

# Weatherization Grantee Health and Safety Plan

## POLICY SUBMITTED WITH 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.*

Health and Safety (H/S) issues are a critical component to be included in the auditing protocol used by DHCD's weatherization programs. DHCD regularly assesses new health and safety regulations and training to ensure that weatherization activities do not cause or exacerbate health and safety problems for workers and/or occupants. Maryland's Weatherization Program Operations Manual (POM) addresses Health and Safety in accordance with 10 CFR 440.16(h), 440.18(d)(15), 440.21(5), and the Department of Energy's (DOE) most recent Health and Safety Guidance in Weatherization Program Notices (WPN) 22-7.

Health and safety funds are allowed to be expended by subgrantees where direct weatherization activities occur. The Department of Housing and Community Development (DHCD) budgets health and safety costs as a separate category from Program Operations and, thereby, excludes such costs from the Savings to Investment Ratio (SIR) and the average per-unit cost calculation.

Allowable energy efficiency-related health and safety actions are those actions necessary to maintaining the physical well-being of both the occupants and/or weatherization workers where:

- Costs are reasonable, as determined by DOE, and are in accordance with the approved State Plan; AND
- The actions must be taken to effectively perform weatherization work; OR
- The actions are necessary as a result of weatherization work.

Health and safety measures are allowed to be conducted only where energy efficiency measures are identified for installation. We need to ask:

- What must we do within reasonable costs to get the home to a point we can go forward with weatherizing, where the weatherization work will be lasting and effective?
- What must we do to ensure that the weatherization work we conduct does not create a health or safety problem for the occupant?

Not all observed health and safety conditions need to be corrected in order to proceed with weatherization; however, the client will still be notified of any observed conditions and if the condition is not corrected, it should be clearly explained in the client's electronic file in Hancock how the condition is not related to the planned weatherization work.

### 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.

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.

DHCD sets health and safety expenditure limits using historical data pulled from the Hancock Energy Software to identify all H&S measures installed and the number of completed jobs per measure to establish an average cost per measure. Additional detail to justify the increase in H&S expenditures is provided as an attachment.

DHCD will set an average H&S expenditure limit of 20% of the per unit average for Program Operations. This percentage will vary based on actual expenditures and will be averaged across all units. Subgrantees will be required to maintain their budget limitation, exceeding budget limits shall result in disallowed costs. DHCD will require subgrantees to track H&S costs and related measures in order to support future budget requests.

### 4.0 – INCIDENTAL REPAIR MEASURES

If Grantees choose to identify any H&S measures as incidental repair measures (IRMs), they must be implemented as such under the Grantee’s weatherization program in all cases – meaning, they can never be applied to the H&S budget category. In order to be considered IRMs, the measure must fit the following definition and be cost justified along with the associated efficiency measure;

*Incidental Repairs means those repairs necessary for the effective performance or preservation of weatherization materials. Such repairs include, but are not limited to, framing or repairing windows and doors which could not otherwise be caulked or weather-stripped and providing protective materials, such as paint, used to seal materials installed under this program. ([10 CFR 440 “Definitions”](#))*

Incidental Repair Measures (IRM) includes materials and installation which are performed because they are deemed necessary for the preservation and effectiveness of one or more energy saving measures. The energy saving measure that requires the installation of an incidental repair must be documented in Hancock. IRM costs are not added to any individual or partial group of energy saving measure costs. The total cost of all IRMs is added to the cost of the package of weatherization measures to calculate the whole unit (SIR).

Such repairs include the following categories and can never be applied to the health and safety budget category under this program:

- Drainage (gutters, down spouts, extensions, flashing, sump pumps, landscape, etc. - See section 7.16)
- Electrical, other than Knob-and-Tube Wiring (See section 7.9)
- Electrical, Knob-and-Tube Wiring

- Building Structure and Roofing

## 5.0 – DEFERRAL/REFERRAL POLICY

*Deferral of services may be necessary if H&S issues cannot be adequately addressed according to WPN 17-07 guidance. The decision to defer work in a dwelling is difficult but necessary in some cases. This does not mean that assistance will never be available, but that work must be postponed until the problems can be resolved and/or alternative sources of help are found. If, in the judgment of the auditor, any conditions exist which may endanger the health and/or safety of the workers or occupants, the unit should be deferred until the conditions are corrected. Deferral may also be necessary where occupants are uncooperative, abusive, or threatening. Grantees must be specific in their approach and provide the process for clients to be notified in writing of the deferral and what conditions must be met for weatherization to continue. Grantees must also provide a process for the client to appeal the deferral decision to a higher level in the organization.*

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?

The decision to defer work in a dwelling is difficult but necessary in some cases. This does not mean that assistance will never be available, but that work must be postponed until the problems can be resolved and /or alternative sources of assistance are found. In the judgment of the auditor, any conditions that exist, which may endanger the health and/or safety of the workers or occupants, should be deferred until the conditions are corrected.

Deferral may also be necessary where occupants are uncooperative, abusive, or threatening. Local Weatherization Agencies (LWAs) who determine that a home is beyond the scope of DHCD’s Weatherization Program must notify a DHCD Quality Assurance Inspector before the unit is deferred. Pending DHCD approval, LWAs must document the decision to defer in the Hancock Energy Software by providing a description of the repairs needed, uploading photographic evidence to support the repairs needed, and completing the Deferral Form to include cost estimates. The Deferral Form must be signed by the Auditor and client. Clients shall be notified in writing within 7 calendar days of the site visit wherein a determination was made to defer the work.

The notification shall include:

- client’s name and address
- date of the audit/assessment
- date the client was informed of a potential health and safety issue
- clear description of the problem
- statement indicating conditions under which weatherization could continue
- responsibility of all parties involved
- appeal process
- signature of Local Weatherization Agency Representative
- client’s signature indicating that they understand and have been informed of their rights and options.

LWAs are expected to make reasonable efforts on behalf of their clients to find alternative assistance when DHCD funds for weatherization are unable to address conditions that lead to deferral. When possible, the notice shall include a list of potential agencies with funding designed to address the specific issue which precludes a client from participating.

All measures identified in the H&S Plan are allowable H&S costs in accordance with WPN 22-7. However, a measure is charged as an ECM where it meets an SIR of 1.0. DHCD will monitor the use of H&S educational literature during Quality Assurance Inspections and subgrantee programmatic monitoring.

Deferral conditions may include:

**Costs** – Health and Safety items are cost-prohibitive

**Condemned** - The house has been condemned or is scheduled for demolition; electrical, heating, plumbing, or other equipment has been "red tagged" by local or state building officials or utilities; and repair/replacement is beyond the scope of the WAP.

**Extensive Work Scope** - the building is in need of extensive rehabilitation, and no such rehabilitation has been provided for.

**Excessive Clutter or Hoarding Conditions** – If the house has excessive clutter that would impede the installation of the weatherization work performed.

**Uncooperative Client** - The client is uncooperative, abusive, or threatening to the crew, subcontractors, auditors, inspectors, or others who must work on or visit the house. When an eligible client is uncooperative with the LWA, either in demanding that certain work be done and refusing higher priority work which is needed (e.g., demanding only windows), by being abusive to the work crew or subcontractor, or by being unreasonable in allowing access to the unit, every attempt should be made to explain the program and the benefits of the work. If this fails, work must be suspended and the DHCD Quality Assurance Inspector consulted.

**Illegal Activities** - Illegal activities are being conducted in the dwelling unit.

**Structure for sale** - building or dwelling unit is for sale or subject to bankruptcy or foreclosure.

**Legal Dispute** - building or dwelling unit where ownership cannot be confirmed due to a legal dispute. Clear title must be established before services can be provided.

**Conflict of interest or appearance of conflict** - when the structure is owned, managed or occupied by an employee, board member, officer or relative of a LWA employee, prior approval must be obtained from DHCD before any work is started. If the client is a board member or senior staff member of the LWA prior approval will not be granted.

Before a house is deferred, a DHCD Quality Assurance Inspector must be notified. Pending their approval, a Deferral Form that is signed by the Auditor and client must be uploaded in Hancock. When a home has been deferred, the client must be notified in writing of the deferral and what corrective actions are necessary for weatherization to continue.

Additionally, the client should be informed of the process of appeal to a higher level in the organization. In unusual situations not covered above or where other problems of a unique nature exist, the DHCD Quality Assurance Inspector will inspect the property. If obvious discrepancies are found between the information supplied by the client on the application and observed conditions at the time of weatherization, the LWA must resolve these discrepancies prior to weatherization.

**Procedures for Deferral**

The Energy Auditor must obtain prior approval from a DHCD Quality Assurance Inspector to defer a unit. The Energy Auditor or LWA representative must complete the Deferral Form. The Auditor and client must sign the form. A copy of the signed form must be provided to the client. If the property is a rental, the Auditor and client must sign the form and a copy of the signed form must be provided to the client and the property owner.

Additionally, a copy must be maintained in the client file and uploaded into Hancock. If the client refuses to sign the form, the Energy Auditor must contact the LWA. The LWA must attempt to contact the client to clearly explain the reason for the deferral and what corrective actions are necessary for weatherization to proceed. If the client still refuses to sign the form, the LWA representative must provide information of the process for them to appeal to a higher level in the organization. If the client still refuses to sign, the LWA representative will write “client refused to sign” on the client signature line and leave the client with a copy of the form.

Client files must include a copy of deferral documentation. Deferral documentation must include supporting documentation of the reason for deferral outlined on the Weatherization Deferral Form. This documentation must be uploaded in to the Hancock Energy Software system.

Additionally, the client record must be updated in the Hancock System. The LWA must note the reason for the deferral in the ‘Denied Client’ Measure in order for the case to be closed. Note that not all deferral methods have been listed as separate measures in Hancock, so it may be necessary to choose one that is similar and provide additional information in the comments section online. The deferral form must be uploaded before the job will be closed.

## 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 17-07 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 17-07, Grantees must concur, or choose to defer all units where the specific category is encountered.
- “Allowable” items under WPN 17-07 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

Primary space conditioning system repair, replacement or installation is allowed when it qualifies as an ECM and meets and SIR of 1.0. If an SIR of 1.0 is not attainable then other funds may be leveraged.

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

When a space conditioning system does not qualify as an ECM, the following conditions must be met before the unit can be replaced or repaired with H&S funds:

- Red tagged, inoperable or nonexistent primary heating systems replacement, repair or installation is allowed due to Maryland’s climate conditions. According to recent NOAA data, Cooling Degree Days (CDD) for Baltimore Washington International (BWI) Airport ranged from 1084 CDD in 2014 to 1742 CDD in 2010.
- Primary air conditioning system replacement, repair, or installation is allowed only in homes where current occupants meet the definition of “at-risk” and climate conditions warrant.
- A Manual J is required when installing or replacing a heating or cooling appliance.
- If unsafe primary units can’t be repaired, replaced, removed, or rendered inoperable, it must be deferred.

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

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|--|
| Replacement or installation of secondary units is not allowed. Unsafe units must be repaired, removed, or rendered inoperable, or deferral is required.  |
| <b>Indicate Documentation Required for At-Risk Occupants</b>   |
| Furnaces and/or air conditioning system replacement, repair or installation will be considered in homes occupied by at risk occupants when climate conditions are warranted and when other funds are leveraged. An at-risk occupant is a household member with a medical condition documented by a physician that requires air conditioning. No new installation of air conditioning systems is permitted where an existing air conditioning system does not exist. Medical documentation must be no older than 180 days. Air conditioning may be repaired when practical and costs are less than replacement. |
| <b>Testing Protocols</b>   |
| Ensure primary systems are present, operable, and performing correctly. Check audit to determine if the system can be installed as an ECM prior to replacement as an H&S measure. Determine and document presence of “at-risk” current occupants when installing air-conditioning as a H&S measure. On combustion equipment, inspect chimney and flue and test for CAZ depressurization. For solid fuel appliances look for visual evidence of soot on the walls, mantel or ceiling or creosote staining near the flue pipe.   |
| <b>Client Education</b>  |
| When deferral is necessary, complete the deferral form and upload it to the client file in the energy software. Discuss appropriate use and maintenance of units. Provide all paperwork and manuals for any installed equipment. Discuss and provide information on proper disposal of bulk fuel tanks when not removed as part of the weatherization work. Where combustion equipment is present, provide safety information including how to recognize depressurization.   |
| <b>Training</b>  |
| WAP H&S policy training on allowable activities. Licensing and/or certification for HVAC installers as required by authority having jurisdiction. CAZ depressurization test and inspection training.   |

## 7.2 - Asbestos - All

### What is the blower door testing policy when suspected Asbestos Containing Material (ACM) is identified?

When it is suspected that asbestos containing material is identified, unless testing proves otherwise, assume it contains asbestos and take precautionary measures. Encapsulation of asbestos is allowed by an AHERA asbestos control professional and should be conducted prior to blower door testing.

### 7.2a – Asbestos - in siding, walls, ceilings, etc.

#### Concurrence, Alternative, or Deferral

Concurrence with Guidance       Alternative Guidance       Results in Deferral

#### Funding

DOE       LIHEAP       State       Utility       Other

### How do you address suspected ACM’s in siding, walls, or ceilings that will be disturbed through the course of weatherization work?

Removal of siding is allowed to perform energy conservation measures. All precautions must be taken not to damage siding. Never cut, drill, or sand suspected asbestos containing material. General abatement of asbestos siding or replacement with new siding is not an allowable health and safety measure.

#### Testing Protocols

Visually inspect exterior wall surfaces and sub-surfaces, floors, walls, and ceilings for suspected ACM prior to any work (including drilling or cutting). Materials containing or suspected of containing asbestos identified

during the evaluation will be brought to the attention of the owner/occupant. The condition of the asbestos will be assessed and occupants will be advised not to disturb the material. Testing is only allowed by a certified AHERA asbestos control professional.

**Client Education**

Client will be informed in writing that suspected asbestos is present and what precautions (such as not to disturb material containing asbestos) will be taken to ensure the occupants and workers safety. When asbestos is the cause for deferral, and the client addresses the issue, the client must provide documentation that the asbestos removal or encapsulation was conducted by a certified professional before the home is eligible for weatherization. If suspected asbestos is present, the client will be provided U.S. EPA’s “Learn About Asbestos” and “Asbestos, Protect Your Family”. The documents can be found at <http://www2.epa.gov/asbestos>.

**Training and Certification Requirements**

Every crew member will have taken the required “Asbestos Awareness” class to be able to identify suspected asbestos materials so that they are protected by inadvertent exposure to this hazard. Major asbestos problems should be referred to the appropriate state agency and/or the Environmental Protection Agency (EPA). AHERA certification is required to conduct testing.

**7.2b – Asbestos - in vermiculite**

**Concurrence, Alternative, or Deferral**

Concurrence with Guidance       Alternative Guidance       Results in Deferral

**Funding**

DOE       LIHEAP       State       Utility       Other

**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 performed by an AHERA certified tester proves otherwise, assume it contains asbestos and take precautionary measures. Use proper respiratory protection while in areas containing vermiculite. Do not perform a blower door test if it will disturb the vermiculite. Partial weatherization is not an option when vermiculite is present.

When friable ACM’s are suspected (meaning the material can be crumbled, pulverized, or reduced to powder by the pressure of an ordinary human hand), assume they contain asbestos and take precautionary measures such as not disturbing the materials and wearing respirators in the area.

**Testing Protocols**

Asbestos may be encapsulated by an AHERA certified professional but this may be cost prohibitive. Removal is not allowed. In cases where it is not cost-effective, a home should be deferred.

**Client Education**

Client will be informed in writing that suspected asbestos is present and what precautions (such as not to disturb material containing asbestos) will be taken to ensure the occupants and workers safety. If suspected asbestos is present, the client will be provided U.S. EPA’s “Learn About Asbestos” and “Asbestos, Protect Your Family”. The documents can be found at <http://www2.epa.gov/asbestos>. When deferral is necessary, complete the deferral form and upload it to the client file in the energy software.

**Training and Certification Requirements**

Every crew member will have taken the required “Asbestos Awareness” class to be able to identify suspected asbestos materials so that they are protected by inadvertent exposure to this hazard. Major asbestos problems should be referred to the appropriate state agency and/or the Environmental Protection Agency (EPA). AHERA certification is required to conduct testing.



| <b>7.2c – Asbestos - on pipes, furnaces, other small covered surfaces</b>  |   |  |                                  |                                |
|--|---|--|----------------------------------|--------------------------------|
| <b>Concurrence, Alternative, or Deferral</b>   |   |  |                                  |                                |
| Concurrence with Guidance <input checked="" type="checkbox"/>  | Alternative Guidance <input type="checkbox"/> | Results in Deferral <input type="checkbox"/> |                                  |                                |
| <b>Funding</b>   |   |  |                                  |                                |
| DOE <input checked="" type="checkbox"/>  | LIHEAP <input type="checkbox"/>               | State <input type="checkbox"/>               | Utility <input type="checkbox"/> | Other <input type="checkbox"/> |
| <b>How do you address suspected ACM's (e.g., pipes, furnaces, other small surfaces) that will be disturbed through the course of weatherization work?</b>  |   |  |                                  |                                |
| When friable ACM's are suspected (meaning the material can be crumbled, pulverized, or reduced to powder by the pressure of an ordinary human hand), assume they contain asbestos and take precautionary measures such as not disturbing the materials and wearing respirators in the area. Encapsulation of asbestos is allowed by an AHERA asbestos control professional and should be conducted prior to blower door testing.   |   |  |                                  |                                |
| <b>Testing Protocols</b>   |   |  |                                  |                                |
| Inspect pipe and other coverings for asbestos. Assess the condition of the asbestos and inform occupants not to disturb the material. Encapsulation is allowed by an AHERA certified professional however removal is not allowed. Only costs directly associated with testing and encapsulation may be charged to the H&S category. When deferral is necessary due to asbestos, occupant must provide documentation that a certified professional performed the remediation before work continues.   |   |  |                                  |                                |
| <b>Client Education</b>  |   |  |                                  |                                |
| Client will be informed in writing that suspected asbestos is present and what precautions (such as not to disturb material containing asbestos) will be taken to ensure the occupants and workers safety. If suspected asbestos is present, the client will be provided U.S. EPA's "Learn About Asbestos" and "Asbestos, Protect Your Family". The documents can be found at <a href="http://www2.epa.gov/asbestos">http://www2.epa.gov/asbestos</a> . When deferral is necessary, provide information in writing describing conditions that must be met in order for weatherization to commence. Complete the deferral form and upload it to the client file in the energy software. |   |  |                                  |                                |
| <b>Training and Certification Requirements</b>   |   |  |                                  |                                |
| Every crew member will have taken the required "Asbestos Awareness" class to be able to identify suspected asbestos materials so that they are protected by inadvertent exposure to this hazard. Major asbestos problems should be referred to the appropriate state agency and/or the Environmental Protection Agency (EPA). AHERA certification is required to conduct testing.  |   |  |                                  |                                |

| <b>7.5 – Biologicals and Unsanitary Conditions<br/>(odors, mustiness, bacteria, viruses, raw sewage, rotting wood, etc.)</b>   |   |  |                                  |                                |
|--|---|--|----------------------------------|--------------------------------|
| <b>Concurrence, Alternative, or Deferral</b>   |   |  |                                  |                                |
| Concurrence with Guidance <input checked="" type="checkbox"/>  | Alternative Guidance <input type="checkbox"/> | Results in Deferral <input type="checkbox"/> |                                  |                                |
| Unallowable Measure <input type="checkbox"/>   |   |  |                                  |                                |
| <b>Funding</b>   |   |  |                                  |                                |
| DOE <input checked="" type="checkbox"/>  | LIHEAP <input type="checkbox"/>               | State <input type="checkbox"/>               | Utility <input type="checkbox"/> | Other <input type="checkbox"/> |
| <b>What guidance do you provide Subgrantees for dealing with biological and/or unsanitary conditions in homes slated for weatherization?</b>   |   |  |                                  |                                |
| Small occurrences (less than 10 total square feet) may be addressed using DOE funds under MD WAP during the normal course of weatherization activities. Work must be approved prior to starting. Approval will be granted on a case by case basis. Use of weatherization funds to remove mold, odors, viruses, bacteria, etc. (including raw sewage or animal excrement) is not allowed however, program workers frequently encounter these conditions. The decision on next steps to remediate these issues begins with the certified Auditor and the |   |  |                                  |                                |

determination if a remediation specialist, or other hazardous materials removal specialist specific to the issue, should be involved.

Other considerations include identifying the cause of the issue (moisture, etc.). Health and Safety funds may be used if the source of these conditions is identified and can be resolved to allow effective weatherization work and/or to assure the immediate or future health of workers and clients. Caution should be taken when selecting air tightness limits for dwellings with these problems (See section 7.16 – Mold & Moisture).

**Testing Protocols**

Since these conditions are often related to moisture, the Auditor should assess moisture conditions as a part of the initial audit procedure and treat them as part of the weatherization work. If necessary, weatherization services may need to be delayed until the problem can be referred to another agency that can take remedial action. In cases where a known biological agent is present and may create a serious risk to occupants or weatherization crews/contractors, the home should be deferred and the homeowner immediately alerted to the risk. The auditor will document the client file by uploading a write-up in the energy software as well as photographic evidence supporting the visual inspection.

**Client Education**

Inform client of observed hazardous conditions and that they must be corrected by a certified professional and signed clearance notification must be provided to the agency prior to weatherization continuing. Non-hazardous conditions can be corrected by the client, and if performed within 30 days, weatherization can continue. When deferral is necessary, complete the deferral form and upload it to the client file in the energy software.

**Training**

DHCD’s required asbestos awareness, mold identification, and weatherization tactics courses allow workers to identify these problems and utilize safe work practices.

**7.6 – Building Structure and Roofing**

**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 structural issues (e.g., roofing, wall, foundation) in homes slated for weatherization?**

While conducting the initial audit, the building structure shall be inspected for structural integrity. Building rehabilitation is beyond the scope of the WAP.

If the building structure or its mechanical systems, including electrical and plumbing, are in such a state of disrepair that failure is imminent and the conditions cannot be resolved cost-effectively, the home will be deferred. Documentation for deferral will include notes of the visual inspections, diagrams of the visual inspection, photographic evidence to support the visual inspection, and costs estimates to replace the wiring.

**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 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. Minor repairs shall not include cosmetic applications, such as replacing a floor covering such as carpet or linoleum.

|   |
|---|
| Dwellings whose structural integrity is in question are beyond the scope of the WAP and should be referred to appropriate agencies with funds that deliver these types of services. Weatherization services may need to be delayed or deferred until the dwelling can be made safe for crews/contractors and occupants. |
| <b>If priority lists are used, and these repairs are designated as Incidental Repairs, at what point is a site-specific audit required?</b>   |
| N/A   |
| <b>Client Education</b>   |
| When deferral is necessary, provide information in writing describing conditions that must be met in order for weatherization to commence and complete the deferral form and upload it to the client file in the energy software.   |
| <b>Training</b>   |
| How to identify structural and roofing issues.  |

|  |
|--|
| <b>7.7 – Code Compliance</b>   |
| <b>Concurrence, Alternative, or Deferral</b>   |
| Concurrence with Guidance <input checked="" type="checkbox"/> Alternative Guidance <input type="checkbox"/> Results in Deferral <input type="checkbox"/>   |
| <b>Funding</b>   |
| DOE <input checked="" type="checkbox"/> LIHEAP <input type="checkbox"/> State <input type="checkbox"/> Utility <input type="checkbox"/> Other <input type="checkbox"/>   |
| <b>What guidance do you provide Subgrantees for dealing with code compliance issues in homes receiving weatherization measures?</b>  |
| State and Local codes must be followed while 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.<br><br>Correction of pre-existing code compliance issues is not an allowable cost unless triggered by weatherization measures being installed in a specific room or area of the home. When correction of a pre-existing code compliance issue is triggered and paid for with WAP funds, cite specific code requirements in the client file in the energy software.<br><br>Condemned properties and properties where “red tagged” health and safety conditions exist that cannot be corrected under this guidance should be deferred. When code issues lead to deferral, cite specific code requirements in the client file in the energy software. Documentation for deferral will include notes of the visual inspections, diagrams of the visual inspection, and photographic evidence to support the visual inspection. |
| <b>What specific situations commonly trigger code compliance work requirements for your network? How are they addressed?</b>   |
| There are no specific situations that commonly trigger code compliance.  |
| <b>Client Education</b>  |
| Inform client of observed code compliance issues in writing when it results in a deferral. Complete the deferral form and upload it to the client file in the energy software.   |
| <b>Training</b>  |
| Workers must be qualified and adequately trained according to state and local codes specific to the work being conducted (electrical, plumbing, etc.).   |

| <b>7.8 – Combustion Gases</b>  |   |  |  |                                |
|--|---|--|--|--------------------------------|
| <b>Concurrence, Alternative, or Deferral</b>   |   |  |  |                                |
| Concurrence with Guidance <input checked="" type="checkbox"/>  | Alternative Guidance <input type="checkbox"/> | Results in Deferral <input type="checkbox"/> |  |                                |
|  |   |  |  |                                |
| <b>Funding</b>   |   |  |  |                                |
| DOE <input checked="" type="checkbox"/>  | LIHEAP <input type="checkbox"/>               | State <input type="checkbox"/>               | Utility <input type="checkbox"/>       | Other <input type="checkbox"/> |
|  |   |  |  |                                |
| <b>Testing Protocols</b>   |   |  |  |                                |
| <p>Proper venting to the outside for combustion appliances, including gas dryers and refrigerators, furnaces, vented space heaters and water heaters is required. Correction of venting is allowed when testing indicates a problem.</p> <p>Combustion safety testing is required when combustion appliances are present. A complete mechanical systems assessment is required to be completed on every home. The procedure will include:</p> <ul style="list-style-type: none"> <li>Testing naturally drafting appliances for spillage and CO during CAZ depressurization testing pre- and post-weatherization and before leaving the home on any day when work has been done that could affect draft (e.g., tightening the home, adding exhaust).</li> <li>Visual and diagnostic inspection of the venting of combustion appliances and confirming adequate clearances.</li> <li>Checking the audit to determine if the appliance can be justified as an ECM prior to replacement as an H&amp;S measure.</li> <li>Completing a Manual J when installing or replacing a heating or cooling appliance.</li> </ul> <p>When replacing an appliance for H&amp;S, test for cost-effectiveness first and install as ECM if possible. If replacing as H&amp;S, document comparison of costs of replacement vs. repair by uploading it into the client file in the energy software.</p> |   |  |  |                                |
| <b>How are crews instructed to handle problems discovered during testing, and what are the specific protocols for addressing hazards that require an immediate response?</b>   |   |  |  |                                |
| <p>Carbon Monoxide (CO) is produced anytime fossil fuels are burned to produce heat and the burn is incomplete. There are many circumstances that can cause this situation to occur and the danger of CO spilling into the ambient air of the household is always present. When dangerous CO levels are present, the worker is required to contract a licensed service contractor to visit the home and eliminate the health and safety hazard (reference Action Level Table below) .</p>  |   |  |  |                                |
| <b>CO Test Result*</b>   | <b>And/ Or</b>                                | <b>Spillage and Draft Test Results</b>       | <b>Retrofit Action</b>                 |                                |
| <b>0 – 25 ppm</b>  | <i>And</i>                                    | <b>Passes</b>                                | Proceed with work                      |                                |
| <b>26 – 100 ppm</b>  | <i>And</i>                                    | <b>Passes</b>                                | Recommend that the CO problem be fixed |                                |
| <b>26 – 100</b>  | <i>And</i>                                    | <b>Fails at worst</b>                        | Recommend a service call for the       |                                |

|                      |            |                                       |  |
|----------------------|------------|---------------------------------------|--|
| <b>ppm</b>           |            | <b>case only</b>                      | appliance and/or repairs to the home   |
|                      |            |                                       | to correct the problem   |
| <b>100 - 400 ppm</b> | <i>Or</i>  | <b>Fails under natural conditions</b> | Stop Work: Work may not proceed until the system is serviced and the problem is corrected        |
| <b>&gt; 400 ppm</b>  | <i>And</i> | <b>Passes</b>                         | Stop Work: Work may not proceed until the system is serviced and the problem is corrected        |
| <b>&gt; 400 ppm</b>  | <i>And</i> | <b>Fails under any condition</b>      | Emergency: Shut off fuel to the appliance and have the homeowner to call for service immediately |

**Client Education**

Client will be informed of safety hazards of CO including the importance of using exhaust ventilation when cooking and keeping burners clean to limit the production of CO. The agency will provide either the U.S. EPA document “Protect Your Family and Yourself from Carbon Monoxide Poisoning” located at [www.epa.gov/iaq/pdfs/co\\_factsheet\\_en.pdf](http://www.epa.gov/iaq/pdfs/co_factsheet_en.pdf), or the Center for Disease Control’s “What is Carbon Monoxide?” located at [www.cdc.gov/co/pdfs/faqs.pdf](http://www.cdc.gov/co/pdfs/faqs.pdf), or both.

**Training**

How to perform appropriate testing, determine when a building is excessively depressurized, and the difference between air free and as-measured CO. CO action levels.

**7.9 – Electrical**

**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 electrical hazards, including knob & tube wiring, in homes slated for weatherization?**

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

Electrical (Other than Knob and Tube)  
 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. As defined in 10 CFR 440, Incidental Repairs are those repairs necessary for the effective performance or preservation of weatherization materials. Incidental repair measures must be cost justified in the energy audit.

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 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 sub-contracting. 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.

Electrical (Knob and Tube)

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. As defined in 10 CFR 440, Incidental Repairs are those repairs necessary for the effective performance or preservation of weatherization materials. Incidental repair measures must be cost justified in the energy audit.

However, DHCD prohibits installing insulation over knob-and-tube wiring. 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 Knob and Tube.

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

N/A

**Client Education**

When electrical issues are the cause of deferral, provide information to the client on over-current protection, overloading circuits, and basic electrical safety/risks. Complete the deferral form and upload it to the client file in the energy software.

**Training**

How to identify electrical hazards.  
Local code compliance.

**7.10 – Formaldehyde, Volatile Organic Compounds (VOCs), Flammable Liquids, and other Air Pollutants**

**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 formaldehyde, VOCs, flammable liquids, and other air pollutants identified in homes slated for weatherization?**

Formaldehyde vapors may be slowly released by some new carpets, Oriented Strand Board (OSB), plywood, etc. VOCs are also emitted by some household cleaning agents. Removal of pollutants is allowed and is required if they pose a risk to workers. If pollutants pose a risk to workers and removal isn't possible or allowed by the client, the unit must be deferred. Documentation for deferral will include notes of the inspections and photographic evidence to support the inspections.

| <b>Testing Protocols</b>   |
|--|
| Visual and sensory inspection is the primary mechanism for determining the hazards of VOCs and other air pollutants.   |
| <b>Client Education</b>  |
| Inform client in writing of observed hazardous condition and associated risks. Provide client written materials on safety issues and proper disposal of household pollutants. When deferral is necessary, complete deferral form and upload into the client file in the energy software. |
| <b>Training</b>  |
| How to recognize potential hazards and when removal is necessary.  |

| <b>7.11 – Fuel Leaks</b><br><i>(please indicate specific fuel type if policy differs by type)</i>  |   |  |                                  |                                |
|--|---|--|----------------------------------|--------------------------------|
| <b>Concurrence, Alternative, or Deferral</b>   |   |  |                                  |                                |
| Concurrence with Guidance <input checked="" type="checkbox"/>  | Alternative Guidance <input type="checkbox"/> | Results in Deferral <input type="checkbox"/> |                                  |                                |
| <b>Funding</b>   |   |  |                                  |                                |
| DOE <input checked="" type="checkbox"/>  | LIHEAP <input type="checkbox"/>               | State <input type="checkbox"/>               | Utility <input type="checkbox"/> | Other <input type="checkbox"/> |
| <b>Remediation Protocols</b>   |   |  |                                  |                                |
| Exposed gas lines should be tested for fuel leaks from utility coupling into, and throughout, the home. A sensory inspection should also be conducted on bulk fuels to determine if leaks exist. When a minor gas leak is found on the utility side of service, the utility service must be contacted before work may proceed. Fuel leaks that are the responsibility of the client (vs. the utility) must be repaired before weatherizing a unit. Notify utilities and temporarily halt work when leaks are discovered that are the responsibility of the utility to address. |   |  |                                  |                                |
| <b>How do you define allowable fuel leak repairs, and at what point are repairs considered beyond the scope of weatherization?</b>   |   |  |                                  |                                |
| Minor repairs necessary to effectively perform or preserve weatherization materials/measures are allowed where it has been determined that the fuel leak is the responsibility of the client. Fuel leak repairs that are the responsibility of the utility service are beyond the scope of weatherization. If the fuel leak is determined to be the responsibility of the utility, suspend work until the utility service addresses the leak.  |   |  |                                  |                                |
| <b>Client Education</b>  |   |  |                                  |                                |
| Inform clients in writing if fuel leaks are detected.  |   |  |                                  |                                |
| <b>Training</b>  |   |  |                                  |                                |
| Fuel leak testing.   |   |  |                                  |                                |

| <b>7.12 – Gas Ovens / Stovetops / Ranges</b>   |   |  |                                  |                                |
|--|---|--|----------------------------------|--------------------------------|
| <b>Concurrence, Alternative, or Deferral</b>   |   |  |                                  |                                |
| Concurrence with Guidance <input checked="" type="checkbox"/>  | Alternative Guidance <input type="checkbox"/> | Results in Deferral <input type="checkbox"/> |                                  |                                |
| <b>Funding</b>   |   |  |                                  |                                |
| DOE <input checked="" type="checkbox"/>  | LIHEAP <input type="checkbox"/>               | State <input type="checkbox"/>               | Utility <input type="checkbox"/> | Other <input type="checkbox"/> |
| <b>What guidance do you provide Subgrantees for addressing unsafe gas ovens/stoves/ranges in homes slated for weatherization?</b>              |   |  |                                  |                                |
| When testing indicates a problem, agencies may perform standard maintenance on, or repair, gas cooktops and ovens. Replacement is not allowed. |   |  |                                  |                                |

| <b>Testing Protocols</b>  |
|---|
| Test gas oven for CO. Inspect cooking burners and ovens for operability and flame quality (See section 7.8 – <i>Combustion Gases</i> – Action Level Table). |
| <b>Client Education</b>   |
| Inform clients of the importance of using exhaust ventilation when cooking and the importance of keeping burners clean to limit the production of CO.       |
| <b>Training</b>   |
| Testing techniques. CO action levels.   |

| <b>7.13 – Hazardous Materials Disposal</b><br>[Lead, Refrigerant, Asbestos, Mercury (including CFLs/fluorescents), etc.]<br><i>(please indicate material where policy differs by material)</i>  |   |  |                                  |                                |
|---|---|--|----------------------------------|--------------------------------|
| <b>Concurrence, Alternative, or Deferral</b>  |   |  |                                  |                                |
| Concurrence with Guidance <input checked="" type="checkbox"/>   | Alternative Guidance <input type="checkbox"/> | Results in Deferral <input type="checkbox"/> |                                  |                                |
| <b>Funding</b>  |   |  |                                  |                                |
| DOE <input checked="" type="checkbox"/>   | LIHEAP <input type="checkbox"/>               | State <input type="checkbox"/>               | Utility <input type="checkbox"/> | Other <input type="checkbox"/> |
| <b>Client Education</b>   |   |  |                                  |                                |
| Inform the client in writing of hazards associated with hazardous waste materials being generated/handled in the home. Provide EPA Refrigerant Disposal Brochure.   |   |  |                                  |                                |
| <b>Training</b>   |   |  |                                  |                                |
| Appropriate Personal Protective Equipment (PPE) for working with hazardous waste materials. Disposal requirements and locations. Health and environmental risks related to hazardous materials.   |   |  |                                  |                                |
| <b>Disposal Procedures and Documentation Requirements</b>   |   |  |                                  |                                |
| Hazardous waste materials generated in the course of weatherization work shall be disposed of according to all local laws, regulations and/or federal guidelines, as applicable. The replacement of refrigerators, air conditioners and any other appliances containing refrigerant requires agencies to follow the Clean Air Act 1990, section 608, as amended by 40 CFR 82, 5/14/93. Document proper disposal requirements in contract language with responsible party. |   |  |                                  |                                |

| <b>7.14 – Injury Prevention of Occupants and Weatherization Workers</b><br>(Measures such as repairing stairs and replacing handrails)  |   |  |                                  |                                |
|---|---|--|----------------------------------|--------------------------------|
| <b>Concurrence, Alternative, or Deferral</b>  |   |  |                                  |                                |
| Concurrence with Guidance <input checked="" type="checkbox"/>   | Alternative Guidance <input type="checkbox"/> | Results in Deferral <input type="checkbox"/> |                                  |                                |
| <b>Funding</b>  |   |  |                                  |                                |
| DOE <input checked="" type="checkbox"/>   | LIHEAP <input type="checkbox"/>               | State <input type="checkbox"/>               | Utility <input type="checkbox"/> | Other <input type="checkbox"/> |
| <b>What guidance do you provide Subgrantees regarding allowable injury-related repairs (e.g., stairs, handrails, porch deck board)?</b>   |   |  |                                  |                                |
| Workers should inspect for dangers that would prevent weatherization and 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 Maryland WAP. |   |  |                                  |                                |



|  |
|--|
| The client will be informed in writing of any hazards and the associated risks that may have been observed.  |
| <b>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.</b> |
| These types of repairs are considered to be beyond the scope of Maryland WAP.  |
| <b>Training</b>  |
| Identify health and safety hazards according the OSHA method “Focus Four” which includes, electrical, fall protection, caught in and between, and stuck-by hazards.  |

| <b>7.15 – Lead Based Paint</b>  |   |  |                                  |                                |
|---|---|--|----------------------------------|--------------------------------|
| <b>Concurrence, Alternative, or Deferral</b>  |   |  |                                  |                                |
| Concurrence with Guidance <input checked="" type="checkbox"/>   | Alternative Guidance <input type="checkbox"/> | Results in Deferral <input type="checkbox"/> |                                  |                                |
| <b>Funding</b>  |   |  |                                  |                                |
| DOE <input checked="" type="checkbox"/>   | LIHEAP <input type="checkbox"/>               | State <input type="checkbox"/>               | Utility <input type="checkbox"/> | Other <input type="checkbox"/> |
| <b>Safe Work Protocols</b>  |   |  |                                  |                                |
| DHCD requires that weatherization crews install measures in a lead safe manner in accordance with the SWS and Environmental Protection Agency (EPA) protocols and that DHCD monitors and inspectors verify that crews are using lead safe work practices in pre-1978 housing.   |   |  |                                  |                                |
| <b>Testing Protocols</b>  |   |  |                                  |                                |
| In all pre-1978 homes, crews/contractors must assess the physical condition of the home prior to conducting an audit. DHCD recommends assuming that lead paint may be present in any house built prior to 1978 and to follow the proper SWS, EPA protocols, and OSHA regulations in all pre-1978 homes.   |   |  |                                  |                                |
| Testing to determine the presence of lead in paint that will be disturbed by WAP measure installation is allowed per RRP requirements. Testing methods must be economically feasible and justified. Job site set up and cleaning verification is required by a Certified Renovator.   |   |  |                                  |                                |
| 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 allowed.   |   |  |                                  |                                |
| <b>Client Education</b>   |   |  |                                  |                                |
| Client will be informed of the hazards of lead paint. Each affected family will be provided with the EPA booklet “The Lead-Safe Certified Guide to Renovate Right” prior to the start of work. Have the client sign and date the confirmation of receipt of the lead pamphlet and upload it in the client file in the energy software. The “Renovate Right” document can be found at <a href="http://www.epa.gov/sites/production/files/documents/renovaterightbrochure.pdf">www.epa.gov/sites/production/files/documents/renovaterightbrochure.pdf</a> . When deferral is necessary, complete the deferral form and upload it to the client file in the energy software. |   |  |                                  |                                |
| <b>Training and Certification Requirements</b>  |   |  |                                  |                                |
| DHCD requires energy auditors, crew supervisors and all workers be trained and certified through the Maryland Department of Environment's approved curriculum for lead paint inspectors, supervisors and workers. The training will be in compliance with the SWS and EPA standards for Lead Renovators; each contractor is required to have and maintain RRP certification.  |   |  |                                  |                                |
| <b>Documentation Requirements</b>   |   |  |                                  |                                |

Documentation must be uploaded to the client file in the energy software and must include any training provided on-site; description of specific actions taken; lead testing and assessment documentation; and, photos of site and containment setup. Even when a home tests negative for lead, the test form must be completed and uploaded to the client file.

| <b>7.16 – Mold and Moisture</b>  |   |  |                                  |                                |
|--|---|--|----------------------------------|--------------------------------|
| (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"/> |                                  |                                |
| <b>Funding</b>   |   |  |                                  |                                |
| DOE <input checked="" type="checkbox"/>  | LIHEAP <input type="checkbox"/>               | State <input type="checkbox"/>               | Utility <input type="checkbox"/> | Other <input type="checkbox"/> |
| <b>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?</b>  |   |  |                                  |                                |
| <p>Minor water damage repairs that can be addressed by weatherization workers and source control (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. Source control is independent of latent damage and related repairs.</p> <p>Visual assessment is required and diagnostics such as moisture meters are recommended pre 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.</p> <p>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.</p> <p>Where severe mold and moisture issues cannot be addressed, deferral is required. Mold clean-up is not an allowable H&amp;S cost. Surface preparation where weatherization measures are being installed (e.g., cleaning mold off window trim in order to apply caulk) must be charged as part of the ECM, not to the H&amp;S budget category.</p> |   |  |                                  |                                |
| <b>How do you define “minor” or allowable moisture-related measures, and at what point is work considered beyond the scope of weatherization?</b>  |   |  |                                  |                                |
| <p>Suspected mold of individual areas less than or equal to 10 square feet are considered minor and weatherization can continue as long as adequate ventilation or dehumidification can be provided and the homeowner is instructed in cleaning the area. In cases where mold-like substances have been detected, assessors will include the square footage of the area affected. Where severe mold and moisture issues cannot be addressed, deferral is required.</p>   |   |  |                                  |                                |
| Client Education   |   |  |                                  |                                |
| <p>Client will be provided written notification and disclaimer on mold and moisture awareness. The client will be provided the US EPA’s “A Brief Guide to Mold and Moisture and Your Home” which includes information on the importance of cleaning and maintaining drainage systems and proper landscape design and the impact on site drainage and moisture control. The document can be found at <a href="http://www.epa.gov/mold/pdfs/moldguide.pdf">www.epa.gov/mold/pdfs/moldguide.pdf</a>.</p>  |   |  |                                  |                                |

When deferral is necessary, complete the deferral form and upload it to the client file in the energy software. Documentation for deferral will include notes of the visual inspections and photographic evidence to support the visual inspection. In cases where mold like substances have been detected, assessors will include the square footage of the area affected.

#### Training

Weatherization workers at all levels are required to take a mold awareness class. The Auditor evaluates the existence of mold and moisture problems which may prevent the weatherization of the home at that time. The agency will refer the unit to an appropriate local agency for remedial action before any further weatherization activities are performed.

### 7.17 – Pests

#### 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 pests and pest intrusion prevention in homes slated for weatherization?

Pest removal is allowed only where infestation would prevent weatherization, poses a health and safety concern for workers, and can be managed within H&S funding parameters. Screening of windows and points of access and incorporating pest exclusion into air sealing practices to prevent intrusion is allowed.

Inform client of observed conditions and associated risks.

#### Define Pest Infestation Thresholds, Beyond Which Weatherization Is Deferred

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.

#### Testing Protocols

Assess presence and degree of infestation and risk to workers.

#### Client Education

Client will be informed in writing of observed condition and associated risks. When deferral is necessary, complete deferral form and upload into the client file in the energy software. Documentation for deferral will include notes of the visual and sensory inspections, as well as photographic evidence to support the inspection. The client file will also include cost estimates for the removal of the pests from a Pest Removal specialist.

#### Training

How to assess presence and degree of infestation and risk to workers.

### 7.18 – Radon

#### Concurrence, Alternative, or Deferral

Concurrence with Guidance       Alternative Guidance       Results in Deferral

#### Funding

DOE       LIHEAP       State       Utility       Other

| <b>What guidance do you provide Subgrantees around radon?</b>   |
|---|
| <p>In homes where radon may be present, work scope should include precautionary measures based on “EPA Healthy Indoor Environment Protocols” for Home Energy Upgrades, to reduce the possibility of making radon issues worse. Clients must sign an informed consent form prior to receiving weatherization services. This form must be uploaded in the client file in the energy software.</p> <p>Whenever site conditions permit, cover exposed dirt floors within the pressure/thermal boundary with a sealed soil gas retarder. Cover sump well/pits with airtight covers. Implement ventilation as required by ASHRAE 62.2-2016. Other precautions may include, but are not limited to, sealing any observed floor and/or foundation penetrations, isolating the basement from the conditioned space, and ensuring crawl space venting is installed.</p> <p>Where there is a previously identified radon problem, work that would exacerbate this problem will not be allowed. Radon mitigation is not an allowable H&amp;S cost. Major radon problems should be referred to the appropriate local environmental organization or agency for mitigation or abatement.</p> |
| <b>Testing Protocols</b>  |
| Radon testing is not an allowable activity under the MD WAP.  |
| <b>Client Education</b>   |
| Client will be informed of the hazards of radon and provided the EPA’s “A Citizens Guide to Radon”. This document can be found at <a href="http://www.epa.gov/radon/pdfs/citizensguide.pdf">www.epa.gov/radon/pdfs/citizensguide.pdf</a> . Clients must sign and informed consent form prior to receiving weatherization services. This form must be uploaded in the client file in the energy software.  |
| <b>Training and Certification Requirements</b>  |
| Auditors, assessors and inspectors must have knowledge of radon, what it is and how it occurs, including what factors may make radon worse, and precautionary measures that may be helpful. Workers must be trained in proper vapor retarder installation. A zonal map can be located at <a href="http://www.epa.gov/radonpdfs/zonemapcolor.pdf">www.epa.gov/radonpdfs/zonemapcolor.pdf</a>   |
| <b>Documentation Requirements</b>   |
| <p>Clients must sign and informed consent form prior to receiving weatherization services. The consent form will include:</p> <ul style="list-style-type: none"> <li>● Information from the results of the IAP Study that there is a small risk of increasing radon levels when building tightness is improved.</li> <li>● A list of precautionary measures WAP will install based on EPA Healthy Indoor Environment Protocols;</li> <li>● Some of the benefits of Weatherization including energy savings, energy cost savings, improved home comfort, and increased safety, and</li> <li>● Confirmation that EPA’s “A Citizen's Guide to Radon” was received and radon related risks discussed with the client.</li> </ul> <p>This form must be uploaded in the client file in the energy software.</p>   |

| <b>7.19 – Safety Devices: Smoke and Carbon Monoxide Alarms, Fire Extinguishers</b> |   |  |                                  |                                |
|--|---|--|----------------------------------|--------------------------------|
| <b>Concurrence, Alternative, or Deferral</b>                                       |   |  |                                  |                                |
| Concurrence with Guidance <input checked="" type="checkbox"/>                      | Alternative Guidance <input type="checkbox"/> | Results in Deferral <input type="checkbox"/> |                                  |                                |
| <b>Funding</b>   |   |  |                                  |                                |
| DOE <input checked="" type="checkbox"/>  | LIHEAP <input type="checkbox"/>               | State <input type="checkbox"/>               | Utility <input type="checkbox"/> | Other <input type="checkbox"/> |

| <b>What is your policy for installation or replacement of the following:</b>   |
|--|
| Smoke Alarms: Installation of smoke alarms is allowed where detectors are not present or are inoperable. There will be one smoke alarm per floor. Replacement of operable smoke alarms is not an allowable cost. Replacement smoke alarms must be sealed with a 10-year lithium battery. |
| Carbon Monoxide Alarms: Installation of CO detectors is required to comply with ASHRAE 62.2. There will be one CO detector per floor. Replacement of operable CO detectors is not an allowable cost. Replacement CO alarms must be sealed with a 10-year lithium battery                 |
| Fire Extinguishers: Providing fire extinguishers is allowed only when solid fuels (such as wood) are present.  |
| <b>Testing Protocols</b>   |
| Replacement of operable smoke alarms and CO detectors is not an allowable cost. Check existing alarms for operation and manufacture date. Verify operation of installed alarms.  |
| <b>Client Education</b>  |
| Client will be provided with verbal and written information on use of devices installed.   |
| <b>Training</b>  |
| Where to install alarms. Local code compliance.  |

| <b>7.20 – Occupant Health and Safety Concerns and Conditions</b>   |   |  |   |                                |
|--|---|--|---|--------------------------------|
| <b>Concurrence, Alternative, or Deferral</b>   |   |  |   |                                |
| Concurrence with Guidance <input checked="" type="checkbox"/>  | Alternative Guidance <input type="checkbox"/> | Results in Deferral <input type="checkbox"/> |   |                                |
| <b>Funding</b>   |   |  |   |                                |
| DOE <input checked="" type="checkbox"/>  | LIHEAP <input type="checkbox"/>               | State <input type="checkbox"/>               | Utility <input type="checkbox"/>        | Other <input type="checkbox"/> |
| <b>What guidance do you provide Subgrantees for soliciting the occupants' health and safety concerns related to components of their homes?</b>   |   |  |   |                                |
| Agencies should be aware that some individuals' health problems could be exacerbated by weatherization activities. During the initial visit to the home, Energy Auditors are required to discuss with the homeowner the work that will be done during the audit and during installation, including detail regarding materials and installation procedures.   |   |  |   |                                |
| <b>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?</b>   |   |  |   |                                |
| The auditor will allow the occupant to identify any preexisting health conditions or concerns that could be exacerbated by the audit or work. Occupant revealed health concerns or conditions will be noted on the audit form as necessary to direct installation staff to isolate work or use alternate methods. Weatherization processes and potential impacts should be explained to the owner with consideration of any health issues. If the occupant determines that the weatherization work will cause undue stress on an existing condition, the house will be deferred. |   |  |   |                                |
| <b>What guidance do you provide Subgrantees for dealing with potential health concerns when they are identified?</b>   |   |  |   |                                |
| Health conditions will not preclude clients from receiving weatherization if reasonable accommodations can eliminate the issue. The Energy Auditor will plan to address any preexisting health conditions or concerns through isolation or work tasks, or deferral in extreme cases.   |   |  |   |                                |
| <b>Client Education</b>  |   |  |   |                                |
| Client will be informed in writing of any known risks. Agency should provide client with point of contact information in writing so client can inform of any issues. When deferral is necessary, complete the deferral form and upload it to the client file in the energy software.   |   |  |   |                                |
| Documentation Form(s) have been developed and comply with guidance?  |   |  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>    |

A "Occupant Health and Safety Concerns and Conditions" form is under development and in the interim, occupant revealed health concerns or conditions will be noted on the audit form as necessary to direct installation staff to isolate work or use alternate methods.

| <b>7.21 – Ventilation and Indoor Air Quality</b>   |   |  |                                  |                                |
|--|---|--|----------------------------------|--------------------------------|
| <b>Concurrence, Alternative, or Deferral</b>   |   |  |                                  |                                |
| Concurrence with Guidance <input checked="" type="checkbox"/>  | Alternative Guidance <input type="checkbox"/> | Results in Deferral <input type="checkbox"/> |                                  |                                |
| <b>Funding</b>   |   |  |                                  |                                |
| DOE <input checked="" type="checkbox"/>  | LIHEAP <input type="checkbox"/>               | State <input type="checkbox"/>               | Utility <input type="checkbox"/> | Other <input type="checkbox"/> |
| <b>Identify the Most Recent Version of ASHRAE 62.2 Implemented (optional: identify Addenda used)</b>   |   |  |                                  |                                |
| DHCD has fully implemented the requirements of ASHRAE 62.2-2016.   |   |  |                                  |                                |
| <b>Testing and Final Verification Protocols</b>  |   |  |                                  |                                |
| Ventilation is only required if ASHRAE 62.2 calculations indicate added ventilation. In addition, ASHRAE 62.2 addresses dryer venting, CO alarm, and air sealing to isolate attached garages requirements. Existing fans and blower systems should be updated if not adequate. Take actions to prevent zonal pressure differences greater than 3 pascals across closed doors.  |   |  |                                  |                                |
| <b>Client Education</b>  |   |  |                                  |                                |
| Clients cannot refuse mechanical ventilation. Subgrantees who install ventilation must educate the clients on effective use of the exhaust ventilation equipment by:   |   |  |                                  |                                |
| <ul style="list-style-type: none"> <li>● Leaving owner’s manual with client</li> <li>● Demonstrating how to use the exhaust fans.</li> <li>● Providing client education information on ventilation systems installed.</li> <li>● Providing client education on proper operation and maintenance including location of switch and cleaning instructions.</li> <li>● Include disclaimer that ASHRAE 62.2 does not account for high polluting sources or guarantee indoor air quality.</li> </ul> |   |  |                                  |                                |
| <b>Training</b>  |   |  |                                  |                                |
| ASHRAE 62.2 training, including proper sizing, evaluation of existing and new systems.   |   |  |                                  |                                |

| <b>7.22 – Window and Door Replacement, Window Guards</b>  |   |  |                                  |                                |
|---|---|--|----------------------------------|--------------------------------|
| <b>Concurrence, Alternative, or Deferral</b>  |   |  |                                  |                                |
| Concurrence with Guidance <input checked="" type="checkbox"/>   | Alternative Guidance <input type="checkbox"/> | Results in Deferral <input type="checkbox"/> |                                  |                                |
| <b>Funding</b>  |   |  |                                  |                                |
| DOE <input checked="" type="checkbox"/>   | LIHEAP <input type="checkbox"/>               | State <input type="checkbox"/>               | Utility <input type="checkbox"/> | Other <input type="checkbox"/> |
| <b>What guidance do you provide to Subgrantees regarding window and door replacement and window guards?</b> |   |  |                                  |                                |
| Replacement, repair, or installation is not an allowable H&S cost.  |   |  |                                  |                                |
| <b>Testing Protocols</b>  |   |  |                                  |                                |
| Not Applicable  |   |  |                                  |                                |
| <b>Client Education</b>   |   |  |                                  |                                |
| Provide written information on lead risks wherever issues are identified.                                   |   |  |                                  |                                |

| <b>Training</b>   |   |  |                                  |                                |
|---|---|--|----------------------------------|--------------------------------|
| Awareness of guidance.  |   |  |                                  |                                |
| <b>7.23 – Worker Safety (OSHA, etc.)</b>  |   |  |                                  |                                |
| <b>Concurrence, Alternative, or Deferral</b>  |   |  |                                  |                                |
| Concurrence with Guidance <input checked="" type="checkbox"/>   | Alternative Guidance <input type="checkbox"/> | Results in Deferral <input type="checkbox"/> |                                  |                                |
|   |   |  |                                  |                                |
| <b>Funding</b>  |   |  |                                  |                                |
| DOE <input checked="" type="checkbox"/>   | LIHEAP <input type="checkbox"/>               | State <input type="checkbox"/>               | Utility <input type="checkbox"/> | Other <input type="checkbox"/> |
|   |   |  |                                  |                                |
| <b>How do you verify safe work practices? What is your policy for in-progress monitoring?</b>   |   |  |                                  |                                |
| <p>Subgrantees must follow OSHA standards and Safety Data Sheets (SDS) and take precautions to ensure the H/S of themselves and other workers. SDS must be posted wherever workers may be exposed to hazardous materials. OSHA’s Hazard Communication Standard is designed to ensure that all hazardous chemicals in the workplace and on worksites are identified, cataloged and labeled, and that information about the hazards are communicated to weatherization workers along with training on steps the workers can take to protect themselves.</p> <p>DHCD will require each subgrantee to produce a Hazard Communication Plan (HCP) that is specific to their workplace and materials used. The HCP must be shared with weatherization workers through comprehensive training. The HCP must remain accessible. Subgrantees are advised to maintain copies in the workplace in an accessible location as well as in the vehicles used for weatherization services for access at work sites. The HCP must be reviewed and updated annually.</p> <p>DHCD monitors and inspectors will verify that subgrantees, crews and contractors follow safe work practices.</p> |   |  |                                  |                                |
| <b>Training and Certification Requirements</b>  |   |  |                                  |                                |
| Use and importance of PPE. Safety training appropriate for job requirements. OSHA 10 hour training meets this requirement. Ongoing training as required in Hazard Communication Plan.   |   |  |                                  |                                |