees must initially attempt to qualify existing Water Heater as an ECM. If the Water Heater does not rank, Subgrantees may repair or replace the existing unit as a Health and Safety Measure. Further detailed in the Water Heater Replacement Best Practice on the TDHCA Website:

<http://www.tdhca.state.tx.us/community-affairs/wap/docs/WAP-BP-WaterHeaterRepairorReplace.pdf>

Testing Protocols

Appropriate combustion appliance testing and water temperature testing.

Client Education

Clients shall be given all manufacturers information on the appropriate use and maintenance of water heating units.

Training

Combustion Appliance Zone (CAZ) training and identifying potential hazards associated with water heaters.