HEALTH & SAFETY PLAN

Iowa Weatherization Program

Department of Human Rights
Division of Community Action Agencies
Lucas State Office Building, 2nd Floor
Des Moines, Iowa 50319
Website: www.weatherization.iowa.gov

Grantee Health and Safety Plan - Template

(Fill in the white boxes below the category heading.)

Budgeting (Check one):

The grantee is encouraged to budget health and safety costs as a separate category and, thereby, excludes such costs from the average per-unit cost calculation. This separate category also allows these costs to be isolated from energy efficiency costs in program evaluations. The grantee is reminded that, if health and safety costs are budgeted and reported under the program operations category rather than the health and safety category, the related health and safety costs must be included in the calculation of the average cost per home and cost-justified through the audit.

Separate Health & Safety Budget X

Contained in Program Operations ☐

Incidental Repairs (List repairs, if any, that will be removed as health and safety measures and implemented as incidental repairs.):

If the grantee chooses to identify any health and safety measures as incidental repairs, they must be implemented as such under the grantee's weatherization program in all cases – meaning, they can never be applied to the health and safety budget category. In order to be considered incidental repairs, the measure must fit the following definition and be cost justified along with the associated efficiency measure. Incidental Repairs means those repairs necessary for the effective performance or preservation of weatherization materials. Such repairs include, but are not limited to, framing or repairing windows and doors which could not otherwise be caulked or weather-stripped and providing protective materials, such as paint, used to seal materials installed under this program.

Incidental repairs include:
Window repair/replacement
Door repair/replacement
Roof repair
Siding repair
Wall & ceiling repair/replacement
Foundation repair
Roof, gable and soffit vents

Health and Safety Expenditure Limits (Provide a per-unit average percentage and justification relative to the amount. Low percentages should include a statement of what other funding is being used to support health and safety costs, while larger percentages will require greater justification and relevant historical support.):

The grantee must set health and safety expenditure limits for their sub-grantees, providing justification by explaining the basis for setting these limits and providing related historical experience. It is possible that these limits may vary depending upon conditions found in different geographical areas. These limits must be expressed as a percentage of the average cost per dwelling unit. For example, if the average cost per dwelling is $5000, then an expenditure of $500 per dwelling would equal 10 percent expenditures for health and safety. 10 percent is not a limit on H&S expenditures but exceeding this amount will require ample justification. These funds are to be expended by sub-grantees in direct weatherization activities. While required as a percentage of the average unit cost, if budgeted separately, the health and safety costs are not calculated into the per-house limitation.

Per-Unit Average Percent: ___25____%

Iowa Weatherization program has historically used 25% ($1,776) of the average DOE production cost ($7,105) for health and safety and is proposing to continue with that rate. The past year health and safety was actually 39.9%. Anything over the 25% allowable costs is covered with other, non-DOE funds. Required furnace and water heater replacements are run through the NEAT/MHEA audit to determine cost effectiveness. If NEAT/MHEA determines an individual SIR of 1.0 or greater, then that replacement is completed as an energy efficiency measure rather than health & safety. The following chart represents a health and safety measures completed on units in 2014 production.

Average Health and Safety Costs - 2015

Total 1514 Completions					
Work Item	# Homes Receiving Measure	Total Cost	Average Cost	% of Homes Receiving Measure	Health & Safety Cost per Home
Vapor/moisture barrier	620	171,274	276.25	40.951%	113.13
Pressure balancing	199	13,564	68.16	13.144%	8.96
Guttering/grading	96	36,262	377.73	6.341%	23.95
Electrical repair	279	87,320	312.97	18.428%	57.68
Dehumidifier	18	4,612	256.22	1.189%	3.05

Sumps	33	18,073	547.67	2.180%	11.94
Plumbing repair	233	59,927	257.20	15.390%	39.58
Minor asbestos removal	27	24,911	922.63	1.783%	16.45
Moisture/Mold cleanup	5	2,587	517.40	0.330%	1.71
Pest control/removal	10	5,409	540.90	0.661%	3.57
S-fuses K&T wiring	13	1,048	80.62	0.859%	0.69
K&T damming	27	7,005	259.44	1.783%	4.63
Water heater replacement	630	666,720	1,058.29	41.612%	440.37
Water heater repair	83	10,024	120.77	5.482%	6.62
Water heater venting	480	90,494	188.53	31.704%	59.77
Mechanical ventilation	1296	1,083,823	836.28	85.601%	715.87
Dryer venting	937	94,944	101.33	61.889%	62.71
CO alarm	1328	81,287	61.21	87.715%	53.69
Smoke alarm	955	55,332	57.94	63.078%	36.55
LP alarm	107	8,120	75.89	7.067%	5.36
Appliance safety checks	255	35,394	138.80	16.843%	23.38
Misc health & safety repairs	181	34,310	189.56	11.955%	22.66
Heating system replacement	417	1,084,803	2,601.45	27.543%	716.51
Furnace repairs	351	174,528	497.23	23.184%	115.28
Furnace venting	564	137,535	243.86	37.252%	90.84
Heat source damming	749	39,480	52.71	49.472%	26.08
Gas line repair	110	21,412	194.65	7.266%	14.14
Lead safe work	930	248,453	267.15	61.427%	164.10
Total Average H&S Per House					2,839.27

$2839/$7105 = 40%

Deferral Policy (Provide a detailed narrative of the grantees overall deferral policy):

Deferral may be necessary if health and safety issues cannot be adequately addressed according to WPN 11-6 guidance. The decision to defer work in a dwelling is difficult but necessary in some cases. This does not mean that assistance will never be available, but that work must be postponed until the problems can be resolved and/or alternative sources of help are found. In the judgment of the auditor, any conditions that exist, which may endanger the health and/or safety of the workers or occupants, should be deferred until the conditions are corrected. Deferral may also be necessary where occupants are uncooperative, abusive, or threatening. The grantee should be specific in their approach and provide the process for clients to be notified in writing of the deferral and what corrective actions are necessary for weatherization to continue. The grantee should also provide a process for the client to appeal to a higher level in the organization.

Although a client may be eligible for the Weatherization Program, there are situations or conditions where weatherization services should be deferred (i.e. delayed or postponed). Hopefully, the decision to defer weatherization can be made before work, or any significant work, begins on a dwelling. However, there are times when work will have begun on a dwelling before one of the situations or conditions is identified. In those cases, the local agency should defer doing any additional work.

Deferring work on a dwelling does not mean the dwelling will never be weatherized. If the situation or condition causing the deferral changes, it may be possible to begin or complete the work. For example, a dwelling shouldn't be weatherized if it has a bad roof. However, the dwelling can be weatherized later if the roof is replaced or repaired. Another example is a dwelling undergoing remodeling. The dwelling should not be weatherized while it is being remodeled. However, after the remodeling is completed, the dwelling may be weatherized.

Deferral Notification

When an agency defers work on a dwelling, it must notify the client, and the landlord when appropriate, in writing of the reason using the Deferral Documentation Form. A copy of the notification, with documentation justifying the decision to defer services, must be kept in the house file. Agencies should attempt to identify all reasons why work is being deferred on a home and notify the client and/or landlord of all the reasons and what must be done in order for weatherization work to begin.

In cases of deferral, the client is to be referred to other sources of funding to help alleviate the issues causing the deferral. Referrals are not limited to, but may include USDA 501 loans and grants, HUD, utility companies and local public health agencies.

Following are reasons weatherization services should be deferred. This list is not intended to be all inclusive:

- When a client:
  - Refuses to sign the "Release of Liability Form" (See Section 2010)

- Is uncooperative including, but not limited to:
  - Refusing to allow the installation of top energy efficiency measures or important health and safety measures.
  - Refusing access to parts of the house that prevent the audit of the house from being performed or prevents important measures from being installed.
  - Refusing to change behavior that can cause health and safety problems (e.g. refusal to discontinue using excessive number of humidifiers).
- Moves or dies while weatherization services are being provided. (Weatherization services may be completed if the majority of work is done prior to the client moving/dying.)

- When a client, or other occupant in a dwelling:
  - Is threatening or physically or verbally abusive.
  - Has known health conditions which prohibit the installation of insulation or other materials.
  - Is involved in illegal activities.

- When a dwelling:
  - Is posted as being "For Sale" or is known to be for sale (except homes currently in a housing rehabilitation program).
  - Is scheduled for demolition.
  - Poses a health or safety hazard to crew workers or contractors, for example, rats, bats, roaches, reptiles, insects, animals or other vermin inappropriately or not properly contained on the premises.
  - One or more health and safety hazards exist that must be corrected by the client (or landlord) before weatherization services may begin. Examples include, but are not limited to:
    - Severe mold or moisture problems (such as pooling in the crawlspace or standing water in the basement) so severe they cannot be resolved within program limits.
    - The presence of animal feces or raw sewage that prevents weatherization measures from being installed.
    - The presence of a primary heat source unvented space heater unless the unvented space heater is removed from the dwelling. If the unvented space heater is a secondary heat source it may be left in place if it meets ANSI Z21.11.2 requirements.
    - The presence of disconnected water waste pipes or hazardous electrical wiring.
    - The presence of asbestos, including vermiculite that contains asbestos, that prevents weatherization measures from being installed.
    - When health and safety hazards, including unsafe combustion appliances, could pose a health or safety threat to clients but the weatherization program cannot mitigate the hazards due to expenditure limits or program rule/policy limits.
  - Is undergoing remodeling or has unfinished areas, which directly affect the weatherization process. Weatherization work may be done when the remodeling is completed.
  - Is so full of clutter a weatherization energy audit or weatherization services cannot be done.
  - Is beyond the scope of the program due to major structural deficiencies or is in such a state of disrepair that failure is imminent and the conditions cannot be resolved in a cost-effective manner. Examples would be dwellings requiring a new roof or foundation repair or where lead exposure cannot be mitigated with safe work practices.

- When a manufactured home:
  - Has a heating system other than a heating system designed for manufactured homes. A sealed combustion high efficiency furnace with modifications per manufacturer's instructions and installed properly to include outside air for combustion is also allowable.
  - Has an installation deficiency that may affect worker safety
  - Has a solid-fuel burning appliance drawing combustion air from inside.

Procedure for Identifying Occupant Health Concerns:

Procedures must be developed and explained on how information is solicited from clients to reveal known or suspected occupant health concerns as part of the initial application for weatherization, additional screening of occupants again during the audit, and what steps will be taken to ensure that weatherization work will not worsen the health concern.

While the primary purpose of the Weatherization Program is to reduce energy use in dwellings, it is important to ensure the completed energy efficiency work does not create a health and safety problem or exacerbate an existing health and safety problem in the dwelling. Before beginning any work on a home, sub-grantees must complete the Iowa Weatherization Program health and safety assessment, which consists of identifying any health or safety problems that may pose a threat to the occupants and/or and workers and any problems that need to be corrected before weatherization activities can be started. Sub-grantees must also notify owners and occupants of visual assessment findings and obtain the release of liability.

The health and safety assessment includes, but is not limited to, addressing the following:

- Client informed consent process
- Combustion appliance testing, including:
  - Carbon monoxide test
  - Spillage and draft test
  - Temperature rise and static pressure test
  - Proper venting size, configuration, and condition
  - Gas leaks
- Moisture and mold assessment
- Lead paint
- Slate siding
- Unsanitary conditions
- Electrical hazards

- Fire hazards
- Friable asbestos
- Building structure to ensure a safe working area
- Garage leakage test in homes with an attached or tuck-under garage
- Minimum ventilation limit and depressurization tightness limits

Health and safety problems found during the health and safety assessment will result in the sub-grantee taking one of three actions

1. If the problem will not prevent the dwelling from being weatherized and installing weatherization measures won't exacerbate the problem, the sub-grantee can proceed with weatherizing the dwelling but will notify the client of the problem.
2. If the problem must be remedied before weatherization measures can be installed, the sub-grantee must determine if the program can remedy the problem or if the client or landlord will have to correct the problem. If the program can remedy the problem, weatherization can proceed once the sub-grantee has corrected the problem.
3. In those cases where the client or landlord is responsible for correcting the problem, the sub-grantee must ensure the client understands either he/she or the landlord is responsible for correcting the problem before weatherization can begin. The sub-grantee must notify the client of the problem regardless of who is responsible for correcting it.

Health and safety testing must also be repeated after weatherization to ensure the activities did not create a health and safety problem in the home. Program funds may be used to conduct the assessment and testing, and to abate certain health and safety problems.

It is very important for the sub-grantee to document any health and safety problems and any problems or conditions which could result in health and safety problems. Documentation must include photos. Good documentation can protect the sub-grantee from claims made by clients that the work done by or on behalf of the sub-grantee caused a health and safety problem.

Client Informed Consent

Because it is possible weatherization activities could have an adverse effect on an occupant's health, it is important clients provide an "informed consent", consenting to the weatherization activities before they are started. The form is a checklist of the issues listed below and is reviewed with the client at the time of initial home assessment. Applicant medical conditions are not accessed at the time of application because all weatherization applications in Iowa come through the LIHEAP system. At the time of application, clients are asked about general disability issues, but not those specifically related to the weatherization process. Sub-grantees must inform all clients weatherization activities can release dust and dust-like particles in the air. Occupants with certain health conditions could have those conditions aggravated by the dust and dust-like particles and should be out of the house when insulation is being blown. Health conditions aggravated by dust include:

Asthma
Emphysema
Allergies
Respiratory problems
Pregnancy
Decreased immune function
Other serious health conditions

It is also recommended infants less than 12 months old should be out of the house when blown insulation or two-part foam insulation is being installed.

Persons who leave the dwelling during the insulation process should remain outside the house for at least 60 minutes after completion of the insulation activities or manufacturer's recommendation. In some cases the sub-grantee will recommend the client remain out of the house for a longer period of time.

Clients are required to sign a **Release of Liability and Waiver of Claims** (Release of Liability) Form informing them of this. The consent form should be signed before the dwelling is evaluated. If the client refuses to sign the form, no work will be completed on the home and it will be closed incomplete. The original of the signed Release of Liability Form must be in the client file, and the copy will be left with the client.

The Release of Liability and Waiver of Claims is a 2-part NCR form that is provided by the Weatherization Program. A sample can also be found in the Forms section of the Weatherization General Appendix as well as on the Members Only section of the Weatherization webpage.

The Release of Liability Form is important because it documents the client has been informed weatherization activities could result in airborne particles being released in the home which could aggravate a health condition of the occupants in the home. It also documents the client authorized the sub-grantee to weatherize the home.

If a client is not available to sign the Release of Liability Form when the energy auditor arrives to conduct the audit of the home, the energy auditor may proceed with the audit. However, the energy auditor must leave a copy of the Release of Liability Form, a return envelope, and instructions to the client that no work will be done on the home until the client signs the form and returns it to the sub-grantee.

Documentation Form(s) have been developed (Check Yes or No):

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

Yes X

No ☐

Completing the General Issue Tables below, or something similar, for each health and safety category will help explain to DOE how the WPN 11-6 requirements will be addressed.

Air Conditioning and Heating Systems

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.

Concur with WPN11-6 X Alternative Guidance ☐	

Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.

DOE and/or other funds will be used to address this issue

Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.

N/A

Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.

The following combustion appliance testing is done both prior to the start of any weatherization work and again after the work is completed (pre- and post-weatherization).

For combustion furnaces, boilers, water heaters, cook stoves, space heaters, and gas fireplaces:

- Ambient CO test
- Carbon monoxide levels under worst-case condition
- Spillage of combustion gases and proper drafting under worst-case condition
- Existence of gas leaks
- Proper venting size, configuration, and condition

For combustion furnaces:

- Temperature rise and static pressure testing

The Iowa Weatherization Program has established maximum acceptable carbon monoxide levels for various types of appliances. Carbon monoxide problems (exceeding the maximum acceptable level) must be corrected before any work is started on dwellings. Carbon monoxide readings and draft test results must be recorded on the Health and Safety Assessment Findings Form. The temperature rise and static pressure results must be documented in the house file.

Heating systems and water heaters are checked to ensure they are safe. Depending on circumstances, unsafe heating systems and water heaters may be repaired or replaced using program funds. All heating system work must be performed by a qualified technician or trained sub-grantee personnel in conformance with **ANSI Z223.1 (same as NFPA 54) including Appendix H** and shall be done within program spending limits.

Air conditioners will not be replaced in Iowa, however if an A-coil is leaking and will result in damage to the furnace, it may be replaced if not repairable.

During the heating season, no weatherization work may be done until a non-operational or hazardous primary heating unit is repaired or replaced.

Pre- and post-weatherization CAZ pressures are calculated with reference to the outside.

Chimneys and flues for wood stoves and gas/oil appliances are inspected to ensure they are in good condition and are free of obstructions.

Refer to the Iowa Weatherization Work Standards for detailed combustion appliance testing procedures, venting guidelines, and maximum allowable carbon monoxide levels and CAZ depressurization limits.

Standards for Deferral: Describe when deferral should take place for the specific health and safety category.

See deferral policies

Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.

N/A

Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.

All auditors/inspectors are trained to test heating systems to determine proper operating performance.

Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**. Note:** Some health and safety categories, like mold and moisture, require client education.

Clients are instructed in the operation and maintenance of new heating systems.

Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.

Any unit replaced will be removed from the job site and disposed of in a manner to permanently remove it from the grid.

Air Conditioning Installation (as specific to installation as a health and safety measure): Provide a narrative on implementation protocols of air conditioning repair, replacement, and installation including justification for allowability that includes climate justification with degree days and how to define at-risk occupants

Air conditioning systems will not be replaced in Iowa, however if an A-coil is leaking and will result in damage to the furnace, it may be replaced if not repairable.

Heating System Installation (as specific to installation as a health and safety measure): Provide a narrative on implementation protocols of Heating System repair, replacement, and installation including justification for allowability that includes climate justification with degree days

All furnace work shall be performed by a qualified, furnace technician, or trained agency personnel. Load calculation will be performed in accordance with ANSI/ACCA 2 Manual J and manufacturer specifications. Furnace repair shall be performed in conformance with **ANSI Z223.1 (same as NFPA 54) including Appendix H** and shall be done in accordance with program spending limits. All furnace work must be in compliance with:

International Residential Code (IRC)
The Uniform Mechanical Code
National Fire Prevention Association (NFPA)
Local Codes adopted by the authority having jurisdiction (Where they exist)
The Furnace Manufacturer's Specifications (must be left in the home)

When installing a new furnace, it must be installed at least ¾" off the floor on blocks, or a plastic pad. Concrete pads and wood blocks are not acceptable. Concrete blocks may be used but air must be able to circulate between the bottom of the furnace and the concrete. The return air drop also needs to be off the floor with the same specifications as the furnace.

Furnaces installed in mobile homes must be for that purpose or a sealed combustion high efficiency furnace may be installed with proper modifications per manufacturer's instructions.

All new units shall carry a minimum one-year (1) warranty on workmanship. Each customer shall receive the manufacturer's product warranty information, clear maintenance instructions, and a phone number of who to contact for warranty problems.

Contractors must offer to the client an option for annual inspection and renewal of warranty and service agreement for new heating systems up to 10 years at a cost.

The output rating of all replacement heating units shall be properly sized as in accordance to Manual J.

If a new space heater is installed it must be vented and the agency must ensure there is an operable smoke alarm. (See Section 2060)

Perform a temperature rise and static pressure test to ensure they are within the manufacturer's guidelines.

The output rating of all replacement heating units shall be properly sized as in accordance to Manual J.

New forced air furnaces must be a minimum of 95% or higher AFUE except in cases of attic or garage installation or manufactured homes. A minimum of 80% is required in those cases. A two pipe system is required. Condensate lines must go to a drain or drain line.

If the furnace panel of a high efficiency furnace is being used as combustion air chamber, there must be a rubber gasket around the panel to seal the combustion chamber. Grommets and/or rubber gaskets must be installed to seal openings in the furnace cabinet.

Ensure thermostats are working properly, replace if defective.

For new furnace installation, wiring from ceiling down to appliance must be secured at the top and bottom and in rigid or flexible metal conduit or non-metallic (gray) electrical PVC. Repair or replace any unsafe power supply and install a properly sized, fused switch on the appliance or within 24" from appliance.

For gas line specifications, refer to the NFPA 54-2009. Drip legs (sediment traps) need to be installed to code. Flexible gas lines cannot be installed through or in the furnace cabinet. When installing a new appliance (furnace or water heater) fuel lines coming down from the ceiling to the appliance gas valve must be hard pipe. Corrugated stainless steel tubing (CSST) will not be used to drop to the appliance. When used for other purposes, it must be installed in accordance with manufacturer guidelines and the National Electrical Code

All venting shall be completed according to the manufacturer's specifications. Combustion and exhaust air must terminate outside (not be drawn or exhausted from under decks, in crawlspaces, or attics). Outside terminations must be at the same location. This applies to both new and existing terminations. Supports for the PVC piping need to be installed per the manufacturers' specifications or a maximum of four feet apart.

If an atmospheric appliance (water heater) shares a chimney with a draft-induced appliance, the draft of the atmospheric appliance must be checked to ensure no drafting problems. (See Section 2031 & 2043)

All furnaces must have a filter rack outside the cabinet with a cover and shall have no open returns in the combustion area.

Perform a temperature rise and static pressure test to ensure both are within the manufacturer's guidelines.

Perform CO testing to ensure it does not exceed 100ppm, without any alterations to the furnace, lowering gas pressure below manufacturer recommendations, or changing orifice size.

All condensate lines must be ¾" line (unless using a condensate pump) and terminate to a drain line; they cannot terminate outside the envelope of the house or to a sump pump unless required by local code. Drain lines from a condensate pump must be 3/8" line. Condensate

pump cord must have original plug, it cannot be cut and hard wired into the unit. It must be a single outlet receptacle for the pump. Ensure the condensate line does not present a trip hazard for the client. No copper piping may be used as a condensate line. High efficiency boiler condensate discharge will be an acceptable pH level in accordance with local code.

Contractor must record information from the equipment data plate for future service work.

Basic operation of the new equipment will be explained to the occupant including:

- Efficiency measures
- Proper operation of controls
- Electrical and fuel disconnects or shut offs
- Location of combustion air intake including importance of not blocking the intake
- Importance of cleaning dust and debris from return grilles
- Importance of not blocking return or supply registers
- Importance of proper filter selection and how to change the filter
- Importance of routine maintenance
- Importance of keeping area around furnace clear.

Manufactured Homes

All units shall be sealed combustion. If the combustion air is being drawn from the inside, repair or replace the heating system before beginning weatherization activities.

Contractors must remove and dispose of equipment being replaced unless otherwise directed by the sub-grantee.

All condensate lines must terminate to a drain line; they cannot terminate outside the envelope of the house or to a sump pump. Ensure the condensate line does not present a trip hazard for the client. No copper piping may be used as a condensate line.

Heating systems will only be replaced as a health and safety measure if the system is hazardous to the household and cannot be justified as an energy conservation measure through the NEAT/MHEA Audit.

Climate conditions in Iowa vary from the north to the south. Northern Iowa had approximately 8300 heating degree days in the past year while Southern Iowa had approximately 6500 heating degree days. With these high heating degree days heating systems do become a health and safety issue for clients.

Appliances and Water Heaters

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.

Concur with WPN11-6 X Alternative Guidance ☐	

Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.

DOE and/or other funds will be used to address this issue

Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.

N/A

Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.

All combustion water heaters must be properly vented before proceeding with any weatherization work. Any water heater which cannot be properly vented must be replaced.

Determine if there is adequate combustion air for the appliance.

Determine if the gas valve is working properly. If not, replace the valve or the water heater, whichever is most cost-effective.

Examine the temperature setting on the gas valve or thermostat. Consult with client to determine if the temperature can be lowered to 120°F without affecting the client's life style. If the home has a dishwasher without a temperature boost, the temperature should be set at 140°F.

Inspect the unit to determine whether combustibles or flammable items are around the water heater. If items are within 3', they need to be removed and the client needs to be notified of this safety problem.

Record the appliance make, model, and input ratings for additional testing if needed.

As houses become tighter, there is a concern about sufficient combustion air. One simple check is to observe the flame. There are several symptoms of insufficient air. They are:

- Light blue flames with yellow tips

- Lazy flame with poorly defined edges that appear to be "reaching-out" for air
- Long flames that roll around, sometimes completely off the burner ports
- Flames that roll out the front of the cabinet
- Carbon monoxide production

If the flame shows any of these symptoms, open an outside door or window in the CAZ. If this improves the flame, extra air is definitely needed.

Iowa has been using ASHRAE 62.2 standards for ventilation for a number of years. When the added ventilation results in high negative pressure (-5pa or greater) in the water heater CAZ it often causes back drafting. When necessary to solve the back drafting problem, a power vented water heater will be installed. In those cases water heater replacements are considered a health and safety measure.

Determine if the tank is leaking. If it is leaking, it should be determined if it is a health and safety concern and should be replaced. Water heaters will be replaced as a health and safety measure if it is hazardous to the household and cannot be justified as an energy conservation measure through the NEAT/MHEA Audit.

Determine whether a pressure relief valve and a discharge pipe are present. If the relief valve and/or the discharge pipe are not present and there is an existing location for them, determine whether it could be a safety concern and install if needed.

Examine the plumbing to determine if there are leaks. If leaks exist, they may be repaired within program limits for General Health & Safety repairs.

Contractors must offer to the client an option for annual inspection and renewal of warranty and service agreement for new water heaters up to 6 years at a cost (requirement for installers).

Manufactured Homes

Venting systems need to be inspected. If the water heater has a draft diverter, it must be replaced with a direct vent unit that pulls combustion air from underneath the manufactured home (see Figure 6)

Manufactured homes have a much smaller volume than most residential homes. For this reason care must be taken to avoid back drafting of vented combustion appliances such as the water heater.

A water heater is not replaced solely on the basis of its age. The age of a water heater does not provide an accurate indication of whether it should be replaced.

Other combustion appliances, such as cooking stoves, are tested. If the CO reading is above acceptable limits, a CO alarm is installed and the client is informed of the issue. Weatherization dollars are not used to remedy these issues.

Standards for Deferral: Describe when deferral should take place for the specific health and safety category.

Deferral would only take place in the case of high CO reading on appliances other than water heater.

Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.

Clients are advised to thoroughly clean the stove to try to eliminate the high CO readings. If that does not work, clients are advised to replace the unit.

Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.

All auditors/inspectors receive on-going on Iowa Weatherization Procedures concerning this issue including ASHRAE 62.2.

Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**.** **Note:** Some health and safety categories, like mold and moisture, require client education.

Clients are instructed in the operation and maintenance of new water heaters. Clients are also advised to keep gas appliances (cooking stoves) as clean as possible to eliminate the possibility of CO production.

Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.

Any unit replaced will be removed from the job site and disposed of in a manner to take it off grid permanently.

Asbestos - in siding, walls, ceilings, etc.

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.

Concur with WPN11-6 ☐ Alternative Guidance X	Homes with insul-brick or slate siding which require sidewall insulation may only be completed if the siding can be removed and replaced by a contractor who has a current asbestos permit from the Iowa Division of Labor. Sub-grantee crew members may also complete the siding removal/replacement if: The sub-grantee has a current permit issued by Iowa Division of labor; and the individual crew members (who will be working with the siding) have a current asbestos license issued by Iowa Division of Labor. This must be completed within the General Health and Safety Repair limit. A file with all required permits and licenses must be maintained by the sub-grantee. Walls may be insulated from the interior if all work protocols including client permission, lead safe

	confinement, clean up and wall repair are followed and documented in the files.

Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.

DOE and/or other funds will be used to address this issue

Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.

N/A

Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.

Standards for Deferral: Describe when deferral should take place for the specific health and safety category.

If an insul-brick or slate sided house requires wall insulation and the cost to remove/replace the rows of siding will exceed the limit, or the interior walls cannot be drilled, all work on that house must be deferred.

Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.

N/A

Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.

Sub-grantee personnel will be trained on identifying slate and insul-brick siding.

Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**. Note:** Some health and safety categories, like mold and moisture, require client education.

Clients will be provided with the *Asbestos in Homes* handout anytime materials with presumed asbestos are present in the home. The handout is available on the Iowa Members Only website.

Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.

Disposal of suspected asbestos containing materials must be completed according to IOSH (Iowa Occupational Safety & Health) rules and regulations. When the debris must be taken to a landfill that accepts hazardous waste, a receipt containing proper documentation must be obtained from the landfill operator. The receipt must be kept in the records of the sub-grantee, if the sub-grantee disposed of the waste, or by the contractor, if the contractor disposed of the waste.

Asbestos - in vermiculite

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.

Concur with WPN11-6 ☐ Alternative Guidance X	• If vermiculite is in the walls. Operate the blower door in pressurization mode. ▪ Have a sample of the vermiculite tested to see if it contains asbestos ▪ If test results show there is no asbestos in the vermiculite, the walls may be insulated, if needed. ▪ If test results show there is asbestos in the vermiculite, do not insulate the walls. Operate the blower door in the pressurization mode. Other work may be done on the home. • If vermiculite is in the attic. Operate the blower door in pressurization mode. ▪ Have a sample of the vermiculite tested to see if it contains asbestos ▪ If the test results indicate there is no asbestos in the vermiculite, do attic air sealing and install needed insulation over the existing vermiculite. ▪ If the test results indicate there is asbestos in the vermiculite: — Attic bypass sealing should not be completed nor should the attic be insulated. — To reduce the risk of moisture problems in the attic, the attic must be properly vented. If needed, add ventilation to ensure one (1) square foot of venting for every 300 square feet of attic floor space. This is necessary because the bypasses are not sealed. — Other energy efficiency measures and health and safety measures may be done. — Operate the blower door in the pressurization mode.

Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.

DOE and/or other funds will be used to address this issue

Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.

N/A

Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.

N/A

Standards for Deferral: Describe when deferral should take place for the specific health and safety category.

N/A

Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated

referral agencies.

N/A

Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.

Auditors are instructed in proper methods to gather samples for testing.

Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**.** **Note:** Some health and safety categories, like mold and moisture, require client education.

Clients will be provided with the *Asbestos in Homes* handout anytime materials with presumed asbestos are present in the home. The handout is available on the Iowa Members Only website.

Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.

N/A

Asbestos - on pipes, furnaces, other small covered surfaces

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.

Concur with WPN11-6 ☐ Alternative Guidance X	Weatherization measures will not be installed if they will disturb suspected friable asbestos unless it can be removed under the following provision. Minor asbestos removal, such as asbestos tape on furnaces, is allowable under the General Health and Safety Repair limits described in the Weatherization General Appendix if completed by a licensed asbestos abatement contractor.

Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.

DOE and/or other funds will be used to address this issue

Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.

Suspected friable asbestos that would interfere with installation of weatherization measures would result in a deferral of work.

Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.

Standards for Deferral: Describe when deferral should take place for the specific health and safety category.

Suspected friable asbestos that would interfere with installation of weatherization measures would result in a deferral of work.

Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.

Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.

Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**.** **Note:** Some health and safety categories, like mold and moisture, require client education.

Clients will be provided with the *Asbestos in Homes* handout anytime materials with presumed asbestos are present in the home. The handout is available on the Iowa Members Only website.

Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.

Disposal of suspected asbestos containing materials must be completed according to IOSH (Iowa Occupational Safety & Health) rules and regulations. The debris must be taken to a landfill that accepts hazardous waste. A receipt containing proper documentation must be obtained from the landfill operator. The receipt must be kept in the records of the sub-grantee, if the sub-grantee disposed of the waste, or by the contractor, if the contractor disposed of the waste.

Biologicals and Unsanitary Conditions - odors, mustiness, bacteria, viruses, raw sewage, rotting wood, etc.

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.

Concur with WPN11-6 ☐ Alternative Guidance X	Any unsanitary conditions, including insect pests, animal or bird feces/carcasses or sewage leakage in the work area must be recorded on the Health & Safety Assessment Findings Form.

Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.

DOE and/or other funds will be used to address this issue

Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.

All work will be deferred on the house until all issues are remedied.

Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.

1. **Animal Feces or Raw Sewage**

   If animal feces or raw sewage are in the way of doing work or pose a health threat to workers, the feces/sewage must be removed by

the client before work is begun or continued. If the client refuses to do this, the sub-grantee must defer work on the job. This must be documented on the Health and Safety Assessment Form.

2. Bird/Bat Droppings

There are some fungal diseases associated with bird and bat droppings. Those are histoplasmosis and cryptococcus. Histoplasmosis is caused by a fungus that is transmitted to humans by airborne fungus spores from soil contaminated with bird droppings. The fungus is not in the bird droppings but in the soil. The bird droppings just provide a nutrient source for the growth of the fungi. Most infections are mild and produce either no symptoms or minor flu-like symptoms. Fresh bird droppings have not been shown to present a health risk for histoplasmosis.

Cryptococcus is found in debris around pigeon roosts and soil contaminated with pigeon or chicken droppings. Cryptococcosis infections are mild and usually occur without symptoms.

Unlike birds, bats can become infected with the organism that can cause histoplasmosis. They can excrete the organism in their droppings. However, the incidence of histoplasmosis being transmitted to humans from bat droppings occurs infrequently.

Exposure to bat droppings only pose a risk if the droppings are dry and are disturbed so the spores become airborne and are inhaled. As a precautionary measure, auditors should wear an NIOSH-certified respirator (an N95 respirator is sufficient) when entering attics until they have had a chance to determine whether bat droppings are present.

If bat droppings are present but will not prevent attic by-pass sealing and attic insulation from being done, work may proceed. However, protective clothing including an NIOSH-certified respirator that can filter particles as small as 0.3 microns, disposable gloves, overalls and boots must be worn. The bat droppings should be misted with water to prevent the spores from becoming airborne.

If the bat feces will prevent attic by-pass sealing and attic insulation from being done, do not do those measures. Do one-point pressurization test and conduct a pressure test in the attic. With the blower door @ 50 pascals, if the house to zone (attic) pressure is 45 pascals or more, other work on the house may be done. If the house to zone (attic) pressure is less than 45 pascals, defer any work on the house. (A pressure reading of 45-50 pascals would indicate very little by-pass leakage, thus other work could be done to the home without concern about the by-passes not being sealed. A reading of less than 45 pascals indicates there is enough by-pass leakage to possibly be a problem. Therefore, all work on the house should be deferred.)

Standards for Deferral: Describe when deferral should take place for the specific health and safety category.

Only when beyond the scope of the program.

Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.

Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.

Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**. Note:** Some health and safety categories, like mold and moisture, require client education.

Clients will be informed of any issues resulting in either total or partial deferral of work. In cases where the client cleans or otherwise eliminates the issue, weatherization work will be completed.

Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.

N/A

Building Structure and Roofing

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.

Concur with WPN11-6 X Alternative Guidance ☐	Building rehabilitation and renovation is beyond the scope of the Weatherization Program. Homes whose structural integrity is in question should be referred to a housing rehabilitation program, if possible. Incidental repairs necessary for the effective performance and preservation of weatherization materials are allowed. An example of a limited repair would be sealing minor roof leaks to preserve attic insulation. Weatherization services should not be performed on dwellings whose structural integrity is in question, which could pose a safety hazard to workers, or are in such a state of disrepair that failure is imminent and the conditions cannot be resolved in a cost-effective manner.

Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.

DOE and/or other funds will be used to address this issue

Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.

All work will be deferred on the house until issues are remedied.

Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.

In cases of deferral, the client will be referred to other sources of funding to help alleviate the issues causing the deferral. There referrals may include USDA 501 loans and grants, HUD, utility companies and local public health agencies. Other referral processes may also be developed as

needed.

Standards for Deferral: Describe when deferral should take place for the specific health and safety category.

Work will be deferred for structural issues in the following cases:

- Is undergoing remodeling or has unfinished areas, which directly affect the weatherization process. Weatherization work may be done when the remodeling is completed.
- Is so full of clutter a weatherization energy audit or weatherization services cannot be done.
- Is beyond the scope of the program due to major structural deficiencies or is in such a state of disrepair that failure is imminent and the conditions cannot be resolved in a cost-effective manner. Examples would be dwellings requiring a new roof or foundation repair or where lead exposure cannot be mitigated with safe work practices.

Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.

In cases of deferral, the client will be referred to other sources of funding to help alleviate the issues causing the deferral. There referrals may include USDA 504 loans and grants, HUD, utility companies and local public health agencies. Other referral processes may also be developed as needed.

Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.

Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**. Note:** Some health and safety categories, like mold and moisture, require client education.

When a sub-grantee defers work on a dwelling, it must notify the client, and the landlord when appropriate, in writing of the reason for the deferral. The notification must include, at a minimum, the reason why work is being deferred and, when appropriate, what corrective action the client or landlord must take so the weatherization services can be rescheduled. A copy of the notification with documentation justifying the decision to defer services must be kept in the client/house file.

Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.

N/A

Code Compliance

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.

Concur with WPN11-6 X Alternative Guidance ☐	

Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.

DOE and/or other funds will be used to address this issue

Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.

N/A

Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.

N/A

Standards for Deferral: Describe when deferral should take place for the specific health and safety category.

N/A

Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.

N/A

Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.

Auditors/Inspectors are trained in national code requirements. Sub-grantees must be aware of any local code requirements. Sub-grantees must ensure that weatherization-related work complies with all applicable codes.

Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**. Note:** Some health and safety categories, like mold and moisture, require client education.

N/A

Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.

N/A

Combustion Gases

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.

Concur with WPN11-6 X Alternative Guidance	

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Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.

DOE and/or other funds will be used to address this issue

Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.

Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.

Combustion appliances must be tested for proper drafting. All draft testing must be taken under "Worst-Case Scenario". (See Section 2041 Iowa Weatherization Standards) The purpose of draft testing is to ensure the proper venting of all combustion devices in the home.

Standards for Deferral: Describe when deferral should take place for the specific health and safety category.

N/A

Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.

N/A

Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.

All auditors/inspectors receive training in proper testing methods

Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**. Note:** Some health and safety categories, like mold and moisture, require client education.

N/A

Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.

N/A

Combustion Gas Problem Discovery: Provide a narrative describing the process to be followed when combustion gas testing reveals health and safety concerns.

If CO level is unacceptable, correct the problem by one of the following methods:

- Check the gas pressure
- Check the combustion volume (see Section 2022)
- Check for dirty burner
- Air damper not set correctly
- Improper venting
- Check orifice size
- Check for blocked heat exchanger

The following combustion appliance testing is done both prior to the start of any weatherization work and again after the work is completed (pre- and post-weatherization).

For combustion furnaces, boilers, water heaters, cook stoves, space heaters, and gas fireplaces:
Carbon monoxide levels under worst-case condition
Spillage of combustion gases and proper drafting under worst-case condition
Existence of gas leaks
Proper venting size, configuration, and condition

For combustion furnaces:
Temperature rise and static pressure test

The Iowa Weatherization Program has established maximum acceptable carbon monoxide levels for various types of appliances. Carbon monoxide problems (exceeding the maximum acceptable level) must be corrected before any work is started on dwellings. Carbon monoxide readings and draft test results must be recorded on the Health and Safety Assessment Findings Form. The temperature rise and static pressure results must be documented in the house file. Refer to Section 2042 and 2043 Iowa Weatherization Standards for allowable limits.

Drainage - gutters, down spouts, extensions, flashing, sump pumps, landscape, etc.

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.

Concur with WPN11-6 X Alternative Guidance ☐	

Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.

DOE and/or other funds will be used to address this issue

Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.

Work will be deferred on houses where weatherization cannot solve the issues.

Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.

1. Site Drainage

Poor site drainage is often the reason for wet foundations, basements, crawlspaces, and slabs. The ground around the foundation of the house should be sloped away from the house so water runs away from the house and not toward it. Ideally, the ground adjacent to the foundation should slope away from the house at a minimum 5 percent (Six inches of fall in the first 10 feet).

Check for the following site drainage situations:

Does the site direct rain and snow melt toward the foundation rather than away from it?
Are there depressions in the ground close to the house where water can collect?
Are sidewalks or paved driveways sloped so they direct water toward the foundation rather than away from it?
Does the house have an effective gutter/downspout system that collects and drains rain water away from the foundations?

Sub-grantees may improve grading around foundations as a General Health and Safety Repair, as long as the cumulative cost of the grading and any other general health and safety repair does not exceed the General Health and Safety Repair limit.

2. Gutters and Downspouts

Gutters and downspouts can be an important part of solving a site drainage problem. They collect and drain rain water away from foundations. Sub-grantees should note if the house has an existing effective gutter/downspout system. If the gutter system is in good condition, but is clogged with debris, they may be cleaned by the program if client is physically unable to do the job and all other options (such as family or chore services) have been exhausted. The cleaning can only be done at the time of weatherization services and cannot be repeated as needed.

If gutters/downspouts are missing or are severely damaged, the sub-grantee may install or repair existing gutters/downspouts as a General Health and Safety Repair, as long as the cumulative cost of the gutter/downspouts and any other general health and safety repair does not exceed the General Health and Safety Repair limit.

3. Plumbing Repair

Leaking water pipes and sewer lines may cause moisture problems within the house. Minor repairs may be made to water pipes and sewer lines as a General Health and Safety Repair, as long as the cumulative cost of the plumbing repair and any other general health and safety repair does not exceed the General Health and Safety Repair limit. Cleanup of any unsanitary conditions due to plumbing leaks is the sole responsibility of the client.

4. Sump Pumps

Sump pumps may be installed to control water in lower levels of the home. Pumps may be installed as a General Health and Safety Repair, as long as the cumulative cost of the pump installation and any other general health and safety repair does not exceed the General Health and Safety Repair limit. Sump pumps must be installed to meet manufacturer's instructions and all local codes. Interior grading will be sloped to the sump pump, if possible.

5. Dehumidifiers

Dehumidifiers may be installed, with client permission, to help control humidity in basements during summer months in homes with existing mold like substances or moisture problems. All moisture source control methods must have been exhausted before installing a dehumidifier. Explain to the client that the dehumidifier might result in an increase in electric usage. Dehumidifiers must be ENERGY STAR® rated and installed to drain properly. If a drain does not exist, a dehumidifier may be installed by utilizing a condensation pump to an existing drain or drain line. In this case, the dehumidifier must be put up on blocks to allow for drainage. Educate the client on proper usage of the dehumidifier including settings and summer/winter use.

Dehumidifiers may be installed as a General Health and Safety Repair, as long as the cumulative cost of the dehumidifier and any other general health and safety repair does not exceed the General Health and Safety Repair limit.

Standards for Deferral: Describe when deferral should take place for the specific health and safety category.

Only when beyond the scope of the program.

Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.

Clients will be referred to housing rehabilitation programs.

Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.

N/A

Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**.** **Note:** Some health and safety categories, like mold and moisture, require client education.

Clients will be instructed to keep gutters clean, downspouts and horizontal spouts clear. If sump pumps or dehumidifiers are installed, clients will be instructed in the use and maintenance of the equipment.

Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.

N/A

Electrical, other than Knob-and-Tube Wiring

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee

must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.	
Concur with WPN11-6 X Alternative Guidance ☐	Correcting electrical wiring problems is generally not an allowable weatherization measure. Wires are inspected to ensure they are not bare or frayed. Service boxes are inspected to ensure they have secure covers. If it is determined a hazardous situation exists, the problem must be corrected before weatherization work is started. Program funds may be used to correct minor electrical problems but spending must be within the General Health and Safety Repair cost limits. A licensed electrical contractor will be used to perform electrical work needed to correct a problem.
Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.	
DOE and/or other funds will be used to address this issue	
Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.	
Electrical issues that cannot be remedied within Iowa weatherization limits will result in deferral of work. The client will be referred to a housing rehabilitation program.	
Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.	
Standards for Deferral: Describe when deferral should take place for the specific health and safety category.	
Electrical issues that cannot be remedied within Iowa weatherization limits will result in deferral of work.	
Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.	
See above	
Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.	
Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**. Note:** Some health and safety categories, like mold and moisture, require client education.	
Weatherization staff will explain the issues to the client and discuss possible solutions including referral to other programs.	
Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.	
N/A	

Electrical, Knob-and-Tube Wiring

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.	
Concur with WPN11-6 X Alternative Guidance ☐	Unless prohibited by local codes, S-type fuses must be installed in homes having knob and tube wiring to provide over-current protection. If S-type fuses will not work because of overloaded circuits, a new service panel must be installed and the house brought up to code. Agencies may use either General Health and Safety repair funds (within limits) or other sources of funds. At agency discretion, a licensed electrical contractor may inspect and certify all K&T wiring to be safe. In those cases, fiberglass and cellulose insulation are acceptable for use in contact with K&T. The attic and sidewalls may be fully insulated. Live knob and tube in the attic, not certified as safe by electrical contractor, will not be covered or surrounded. A dam that does not cover the top will be created using unfaced-fiberglass batt to separate insulation from the wire path. A dam that does not cover the top will be created to separate insulation from the wire path. If the wiring is above the joists, an un-faced fiberglass batt must be installed below the wiring. A dam shall be created using un-faced fiberglass batts at least 14 inches in width and equivalent to an R-38 to prevent attic insulation from covering the wiring. The balance of the attic may be blown to required insulation depth without covering any knob & tube. If the knob and tube wiring goes through the joists, do not insulate below the wiring, just create the dam as described earlier. The additional cost of damming K&T wiring will be considered H&S costs and reported as such. Sidewalls with active knob and tube wiring will not be insulated unless a licensed electrical contractor has certified the wiring to be safe.
Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.	
DOE and/or other funds will be used to address this issue	
Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.	
If the use of S-type fuses is prohibited by local code, work will be deferred on the house.	
Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.	

Standards for Deferral: Describe when deferral should take place for the specific health and safety category.
Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.
Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.
Weatherization auditors are trained to check for knob-and-tube wiring.
Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**. Note:** Some health and safety categories, like mold and moisture, require client education.
Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.

Fire Hazards

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.	
Concur with WPN11-6 ☐ Alternative Guidance ☐	There must be a minimum of three (3) feet clearance of combustible materials around combustion appliances. If this situation does not already exist, workers must, with client permission, move items the required 3 feet away from the appliance and explain the potential safety problem to the client. All combustible materials must be a minimum of three (3) inches from the vent pipe or meet manufacturer's specifications. Damning material must also be around all heat sources in the attic, such as flue pipes, chimneys, mechanical ventilation with lights, unless IC rated and recessed lights, unless IC rated Smoke alarms must be installed for the following reasons: When space heaters are replaced with a vented space heater. When manufactured homes are weatherized. When local codes require their installation.
Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.	
DOE and/or other funds will be used to address this issue	
Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.	
N/A	
Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.	
Weatherization workers will, with client permission, clear areas around combustion appliances of all flammable materials.	
Standards for Deferral: Describe when deferral should take place for the specific health and safety category.	
If the client refuses to all the removal of combustible materials from the area surrounding the combustion appliance, work on the house will be deferred.	
Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.	
N/A	
Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.	
Weatherization auditors/inspectors are trained to check for such issues.	
Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**. Note:** Some health and safety categories, like mold and moisture, require client education.	
Clients are educated on the importance of keeping the area around combustion appliances clear.	
Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.	
N/A	

Formaldehyde, Volatile Organic Compounds (VOCs), and other Air Pollutants

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.	
Concur with WPN11-6 X Alternative Guidance ☐	Volatile Organic Compounds (VOCs) are widely used as ingredients in many household products, such as paints, varnishes, fuels, and many cleaning, disinfecting, cosmetic, and hobby products. These products can release the organic compounds as vapor when they are used and, to some extent, when they are stored. Formaldehyde is a volatile organic compound found in many building materials and household

	products, such as new carpets and plywood. These products release the organic compounds over time. Organic compounds sometimes have adverse health effects on people. Because of the potential for adverse health effects, sub-grantees must take this into consideration when determining air tightness limits of dwellings and whether installing ventilation may be needed.

Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.

DOE and/or other funds will be used to address this issue

Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.

Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.

Standards for Deferral: Describe when deferral should take place for the specific health and safety category.

N/A

Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.

N/A

Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.

Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**. Note:** Some health and safety categories, like mold and moisture, require client education.

Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.

N/A

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

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.

Concur with WPN11-6 X Alternative Guidance ☐	Minor repairs to stairs, steps, railings, etc are allowed under the program if necessary to complete the weatherization work. For example broken steps to the basement where the furnace is located may be repaired in order to complete furnace work. Broken boards on the front porch which will not interfere with weatherization work may not be repaired.

Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.

DOE and/or other funds will be used to address this issue

Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.

If repairs are not considered minor, weatherization work will be deferred.

Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.

The minor repairs made to remedy the issues will be charged to incidental repairs rather than H&S.

Standards for Deferral: Describe when deferral should take place for the specific health and safety category.

Work beyond the scope of the program will be deferred

Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.

In case of deferral, clients will be referred to other programs to help eliminate the issues.

Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.

Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**. Note:** Some health and safety categories, like mold and moisture, require client education.

In case of deferral, clients are informed of the problem and possible remedies.

Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.

N/A

Lead Based Paint

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if

the issue or testing will be addressed and in what circumstances.	
Concur with WPN11-6 ☐ Alternative Guidance X	All Weatherization Assistance Program activities involving renovation work on pre-1978 target housing or child-occupied facility (see Chapter 69 for definition of child-occupied facility) are subject to the provisions of the Federal Environmental Protection Agency (EPA) and the Iowa Department of Public Health (IDPH) regulation that require that a notification be given to the occupants of the housing, informing them about the hazards of lead paint and the paint dust. Renovation activities are those resulting in a modification of an existing structure that results in the disturbance in excess of the allowable limits established by the Iowa Department of Public Health. **Lead Safe Work Practices** Any activity disturbing painted surfaces on residential structures built before 1978 may cause lead hazards. The Iowa Weatherization Program requires sub-grantees and their contractors to follow certain practices whenever lead-painted or presumed lead-painted surfaces are disturbed. These practices, known as lead-safe work (LSW) practices, meet or exceed the DOE Benchmark Curriculum. They include ways to minimize and contain lead hazards inside a work area (also known as containment) when disturbing lead-based or presumed lead-based paints and coatings. Lead safe work practices are designed to protect clients and workers. LSWP must be used on residences built before 1978 if the area disturbed exceeds: 1. 1.0 square foot of an interior painted or finished wood surface per renovation; 2. 6.0 square feet of a painted or finished drywall or plaster surface per room; or 3. 20.0 square feet of an exterior painted or finished surface per renovation. Lead based paint dust, chips, and debris will be disposed of properly. Refer to the Weatherization General Appendix for more detailed information concerning the notification requirement and lead safe work practices. Occupational Safety and Health Administration (OSHA) have regulations governing work involving lead containing material. Included in the regulations are action levels and permissible exposure limits (PEL) for exposure to lead concentrations. An exposure in excess of the PEL requires the use of safety equipment such as respirators, protective clothing, head covering (hat, hood), eye and ear protection and hand and feet protection.

Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.

DOE and/or other funds will be used to address this issue

Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.

N/A

Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.

Standards for Deferral: Describe when deferral should take place for the specific health and safety category.

The Weatherization Program does not allow funding for lead-base paint abatement. Sub-grantees must defer weatherization work on homes that need lead paint abatement.

Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.

Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.

All final inspectors employed by sub-grantees are required to be Certified Lead Renovators. DCAA also recommends all sub-grantee auditors also be Certified Renovators. All contractors and crews working on targeted housing (Pre-1978 construction) or child-occupied facility (see Chapter 69 for definition of child-occupied facility) must take the Iowa Department of Public Health Lead-Safe Renovator training program. The training must be provided by a trainer certified with the IDPH. The Lead-Safe Renovator course consists of eight hours of instruction time with two of those hours, hands on training and a 40 question test that the participants must score at least 80 percent (32 questions correct) in order to pass. If a person has already taken the Lead-Safe Work Practice course and can show proof they passed the course, he or she will need to take the four hour Lead-Safe Renovator course with two of those hours being hands on training.

The course is designed for workers who perform renovation, remodeling and repainting or standard treatment for federally assisted activities pursuant to 24 Code of Federal Regulations (CFR) Part 35. Students successfully completing this course meet the performance standard of HUD's Lead Paint Regulation 24 CFR Part 1330 (a) (4).

The course does not train people to perform lead-paint abatement, although it will prepare workers to perform Lead Safe Work Practices and LSW (Lead Safe Weatherization). Persons completing this course are not qualified to perform lead-base paint abatement. Courses for these activities are available from accredited lead training providers.

All workers that are not certified renovators, that are conducting renovation, remodeling and repainting work on the job site, must have on the job training by the certified renovator assigned to that job site. The training should be specific to the work the worker is doing.

Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**.** **Note:** Some health and safety categories, like mold and moisture, require client education.

The notification pamphlet from the Iowa Department of Public Health is titled Lead Poisoning: How to Protect Iowa Families. A copy of this

pamphlet is available on the State of Iowa Weatherization web page in the Members Only section www.weatherization.iowa.gov. Renovate Right is the federal version. DOE recommends providing the Renovate Right pamphlet, however; one of the two pamphlets must be provided to the owner, operator or occupants of the home prior to commencing the work but not more than 60 days prior to commencing the work. LSWP work will be discussed with the client.

Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.

Lead based paint dust, chips, and debris will be disposed of properly.

Lead Based Paint Compliance: Provide a narrative describing how RRP and LSW implementation will be conducted and how the grantee will verify compliance. The explanation should clearly show an understanding that LSW and RRP are separate requirements and both are required to be met.

The state will verify sub-grantees are complying with the minimum LSW standards and procedures by requiring file photos of LSW procedures being followed at all appropriate jobsites, by performing spot checks of crews and contractors working at jobsites and requiring the sub-grantees to perform spot checks of crews and contractors at jobsites.

If a local sub-grantee crew or contractor is found not to be in compliance with the LSW policies, procedures and minimum standards, the state will notify the local sub-grantee in writing of the noncompliance. The local sub-grantee will be required to submit a written corrective action plan to the state. Repeated instances of noncompliance will result in referral to the Iowa Department of Public Health which can levy fines.

Mold and Moisture

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.

Concur with WPN11-6 X Alternative Guidance ☐	All homes must be visually inspected for existing mold. Although the entire house should be inspected for mold, particular attention should be paid to the following areas: bathrooms, kitchens, laundry areas, basement walls, ceilings next to exterior walls, attics, and crawlspaces. The mold assessment should be done the same time the moisture assessment is performed If the sub-grantee determines air leakage between a heated portion of the home and an unheated area could cause moisture damage to either existing or newly installed insulation or structural damage to the unheated area, air sealing will completed in order to ensure the stability of the structure and/or insulation. Sub-grantees must document any existing mold like substances that is found. The Health and Safety Assessment Findings Form, Part 2 must be used to document existing mold like substances. Photos must also be taken of existing mold like substances. The Health and Safety Assessment Findings Form, Part 2 and the photos must be filed in the client/house file. The reason existing mold like substances must be documented is to have proof that the mold like substances was pre-existing and that weatherization did not cause it. Sometimes what may look like mold may actually be water stains. If there is uncertainty as to whether a spot that looks like mold is actually mold rather than a water stain, a couple of drops of household bleach can dropped on the stain. If the spot is mold, the bleach will cause it to lose its color or disappear. If there is no change in the appearance of the spot, the spot probably isn't mold. Auditors must also inform the client of any mold like substances that is found and the location of the mold. Auditors should explain to clients that he/she is not a mold expert, that the mold assessment was a visual assessment only and that no testing for mold was done.

Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.

DOE and/or other funds will be used to address this issue

Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.

Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.

If the auditor determines the moisture problem can be solved satisfactorily, there are three (3) options regarding the mold like substances that are possible:

- The sub-grantee may determine that the mold like substances will not be disturbed by weatherization activities; therefore, weatherization work can proceed without the need for remediating the mold like substances.
- The sub-grantee may clean-up the mold like substances and then proceed with weatherization work.
- The sub-grantee can defer any work on the home until the mold like substances is remediated by the client or landlord. This would be the situation if there large areas with mold like substances growth.

If the auditor determines the moisture problem cannot be satisfactorily eliminated, weatherization work must be deferred and the house closed incomplete.

Standards for Deferral: Describe when deferral should take place for the specific health and safety category.

If the auditor determines the moisture problem cannot be satisfactorily eliminated, weatherization work must be deferred and the house closed incomplete.

Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.

Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.

Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**. Note:** Some health and safety categories, like mold and moisture, require client education.

Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.

Mold Protocols: Provide a narrative describing protocols for addressing mold found in the client's homes. The protocol should include a method of identifying the presence of mold during the initial audit or assessment, notification to the client, and crew training on how to alleviate mold and moisture conditions in homes.

If the work can be completed without disturbing mold/mildew, cleanup is not required, but may be completed at the discretion of the auditor within the program cost limits. If cleanup is completed, the following cleanup procedures must be followed. These procedures for the remediation of building materials that contain mold like substances or will likely contain mold like substances are from the U. S. Environmental Protection Agency (EPA) and New York City Department of Health Bureau of Environmental and Occupational Disease Epidemiology. The procedures are designed to protect the health of the occupants and cleanup personnel during remediation. These procedures are based on the area and type of material affected by water damage and/or mold like substances growth. Visual documentation, such as pictures of the red flag situations, should be taken before and after the remediation process and kept in the client file.

Non-porous (e.g. metals, glass, and hard plastics) and semi-porous (e.g. wood and concrete) materials that are structurally sound and visibly moldy can be cleaned and reused. Cleaning can be done using a detergent solution. Porous materials (e.g. ceiling tiles, insulation, or wallboard) that can be cleaned can be reused. Some porous material cannot be cleaned and should be discarded.

Small Isolated Areas (10 sq. ft. or less per affected area)
Recommended personal protection:

- Respiratory protection (e.g. N95 disposable respirator), gloves, and goggles.
- The work area should be unoccupied.
- Containment of the work area is not necessary. Vacating people from spaces adjacent to the work area is not necessary but is recommended in the case of children less than 12 months old, persons recovering from recent surgery, immune suppressed people, and people with chronic lung diseases (e.g. asthma, severe allergies).
- The mold like substances should be cleaned with a detergent solution.
- Discarded material should be put in a sealed plastic bag. There are no other special requirements for the disposal.

Mid-Sized Isolated Areas (10 – 30 sq. ft. per affected area)
Recommended personal protection:

- Respiratory protection (e.g. N95 disposable respirator), gloves, and goggles.
- The work area should be unoccupied. Vacating people from spaces adjacent to the work area is not necessary but is recommended in the case of children less than 12 months old, persons recovering from recent surgery, immune suppressed people, and people with chronic lung diseases (e.g. asthma, severe allergies).
- The work area should be covered with plastic sheets and sealed with tape before cleaning to contain any dust or debris.
- Misting surfaces (to suppress dust) should be done prior to cleaning.
- The work area should be HEPA vacuumed and the mold like substances should be cleaned with a detergent solution.
- Discarded material should be put in a sealed plastic bag. There are no other special requirements for the disposal.

Large-Sized Isolated Areas (30 – 100 sq. ft. per affected area)
Recommended personal protection:

- Respiratory protection (e.g. N95 disposable respirator), gloves, and goggles.
- The work area and areas directly adjacent to the work area should be unoccupied.
- The work area should be covered with plastic sheets and sealed with tape before cleaning to contain any dust or debris.
- Heating/cooling system registers in the work area should be sealed with tape or other material.
- Misting surfaces (to suppress dust) should be done prior to cleaning.
- The work area should be HEPA vacuumed and the mold like substances should be cleaned with a detergent solution.
- Discarded material should be put in a sealed plastic bag. There are no other special requirements for the disposal.
- This will be paid with funds other than DOE.

Extensive Areas (greater than 100 sq. ft. per affected area)
Personnel trained in the handling of hazardous materials should do the clean-up. This will be paid with funds other than DOE.

Occupant Preexisting or Potential Health Conditions

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.

Concur with WPN11-6 ☐ Alternative Guidance X	See Procedures for Identifying Occupant Health Concerns section.

Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety

category.
DOE and/or other funds will be used to address this issue
Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.
Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.
Standards for Deferral: Describe when deferral should take place for the specific health and safety category.
Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.
Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.
Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**. Note:** Some health and safety categories, like mold and moisture, require client education.
Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.

Occupational Safety and Health Administration (OSHA) and Crew Safety

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.

Concur with WPN11-6 ☑ Alternative Guidance ☐	Sub-grantees must comply with Occupational Safety and Health Administration (OSHA) requirements in all activities. This is a sub-grantee responsibility, as OSHA requirements apply to all sub-grantee personnel - not just weatherization. The portion of OSHA standards which apply to weatherization field staff can be found in Construction Industry OSHA Safety and Health Standards (29 CFR 1926/1910). A Health and Safety Plan must be developed by each sub-grantee, using sub-grantee specific information. This plan will include written confined spaces and hazard communication policies including education on the new format for the Safety Data Sheets. Because of the wide range of activities involved in weatherizing a house, ensuring crew health and safety requires a broad knowledge of the appropriate OSHA requirements. Some of these requirements include, but are not limited to: personal protective equipment, techniques for safe lifting, electrical equipment safety, ladder safety, and general worker protection. OSHA standards should be consulted for further details. OSHA Standards can be obtained by contacting: Iowa Division of Labor 1000 East Grand Des Moines, Iowa 50319 Sub-grantees must have a written safety plan in effect. A copy of the safety plan must be provided to all weatherization personnel. All sub-grantee weatherization personnel must receive orientation training on the sub-grantee's safety plan. Contractors, employed by sub-grantees, are also expected to comply with OSHA requirements.

Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.
DOE and/or other funds will be used to address this issue
Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.
N/A
Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.
N/A
Standards for Deferral: Describe when deferral should take place for the specific health and safety category.
N/A
Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.
N/A
Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.
Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**. Note:** Some health and safety categories, like mold and moisture, require client education.

N/A

Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.

N/A

OSHA and MSDS Compliance: Provide a narrative describing procedures for implementation of OSHA and MSDS requirements related to crew and worker safety, how the 10 and 30 hour training requirements will be met, and what the process is for determining if crews are utilizing good safe work practices according to all requirements (EPA, OSHA, etc.).

Crew based sub-grantees must have Safety Data Sheets (SDS) on all weatherization materials used by their crews on file at the sub-grantee. Safety Data Sheets can be obtained by requesting them from the material supplier or by contacting the manufacturer of the material. Contractor based sub-grantees should stipulate in their contracts with contractors that the contractors will be responsible for supplying Safety Data Sheets to the sub-grantee upon request by the sub-grantee.

DCAA will monitor sub-grantee files for compliance with OSHA requirements.

Pests

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.

Concur with WPN11-6 ☑ Alternative Guidance ☐	

Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.

DOE and/or other funds will be used to address this issue

Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.

Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.

Pest removal is only allowed in cases where the infestation would prevent weatherization

Standards for Deferral: Describe when deferral should take place for the specific health and safety category.

If pests cannot be reasonably removed, or where removal poses a safety concern for workers, work should be deferred on the house.

Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.

Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.

Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**. Note:** Some health and safety categories, like mold and moisture, require client education.

If pest cannot be removed, the client will be informed of the issue and instructed as to possible remedies.

Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.

N/A

Radon

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.

Concur with WPN11-6 ☐ Alternative Guidance ☐	Radon mitigation is not an allowable activity under the program. Where there is a previously identified radon problem in a home, work that may exacerbate the problem should be limited. Houses with previously identified radon problems should not be left with an increased negative pressure in the contaminated area than existed before weatherization work began. This is determined by setting the house up in worst-case. The Work Standards describes worst-case testing methods. Iowa will not test for radon. Tests would have to be performed as a part of every audit. In order to properly test for radon, all sub-grantee auditors and inspectors would have to be trained and licensed to perform radon testing, or a licensed contractor would have to be hired to perform the tests before and after weatherization work. Either of these methods would result in large increases in health and safety costs.

Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.

DOE and/or other funds will be used to address this issue

Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.

Previously identified cases of high radon levels will result in deferral

Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.
Exposed dirt floors will be covered with vapor barrier (with seams sealed) to lessen the possibility of radon entering the house.
Standards for Deferral: Describe when deferral should take place for the specific health and safety category.
Major radon problems should be referred to the appropriate local environmental sub-grantee.
Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.
Major radon problems should be referred to the appropriate local environmental agency.
Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.
Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**.** **Note:** Some health and safety categories, like mold and moisture, require client education.
Clients in high radon areas will receive information on radon and its sources.
Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.
N/A

Refrigerant

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.	
Concur with WPN11-6 ☑ Alternative Guidance ☐	
Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.	
DOE and/or other funds will be used to address this issue	
Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.	
Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.	
Refrigeration appliances that are replaced must be disposed of according to the environmental standards in the Clean Air Act (1990), Section 608, as amended by the Final Rule, 40 CFR 82, May 14, 1993. The party recovering the refrigerant must possess an EPA-approved Section 608 Type II license or an approved universal certification.	
Standards for Deferral: Describe when deferral should take place for the specific health and safety category.	
N/A	
Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.	
N/A	
Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.	
N/A	
Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**.** **Note:** Some health and safety categories, like mold and moisture, require client education.	
N/A	
Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.	
Refrigeration appliances removed from client houses must be taken off the grid and the refrigerant must be disposed of according to environmental standards.	

Smoke, Carbon Monoxide Detectors, and Fire Extinguishers

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.	
Concur with WPN11-6 ☐ Alternative Guidance X	
Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.	
DOE and/or other funds will be used to address this issue	
Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.	
N/A	

Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.

N/A

Standards for Deferral: Describe when deferral should take place for the specific health and safety category.

N/A

Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.

N/A

Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.

N/A

Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**.** **Note:** Some health and safety categories, like mold and moisture, require client education.

Verbal and written instructions are to be given to the client as to the use and maintenance of the alarm.

Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.

N/A

Smoke/CO Detector Installation: Provide a narrative describing smoke/CO Detector installation parameters and procedures.

CO ALARMS

Carbon monoxide alarms may be purchased and installed using program funds. If installing more than one CO alarm, they should be installed outside each separate sleeping area.

Carbon monoxide alarms must be installed immediately by the energy auditor whenever an agency finds a combustion appliance that is putting off carbon monoxide at an unacceptable level. (See Section 2043)

A working carbon monoxide alarm must be present in every home. Program funds may be used to installed carbon monoxide alarms if one does not exist.

Carbon monoxide alarms are to be installed between 4' and 6' from the floor. CO alarms installed by the program must be either lithium-ion battery operated or electric with a battery back-up. When an electric alarm is installed, it will be the auditor's discretion to install a raceway to protect the wiring of the alarm.

Do not install the alarm in the following areas:

- Near bathrooms or in shower areas.
- In closets.
- Crawlspaces or unheated areas where extreme hot or cold temperatures occur.
- Within five feet of fuel burning appliances.
- Close to adjacent walls or in corners.
- Near bathtubs or basins.
- Directly above or below return air registers.
- Behind drapes, furniture, or other objects that could block air flow to the CO alarm.

Alarms must meet UL2034-98 standards. Alarms should be warranted for a minimum of three (3) years.

Installed alarms must have the expiration date, as warranted by the manufacturer, written on the front of the mounting plate or back side of alarm in permanent ink. Verbal and written instructions are to be given to the client as to the use and maintenance of the alarm.

SMOKE ALARMS

Weatherization funds will be used to purchase and install up to two (2) alarms. Additional alarms may be installed using program funds if required by local codes for single family residences (specific code requirement must be noted in file).

When installing more than one smoke alarm, they must be on separate living levels.

Smoke alarms must be installed for the following reasons:

- When space heaters are replaced with a vented space heater.
- When there is a solid fuel burner in the home.
- When manufactured homes are weatherized.
- When local codes require their installation.

Areas that alarms should be installed:

- Install on basement ceiling level near basement stairs.
- Install within 15 feet of rooms used for sleeping purposes.
- Install on hall ceiling as centered as possible between bedrooms.
- Install in rooms having a space heater, if agency replaced heater.
- Avoid placement near kitchen stoves or bathroom showers.
- Exclude unoccupied attics.

Smoke alarms may be installed on the ceilings or in dead air space (four to six inches below the ceiling on the wall).

Smoke alarms should not be installed in front of air supply ducts.

Smoke alarms must be dual sensor detectors which contain both an ionization sensor and a photoelectric sensor and which are designed to detect and trigger an alarm in response to smoke detected through either sensing device, or a smoke detector which has at least two sensors and which is listed to Underwriters Laboratory Standard 217, Single and Multiple Station Smoke Alarm. The alarms may be powered by 9-volt battery and emit a signal when the battery is losing power. The use of combination alarms (CO and smoke) does not change the requirements for separate CO alarms as described in this section because smoke alarms and CO alarms are not installed in the same location.

Solid Fuel Heating (Wood Stoves, etc.)

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.

Concur with WPN11-6 ☐ Alternative Guidance ☑	Iowa Weatherization does not work on solid fuel heating systems. If the solid fuel system is the primary heating source, weatherization will work on the secondary system if it does not have a common chimney.

Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.

Iowa Weatherization does not work on solid fuel heating system

Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.

Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.

Chimneys and flues on solid fuel heating systems are inspected to ensure they are in good condition and are free of obstructions.

Standards for Deferral: Describe when deferral should take place for the specific health and safety category.

Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.

Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.

Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**. Note:** Some health and safety categories, like mold and moisture, require client education.

Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.

Space Heaters, Stand Alone Electric

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.

Concur with WPN11-6 ☑ Alternative Guidance ☐	

Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.

Program funds will not be used to install, repair or replace portable electric space heaters

Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.

Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.

If allowed by the client, electric space heaters will be removed.

Standards for Deferral: Describe when deferral should take place for the specific health and safety category.

N/A

Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.

N/A

Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.

N/A

Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not

explained elsewhere in the State Plan**. Note:** Some health and safety categories, like mold and moisture, require client education.
Clients will be informed of the dangers of using electric space heaters
Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.
N/A

Space Heaters, Unvented Combustion

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.	
Concur with WPN11-6 ☐ Alternative Guidance x	All primary heat source unvented fuel-fired heating units which cannot be vented must be removed or replaced with properly vented units. No weatherization work can be completed until the problem is corrected. If the unvented space heater is a secondary heat source it may be left in place if it meets ANSI Z21.11.2 requirements. When a new, vented, space heater is installed, the sub-grantee must insure an operable smoke alarm exists.
Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.	
DOE and/or other funds will be used to address this issue	
Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.	
N/A	
Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.	
Unvented space heaters will be removed with client approval.	
Standards for Deferral: Describe when deferral should take place for the specific health and safety category.	
If a client refuses to allow removal of primary heat source unvented space heater, all work on the house will be deferred.	
Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.	
N/A	
Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.	
N/A	
Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**. Note:** Some health and safety categories, like mold and moisture, require client education.	
Clients will be informed of the dangers of using unvented space heaters	
Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.	
N/A	

Space Heaters, Vented Combustion

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.	
Concur with WPN11-6 ☑ Alternative Guidance ☐	
Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.	
DOE and/or other funds will be used to address this issue	
Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.	
N/A	
Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.	
Vented space heaters will be treated as a furnace.	
Standards for Deferral: Describe when deferral should take place for the specific health and safety category.	
N/A	
Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.	
N/A	
Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety	

categories, like OSHA, require training.
N/A
Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**. Note:** Some health and safety categories, like mold and moisture, require client education.
N/A
Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.
N/A

Spray Polyurethane Foam (SPF)

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.	
Concur with WPN11-6 X Alternative Guidance ☐	
Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.	
DOE and/or other funds will be used to address this issue	
Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.	
N/A	
Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.	
Only use if local codes permit Manufacturer's guidelines must be followed for recommended use and application, temperature tolerances, shut down procedures and storage. When cost effective according to the NEAT/MHEA Audit, the two-part closed-cell polyurethane foam may be installed at the auditor's discretion. If installed in a confined space, there should be a negative pressure in the area. Follow NIOSH Std as what is defined as a confined space. Recommend tenants, especially children, vacate the premises while being installed and for at least one hour after completion or manufacturer's recommendation. Installers must wear an NIOSH certified respirator as well as eye and skin protection as specified in the product MSDS. Clean up any overspray or excess of the two-part foam	
Standards for Deferral: Describe when deferral should take place for the specific health and safety category.	
N/A	
Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.	
N/A	
Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.	
N/A	
Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**. Note:** Some health and safety categories, like mold and moisture, require client education.	
Recommend tenants, especially children, vacate the premises while being installed and for at least one hour after completion or manufacturer's recommendation.	
Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.	
N/A	

Ventilation

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.	
Concur with WPN11-6 ☐ Alternative Guidance X	
Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.	
DOE and/or other funds will be used to address this issue	
Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.	

Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.

The most recently adopted ASHRAE 62.2 testing and required work is completed on every home

The MVL is expressed as a CFM50 value; making it easy to determine whether the dwelling achieves a minimum ventilation level for infiltration work.

The purpose of DTL is to establish a CFM50 minimum, below which the back drafting of conventionally vented combustion appliances is likely to occur.

The purpose of ASHRAE 62.2 is for pollutant source control and defines acceptable ventilation levels.

Ventilation Systems for Acceptable Indoor Air Quality

Existing operable fans that will remain in place and serve as part of the ventilation system shall be measured for CFM airflow. This airflow shall be recorded on the appropriate form.

Bathroom Ventilation

1. Should have on-demand fans that exhaust at least 50 CFM and are controlled by an on/off switch or a time-delay-shutoff switch; or
2. Should have continuously operating 20 CFM fan.
3. A continuously operating bathroom fan or a programmed intermittently operating fan may serve as the whole-building ventilation.
4. If a bathroom does not have this amount of ventilation stated above, Appendix A of most current adopted ASHRAE 62.2 must be used for sizing whole-building ventilation.
5. Installed fans must have a back-draft damper at the fan and at the duct termination.
6. The duct termination must be outdoors.
7. Fan flows of existing bathroom fans that are to be left in place must be measured or the flow rate shall be determined by the fan label according to most current adopted ASHRAE 62.2 requirements (see most recent adopted ASHRAE 62.2, Section A4.2).
8. Dehumidistats may not be used in bathrooms.

Kitchen Ventilation

1. On-demand exhaust fan:
   a. Should have on-demand fans that exhaust at least 100 CFM and are controlled by an on/off switch.
   b. The fan may be located anywhere in the kitchen, but a range hood or a fan location near the range is preferred. Fans not rated for kitchen use must be installed according to manufacturer's specifications.
2. Continuously-operating exhaust fan:
   a. Should have continuously operating fan that exhausts at least 5 ACH based on kitchen volume. A continuously operating kitchen fan or a programmed intermittently operating fan may serve as the whole-building ventilation.
   A continuously operating kitchen fan or a programmed intermittently operating fan may serve as the whole-building ventilation.
3. If a kitchen does not have the amount of ventilation stated, Appendix A of ASHRAE 62.2 must be used for sizing whole-building ventilation.
4. Kitchen fans to be installed must be rated for use in the kitchen.
5. Installed fans must have a back-draft damper at the fan and at the duct termination.
6. The duct termination must be outdoors.
7. Fan flows of existing kitchen fans that are to be left in place must be measured or the flow rate shall be determined by the fan label according to ASHRAE 62.2 requirements (see ASHRAE 62.2, Section A4.2).
8. Outdoor make-up air should be provided for kitchen fans exhausting more than 200 CFM.

FOOTNOTE: ASHRAE 62.2-2013 Section A4.2 Airflow Rating
If airflow ratings do not exist or the duct sizing requirements of Section 5.4 cannot be verified, the airflow rate shall be measured and the alternative procedure of Section 5.4 using the airflow rating at 0.25 in. w.c. (62.5 Pa) may not be used. If airflow ratings for the existing equipment are available at 0.1 in. w.c. (25 Pa) but not at 0.25 in. w.c. (62.5 Pa), those values may be used, provided they are reduced by 25%.

Garage Ventilation

1. Garage exhaust fans may be installed in certain cases with state approval.
2. Ventilation for garage will be exhaust only and provide a minimum installed capacity of 100 CFM of ventilation per vehicle bay and will vent directly outdoors.
3. Garage exhaust fan will be wired for continuous operation or installed with automatic controls that activate the fan whenever the garage is occupied and for at least 15 minutes after the garage has been vacated.
4. If a ducted fan (not through-the-wall) is used, measure and verify the minimum air flow and adjust as necessary.
5. Air leakage between the house and garages will be prevented by sealing and weather stripping.
6. Pressure effects caused by fans will be assessed and corrected when found outside of combustion safety standards.
7. Exhaust fans and other exhausting systems shall be provided with makeup air or other pressure relief.

Whole-Building Ventilation

Whole-building ventilation operating continuously shall be determined by the most current adopted ASHRAE 62.2. REDCalc or similar program must be used to determine whole house ventilation needed with a copy of the ventilation requirements and program inputs in the house file.

- This ventilation may operate intermittently, but
  - The CFM airflow must be increased accordingly while the fan is operating. For example, a flow rate of 25 CFM for continuous operation would be increased to 50 CFM for 30 minutes-on/30-minutes-off operation.
  - The fan must operate at least once every 3 hours.

- The fan must be controlled automatically.
- The fan control must be appropriately labeled.

- If the bathroom and/or kitchen fans do not satisfy the requirement of 50 CFM and 100 CFM airflow rates, respectively, the most current adopted ASHRAE 62.2 (Alternative Compliance Supplement) must be used when sizing the minimum whole-building airflow rate.
- The whole-building ventilation may be a single exhaust fan; multiple exhaust fans controlled appropriately; a balanced system, such as an energy recovery ventilator; or part of the furnace air-handling system.
  - Local bathroom and/or kitchen exhaust fans are permitted to be part of the whole-building ventilation system.
  - The system must be designed to operate during all occupied hours.
  - A readily available override control must be provided to the occupant.
  - The infiltration credit shall be calculated as part of the inputs in REDCalc or similar program.

  One example of how to utilize the furnace air handling system follows:

  ASHRAE 62.2 2013 Section 4.2 allows for outdoor air connected to the return ducts side of the mechanical heating or cooling system for makeup air as long as the manufacturers' air temperature requirements are meet (temp. rise).
  - Air flow measurements may be done by measuring static pressure of the return duct in the location where the outside air duct connection will be installed.
  - Air flow then can be estimated using the Table 3 in Section 2022.2 of the Iowa Weatherization Standards and Field Guide using air flow hood, or other airflow measuring device.
  - The supply duct to the return must be a minimum of six feet away from the heat exchanger in the heating system.
  - The operating control for the system shall be the heating and air conditioning thermostat. The thermostat must have a smart fan control timer that will turn the blower fan on the heating and cooling system when there is no call for heating or cooling. The Energy Auditor must determine if the client is capable of programming the thermostat.
  - This method may be useful for homes that don't require a lot of continuous ventilation. Caution should be taken with homes that have high moisture content with high positive pressures.

Whole-Building Ventilation, Discretionary Threshold

1. If the whole-building minimum ventilation requirement is 15 CFM or less, the auditor may decide to install a whole-building ventilation system or not. The reasons for not installing a ventilation system when the minimum CFM requirement is between 1 and 15 shall be documented in the client file. This decision shall be based on:
   a. The moisture assessment of the dwelling,
   b. The indoor air quality assessment of the dwelling,
   c. The health of the occupants, and
   d. Other factors deemed significant by the auditor.
2. If the whole building minimum ventilation requirement is greater than 15 CFM, a system supplying the minimum ventilation airflow must be installed.

Fan Sound Ratings

Fan sound ratings shall be equal to or less than the ratings in Table 4-1.

Standards for Deferral: Describe when deferral should take place for the specific health and safety category.

Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.

Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.

Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan. **Note:** Some health and safety categories, like mold and moisture, require client education.

Inform the client about the reason and the importance of using the kitchen exhaust fan while cooking and the importance of using the bathroom exhaust fan after showers or baths.

Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.

N/A

ASHRAE 62.2 Compliance: Provide a narrative describing implementation of ASHRAE 62.2, which will be required during the 2012 program year. Grantees must provide justification if making changes to AHRAE 62.2 specific to their housing stock and local considerations.

Window and Door Replacement, Window Guards

Concurrence or Alteration: Check if you concur with existing guidance from WPN 11-6 or if you are using an alternative action/allowability. Include the guidance action/allowability from WPN 11-6 or alternative guidance in the space provided. Alternatives must be explained and comply with DOE guidance. **Note:** Where an Action/Allowability or Testing is "required" or "not allowed" through WPN 11-6, the grantee must concur or choose to defer all units where the specific issue is encountered. Allowable items under WPN 11-6 leave room for determining if the issue or testing will be addressed and in what circumstances.

Concur with WPN11-6 X Alternative Guidance	All window and door replacements are considered as repair costs.

Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.

Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.

Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.

Standards for Deferral: Describe when deferral should take place for the specific health and safety category.

Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.

Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.

Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**. Note:** Some health and safety categories, like mold and moisture, require client education.

Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.

Other (copy and paste as needed)

Health and Safety Issue: Describe the health and safety category below. Methods for addressing additional energy related health and safety issues must be consistent with DOE guidance.

Animals

If there is an animal in the house or on the house grounds that is menacing, or if a worker is uncomfortable being around the animal, require the client to restrain the animal before proceeding with any work. If the client refuses to do this, defer work on the house. Document this on the Health and Safety Assessment Form.

Any bite from an animal, particularly a wild animal, should always be considered a potential for rabies exposure. If a worker is bitten by an animal, the worker should immediately and thoroughly wash the bite wound and then seek medical care. If a worker is bitten by a bat, an attempt should be made to kill the bat without destroying the head. The bat should be placed in a cloth or plastic bag and then shipped under refrigeration to the nearest health laboratory for examination for rabies. Any animal bite should be reported to the appropriate local sub-grantee personnel.

Room-to-room pressure balancing

Room-to-room pressure testing measures the pressure difference between each room in the house and the main body of the house when the air handler is running. The test can indicate the degree to which:

- There is an imbalance of air distribution resulting from closed interior doors. The doors can act as dampers restricting the flow of air within the dwelling.
- There is an imbalance of air distribution resulting from airflow differences between the supply side and return side of the ductwork.

When Required

Room-to-room pressure testing must be done when a dwelling has a dominate return. The test is also required for mobile homes.

By providing the room-to-room pressure balance, the return air to the furnace is unrestricted from inside the heated portion of the dwelling. Air is lazy so when the air from the rooms can't get back to the returns, it will draw air from where ever it can and in most of our homes that would be from the basement environment with all of its contaminants (radon could be one of those). It also makes the furnace run harder because it can't pull the air from where it is being supplied at through the supplies and could lead to a static pressure problem.

Pressure relief must be obtained by trimming the door by a maximum of 1½" or installing a transfer grill between rooms, when rooms are pressurized or depressurized by more than 3 Pascal (except for the bathroom).

Funding: State that DOE funds are being used or indicate that alternate funding sources will be used to address this particular health and safety category.

Beyond Scope of DOE WAP: Describe how the issue will be treated if beyond the scope of DOE WAP.

Standards for Remedy: Describe the standards for remedy of the health and safety category, including testing protocols. Also include when partial weatherization would be appropriate. **Note:** Some health and safety categories, like combustion gases, require testing.

Standards for Deferral: Describe when deferral should take place for the specific health and safety category.

See deferral policy

Standards for Referral: Describe when referral should take place for the specific health and safety category. If possible, include associated referral agencies.

Training Provision: Discuss how training will be provided for the specific health and safety category. **Note:** Some health and safety categories, like OSHA, require training.

Client Education: Discuss what specific steps will be taken to educate the client, if any, on the specific health and safety category if this is not explained elsewhere in the State Plan**. Note:** Some health and safety categories, like mold and moisture, require client education.
Disposal Procedures: Provide disposal procedures or indicate where these procedures can be found in the Plan or Field Standards.