Appendix D – Health & Safety Plan

HEALTH AND SAFETY PLAN
State of Oregon
Low Income Weatherization Assistance Programs

I. Weatherization Program Health and Safety

Funds provided under §440.18(c) (15) are to remedy health and safety hazards, which are necessary before, or because of, the installation of weatherization materials. DOE funds may only be used to mitigate health & safety issues listed under this guidance. In the event that issues are identified that do not fall under the scope of the DOE WAP, other, more flexible, funding sources may be utilized to complete H&S measures that do not fall under the DOE WAP criteria. If neither of these options is possible, every effort must be made to refer the client to resources that may be able to mitigate the issue. If after all of these options are exhausted and documented, then deferral may be required until the problems are resolved. See section XIII deferral standards.

1. Definitions

    a. Health and Safety Measures: Those actions necessary to maintain the physical well-being of both the occupants and/or weatherization workers where:

        - Costs are reasonable and do not exceed 15% of the Subgrantees total allocated program dollars; **AND**
        - The actions must be taken to effectively perform weatherization work; **OR**
        - The actions are necessary as a result of weatherization work.

    b. Weatherization Measures: Building shell and equipment measures determined to be cost-effective by DOE approved OHCS standards.

    c. Weatherization Materials: Those materials listed in Appendix A of the DOE WAP for Low Income Persons Final Rule, 10 CFR Part 440. Materials for incidental repairs do not have to be listed in Appendix A, but should be at least equal to or better than industry standard practices.

    d. Incidental Repairs: Repairs necessary for the effective performance or preservation of weatherization materials.

    e. Lead Renovation, Repair, and Painting Program (LRRP): LRRP is a set of protocols to be used when disturbing surfaces that may have lead-based paint that will reduce and control the amount of lead dust and paint chips that are generated.

2. Expenditure Limits and Reporting - Health and Safety Measures:

    a. Health & Safety expenditures must be no more than 15 percent of the total program budget for DOE. These costs **must** be recorded and tracked separately in the accounts

and on the house audit/assessment form and reported as a separate line item on the Invoice Voucher.

II. Crew and/or Contractor Health and Safety

The standards included here provide only general guidelines for health and safety concerns.

Oregon OSHA requires a Hazard Communication Plan and ensures compliance with this requirement. Oregon OSHA ensures compliance with all worker health and safety requirements found in the OSHA Safety and Health Standards (29 CFR 1926\1910). Subgrantees and contractors must maintain compliance with the current OSHA Hazard Communication Standard (29 CFR 1910.1200) for on-site organization of Safety Data Sheets (SDS). These standards are applicable to all workers providing services using funding under the DOE WAP program.

III. Training and Monitoring

The Subgrantee's Weatherization Coordinator is responsible for ensuring that the crew or contractor(s) has a health and safety program in place. Documentation of all required training, for either crew or contractor-based programs, is required and must be available for inspection.

1. **Employee Training** - New employees shall not begin working in the field until training is provided. Training will include:

    a. All **weatherization** crew leaders, crew and contractor based, are encouraged, but not required, to complete the OSHA 30-hour training course.

    b. All **weatherization** workers, crew and contractor based, are encouraged, but not required, to complete the OSHA 10-hour training course.

    c. All field auditors/inspectors must complete the Oregon Health and Safety training course.

    d. Proper usage of hazardous chemicals and substances such as foams, sealants, and cleaners in the weatherization work environment.

    e. Safety Data Sheets (SDS) provided by suppliers that describe the method to properly handle potentially hazardous materials must be readily available to employees. Inform employees where the SDS are located. Employees must be trained in how to understand their content, and how to obtain and use appropriate hazard information.

    f. It is strongly encouraged that all field staff (auditors, inspectors, and crew) shall have current First Aid and CPR proficiency cards.

    g. Every Pre1978 jobsite where lead paint has been identified or presumed and is being disturbed must have an EPA certified renovator onsite during sign posting, work area setup site and cleanup phases of the work. The renovator must be available by phone when off-site.

2. **Safety Meetings** - Safety meetings shall be conducted according to OR OSHA regulations.

3. **On-Site Inspection**

   a. Appropriate Subgrantee staff shall conduct an announced, on-site inspection of each crew periodically. This inspection will include:

      a1. Ascertaining the extent of the client's understanding of weatherization activities being performed. If health and safety issues are documented, this information shall also be included in the discussion.

      a2. Inspecting condition of personal safety equipment and confirming that all crew members are adequately supplied. Crew members must wear prescribed equipment if warranted by the activities being conducted.

      a3. Checking that each crew vehicle is supplied with a:

         a3.1 Complete first aid kit designed to provide basic first aid.

         a3.2 Adequately charged hand-operated fire extinguisher, designed for all three types of fire (electrical, wood, and liquid). Ensure service date has not expired.

         a3.3 Binder containing list of hazardous chemicals (common and chemical name), location where they are used, usage and hazardous information (signs/symptoms of exposure and required first aid), and list of Safety Data Sheets. (Note: Copies of SDS are not required if master files are accessible by all crew members.)

   b. Inspect hand and power tools and similar equipment. Any found to be defective should be tagged and removed from service. Equipment not in use shall be properly stored. Inspect work area to ensure activities are conducted in a safe manner, including provision of adequate light, proper disposal of debris, connection of power equipment to a ground fault circuit interrupter, and resolution of health and safety issues.

IV. General Work Practices

The prevention of occupationally induced injuries and illnesses will be given precedence over production activities. To the greatest degree possible, the Weatherization Coordinator/Contractor will ensure that all equipment and facilities are in compliance. Weatherization personnel are required to exhibit caution and care during the course of the workday.

1. The Crew Leader/Foreman

The Crew Leader/Foreman is responsible for being in compliance with any instructions pertaining to health or safety as they apply to crew production activities:

a. Contact client before performing work. Provide the opportunity for discussing crew activities that will occur and occupant safety while work is in progress. When subcontractors are used, the Program Manager will be responsible for client contact.

b. Ensure each crew member is reasonably protected when production activities are being conducted.

c. For pre-1978 buildings: Lead-Based Paint Hazard Control. Inform the client of the nature of the work to be done, and encourage that children be off-site while the work is taking place. Obtain and post lead hazard signs while working on the dwelling.

2. Personal Protective Equipment

The use of personal protective equipment will be strictly enforced. Hearing and ear protection are required for individuals working around high decibel equipment. Each crew person will wear a respirator, protective eyewear, and protective clothing when necessary. Respiratory protection is required for individuals working in high dust environments, including when using loose fill insulation blowing equipment, installing materials in attic and floor areas, and during prolonged use of grinding or power saw equipment. When working in an environment in which lead based paint dust will be generated, each employee within the work area may be required to wear a properly fitted National Institute of Occupational Safety and Health (NIOSH)-approved HEPA respirator and protective clothing which will be removed upon vacating the work area. (See OSHA rules, Section L.3, Other Federal Government Regulations.)

3. Hand and Power Tools

All hand and power tools and similar equipment shall be maintained in a safe condition. This equipment will be inspected daily, and any equipment found defective shall be tagged and removed from service until it has been repaired or replaced. Protective guards are to be in place and functioning properly while a power tool is in use.

All electrical equipment, tools, and extension cords shall be grounded properly. All electrical power for 120-volt or greater will be protected by a ground fault circuit interrupter (GFCI). Any extension cords found defective (insulation worn or cut, or frayed wires) are to be removed from the job site and disposed of.

It is recommended that, when using power tools on surfaces that contain lead-based paint, a HEPA dust collection attachment be used. Tools shall be cleaned after use.

4. General Fall Protection

Portable ladders shall be placed on a substantial base at a four-to-one pitch. Extension ladders are to be extended a minimum of 36 inches above the landing (i.e., where roof access occurs), or where not practical, be provided with grab rails and be secured against movement while in use. Portable metal ladders shall not be used where they may contact electrical conductors.

The use of ladders with broken or missing rungs or steps, broken or split side rails, or with other faulty or defective construction is prohibited. When ladders with such defects are discovered, they shall immediately be withdrawn from service.

Extra precaution is required while weatherization activities are conducted on the roof area. When an individual is above 6 feet or adequate stability cannot be maintained, safety gear, such as harness or safety straps, is required.

5. Housekeeping Activities

All scrap lumber, waste material, and debris shall be removed from the immediate area as work progresses. An area outside the home should be designated for storing such material, which should be removed from the premises at the end of each workday or when the job is completed. Agency crew/Contractors are encouraged to recycle materials whenever possible.

Equipment shall be removed from the immediate work area and properly stored when no longer required or when each phase of the weatherization process is completed.

When lead-based paint dust is generated during the course of work, the area **must** be cleaned no later than the end of each workday. All materials used in the debris collection system removed in a lead-safe manner, the area is thoroughly vacuumed using a HEPA vacuum, and wash and wipe down the area with a detergent solution.

6. Attic/Crawl Space Areas

Before weatherization activities are conducted, the following is required:

a. Health and safety corrective action documented on the Job Order Sheet is to be completed.

b. Specific instructions are read and understood. Further clarification may be required from the Energy Analyst.

c. An adequate and safe means of access is provided.

d. Each individual has accessed the area and become familiar with existing conditions.

e. When possible, cut out holes required for venting before work is started, installing vents after weatherization activities are completed. This procedure provides both additional ventilation and light.

f. Precaution shall be taken when working in areas with low clearance. Work in areas with less than 18-inch clearance may be waived.

7. Occupant & Worker Health and Safety

Agency crews and contractors will be aware that some individuals' health problems could be exacerbated by weatherization activities. For example, some clients can be sensitive to dust generated from the installation of cellulose insulation.

All reasonable precautions must be taken against performing work on homes that will subject workers or clients to health and safety risks. Before beginning work on the residence, the agency must take into consideration the health concerns of each occupant, the condition of the dwelling, and the possible effect of work to be performed on any particular health or medical condition of the occupants. When a person's health is fragile or the work activities would constitute a health or safety hazard, the occupants at risk will/can be required to leave the home until work is completed, or the work may be deferred until such time that the conditions or circumstances are more favorable. Costs associated with temporary relocation of at-risk occupants may be allowed on a case-by-case basis with OHCS approval.

Weatherization services can be provided in a manner that minimizes risk to workers and clients. Although the Weatherization Assistance Program does not provide all the solutions, awareness of potential hazards is essential to providing quality services. Other energy-related hazards should be considered on a case-by-case basis.

V. Potential Hazard Conditions

During the weatherization process, often health & safety hazards are identified. When health and safety hazards are identified, the client **must** be notified in writing and the document, signed by the client, **must** be included in the file. The document **must** include the following:

- Client name and address of the project
- Date of audit
- Date when the client was informed of the hazard(s)
- A clear description of the hazard(s)
- The responsibilities of all parties involved. (Agency, Client, Landlord etc.)
- The clients' signature indicating they have been informed of all of their rights and options. In lieu of a client's signature, the hazard notification form may be mailed via certified mail and return receipt is requested. The file **must** contain **both** the mailing receipt and the return receipt.

Note: If the conditions will require complete deferral of the project, then a deferral form must be completed in addition to the hazard notification form. See section XIII for deferral notification requirements.

See Exhibit 3 for an example Health & Safety Hazard form

1. Biological

   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.

A sensory inspection is required. Clients must be informed of observed conditions. If biological hazards are identified, inform the client of observed conditions. Complete a hazard notification form and what steps are necessary to correct deferral conditions.

Field Auditors/Inspectors staff must be able to recognize conditions and when to defer by completing the Oregon Health and Safety Training course. Workers must be aware of safety requirements when coming in contact these conditions.

2. Combustion Appliances and Combustion Gases

   Combustion appliances produce potentially hazardous carbon monoxide as a byproduct of incomplete combustion. Any appliance that burns a fuel is a combustion appliance: furnaces, water heaters, cooking ranges and ovens, fireplaces, woodstoves and pellet stoves, and some space heaters. Appropriate **combustion testing and vent inspection shall be performed both pre and post weatherization** of any dwelling containing a combustion appliance as detailed in the Site Built Housing and Manufactured Home Weatherization Field Guide for the State of Oregon Weatherization Assistance Program Appendices:

   a. Conduct worst case depressurization and spillage testing for all vented combustion appliances (excludes ranges and ovens).

   b. Measure draft in the furnace or water heater exhaust flue in worst case conditions (Excludes sealed combustion appliances).

   c. Measure carbon monoxide levels in the combustion appliance's exhaust flue or exhaust port(s) and also measure the ambient carbon monoxide level in the house.

   d. Diagnostic testing may reveal inefficient operation of a combustion appliance or potentially unsafe operating conditions which require corrective actions such as the cleaning, repair, or replacement of equipment. See section X and XII for allowability of replacement/repair etc. Replacement units must meet the requirements of newly installed equipment as outlined in the Field Guide.

   e. All homes shall have a UL listed carbon monoxide alarm installed on each floor of the house and have a carbon monoxide release form signed by the owner/occupant and placed in their file. Installation shall be in compliance with manufacturer's instructions.

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

   g. Unvented combustion space heaters **must be removed** from the home before any weatherization work is initiated.

   If testing indicates that a combustion appliance needs repair, the repair shall be addressed, and the appliance brought into compliance with all applicable standards. Pressure balancing is an allowable H&S expense if needed to mitigate unsafe operating conditions. Field Auditors/Inspectors must be trained in proper combustion testing protocol. If combustion hazards are identified, provide client 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 carbon monoxide (CO).

Field Auditor/Inspectors must receive BPI or REA certifications (See Appendix C-T&TA Plan) to perform combustion testing and vent inspection.

3. Fuel Leaks

Fuel lines must be tested for leaks as per the Oregon Weatherization Assistance Program Site Built and Manufactured Home Field Guide and Standards. Test lines from the utility coupling into, and throughout, the home. When a minor gas leak is found on the utility side of the service, the utility service must be contacted before work may proceed. Fuel leaks that are the responsibility of the client 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. Notify clients if leaks are discovered.

Field Auditor/Inspectors must receive BPI or REA certifications (See Appendix C-T&TA Plan) to inspect and test fuel lines.

4. Gas Ovens/Stovetops/Ranges

Test gas ovens for CO and inspect burners and ovens for operability and flame quality. When testing indicates an issue, maintenance or repair may be performed. Replacement is not allowed. Inform client of the importance of using exhaust ventilation when cooking and the importance of keeping burners clean to limit the production of CO.

Field Auditor/Inspectors must receive BPI or REA certifications (See Appendix C-T&TA Plan) to test and inspect appliances.

5. Fire Hazards

Correction of fire hazards is allowed when necessary to safely perform weatherization. Potential fire hazards **must** be identified and documented in the client file. The client **must** be informed of any potential fire hazards identified.

6. Smoke, Carbon Monoxide Alarms, and Fire Extinguishers

CO Alarms: In all homes, weatherization agencies **must** install CO alarms on each floor near the sleeping areas in dwelling units where these devices are nonexistent or inoperable. CO alarms must be UL listed and installed in accordance with the manufacturer's recommendations. A carbon monoxide release form **must** be signed by the owner/occupant and placed in the client file.

Smoke alarms: Installation of smoke alarms is allowed where alarms are nonexistent or are inoperable. Smoke alarms must be installed in accordance with the manufacturer's recommendations, listed in accordance with UL 217, comply with NFPA 72.

Local agencies **must** provide the occupant(s) of the dwelling unit with verbal and written information regarding the following:

- Dangers of CO and smoke.
- How to operate and reset the CO and smoke alarms.
- How to read the CO alarm.
- How to respond when the CO alarm sounds.
- How to change the batteries of CO and smoke alarms.

Fire extinguishers: Supplying fire extinguishers is an allowable cost **only** when the client uses a solid fuel in the home. Fire extinguishers must be installed, according to the manufacture's recommendations, be type ABC, UL listed, ≤ 10 lb and with a permanently affixed wall bracket to receive the extinguisher. The client **must** sign a written agreement to allow a fire extinguisher to be installed in the home within sight of the solid fuel burning heat system when standing at the unit. The agency must discuss and provide information on the use and upkeep of the extinguisher to the client.

Field Auditors/Inspectors must complete the Oregon Health and Safety Training course. Training will cover the basic workings and function testing of CO alarms, Smoke alarms, and fire extinguishers.

7. Hazardous Materials Disposal

Hazardous Waste material generated in the course of weatherization work shall be disposed of according to local laws, regulations and/or Federal guidelines, as applicable. Responsible party for disposal will have appropriate documentation and/or specify the requirements in contract. Client must be informed in writing of hazardous materials being generated/handled in the home.

Field Auditors/Inspectors must complete the Oregon Health and Safety Training course to understand the proper disposal techniques and requirements.

a. Refrigerant

   a1. The replacement of air conditioners (requires a note signed by a physician), heat pumps and refrigerators, require agencies to reclaim refrigerant per Clean Air Act 1990, section 608, as amended by 40 CFR 82, 1/1/17.

   a2. The appliance vendor, de-manufacturing center, or other entity recovering the refrigerant must possess EPA-approved section 608 Type I, or universal certification.

b. Mercury-based thermostats and fluorescent lighting must be removed safely and disposed of in accordance with EPA regulations.

c. All asbestos containing material shall be disposed of by a AHERA certified professional.

d. All Lead debris must be disposed of according to EPA LRRP guidelines.

8. Occupant Pre-existing or Potential Health Conditions

The occupants pre-existing health conditions may be worsened by installing weatherization measures. Subgrantees must have the client read, sign and date a health & safety assessment either at the time of the initial application for services or during the initial site visit. The health & safety assessment **must** be included in the project file.

See Exhibit 3 for the health & safety assessment form.

9. Mold & Moisture

All homes shall be visually/tactilely checked for previous or existing moisture problems. See Exhibit 2 – Mold & Mildew Protocol for the Moisture Assessment Protocol.

Limited water damage repairs that can be addressed by weatherization workers and 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.

Mold testing & remediation is not an allowable expense. A visual assessment is required on all projects to identify mold like substances & moisture issues. Identification of existing or potential moisture problems shall be documented in the client file. Any moisture problems found must be pointed out and discussed with the client. The mold and mildew checklist (*see Exhibit 2*) **must** be filled out at the time of the audit, signed, and dated by the client.

A copy of the pamphlet, *A Brief Guide to Mold, Moisture, and Your Home*, must be given to the client and a signed confirmation of receipt **must** be present in the file.

Acceptable H&S expenditures to address moisture issues include:

- Minor roof repairs (≤ 100 sqft) to stop moisture intrusion.
- Repairing minor plumbing leaks. (≤ $500)
- Venting clothes dryers to the exterior of the home.
- Venting Exhaust fans to the exterior of the home.
- Installing vapor diffusion retarders (ground cover) to cover soil crawlspaces.
- Installing additional mechanical ventilation to the home.

All Field Auditors/Inspectors must be trained in mold & moisture management by completing the Oregon Health and Safety Training course. If mold in the living space exceeds 10 sqft, then deferral may be required. Where severe Mold and Moisture issues exist anywhere in the structure and cannot be addressed, deferral is required. (***See Exhibit 2***)

10. Drainage

    Drainage consists of gutters, downspouts, extensions, flashing, sump pumps, landscape, etc. Major drainage issues are beyond the scope of the program. Any drainage repair issues must be treated as an incidental repair and are not an allowable health & safety expense. If the cost of the repair exceeds the cost-effective threshold, the project may be deferred. Clients should be informed of the importance of proper maintenance and cleaning of drainage systems. Agency staff should be aware of how to recognize drainage issues.

11. Code Compliance

    Correction of preexisting code compliance issues is not an allowable cost other than where weatherization measures are being conducted. 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.

    When code compliance issues are identified and repaired utilizing WAP funds, the specific code that triggered the code compliance issue must be documented in the client file.

    Common code compliance issues addressed under the WAP Include but not limited to:

    - Water heater T&P discharge pipe.
    - Unsafe wiring in areas to be weatherized.
    - Plumbing issues in areas to be weatherized.

    Field Auditors/Inspectors staff must receive BPI or REA certifications (See Appendix C- T&TA Plan) to be aware of code compliance that will be required for weatherization measures. If any code compliance issues are identified, the client **must** be informed in writing describing conditions that must be met in order for weatherization work to commence.

12. Pests

    Pest removal is allowed only where infestation would prevent weatherization. Infestation of pests may be cause for deferral where it *cannot* be reasonably removed or poses health and safety concern for workers. Screening of windows and points of access and incorporating pest exclusion into air sealing practices is allowed to prevent intrusion.

    If pest hazards are identified, the client **must** be informed of observed condition and associated risks.

    Field Auditors/Inspectors staff must complete the Oregon Health and Safety Training course.

13. Injury Prevention of Occupants and Weatherization Workers

Workers must take all reasonable precautions against performing work on homes that will subject workers or occupants to health and safety risks. Minor repairs (≤ $500) and installation may be conducted only when necessary to effectively weatherize the home; includes measures such as repairing stairs and replacing handrails. Replacement of stairs is not allowed with DOE funds. If hazards are identified, the client **must** be notified of observed hazards and associated risks.

Field Auditors/Inspectors must be able to recognize potential injury sources by completing the Oregon Health and Safety Training course.

VI. Indoor Air Quality

1. Ventilation

ASHRAE 62.2-2016 is required to be met to the fullest extent possible, when performing weatherization activity. Implementing ASHRAE 62.2 is not required where acceptable indoor air quality already exists as defined by ASHRAE 62.2. The specifics of ASHRAE 62.2-2016 are addressed in the Oregon Site Built and Manufactured Home Field Guide and Standards. All actions related to ASHRAE 62.2-2016, including ancillary requirements are acceptable health & safety expenses.

All agency Field Auditors/Inspectors must be proficient in the ASHRAE 62.2-2016 requirements and complete the Oregon ASHRAE 62.2 Training course.

Discuss and provide information to the client on function, use, and maintenance (including location of service switch and cleaning instructions) of ventilation system and components as applicable.

2. Asbestos

Asbestos removal is **not approved** as a health and safety weatherization cost. Encapsulation by an AHERA certified professional is allowed if the 15% H&S limit is not exceeded. If major asbestos problems are encountered, the client **must** be notified of the potential hazard and the project may be deferred.

The Oregon Department of Environmental Quality (DEQ) requires an asbestos survey be performed by an AHERA certified individual on residential buildings when there is suspected asbestos containing material (ACM) **and** the project involves demolition or renovation. Surveys are limited to surfaces that will be disturbed through the process of weatherization. DEQ rules and guidelines must be followed for surveys, testing, handling, and disposal.

If suspected asbestos containing material (ACM) is found, it must be assumed to be asbestos unless it is tested by an AHERA approved lab to ascertain the asbestos content. The cost of testing is an allowable H&S cost. The DEQ allows for program staff to obtain a sample of suspected ACM on residential projects limited to a single suspect material impacted by weatherization.

Care must be taken when sampling suspected ACM to prevent disturbing the asbestos fibers. When suspected ACM are blown or troweled in place, (i.e. vermiculite or ceiling texture) it is recommended to take at least three samples.

Follow the DEQ protocol listed below when sampling suspected ACM.

a. Wearing the appropriate Personal Protective Equipment (PPE), wet down the material with a light water mist before taking the sample. This reduces the potential release of asbestos fibers.

b. Do not disturb the material any more than is necessary to take a small sample.

c. Place the sample in a clean, "air-tight" container such as a zip-lock bag or small glass jar.

d. Seal the container tightly.

e. Use a damp paper towel to clean up any material on the outside of the container or that might have spilled onto the floor.

f. Clearly label the container, stating where and when the sample was taken.

g. Send the sample to a laboratory for analysis. Make sure to take one sample for each different type of suspect material.

Any material that tests higher than 1% asbestos by weight is considered asbestos containing material.

In addition to taking care when sampling suspected ACM, care must be taken during the work and audit to prevent "friable" asbestos fibers from being disturbed. "Friable" is defined as material that can be crumbled, pulverized, or reduced to powder by the pressure of an ordinary human hand. Blower door and duct leakage testing should be avoided. If a blower door is required, pressurize the home when testing. If there is no friable asbestos in the home, blower door and duct leakage testing is allowable.

When vermiculite is present, unless testing determines otherwise, the measure containing the vermiculite is to be deferred. Encapsulation by an AHERA asbestos control professional is allowed. Removal is not allowed.

It is allowable <u>but</u> not required, to remove cement/asbestos siding to install wall insulation as long as precautions are taken to prevent damage to the siding. Drilling, cutting or sanding of the siding is not allowed. Cement/asbestos siding is not considered friable. If asbestos siding is going to be removed, inform the client that suspected asbestos siding is present and how precautions will be taken.

With regard to pipes, boilers/furnaces and other small covered surfaces, assume asbestos is present in the covering materials unless testing shows otherwise. Encapsulation is allowed by an AHERA asbestos control professional and should be conducted prior to blower door

testing. It is allowable but not required, to contain existing or suspected ACM. If the material is structurally sound and in good repair a "critical barrier" must be created around the material in an effort to not disturb the ACM. This does not constitute encapsulation according to DEQ and is considered a precautionary step to protect workers and clients in order to accomplish the goals of weatherization. Examples of this include but are not limited to:

- Painting popcorn ceiling texture (limited to airless sprayer – brush or roller not permitted).

- Covering white tape found on ductwork and HVAC with mastic or spray bonding primer.

Workers removing siding must be trained in proper removal and replacement of siding.

Field Auditor/Inspectors must be trained in recognizing asbestos hazards by completing the Oregon Health and Safety Training course.

Clients **must** be informed if test results are positive or asbestos is assumed and what precautions will be taken. Clients will be instructed not to disturb suspected asbestos containing material. Clients **must** be provided information on asbestos safety and steps to correct deferral conditions (where applicable). The clients are required to a sign a hazard notification form (See Exhibit 3) verifying written receipt of positive test results or if asbestos is assumed. If weatherization work is deferred due to ACM and then later approached for weatherization, documentation must be provided that a certified professional performed the removal/remediation.

3. Radon

Where there is a previously identified radon problem, work that would exacerbate this problem should be deferred. Radon testing is allowed with DOE funding. Client must be provided test results and documented in the client file. Radon mitigation is *not* an allowable activity under DOE WAP. However, costs associated with taking precautions in a dwelling are allowable DOE Health and Safety expenditures. These measures have been identified to be weatherization techniques that assist in radon mitigation.

Allowable precautions include, but are not limited to:

- Installation of ground barrier consisting of ≥ 6 mil polyethylene sheeting, lapped 6 – 12 inches and sealed at all seams, walls, and penetrations.

- Air sealing sumps (airtight sump cover) in such a way that water can drain from above and below the cover.
- Installation of airtight drain fittings (e.g., trap or flange system) in foundation floor drains.

- Seal and caulk penetrations, openings or cracks in below-grade walls and floors that contact the ground with a sealant that meets the requirements of ASTM C920.

- Air sealing floor and/or foundation penetrations

- Isolating the basement from the conditioned space

- Ensuring crawlspace venting is adequate

A copy of the EPA's informational pamphlet, "A Citizen's Guide to Radon" or the two page "Basic Radon Facts" **must** be provided to the client. An informed consent form (see Exhibit 3) is required to be signed by client and maintained in the client file. Consent form must include the following information:

- IAQ Study (see Exhibit 3) that details risk on increasing radon levels when building tightness is improved.

- A list of precautionary measures WAP may install based on the above-mentioned list.

- Some of the benefits of Weatherization including energy savings, energy cost savings, improved home comfort, and increased safety.

- Confirmation that the client has received the EPA's "A Citizen's Guide to Radon" or "Basic Radon Facts" and radon related risks were discussed with the client.

Field Auditors/Inspectors must have a working knowledge of radon by completing the Oregon Health and Safety Training course. Major radon problems should be referred to the appropriate local environmental organization or agency for mitigation. In extreme cases deferral may be an option.

4. Formaldehyde and Volatile Organic Compounds (VOCs)

Formaldehyde, tobacco smoke, thinners, solvents, cleaners, and any other substances capable of negatively impacting indoor air quality are identified through the On-site inspection process. Basic strategies such as proper storage and ventilation are used to eliminate problems. However, this is primarily an occupant responsibility. In some cases, deferral may be an option. Removal of pollutants is allowed and is required if they pose a risk to workers. If pollutants pose a risk to workers and removal *cannot* be performed or is not allowed by the client, the unit **must** be deferred.

Clients must be informed of observed conditions and associated risks. Where applicable, the client must be given written information and explanation on safety and proper disposal of household pollutants

Spray polyurethane foam (SPF) is an effective insulation and air sealant material; however, exposures to its key ingredient, isocyanates, and other SPF chemicals that may be found in

vapors, aerosols, dust, or on surfaces during and for a period of time after installation can cause adverse health effects such as:

- Asthma, a potentially life-threatening disease
- Sensitization, which can lead to asthma attacks if exposed again
- Lung damage
- Other respiratory and breathing problems
- Skin and eye irritation

When installing SPF, follow these steps to control exposures:

- Review label and product information for ingredients, hazards, directions, safe work practices, and precautions
- Ensure safe work practices are followed to prevent eye, skin, and inhalation exposures during and after SPF installation
- When working outside the building envelope, check for pathways that will allow fumes to migrate into the conditioned space, isolate the area where foam will be applied, take precautions so that fumes will not transfer to the conditioned space. During use, perform a sensory inspection to ensure fumes do not enter the conditioned space. If fumes are detected, exhaust fumes to the outside of the home.
- When working inside the envelope, exercise caution when determining if occupancy of the dwelling is safe for unprotected occupants and workers based on the manufacturer's recommendation. Consider relocation of clients on a case-by-case basis.

Notify the client of plans to use two-part foam and the precautions that may be necessary. Installers must be trained in proper use of specific SPF products being used. SDS sheets are mandatory for any foam product used and a thorough understanding of the temperature sensitivity of the product in use is required.

Field Auditors/Inspectors must be able to recognize potential hazards by completing the Oregon Health and Safety Training course.

VII. Lead-Based Paint

1. Poisonous Lead Based Paint

a. Lead is a poison, ***most*** dangerous in the form of dust and fumes. Childhood lead poisoning is linked to reduced intelligence, low attention span, reading and learning disabilities, juvenile delinquency, behavioral problems, and other adverse health effects. Nearly one million children have excessive levels of lead in their blood, making lead poisoning a

leading childhood environmental disease. Lead-based paint, along with the contaminated dust and soil it generates in housing, is the major remaining source of exposure and is responsible for most cases of childhood lead poisoning today. Levels of lead dust created by typical weatherization work (specifically, windows and doors) in older housing with lead-based paint are likely to be above EPA clearance levels, and therefore pose a substantial risk to children.

2. Lead Renovation, Repair, and Painting Program

a. In April 2008, the Environmental Protection Agency (EPA) published the "Lead Renovation, Repair, and Painting Program" Final Rule (LRRP Final Rule) which was implemented on April 22, 2010. This rule specifically cites Weatherization in several places as an activity that falls under the rule, and thus, has a direct impact on how the Weatherization Program proceeds.

b. It is important to remember that the Weatherization Assistance Program legislated purpose is to install energy efficiency measures in Weatherization clients' homes, in order to lessen their energy cost burden. WAP is **not** funded to do lead-based paint abatement work, or to do lead-based paint hazard control or stabilization.

c. In the process of weatherizing a home, workers sometimes encounter and have to disturb painted surfaces that are known or presumed to contain lead-based paint. When that happens:

    c1. DOE funds may be used to minimize the potential hazard associated with the specific painted surfaces that workers are directly disturbing in the course of installing an energy efficiency measure.

    c2. DOE funds may **not** otherwise be used for abatement, stabilization, or control of the lead-based paint hazard that is in the house.

    c3. Work that is needed in conjunction with Weatherization activities that disturb surfaces having lead-based paint, to prevent the generation of lead-based paint dust and residues, is allowable as long as the work is associated with installing energy efficiency measures.

d. All state monitors, agency and contract auditors/Inspectors are required to be a certified LRRP renovator. At least one owner or employee of a contractor's business is required to be a certified LRRP renovator. All renovators must complete the eight-hour Renovation, Repair and Painting (RRP) training from an accredited training provider for initial certification and subsequent four-hour refresher courses.

e. Certified renovators must train workers to install measures in a lead-safe manner in accordance with the SWS and EPA protocols and the project must oversee the project for compliance with LRRP rules.

f. Testing in a home for lead in a painted surface, when it is done, is limited to only those surfaces that will be disturbed. Testing for lead-based paint is **not** an allowable

weatherization expense; except, when it is related to the installation of energy efficiency measures. LRRP must be applied to all pre-1978 housing, unless there is existing evidence that the home has been certified as being lead-free or no lead paint will be disturbed.

One of the following methods must be used to determine the paint to be disturbed is not lead-based paint:

f1. Written determination by certified lead inspector or risk assessor; OR

f2. Proper use of EPA-recognized test kit provided agencies (documenting manufacturer and model of test kit used, description and location of components tested, and test kit results)

Tests must be performed by a Certified Renovator, per EPA final rule. Approved kits will be posted at: http://www.epa.gov/lead/

g. When Weatherization crews disturb surfaces that may have lead-based paint, they **must** exercise caution to keep any dust that is generated from becoming a hazard to the clients, to themselves, or to their families.

Client Notification

a. For occupied homes, the Weatherization staff, crew, or contractor must have an adult tenant, homeowner, or homeowner's representative sign an acknowledgement after receiving the pamphlet.

b. The pamphlet can also be sent by certified mail with receipt to be placed in the client file.

c. In multi-unit housing, the sub-grantee must:

c1. Provide written notice to each affected unit (notice must describe: general nature and locations of the planned renovation activities; the expected starting and ending dates; statement of how occupant can get pamphlet at no charge); OR

c2. Post informational signs (signs must describe general nature and locations of the renovation and the anticipated completion date) and post the EPA pamphlet. (If pamphlet is not posted then agencies are required to provide information on how interested occupants can review a copy of the pamphlet or obtain a copy at no cost from the Weatherization Program).

c3. Delivery to owner/occupant. Owner's and/or occupant's signature with acknowledgment or certificate of mailing. The owner/occupant must acknowledge receipt of the EPA pamphlet prior to start of renovation that contains the address of unit undergoing renovation, name and signature of owner or occupant, and the date of signature. It must be in same language as "contract for renovation" for an owner occupied (or the same language as the lease for occupant of non-owner occupied) target housing.

d. If the Weatherization Program cannot get a signed acknowledgment (either the occupant is not home or refuses to sign the form), then the self-certification section of the form must be signed to prove delivery.

e. The acknowledgement form must be filed and remain with the client file for three (3) years from date of signature.

f. In addition to providing a copy of the pamphlet to owners and occupants, designated local agency staff (e.g., intake specialist, auditor, crew chief) must discuss the hazards associated with lead-based paint and lead dust, and describe how they will conduct LRRP in the home.

Compliance with EPA's LRRP Rule Requirements

1. To comply with EPA's LRRP Rule requirements, specific verification inspection procedures are required as outlined in the April 22, 2008, rule.

   a. Occupants' belongings **must** be protected from lead contamination. This can be done by removing them from the work area or covering them in protective bags and sealing it to prevent dust from getting on the items.

   b. The work site **must** be set up to prevent the spread of leaded dust and debris.

   c. Warning signs **must** be posted at entrances to the worksite when occupants are present; at the main and secondary entrances to the building; and at exterior work sites. The signs must be readable from 20 feet from the edge of the worksite. Signs should be in the occupants' primary language, when practical.

   d. The work area **must** be contained. If containment cannot be achieved with occupants in the unit (e.g., work will take several days and involves the kitchen, bathrooms, or bedrooms that cannot be sealed off from use), occupants **must** move out of the unit or the work **must** be deferred until containment can be achieved.

   e. A Certified Renovator **must** supervise and inspect Weatherization work of any type and scale to ensure it is being done properly.

   f. Ensure containment does not interfere with occupant and worker egress in an emergency.

2. Prohibited Work Activities

The following are frequent questions related to prohibitions when working in pre-1978 homes:

   a. **NEVER** use reusable cloth or fabric, such as a painter's drop cloth, as protective containment sheeting. Polyethylene and in some cases when working on the exterior garden fabric are the only acceptable protective containment sheeting and **must** never be reused.

b. **NEVER** use brooms and shop vacuums for cleanup. Wet cleaning and HEPA vacuums are the only acceptable methods for cleanup.

c. **NEVER** use a conventional shop vacuum with HEPA filters – only HEPA-designed vacuums are acceptable for LRRP.

d. **NEVER** turn leaded paint into leaded dust by dry scraping or sanding (unless needed around electrical outlets) or grinding, abrasive blasting or planing.

e. **NEVER** use an open-flame torch or heat gun above 1100°F to remove paint or window glazing. Open flame/high heat methods to remove paint create fumes that are dangerous for workers to breathe. Small lead particles created by burning and heating also settle on surrounding surfaces and are very hard to clean up.

Containment

Containment is anything that stops any dust or debris from spreading beyond the work area to non-work areas. The level of containment **must** be determined by the auditor/inspector or supervisor before work is assigned to a crew or contractor.

1. To comply with EPA's LRRP Rule requirements, a Certified Renovator is required at the jobsite to assess and set up the containment site.

   a. **NEVER -** allow residents and pets access to the work area while work is underway.

   b. **NEVER -** open windows and doors allowing lead dust to float into other parts of the building or outside.

   c. **NEVER -** allow furniture and other objects to remain in the Weatherization work area while Weatherization work is being performed unless they are covered and sealed in polyethylene sheeting or bags.

   d. Every home and every specific weatherization measure is unique; therefore the level of containment required will be based on the hazards present, the age of the home, the scope of work activities, and any customer health issues.

2. Containment Requirements

Containment is required when weatherization activities will disturb *more than* 6 ft² of interior surface per room, **or** 20 ft² of exterior surfaces in homes built prior to 1978.

   a. Containment consists of methods that define a work area that will not allow any dust or debris from work area to spread.

   b. Containment requires the covering of all horizontal surfaces, constructing barrier walls, sealing doorways, covering HVAC registers with approved materials, and closing windows to prevent the spread of dust and debris.

c. Measures requiring Containment *may* include:

c1. Drilling holes in interior walls.

c2. Drilling holes in exterior walls, removing painted siding.

c3. Cutting attic access into ceiling or knee walls.

c4. Planing a door in place.

c5. Replacing door jambs and thresholds.

c6. Repairing windows.

c7. Furnace replacements.

d. Containment **must *ALWAYS*** be used where any of the following is conducted (even if the activities will disturb less than the hazard de Minimis levels):

d1. Window and door replacement.

d2. Demolition of painted surface areas.

d3. Using any of the following:

(1) Open-flame burning or torching;

(2) Machines to remove paint through high-speed operation without HEPA exhaust control; **or**

(3) Operating a heat gun at temperatures at or above 1100 degrees Fahrenheit.

3. Interior Cleaning Requirements

a. Collect all paint chips and debris, and seal in heavy duty plastic bags.

b. Mist, remove, fold (dirty side in) and tape or seal protective sheeting.

b1. Dispose of sheeting as waste.

c. Plastic sheeting between non-contaminated rooms and work areas **must** remain in place until after cleaning and removal of other sheeting.

d. HEPA vacuum or wet wipe walls from high to low, then HEPA vacuum remaining surfaces and wipe with a damp cloth.

e. Clean 2 feet beyond the contained work area.

f. Use disposable wipes or change cloths frequently.

g. For carpet or rug, use HEPA vacuum with beater bar.

h. HEPA vacuum and wet mop uncarpeted floors - two-bucket mopping method or wet mopping system.

4. Visual Inspection Procedure

a. Conducted by Certified Renovator.

b. Put on disposable foot covers before entering the work area.

c. Make sure there is adequate lighting in the work area.

d. Turn-on all of the lights or use a bright, white-light flashlight.

e. Systematically look for dust and debris on every horizontal surface in the work area and 2 feet beyond.

f. Work from the farthest area from the entry to the entry.

g. Closely examine each surface.

h. If you find visible dust or debris, then re-clean the work area and repeat step 4.

i. Once you have carefully looked at all of the surfaces and found no dust or debris, proceed to the cleaning verification procedure, or clearance.

5. Cleaning Verification (CV) Procedure

a. Wipe each window sill within the work area. Use a single wet disposable cleaning cloth per Window sill.

b. Wipe uncarpeted floors and all countertops with wet disposable cleaning cloths. Wipe up to a maximum of 40 ft^2 per cloth.

c. Compare each wipe to the CV card. If the cloth matches or is lighter than the CV card, the surface has passed cleaning verification and no further action is required.

d. If the cloth is darker than the CV card, re-clean and repeat the CV process.

e. If the second wet cloth fails, wait 1 hour or until surfaces are dry, and then wipe with an electrostatically-charged white disposable cleaning cloth designed to be used for cleaning hard surfaces. This completes the cleaning verification.

6. Clearance Examination (Dust Clearance Testing) – Optional under the RRP Rule.

a. Dust clearance testing may be performed to check the effectiveness of the cleaning efforts.

b. Clearance is an option under the EPA Renovation, Repair, and Painting Rule and is required by the HUD Rule in many cases.

c. Dust clearance testing is performed to check the effectiveness of cleaning efforts.

d. In some cases, dust clearance testing may be required as part of "clearance" (a regulation defined process to ensure that a work area is not contaminated with leaded dust after work is completed). Cleaning verification need not be performed if dust clearance testing is required at the conclusion of a renovation. In such cases, dust clearance testing may only be performed by a Certified Lead Inspector, Risk Assessor, or Dust Sampling Technician. The Certified Renovation Firm is required to re-clean the work area until dust-lead levels in the work area meet the clearance standards. Some state, local, and tribal laws may require a clearance examination following renovation and remodeling work, to levels that differ from the Federal clearance standards. The selection of a CV or a clearance examination will be based on regulatory requirements or the renovation contract.

7. Exterior Cleanup Requirements

   a. Clean all surfaces in the work area until no visible dust, debris, or residue remains.

   b. Remove all dust and debris without dispersal, and seal in heavy plastic bags.

   c. Remove protective plastic sheeting and mist before folding it dirty side inward.

   d. Check your work.

   e. Focus on areas such as window sills, bare soil, and children's play areas.

   f. Look for dust, debris and paint chips.

8. Exterior – Check Effectiveness of Cleaning

   a. Visual inspection

   b. A Certified Renovator conducts a visual inspection after any cleaning.

   c. Determines if any visible dust and debris are present in and beyond the boundaries of the work area.

   d. If visible dust or debris are found, collect and dispose of all paint chips, dust, and debris identified during the visual inspection.

   e. After re-cleaning, the Certified Renovator conducts another visual inspection.

   f. When all areas pass, warning signs may be removed.

9. Disposal

   a. Place waste in heavy duty plastic bag.

b. “Gooseneck seal” the bag with duct tape.

c. Carefully dispose of waste in accordance with Federal and other regulations.

d. HEPA vacuum the exterior of the waste bag before removing it from the work area.

e. Store waste in a secure area.

f. Waste may be disposed of as household waste.

10. Deferral Policy Related to Lead-Based Paint

In determining whether to defer or postpone weatherization work on a home that has tested positive for lead-based paint or is assumed to have lead-based painted surfaces, agencies should assess the following:

a. Is the agency prepared to work with lead-based paint? Have workers received the required training in LRRP protocols and, if the housing is also HUD financially assisted? Is the necessary equipment, such as HEPA vacuum cleaners, available? Does the agency's liability insurance cover work with lead-based paint?

b. What is the condition of the painted surfaces in the house? Is it so seriously deteriorated that a work person's presence just walking around the house is enough to stir up lead-based paint dust that is a threat to the clients and workers?

c. What is the extent to which the specific energy efficiency measures determined by the audit will disturb painted surfaces? Will the disturbance generate dust in excess of OSHA minimums?

d. Will the cost of doing LRRP work represent a large portion of the total cost and exceed the amount allowed in the State's Health and Safety Plan?

e. Using the above answers, the agency should conclude one of the following:

    e1. Proceed with all the weatherization work, following LRRP work practices; **or**

    e2. Defer all of the weatherization work.

    Note: An individual measure may be deferred only if it has the lowest SIR in the prioritized list.

f. Deferral means postponing work until the agency is prepared to work with lead-based paint, or until another agency has corrected the problem so that weatherization can be safely performed. Weatherization work should not be deferred solely because there is lead based paint in the home. Even in such a home, regular weatherization work that does not disturb painted surfaces and does not stir up lead-based paint dust can be done.

11. Funding for LRRP Weatherization

a. DOE funds may be used to pay for weatherization activities that disturb lead-based painted surfaces while installing energy efficiency measures or for case-by-case testing.

b. DOE funds shall not be used for abatement, stabilization or control of lead-based paint hazards, or routine entrance and clearance testing.

    b1. However, U. S. Department of Housing and Urban Development (HUD) funds such as Community Development Block Grant (CDBG), lead hazard control programs and Home Repair and Rehabilitation Program funds may be used to do this work.

    b2. Also, U. S. Department of Health and Human Services' (HHS) Low Income Home Energy Assistance Program (LIHEAP), may be used for certain expenses related to LRRP Weatherization.

c. Specifically, for DOE funding, agencies should budget LRRP Weatherization costs under Health and Safety as a separate cost category, excluded from the calculation of average cost per home. LRRP Weatherization costs include labor and materials. LRRP costs must be itemized separately from measure costs.

12. Liability Insurance

In "Weatherization Program Notice 02-6," DOE recommends that agencies have sufficient insurance coverage before performing weatherization work that will disturb surfaces that may contain lead-based paint. OHCS recommends Pollution Occurrence Insurance (POI) for both agencies and subcontractors.

a. POI is purchased for the lead hazard control work associated with weatherization and rehabilitation. It is likely that POI will need to be added to an agency or subcontractors general liability insurance coverage.

b. If agencies or their subcontractors are performing Lead-based Paint Inspections or Risk Assessments; Errors and Omissions Insurance (EOI) is required. Errors and Omissions Insurance is purchased for lead-based paint inspections, risk assessments and clearance tests.

c. Agencies can request a grace period of 6 months from OHCS for the insurance. However, agencies are required to either refer or defer weatherization work that will disturb surfaces that may contain lead-based paint, until they have insurance that will provide coverage for Lead Safe Weatherization work (and, in some cases involving repair and rehabilitation, Lead-based Paint Hazard Control work).

d. The cost of this insurance is an allowable DOE expense

13. LRRP Weatherization Training

OHCS will continue with the help of OTI to make training available for the Lead Based Paint Renovation, Repair and Painting Program (RRP).

a. The Oregon Health Authority (OHA) and the Construction Contractors Board (CCB) are charged with operating the Renovation, Repair and Painting (RRP) program.

b. For agencies and contractors with a CCB license, the program is a Certified Lead Based Paint Renovation (LBPR) Contractor License. CCB issues the annual license to contractors that have completed RRP training.

c. Agencies that work on "target housing" and "child-occupied facilities" but are not required to have a CCB license should contact the Oregon Health Authority for information.

d. **OHCS requires all Subgrantees, and their subcontractors to be certified firms.** Firms must apply to the appropriate state agency for certification to perform weatherization.

    d1. To apply, a firm must submit to either the CCB or OHA depending on the type of entity, an application, signed by an authorized agent of the firm and pay the correct amount of fees.

e. Firms performing weatherization must ensure that:

    e1. All individuals performing activities that disturb painted surfaces on behalf of the firm are either certified renovators or have been trained by a certified renovator.

    e2. A certified renovator is assigned to each weatherization project and performs all of the certified renovator responsibilities.

    e3. All weatherization measures completed by the firm are performed in accordance with the work practice standard of the Lead-Based Paint Renovation, Repair, and Paint Program.

    e4. Pre-weatherization education requirements of the Lead-Based Paint, Repair and Painting Program are performed.

    e5. The programs recordkeeping requirements are met.

f. To become a certified renovator an individual must successfully complete an eight (8) hour initial renovator training course by an accredited training provider(training providers are accredited by EPA, or by an authorized state or tribal program). The course completion certificate serves as proof of certification.

g. Certified renovators are responsible for ensuring overall compliance with the Lead-Based Paint Renovation, Repair, and Painting Program's for lead safe work practices at weatherization sites they are assigned. A certified renovator:

    g1 **Must** use a test kit acceptable to EPA, when required by weatherization services, to determine whether components to be affected by the weatherization contain lead.

g2 **Must** provide on-the-job training to workers on the work practices they will be using in performing their assigned tasks.

g3 **Must** be physically present at the work site when warning signs are posted, while the work-area containment is being established, and while the work-area cleaning is performed.

g4 **Must** regularly direct work being performed by other individuals to ensure that the work practices are being followed, including maintaining the integrity of the containment barriers and ensuring that dust or debris does not spread beyond the work area.

g5 **Must** be available, either on-site or by telephone, at all times weatherization is being conducted.

g6 **Must** perform project cleaning verification.

g7 **Must** have with them at the work site copies of the initial course completion certificate and their most recent refresher course completion certificate.

g8 **Must** prepare required records.

h. To maintain their certification, renovators and firms **must** be re-certified by the appropriate state agency as required.

h1. A firm **must** submit to the appropriate state agency, a completed application, signed by an authorized agent of the firm, and pay the correct amount of fees.

h2. Renovators **must** successfully complete a refresher training course provided by an accredited training provider.

14. Record Keeping Requirements

a. All documents **must** be retained in the client file for three (3) years following the completion of the weatherization project.

b. Records that **must** be retained include:

b1. Reports certifying that lead-based paint is not present.

b2. Records relating to the distribution of the lead pamphlet.

b3. Any RRP training provided on-site.

b4. Description of specific actions taken.

b5. Lead testing and assessment documentation.

b6. Photos of site and containment set up.

b7. Documentation of compliance with the requirements of the Lead-Based Paint Renovation, Repair and Painting Program.

OHCS will verify certified firm and Renovator status at each monitoring visit. In the event OHCS identifies non-compliance issues appropriate sanctions may apply. If deficiencies are identified in Subgrantee program operations, including compliance with EPA LRRP requirements, OHCS will respond by working with the Subgrantee to provide training and technical assistance to correct deficiencies. Sanctions may include but not be limited to withholding of funds, disallowance of costs, suspension of contract, or termination of contract. OHCS shall inform the Subgrantee of any appeal rights and procedures to state and federal authorities in the sanction transmittal.

VIII. Building Structure

Building rehabilitation is beyond the scope of the Weatherization Assistance Program; however, program workers frequently encounter homes in poor structural condition. Dwellings whose structural integrity is in question should be referred to other funding sources such as HOME Investment Partnership program (HOME), Community Development Block Grant (CDBG), and U.S. Department of Agriculture, Rural Development (RD). Weatherization services may need to be delayed until the dwelling can be made safe for crews and occupants (see Section XIII. Deferral Standards).

1. Incidental Repairs

Incidental repairs necessary for the effective performance or preservation of weatherization materials are allowed. When a repair activity is a component of an energy efficiency measure that is being installed then the installation and materials are part of the efficiency measure and are classified as incidental repair. The cost of incidental repairs must be included in the cost of the package of measures. The entire package of measures installed on a project, including incidental repair costs, must be cost justified with an SIR of 1.0 or better.

Incidental repairs must be justified in the client file with an explanation for their need and a relationship to a specific energy conservation measure (ECM).

Ancillary items necessary for proper installation of weatherization materials are not considered incidental repairs. These items include small items such as nails/screws, other fasteners, adhesive, sealant, etc. Ancillary items are items required by materials manufacturers; general construction and /or WAP field standards to achieve a finished product in a typical installation where no unusual or extensive repairs are needed. The costs of ancillary items and installation are to be included in the cost of an individual ECM when calculating the SIR for the individual ECM.

Examples of ancillary items include:

a. **Ceilings**: Eave baffles, dams for heat producing fixtures, hatch dams and normal items needed to batt & weatherstrip accesses.

b. **Floors**: Twine/lath, normal items needed to batt & weatherstrip interior accesses, Water pipe insulation.

c. **Walls**: Sealing high and low openings in balloon framed homes, removing/replacing siding, Plugging, patching and priming access holes.

Examples of incidental repairs include:

a. **Ceilings**: Adding attic vents, screening vents or openings to preserve the insulation, repairing damaged ceiling to allow for insulation to be installed, framing repairs necessary to properly weatherstrip accesses, roof membrane to protect insulation on a manufactured home or minor roof repairs on site-built homes.

b. **Floors**: Screening vents and accesses to preserve the insulation, repairing water-damaged flooring to allow for installation of floor insulation, repairing large holes in a manufactured home rodent barrier.

c. **Walls**: Sealing large, unusual openings such as voids between double ceilings or holes in walls.

2. Building Structure & Roofing

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

Field Auditors/Inspectors must perform a visual inspection and ensure that access to areas necessary for weatherization is safe for entry and performance of assessment, work, and inspection. Field Auditors/Inspectors must receive BPI or REA certifications (See Appendix C-T&TA Plan) to be aware of how to identify structural and roofing hazards. The client must be notified of any structurally compromised areas identified and steps that are necessary to correct the deficiencies.

3. Electrical Issues

a. Knob and Tube Wiring: Electrical inspection by a licensed electrician is required for each building component (attic, walls, floor) containing knob-and-tube wiring for which insulation is proposed, prior to insulation being installed. Repairs, if necessary, are to be made before insulation work can proceed.

a1. The electrician **must** certify the knob-and-tube wiring in each component is safe for insulation by the completion of the Knob-and-tube Inspection Form.

a2. A Copy of the form **must** be placed in the client's file.

a3. The cost of electrical inspection and minor electrical repairs must be charged to the Health and Safety category.

b. Minor Repair: Minor electrical repairs (≤ $1,250) are allowed where the health & safety of the occupant is at risk. Upgrades and repairs are allowed when necessary to perform specific weatherization measures.

c. Should auditors and crews find serious electrical hazards, they shall notify the owner. (see hazard notification form- Exhibit 3) Weatherization measures that involve the installation of new equipment such as air conditioners, heat pumps, or electric water heaters can exacerbate previously marginal overload problems to hazardous levels.

c1. The problem shall also be noted in the client file.

c2. To the extent that these problems prevent adequate weatherization, the agency shall consider repairing them if other funding sources are available to offset costs in excess of the 15% of the ACPU H&S limit.

c3. If serious electrical hazards cannot be repaired, the project must be deferred. Client must receive information on over-current protection, overloading circuits, and basic electrical safety/risks.

Field Auditors/Inspectors must receive BPI or REA certifications (See Appendix C-T&TA Plan) to be aware of how to identify basic electrical hazards.

Where applicable, discuss and provide information to the client on the hazards of overloading circuits, basic electrical safety/risks and over current protection.

4. Windows & Doors

a. WPN 17-7 made it clear that windows and doors **cannot** be completed as a health & safety measure using DOE funds. However, the memo indicates that windows & doors can be done as an incidental repair.

b. In order to qualify for replacement as an incidental repair, the door/window must meet the following:

A window or door must be severely damaged and irreparable before it can be replaced as an incidental repair. Photo documentation **must** be included in the file showing clear evidence that **each** door and/or window being replaced could not be repaired.

A window or a door replaced as a repair **must** be attributed to a measure that replacement will be impacting such as air infiltration. There must be adequate proof (blower door test) showing excessive infiltration in the home.

If a window or door meets the above criteria, the costs associated with the window/door must be grouped in REM/*Design*™ following the incidental repair protocol. If the overall SIR is 1.0 or better, DOE funds may be used to replace the window/door.

Note: Broken glass that presents a hazard may be replaced under the H&S category.

Field Auditors/Inspectors must receive BPI or REA certifications (See Appendix C-T&TA Plan).

IX. Heating & Air Conditioning

Heating system repair or replacement shall be identified and charged as either a Health and Safety (H&S) measure <u>OR</u> a Cost-Effective measure. It cannot be both.

Before a heating system can be paid for under H&S, it shall be run through REM/*Design*™ and proven to be not cost effective.

- Any heating system replaced **must** be justified as not cost effective before it can be attributed to H&S.
- The entire heating system cost shall be attributed to **<u>either</u>** H&S or as a cost-effective measure.

A copy of the REM/*Design*™ report deeming the heating system cost effective or not must be included in the file as documentation.

Heating system repair and replacement is an allowable health & safety cost. All of Oregon is a heating climate. Oregon, as a whole, averages 5250 HDD. An operable heating system is required in all areas of the state.

It is up to the Subgrantee to determine whether or not a repair to a heating system or if replacing is the best option. Factors such as overall condition of the system, age of the system, cost of any repairs, and efficiency of the system should be considered in making this decision. The following factors are acceptable reasons for a H&S repair or replacement:

- Inadequate heating capacity
- Non-existent heating system
- Red tagged or inoperable heating systems
- Heating systems that are operating in an un-safe manner

Replacement heating systems must meet the requirements of newly installed equipment as outlined in the Field Guide.

A properly operating heating system is important for the overall health and well-being of the household. Therefore, furnace tune-ups and routine maintenance are allowable health & safety expenses.

Although Oregon is predominately a heating climate, there are times during the year that all areas may require air conditioning for at risk clients. Air conditioning systems are not an allowable expense <u>*unless*</u> the client is determined to be at risk.

To be considered at risk, a client **must** have a signed and dated statement from their physician stating that either the clients' health will be jeopardized if they are exposed to extreme heat or that the clients' health is such that they cannot be exposed to outside pollutants without risk to their health. The signed statement from the clients' physician **must** be included in the file as documentation.

Documentation of the thought process and reasoning of repair/replacement of a heating system is required in the project file. Licensing and/or certification for HVAC installations as required by authority having jurisdiction (AHJ).

Client Education:

- Discuss with client and provide information on appropriate use and maintenance of heating systems.
- 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.

Field Auditors/Inspectors must receive BPI or REA certifications (See Appendix C-T&TA Plan) to evaluate heating systems.

Space Heaters

1. **Stand-alone Electric Space Heaters** – Replacement of electric space heaters using DOE funds is *not* allowed. OHCS will not preclude the use of other funding sources for the replacement or major repair of electric space heaters. Work on such systems may make local agencies liable for inadequate electric wiring and damages that may result. Removal is recommended whenever possible.

When electric space heaters are encountered, the agency should check circuitry to ensure an adequate power supply for existing space heaters. Clients must be informed of the hazards associated with electric space heaters and collect a signed waiver if removal is not allowed.

2. **Un-vented Combustion Space Heaters** – **Removal of un-vented combustion space heaters is required.** Inform client of dangers of unvented space heaters - CO, moisture, NO2, CO can be dangerous even if CO alarm does not sound. If clients will not allow for removal of un-vented combustion space heaters, deferral of the project is required.

3. **Vented Combustion Space Heaters** - Vented combustion space heaters should be treated the same as furnaces. All required combustion testing listed in section V – 2 of Appendix D must be performed. Field Auditors/Inspectors must receive BPI or REA certifications (See Appendix C-T&TA Plan) to evaluate vented combustion space heaters to evaluate.

Solid Fuel Heating (Woodstoves etc.)

Maintenance, repair, and replacement of primary indoor heating units is allowed where occupant health and safety is a concern. Maintenance and repair of secondary heating units is allowed. Visual inspection of chimney, flue and combustion appliance zone depressurization testing is required.

Clients should be made aware of safety hazards associated with solid fuel heating including depressurization issues that can potentially cause back drafting. Field Auditors/Inspectors must receive BPI or REA certifications (See Appendix C-T&TA Plan) to ensure proper techniques for testing worst case depressurization and inspection.

X. Water Heating & Appliances

Replacement of water heaters is allowed as a health & safety cost under the following conditions:

1. The water heater is leaking and not repairable.
2. The water heater is inoperable, and repairs are not possible or the age of the tank makes repairs impractical.
3. Combustion water heaters that cause a health hazard. (i.e. - Excess CO, draft issues, CAZ issues that cannot be addressed etc.)
4. Electric water heaters that cause a health hazard. (i.e. – wiring issues, missing covers etc.)

Other types of equipment such as dryers, ranges/cook stoves, etc. may only be cleaned, tuned or repaired with DOE funds. If these types of appliances require replacement, other funding sources must be utilized.

All appropriate combustion safety testing listed in section V – 2 must be performed on all combustion appliances.

Discuss and provide information as necessary on appropriate use, maintenance, and disposal of appliances/water heaters.

Field Auditors/Inspectors must receive BPI or REA certifications (See Appendix C-T&TA Plan) to ensure proper combustion testing techniques.

XI. Deferral Standards

The decision to defer work on a dwelling without providing weatherization services is difficult, but necessary in some cases. Many problems encountered in low-income housing are beyond the scope of the Weatherization Assistance Program. Deferring weatherization work does not mean that assistance will never be available, but that any work must be postponed until the problems can be resolved, and alternative sources of help be found as necessary.

1. Agencies (Subgrantees) should develop guidelines and a standardized form. The form should include:

    a. Client's name and address.

    b. Date of the audit\assessment.

    c. Date the client was informed of deferring weatherization.

    d. A clear description of the problem, conditions under which weatherization could continue, the responsibility of all parties involved, and the client(s) signature(s) indicating that they understand and have been informed of their rights and options.

2. Deferral Conditions May Include:

    a. The client has known health conditions that prohibit the installation of insulation and other weatherization materials.

    b. 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 in a cost-effective manner.

    c. The house has sewage or other sanitary problems that would further endanger the client and the weatherization installers if weatherization work were performed.

    d. The house has been condemned or electrical, heating, plumbing, or other equipment has been "red tagged" by local or state building official or utilities.

    e. Moisture problems are so severe they cannot be resolved under existing health and safety measures and minor repairs.

    f. Dangerous conditions exist due to high carbon monoxide levels in combustion appliances, and cannot be resolved under existing health and safety measures.

    g. The client is uncooperative, abusive, or threatening to crew, subcontractors, auditors, inspectors, or others who must work on or visit the house.

    h. The extent and condition of lead-based paint in the house would potentially create further health and safety hazards.

i. In the judgment of the energy auditor, any condition exists which may endanger the health and/or safety of the work crew or subcontractor, the work should not proceed until the condition is corrected.

Agencies (Subgrantees) are expected to actively pursue all alternative options on behalf of the client, including referrals, and use good judgment in dealing with difficult situations. Once the reasons for deferral have been addressed, the home can be reconsidered for the weatherization program. If the eligibility has not been determined within the last year, it must be updated to determine whether the home is still eligible and has the same priority for weatherization services.

XII. COVID-19 and Infectious Diseases

Weatherization contractors and Agency staff are required to enter client homes to install energy conservation measures, perform audits, inspections, and other weatherization work as needed. As we have been impacted by COVID-19, we have become aware of the need to implement protections for our workers as well as our clients. This guidance is in place and applies to working under best-practice provisions for COVID-19 as well as in situations for households with clients that experience compromised immune systems or considered "at risk".

Due to this, each agency must develop a written field protocol to protect their staff/contractors and clients. Contractors may have a separate protocol as long as it meets minimums listed in this guidance. Included here are the required minimum measures that must be contained in each agency's written protocol to prevent the spread and/or contraction of infectious diseases.

A copy of the Agencies field protocol must be submitted to OHCS. Agencies may add additional precautions as needed. The protocol applies to both contractor and agency staff. Agencies are responsible for ensuring their contractors are complying with requirements. Documentation of site compliance for both Agency staff and contractors must be included in the file.

Additional costs for PPE and time associated with Infectious disease protections are an allowable H&S expense. Costs associated with COVID safety protocols must be tracked as H&S- COVID in OPUS.

Minimum Required Measures to be included in infectious disease protocols:

1. Field staff shall complete a health self-assessment prior to going out in the field. The results do not have to be documented, only included in the agency/contractor protocol.
2. Screening Households for known or suspected health conditions prior to each visit. If the client indicates a household member has been exposed or is experiencing symptoms, the visit must be postponed.
3. Prohibit handshaking and maintain social distancing (6') whenever possible.
4. Require PPE be worn as recommended by OSHA and the CDC whenever agency or contractor staff are inside the clients home.
5. Minimize the number of contractor/Agency staff interacting with client whenever possible.

6. Offer all clients a face covering for use during the home visit.
7. Daily disinfection of equipment and tools used in the field.
8. Require frequent handwashing with soap and water or hand sanitizer.
9. Disinfection of all interior touch surfaces at the end of each visit/work day.

Suggested Inventory for Agency/Contractor staff:

1. OSHA/CDC approved face coverings
2. Gloves
3. Tyvek Suits
4. Booties
5. Paper towels
6. Hand soap/Sanitizer
7. Cleaners
8. Client face masks

Deferral due to infectious disease:

1. Agencies will allow clients to defer weatherization due to any infectious disease concerns without penalty.
2. Vulnerable/High-risk clients may be deferred until conditions are safe for a home visit.
3. When the client is ready for work to proceed, the job shall be moved to the top of the que for completion of work.
4. Agencies may defer clients if a client will not follow safety protocols.

Training requirement:

1. All agency field staff shall successfully complete the COVID-19 workplace Safety 2020 training.
2. Proof of completion must be printed and kept in the employee file to verify compliance.
3. Although not required, contractors are allowed and encouraged to complete the course.