

Health & Safety Guidance Table

Air Conditioning Systems

Potential Funding Sources	DOE, DOE ARRA, LIHEAP WX, RMP
Allowable Action	Air conditioning system replacement or repair is an approved Weatherization Measure for our climate when auditing with a SIR of 1 or higher. It is allowed in homes of at-risk occupants where climate conditions warrant and necessary approval is obtained. At no point will our work of the WX process leave the client with less than they already had. If the AC system was operable and installation of a new heating system would render that AC inoperable replacement of the AC system is authorized. <i>See Attachment #32</i>
Testing	Make sure systems are present, operable, and performing. Determine presence of at-risk occupants. If operation can not be determined due to temperature use utility billing history.
Standard for Deferral	System is inoperable Client does not meet requirements for At Risk
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	Awareness of Guidance, State AC Start-up Form See Refrigerant
Client Education	Discuss and provide information on appropriate use and maintenance of unit. Stress the need for regular filter replacement.
Disposal Procedures	Reclaim refrigerant (See Refrigerant) See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

Heating Systems

Potential Funding Sources	DOE, DOE ARRA, LIHEAP WX, LIHEAP Crisis, Questar
Allowable Action	“Red tagged” or inoperable system replacement, repair, or installation is allowed. Replacement of any atmospheric draft fired appliance or appliance with standing pilot light is approved. Questar Green Sticker Program
Testing	Gas fired furnace with a CO reading of 100ppm or higher is approved to be replaced. Replacement of a gas fired furnace with any measureable level of CO in the air stream above ambient CO level in the dwelling is approved.
Standard for Deferral	See Deferred Service Table
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	RMGA Certification, combustion analysis training awareness of guidance, State Furnace Start-Up form, Questar Gas Best Practices <i>See Attachment #22 HVAC Forms</i>
Client Education	Discuss and provide information on appropriate use and maintenance of unit. Stress the need for regular filter replacement.
Disposal Procedures	See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

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Water Heater

Potential Funding Sources	DOE H&S, DOE (Incidental Repair), LIHEAP Crisis, Questar, RMP (w/ hybrid heat pump water heater)
Allowable Action	When installation of WX measures creates an unsafe situation replacement of water heaters are allowed, but not as a WX measure. Repair and cleaning are allowed. Questar Green Sticker Program (<i>See Combustion Gas & Sections E1 1b & E4 1b in Guidelines</i>) Hybrid water heater maybe installed in special circumstances
Testing	Determine whether water heaters are performing safely. Combustion safety testing (worst case draft) is required when combustion appliances are present. Perform combustion analysis testing on gas fired water heater and put tape in client file
Standard for Deferral	See Deferred Service Table
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	RMGA Certification, combustion analysis training, awareness of guidance, Worst Case Draft Testing, Questar Gas Best Practices <i>See Attachment #22 HVAC Forms</i>
Client Education	Discuss and provide information on appropriate use, maintenance, and temperature settings of water heaters.
Disposal Procedures	See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

Appliances

Potential Funding Sources	LIHEAP Crisis
Allowable Action	Replacement of gas fired cooking appliance that are a health or safety hazard may be replaced. (<i>See Section A1 If in Guidelines</i>)
Testing	Combustion analysis, combustible gas leak detectors
Standard for Deferral	See Deferred Service Table
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	Combustion analysis training, awareness of guidance, Worst Case Draft Testing, Questar Gas Best Practices
Client Education	Discuss and provide information on appropriate use, maintenance, and cleaning of burners to reduce CO.
Disposal Procedures	See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

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Asbestos: In siding, walls, ceiling etc.

Potential Funding Sources	DOE, DOE ARRA, LIHEAP WX (for regular WX activities)
Allowable Action	Removal of siding is allowed to perform energy conservation measures when siding can be removed without damage. All precautions must be taken not to damage siding. Asbestos siding should NEVER be cut or drilled. Recommended, where possible, to insulate through home interior.
Testing	Inspect exterior wall surface and subsurface for asbestos siding prior to drilling or cutting.
Standard for Deferral	See Deferred Service Table
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	Safe practices for siding removal and replacement. How to identify asbestos containing materials.
Client Education	Inform the client that suspected asbestos siding is present and how precautions will be taken.
Disposal Procedures	See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

Combustion Gasses

Potential Funding Sources	DOE, DOE ARRA, DOE H&S, LIHEAP, LIHEAP Crisis, Questar
Allowable Action	Proper venting to the outside for combustion appliances, including gas dryers is required. Correction of venting is allowed when testing indicates a problem. Location of fuel fired appliances in relation to sleeping areas. <i>(See Section E4 1b in Guidelines)</i>
Testing	Combustion safety testing is required when combustion appliances are present. Inspect venting of combustion appliances and confirm adequate clearances. Test atmospheric drafting appliances for draft and spillage under worst case conditions before and after air tightening. Inspect cooking burners for operability and flame quality
Standard for Deferral	See Deferred Service Table
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	How to perform worst case draft testing and combustion analysis. <i>See Attachment #22 HVAC Forms</i>
Client Education	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 CO.
Disposal Procedures	See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

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Drainage:

gutters, down spouts, extensions, flashings, sump pumps, landscape

Potential Funding Sources	DOE, DOE ARRA (Incidental Repair)
Allowable Action	Major drainage issues are beyond the scope of the Weatherization Assistance Program. Homes with conditions that may create a serious health concern that require more than incidental repair should be deferred.
Testing	Visual inspection.
Standard for Deferral	See Deferred Service Table
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	How to recognize drainage issues. Approved repairs.
Client Education	Importance of cleaning and maintaining drainage systems. Information on proper landscape design, maintaining proper slope away from home.
Disposal Procedures	See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

Electrical:

Knob & Tube Wiring

Potential Funding Sources	DOE, DOE ARRA (Must be included in SIR) LIHEAP Crisis
Allowable Action	Minor upgrades and repairs necessary for weatherization measures and where the health or safety of the occupant is at risk are allowed. Must provide sufficient over-current protection prior to insulating over knob-and-tube wiring. (<i>See Section A1 If in Guidelines</i>)
Testing	Inspect for presence and condition of knob-and-tube wiring. Check for alterations that may create an electrical hazard. Voltage drop testing are allowed
Standard for Deferral	See Deferred Service Table
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	How to identify electrical hazards. Local code compliance. Voltage drop testing.
Client Education	Provide information to client on over-current protection, overloading circuits, basic electrical safety/risks.
Disposal Procedures	See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

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Electrical:

Potential Funding Sources	DOE, DOE ARRA (Incidental Repair)
Allowable Action	Minor work necessary to power an installed WX measure.
Testing	Ensure proper circuit size, wire gauge, over current protection, bonding & grounding.
Standard for Deferral	See Deferred Service Table
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	How to identify electrical hazards. Local code compliance. Basic electrical best practices.
Client Education	Provide information to client on over-current protection, overloading circuits, basic electrical safety/risks.
Disposal Procedures	See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

Fire Hazards

Potential Funding Sources	DOE H&S
Allowable Action	Correction of fire hazards are allowed when necessary to safely perform weatherization. A substantial fire hazard like excessive clutter is cause for deferral.
Testing	Check for fire hazards in the home during the audit and while performing weatherization.
Standard for Deferral	See Deferred Service Table
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	How to identify fire hazards.
Client Education	Inform client of observed hazards.
Disposal Procedures	See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

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Injury Prevention

of Occupants and Weatherization Workers – Measures such as repairing stairs and replacing handrails.

Potential Funding Sources	DOE H&S
Allowable Action	Workers must take all reasonable precautions against performing work on homes that will subject workers or occupants to health and safety risks. Minor repairs and installation may be conducted only when necessary to effectively weatherize the home; otherwise these measures are not allowed
Testing	Observe if dangers are present that would prevent weatherization.
Standard for Deferral	See Deferred Service Table
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	Awareness of potential hazards.
Client Education	Inform client of observed hazards and associated risks.
Disposal Procedures	See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

Lead Based Paint

Potential Funding Sources	DOE, DOE ARRA (Must be included in SIR)
Allowable Action	Follow EPA's Lead; Renovation, Repair and Painting Program (RRP). In addition to RRP, Weatherization requires all weatherization crews working in pre-1978 housing to be trained in Lead Safe Weatherization (LSW). Deferral is required when the extent and condition of lead-based paint in the house would potentially create further health and safety hazards. <i>(See Attachment #28)</i>
Testing	XRF testing is required. Job site set up and cleaning verification is required by a Certified Renovator. See Section E3(1c) RRP & E4(1d) LSW
Standard for Deferral	See Deferred Service Table
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	All weatherization crews working on pre-1978 homes must receive LSW training and be accompanied by an EPA Certified Renovator. Grantee Monitors/Inspectors must be Certified Renovators and receive LSW training. <i>See Attachment #28 Lead Based Paint</i>
Client Education	Follow RRP requirements.
Disposal Procedures	See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

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Mold & Moisture

Potential Funding Sources	DOE H&S DOE, DOE ARRA (Incidental Repair)
Allowable Action	Limited repairs that are for source control and correction of moisture and mold creating conditions are allowed in order to weatherize the home and to ensure the long term stability and durability of the measures. Where severe Mold and Moisture issues cannot be addressed, deferral is required. Use Mold Form or equivalent.
Testing	Visual assessment is required and diagnostics such as moisture meters are recommended pre and prior to final inspection. Mold testing is not an allowable cost.
Standard for Deferral	See Deferred Service Table
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	National curriculum on mold and moisture or equivalent. Mold Form See Attachment #24 Sample Mold Form
Client Education	Provide client notification and disclaimer on mold and moisture awareness.
Disposal Procedures	See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

Crew Safety (OSHA) Deferred till PY 2012

Potential Funding Sources	
Allowable Action	
Testing	
Standard for Deferral	
Standard for Referral	
Agency Training	
Client Education	
Disposal Procedures	

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Radon

Potential Funding Sources	DOE H&S
Allowable Action	Whenever site conditions permit, exposed dirt must be covered with a vapor barrier except for mobile homes. In homes where radon may be present, precautions should be taken to reduce the likeliness of making radon issues worse.
Testing	Testing may be allowed in locations with high radon potential.
Standard for Deferral	See Deferred Service Table
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	What is it, how it occurs. What factors may make radon worse. Weatherization measures that may be helpful. Vapor barrier installation. Utah Geological Survey Maps. http://geology.utah.gov/utahgeo/hazards/radon.htm#radonmaps
Client Education	Provide client with EPA consumer's guide to radon.
Disposal Procedures	See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

Refrigerant

Potential Funding Sources	DOE, DOE ARRA, (Incidental Repair) LIHEAP WX, LIHEAY Crisis, RMP
Allowable Action	Reclaim refrigerant per Clean Air Act 1990 section 608, as amended by 40 CFR 82, 5/14/93
Testing	EPA Testing protocols.
Standard for Deferral	See Deferred Service Table
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	EPA approved 608 Type 1 or Universal certification.
Client Education	Client should not disturb refrigerants.
Disposal Procedures	See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

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Smoke & Carbon Monoxide Detectors

Potential Funding Sources	DOE H&S, DOE, DOE ARRA (O&M Item)
Allowable Action	Installation of smoke/CO detectors is allowed where detectors are not present or are inoperable. Replacement of operable smoke/CO detectors is not an allowable cost.
Testing	Check for operation of existing before replacing.
Standard for Deferral	See Deferred Service Table
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	Where to install detectors. Local code compliance.
Client Education	Provide client with verbal and written information on use of smoke/CO detectors.
Disposal Procedures	See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

Solid Fuel Heating

Potential Funding Sources	DOE, DOE ARRA, LIHEAP WX, LIHEAP Crisis
Allowable Action	Maintenance, repair, and replacement of the primary indoor heating unit is allowed where occupant health and safety is concerned. Maintenance and repair of secondary heating units are allowed.
Testing	Required inspection or replacement of chimney and flue and worst case draft testing for combustion appliance zone depressurization.
Standard for Deferral	See Deferred Service Table
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	Worst case draft testing and CAZ inspection Use of only EPA approved non-catalytic stoves http://www.epa.gov/burnwise/woodstoves.html
Client Education	Provide safety information to include how to recognize depressurization like weak draft, back drafting etc. Indoor wood storage, moisture issues. http://www.epa.gov/burnwise/bestburn.html
Disposal Procedures	See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

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Space Heater:

Stand alone electrical, in ceiling electrical radiant

Potential Funding Sources	Removal Only! DOE,DOE ARRA, LIHEAP WX,LIHEAP Crisis,
Allowable Action	Repair, replacement, or installation is not allowed. Removal and installation of other heat sources is recommended. (disconnection of in ceiling radiant) Deferral of service is necessary if removal/disconnection is not allowed.
Testing	Check circuitry to ensure adequate power supply for existing space heating. If system is overloaded a crisis situation should be considered.
Standard for Deferral	See Deferred Service Table
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	Awareness of guidance.
Client Education	Inform client of hazard and collect signed waiver and deferral form if not allowed to remove.
Disposal Procedures	See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

Space Heater:

Unvented combustion appliance

Potential Funding Sources	DOE, DOE ARRA, LIHEAP WX, LIHEAP Crisis, Questar
Allowable Action	Replacement is required. Removal is required @ time of installation of new system. Deferral is required if removal is not permitted.
Testing	Worst case draft testing for combustion appliance zone depressurization is necessary when these systems are identified. If unsafe conditions exist immediate replacement is necessary.
Standard for Deferral	See Deferred Service Table
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	How to perform worst case draft testing and combustion analysis.
Client Education	Inform client of hazard and collect signed waiver and deferral form if not allowed to remove. If unsafe condition exists "Red Tagging" of appliance is necessary.
Disposal Procedures	See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

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Space Heater:

Vented combustion appliance

Potential Funding Sources	DOE, DOE ARRA, LIHEAP WX, LIHEAP Crisis, Questar
Allowable Action	Should be treated as furnaces.
Testing	Combustion analysis and venting should be tested consistent with furnaces.
Standard for Deferral	See Deferred Service Table
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	How to perform worst case draft testing and combustion analysis.
Client Education	Discuss and provide information on appropriate use and maintenance of unit.
Disposal Procedures	See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

Spray Foam

1 & 2 Part

Potential Funding Sources	DOE H&S, DOE, DOE ARRA (Incidental Repair)
Allowable Action	Use EPA recommendations (available online at http://www.epa.gov/dfe/pubs/projects/spflspray_polyurethane_foam.html) when working within the conditioned space or when SPF fumes become evident within the conditioned space. When working outside the building envelope, isolate the area where foam will be applied, take precautions so that fumes will not transfer to inside conditioned space and exhaust fumes outside the home.
Testing	Check for penetrations in the building envelope. Sensory inspection inside the home for fumes during foam application.
Standard for Deferral	See Deferred Service Table
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	Training on use of various products with specification for each application type. MSDS sheets. Temperature sensitivity.
Client Education	Provide notification to the client of plans to use two part foam and the precautions that may be necessary.
Disposal Procedures	See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

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Ventilation Deferred to PY 2012

Potential Funding Sources	
Allowable Action	
Testing	
Standard for Deferral	
Standard for Referral	
Agency Training	
Client Education	
Disposal Procedures	

Window & Door Replacement

Potential Funding Sources	DOE, DOE ARRA, LIHEAP WX (With SIR of 1 or higher), DOE (Incidental repair), LIHEAP Crisis
Allowable Action	Replacement, repair, or installation is <u>not</u> a DOE allowable health and safety cost but may be allowed as an incidental repair or an efficiency measure if cost justified.
Testing	Not Applicable
Standard for Deferral	See Deferred Service Table
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	Awareness of Guidance
Client Education	Provide information on lead risks.
Disposal Procedures	See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

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Asbestos:

In vermiculite

Potential Funding Sources	DOE, DOE ARRA (Must include in SIR)
Allowable Action	When vermiculite is present, unless testing determines otherwise, take precautionary measures as if it contains asbestos, such as not using blower door tests and utilizing personal air monitoring while in attics. Where blower door tests are performed, it is a best practice to perform pressurization instead of depressurization. Encapsulation by an appropriately trained asbestos control professional is allowed. Removal is not allowed.
Testing	Assess whether vermiculite is present. Asbestos Hazard Emergency Response Act of 1986 (AHERA) certified prescriptive sampling is allowed by a certified tester.
Standard for Deferral	See Deferred Service Table
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	Audit training on how to recognize vermiculite.
Client Education	Clients should be instructed not to disturb suspected asbestos containing material. Provide asbestos safety information to the client. Formally notify client if test results are positive for asbestos and signed by the client.
Disposal Procedures	See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

Asbestos:

On pipes, furnaces, other small surfaces

Potential Funding Sources	DOE (Must include in SIR)
Allowable Action	Assume asbestos is present in covering materials. Encapsulation is allowed by an AHERA asbestos control professional and should be conducted prior to blower door testing. Removal may be allowed by an AHERA asbestos control professional on a case by case basis.
Testing	AHERA testing is allowed by certified tester.
Standard for Deferral	See Deferred Service Table
Standard for Referral	See Section E2(1c) Deferred Service Referrals
Agency Training	Audit training on how to recognize vermiculite.
Client Education	Clients should be instructed not to disturb suspected asbestos containing material. Provide asbestos safety information to the client.
Disposal Procedures	See Section B7(7h) Disposal of Tools, Equipment, Materials etc.

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