Missouri Weatherization PY2021 Health and Safety Plan

✓ Policy Submitted with Plan1.0 – General Information

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

2.0 – BUDGETING

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

Separate Health and Safety Budget ☑

Contained in Program Operations

3.0 - HEALTH AND SAFETY EXPENDITURE LIMITS

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

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

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

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

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

H&S Measure Matrix - Optional						
Double Click To Open For Editing						
Cells this shade auto calculate						
<u>Enter</u> Measure ↓	Auto Calculates					
Air Conditioner Reapair	\$280.00	1.0%	\$2.80			
Air Conditioner Replacement	\$3,900.00	2.2%	\$85.80			
ASHRAE Compliance	\$670.00	26.5%	\$177.55			
CO Detector	\$80.00	27.0%	\$21.60			
Combustion Air Installation	\$150.00	3.0%	\$4.50			
Combustion Vent Replacement	\$250.00	3.0%	\$7.50			
Daily CAZ Test	\$0.00	0.0%	\$0.00			
Ventilation Fans (non-ASHRAE)	\$210.00	7.8%	\$16.38			
Gas Leak Repair	\$160.00	1.0%	\$1.60			
Heat Source Barrier	\$230.00	1.0%	\$2.30			
Heating System Clean and Tune	\$300.00	8.3%	\$24.90			
Heating System Replacement	\$3,000.00	14.0%	\$420.00			
Heating System Repair	\$240.00	2.6%	\$6.24			
Misc.	\$0.00	0.0%	\$0.00			
Moisture Repair	\$250.00	12.0%	\$30.00			
Oven Repair	\$250.00	1.1%	\$2.75			
Smoke Detector	\$50.00	18.1%	\$9.05			
Water Heater Repair	\$70.00	3.1%	\$2.18			
Water Heater Replacement	\$1,600.00	4.1%	\$65.60			
Wiring Repair	\$740.00	1.0%	\$7.40			
Total Average H&S Cost Per Unit \$888.15						
Enter Estimated Production (Annual File	1,340					
Enter Estimated Program Operations Budget → 5,665,191						
H&S Budget (Total Average H&S Cost Pe	H&S Budget (Total Average H&S Cost Per Unit * Estimated Production) \$1,190,116.98					
Requested H&S Percentage Per Unit (H	&S Budget/Program C)perations)	21.0%			

Missouri exercises the option to budget health and safety costs separately. This average per home health and safety expenditure will be calculated across all production, not just those homes receiving health and safety work. Since DOE Project Year 2014, (PY14) Missouri has used a per unit average limit of 20 percent for health and safety.

DOE released WPN 17-7 in August 2017, which provided guidance regarding health and safety measures within the Weatherization Assistance Program. To control Health and Safety expenditures:

- Missouri limits many health and safety measures to \$200 per home (as detailed below).
- Missouri requires all health and safety costs to be reasonable, as determined by the State of Missouri.
- Missouri requires all homes with a cumulative initial estimated cost across all funding sources of \$15,000 or more to receive approval from the grantee prior to commencing work.
- Missouri reviews state wide and subgrantee health and safety expenditures periodically to ensure that health and safety expenditures are kept in check and there are no budget overruns.

In the determination of what the percentage of health and safety is for PY21, the average cost per measure was determined using the actual expenses for all homes weatherized in the first 8 months in FY21. The average cost per measure was then weighted based on the percentage of total funding DE receives from DOE, which is 46.8 percent. With this calculation, Missouri requests a health and safety percentage of 21.0 percent.

Missouri may request to exceed the 21 percent health and safety per home when ample justification can be provided.

4.0 - INCIDENTAL REPAIR MEASURES

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

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

5.0 - DEFERRAL/REFERRAL POLICY

Deferral of services may be necessary if H&S issues cannot be adequately addressed according to WPN 17-06 guidance. The decision to defer work in a dwelling is difficult but necessary in some cases. This does not mean that assistance will never be available, but that work must be postponed until the problems can be resolved and/or alternative sources of help are found. If, in the judgment of the auditor, any conditions exist which may endanger the health and/or safety of the workers or occupants, the unit should be deferred until the conditions are corrected. Deferral may also be necessary where occupants are uncooperative, abusive, or threatening. Grantees must be specific in their approach and provide the process for clients to be notified in writing of the deferral and what conditions must be met for weatherization to continue. Grantees must also provide a process for the client to appeal the deferral decision to a higher level in the organization.

organization					
Grante	ee has developed a comprehensive written deferral/referral policy that covers both H&S, and other deferral reasons?				
	Yes ☑ No □				
	Where can this deferral/referral policy be accessed?				

Missouri Weatherization Program Technical Manual, Section II, Subsection D (page 36).

https://energy.mo.gov/sites/energy/files/Technical%20Manual%202017%20%28Final%20with%20attachments -A%29.pdf

6.0 — Hazard Identification and Notification Form(s)

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

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

Yes ☑ No □

7.0 - HEALTH AND SAFETY CATEGORIES

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

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

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

7.1 – Air Conditioning and Heating Systems					
		Concurrence, Alter	native, or Deferral		
Concurrence wit	h Guidance 🗹	Alternative Gu	idance \square	Results in Deferral	
	Air Conditioning Un	allowable Measure	☐ Heating Unallo	owable Measure	
		Fund	ding		
DOE ☑	LIHEAP 🗹	State □	Utility ☑	Other 🗆	
Ho	w do you address u	nsafe or non-functi	ioning primary hea	ting/cooling systems?	
Unsafe and/or non-functioning primary heating systems in units, must be repaired, replaced and					
removed, or rendered inoperable, or deferral is required.					
 Non-functioning and/or unsafe primary cooling systems may be repaired or replaced and removed if 					
occupant is determined to be "at-risk". If the occupant is not "at-risk" an unsafe cooling system is to					
be rende	be rendered inoperable or deferral is required.				
How do you address unsafe or non-functioning secondary heating systems, Including unvented secondary					

space heaters?

- Unsafe secondary units must be repaired, removed or rendered inoperable, or deferral is required.
- Unvented space heaters that conform to the safety standards of ANSI Z21.11.2 may remain as an emergency back-up heating sources.
- Unvented space heaters that conform to ANSI Z21.11.2, but are not operating safely, must be removed and properly disposed of.
- Unvented space heaters that remain in completed single family housing after weatherization shall meet the requirements given in Weatherization Program Notice (WPN) 17-7 Attachment A.
- Unvented space heaters that do not conform to ANSI Z21.11.2 must be removed and properly
 disposed of prior to weatherization, but may remain until a replacement primary heating system is in
 place.
- Unvented space heaters of any type are not allowed to remain in mobile homes which have been weatherized.

Indicate Documentation Required for At-Risk Occupants

At-risk occupants determination is based on a letter from a board certified physician, certified nurse practitioner or certified physician's assistant stating that the occupant's life would be endangered without a functioning air conditioning unit.

Testing Protocols

- Primary systems are checked for presence, operation and proper performance.
- A Weatherization Assistant audit is used to determine if the system can be installed as an energy conservation measure (ECM) prior to replacement as an H&S measure.
- Determine and document presence of "at-risk" current occupants when installing air-conditioning as an H&S measure.
- On combustion equipment, inspect chimney and flue and test combustion appliances per Building Performance Institute (BPI) 1200 and Standard Work Specification (SWS) standards.
- For solid fuel appliances, inspect for visual evidence of soot on the walls, mantel or ceiling or creosote staining near the flue pipe.

Client Education

- When deferral is necessary, information will be provided to the client, in writing, describing the conditions that must be met in order for weatherization to commence. A copy of this notification will also be placed in the client file.
- Appropriate use and maintenance of units will be discussed with the client.
- All paperwork and manuals for any installed equipment will be left with the client.
- Where combustion equipment is present, safety information including how to recognize depressurization will be provided.
- If bulk fuel tanks are present after weatherization, disposal of bulk fuel tanks will be discussed with the client.

Training

- Training will be provided during Specific training on WAP H&S policies on allowable activities.
- Licensing and/or certification for HVAC installers as required by authority having jurisdiction (AHJ).
- CAZ depressurization testing and inspection training through Comprehensive and/or Specific training.
- Quality Control Inspector training and certification for all final inspectors.

7.2 - Asbestos - All

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

- When friable presumed asbestos containing materials (PACM) are present, blower door tests will not be performed, unless the PACM has been encapsulated by an AHERA certified professional or has been tested and found not to contain asbestos by an AHERA professional. The certified professional performing testing must be listed on the Missouri Department of Natural Resource's Asbestos Building Inspector List (http://dnr.mo.gov/env/apcp/asbestos/inspectors/index.php).
- Friable asbestos is defined by WPN 17-7 as a material that can be crumbled, pulverized, or reduced to powder by pressure of an ordinary human hand.

	7.2a – Asbestos - in siding, walls, ceilings, etc.						
	Concurrence, Alternative, or Deferral						
Concur	rence with Guidance 🗹	Alternative Guida	ance 🗆	Results in Deferral □			
		Fundin	g				
DOE 🗹	Í LIHEAP ☑	State □	Utility ☑	Other \square			
How d	o you address suspected ACN	M's in siding, walls, o of weatherizati		ill be disturbed through the course			
•	All reasonable and necessary taken.	precautions to preve	ent asbestos cor	ntamination in the home will be			
•	PACM in walls and/or ceiling	s will never be cut, dr	illed, sanded or	otherwise disturbed			
•	The removal of PACM siding						
•	Existence of asbestos siding	that is in good conditi	on does not pre	event installing dense pack			
	insulation from the exterior.	The siding may be re	moved and rein	stalled in order to perform the			
	ECM, and the associated costs may be charged as part of the ECM.						
•	• General abatement of asbestos siding or replacement with new siding is not an allowable H&S cost.						
Testing Protocols							
•	 Visually inspect exterior wall surface and subsurface, floors, walls, and ceilings for PACM prior to drilling or cutting. 						
•	The certified professional performing testing must be listed on the Missouri Department of Natural						
	Resource's Asbestos Building	'	s /indox nhn)				
(http://dnr.mo.gov/env/apcp/asbestos/inspectors/index.php). Client Education							
•	Client will be informed in wr	00		t precautions will be taken to			
	ensure the occupants' and w	•		•			
•	The client will be formally no						
•	•	· · · · · · · · · · · · · · · · · · ·	_	ient, in writing, describing the			
	•	•		ence. A copy of this notification			
	will also be placed in the clie						
		aining and Certificati	on Requiremen	ts			

7.2b – Asbestos - in vermiculite					
Concurrence, Alternative, or Deferral					
Concurrence with Guidance 🗹	Alternative Guidance 🏻	Results in Deferral □			

Licensing/certification for removal and reinstallation of asbestos siding, if required by AHJ.

How to visually identify PACM through Comprehensive and/or Specific training. Quality Control Inspector training and certification for all final inspectors.

Safe practices for siding removal and replacement through Comprehensive and/or Specific training.

	_	tr.				
		nding				
DOE 🗹	☑ LIHEAP ☑ State □	Utility 🗹	Other \square			
Н	How do you address suspected ACM's in vermic		urbed through the cours	se of		
	weatheriz	ation work?				
•	When vermiculite is present, it will be assume otherwise.	ed that it contains asbe	estos unless testing dete	rmines		
•	Blower door tests will not be performed if it w	vill disturb asbestos co	ntaining vermiculite.			
•	Proper respiratory protection will be used whi	ile in areas containing	asbestos containing ver	miculite.		
•	Encapsulation by an appropriately trained asb	estos control professi	onal is allowable.			
•	Removal of vermiculite is not allowable.					
•	When deferral is necessary due to asbestos, the	he occupant must pro	vide documentation that	t a		
	certified professional performed the remediat	tion before work conti	nues.			
	Testing	Protocols				
•	Sample collection and testing must be perform	med by a certified prof	essional listed on the M	issouri		
	Department of Natural Resource's Asbestos B	uilding Inspector List				
	(http://dnr.mo.gov/env/apcp/asbestos/inspec	ctors/index.php).				
Client Education						
•	Client will be informed in writing that PACM a	re present and what p	recautions will be taken	to		
	ensure the occupants' and workers' safety during weatherization.					
•	The client will be formally notified, in writing,	of results of testing, if	performed.			
•	Client will be instructed, in writing, to not disturb PACM.					
•	 When deferral is necessary, information will be provided to the client, in writing, describing the conditions that must be met in order for weatherization to commence. A copy of this notification will also be placed in the client file. 					
	Training and Certifi	ication Requirements				
•	How to visually identify PACM through Compr	rehensive and/or Spec	ific training.			
•	Sample collection and testing must be perform	med by a certified prof	essional listed on the M	issouri		
	Department of Natural Resource's Asbestos B	uilding Inspector List				
	(http://dnr.mo.gov/env/apcp/asbestos/inspec	ctors/index.php).				
•	AHERA or other appropriate asbestos control	professional certificat	ion/training will be requ	ired for		
	encapsulation.					
•	Quality Control Inspector training and certification	ation for all final inspe	ctors.			

7.	7.2c – Asbestos - on pipes, furnaces, other small covered surfaces					
		Concurrence, Alter	native, or Deferra	1		
Concurrence v	vith Guidance 🗹	Alternative Gu	idance \square	Results in Deferral		
Funding						
DOE ☑ LIHEAP ☑ State □ Utility ☑ Other □				Other \square		
How do you address suspected ACM's (e.g., pipes, furnaces, other small surfaces) that will be disturbed						
through the course of weatherization work?						

- When PACM are present, it will be assumed that they contains asbestos unless testing determines otherwise.
- Blower door tests will not be performed if it will disturb friable PACM.
- Encapsulation by an appropriately trained asbestos control professional is allowable and will be done prior to performing a blower door test if friable PACM are present.
- A limited amount of PACM and/or ACM may be removed on a case-by-case basis with grantee approval, only to install a required heating system. The removed amount is limited to only what is required to safely replace the system and removal must be performed by an AHERA professional.
- When deferral was necessary due to asbestos, the occupant must provide documentation that a certified professional performed the remediation before work continues.

- A visual inspection must be done to assess whether suspected ACM is present.
- Testing PACM for asbestos is allowable and the certified professional performing testing must be listed on the Missouri Department of Natural Resource's Asbestos Building Inspector List (http://dnr.mo.gov/env/apcp/asbestos/inspectors/index.php).

Client Education

- Client will be informed in writing that PACM are present and what precautions will be taken to ensure the occupants' and workers' safety during weatherization.
- The client will be formally notified, in writing, of results of testing, if performed.
- Client will be instructed, in writing, to not disturb PACM.
- When deferral is necessary, information will be provided to the client, in writing, describing the conditions that must be met in order for weatherization to commence. A copy of this notification will also be placed in the client file.

Training and Certification Requirements

- How to visually identify PACM through Comprehensive and/or Specific training.
- Sample collection and testing must be performed by a certified professional listed on the Missouri
 Department of Natural Resource's Asbestos Building Inspector List
 (http://dnr.mo.gov/env/apcp/asbestos/inspectors/index.php).
- AHERA or other appropriate asbestos control professional certification/training will be required for encapsulation or removal.
- Quality Control Inspector training and certification for all final inspectors.

7.5 – Biologicals and Unsanitary Conditions						
(odors, mustin	(odors, mustiness, bacteria, viruses, raw sewage, rotting wood, etc.)					
	Concurrence, Alte	rnative, or Deferra	I			
Concurrence with Guidance ☑ Alternative Guidance □ Results in Deferral □						
	Unallowable	e Measure 🛚				
	Fur	nding				
DOE ☑ LIHEAP ☑ State □ Utility ☑ Other □						
What guidance do you provide Subgrantees for dealing with biological and/or unsanitary conditions in						
_	Fur State □ vide Subgrantees for de	nding Utility ☑				

- Existing biological and unsanitary conditions that pose a health or safety hazard to the weatherization workers that are not able to be remediated by weatherization or are beyond the scope of weatherization, as determined by the subgrantee or grantee on a case by case basis, must be corrected before weatherization services may begin.
- When deferral is necessary, information will be provided to the client, in writing, describing the conditions that must be met in order for weatherization to commence. A copy of this notification will also be placed in the client file.

- Sensory inspection for biological and unsanitary conditions.
- A four-gas monitor will be used to help detect hazardous and unsafe conditions in confined spaces.

Client Education

- Client will be informed in writing that biological and/or unsanitary conditions are present.
- Information will be provided on how to maintain a sanitary home, if biological and/or unsanitary conditions are present.
- When deferral is necessary, information will be provided to the client, in writing, describing the conditions that must be met in order for weatherization to commence. A copy of this notification will also be placed in the client file.

Training

- How to recognize unsafe conditions and when to defer through Comprehensive and/or Specific training.
- Quality Control Inspector training and certification for all final inspectors.

7.6 – Building Structure and Roofing							
	Concurrence, Alternative, or Deferral						
Concurrence with Guidance ☑ Alternative Guidance □ Results in Deferral □							
		Fund	ding				
DOE ☑	LIHEAP ☑	State □	Utility 🗹	Other \square			
What a	guidance do you provide	Subgrantees for o	dealing with struct	tural issues (e.g., roofing,	wall,		
	founda	ation) in homes sla	ited for weatheriz	ation?			
 Structural issues that would make weatherization impossible, impractical, unsafe, or would inhibit 							
the i	installation of significant	weatherization me	easures should be	deferred.			
 Homes that require more than minor repairs must be deferred. 							
How do you define "minor" or allowable structure and roofing repairs, and at what point are repairs							
considered beyond the scope of weatherization?							
• Struc	ctural and/or roof repairs	s that cannot be pe	erformed within th	e guidelines of incidental	repairs or		
included as part of the cost of the ECM are not allowable.							
• The Minimum Deferral Policy referenced in item 5.0 of this H&S Plan goes into detail with examples							
explaining what is beyond the scope of weatherization.							
If priority lists are used, and these repairs are designated as Incidental Repairs, at what point is a site-							
		specific aud	it required?				
Priority lists	are not used. A site spec	ific computerized	audit is performed	d on every home.			
		Client Fo	lucation				

- Client will be informed in writing when building structure issues are present.
- When deferral is necessary, information will be provided to the client, in writing, describing the conditions that must be met in order for weatherization to commence. A copy of this notification will also be placed in the client file.

Training

- How to recognize building structure and roofing conditions and when to defer through Comprehensive and/or Specific training.
- Quality Control Inspector training and certification for all final inspectors.

7.7 – Code Compliance						
Concurrence, Alternative, or Deferral						
Concurrence v	Concurrence with Guidance ☑ Alternative Guidance □		Results in Deferral			
		Fund	ing			
DOE 🗹	LIHEAP 🗹	State □	Utility 🗹	Other 🗆		
What guida	nce do you provide Sub	_	_	npliance issues in homes receiving		
		weatherization				
		•		ble health and safety cost unless it is		
	•	•		ult of weatherization work.		
		•	•	and paid for with WAP funding, the		
•	•			measure that required the correction		
	preexisting code comp					
What specific	situations commonly t	•	•	rements for your network? How are		
they addressed?						
Missing or capped pressure relief valves and tubes for water heaters. The pressure relief valve and						
	tube are installed or uncapped to prevent a hazardous condition while subgrantee staff are working					
	in the area or performing testing on the water heater.					
Open electrical junction boxes in areas where work is being performed. The electrical junction boxes						
are covered to prevent electrical hazards to workers.						
Client Education						
	 Client will be informed in writing if observed code compliance issues which result in deferral. 					
When	 When deferral is necessary, information will be provided to the client, in writing, describing the 					
conditions that must be met in order for weatherization to commence. A copy of this notification						
will al	so be placed in the clier	it file.				
		Train	ing			
How t	o determine what code		•	ns may be required through		
	rehensive and/or Specif		CAISTING CONTAINION	is may be required through		
Ouality Control Inspector training and certification for all final inspectors.						

7.8 – Combustion Gases				
Concurrence, Alternative, or Deferral				
Concurrence with Guidance ☐ Alternative Guidance ☐ Results in Deferral ☐				
Funding				

DOE 🗹	LIHEAP ☑	State □	Utility ☑	Other 🗆	
		Testing F	Protocols		
•	Testing of combustion gases	will be performed	l following BPI 1200 st	andards.	
•	A Weatherization Assistant a	audit is used to det	termine if the system	can be installed as an energy	
	conservation measure (ECM) prior to replacem	nent as an H&S measu	re.	
Ho	w are crews instructed to ha	indle problems dis	scovered during testir	ng, and what are the specific	
	protocols for add	ressing hazards th	nat require an immedi	ate response?	
 protocols for addressing hazards that require an immediate response? If combustion gas problems are identified during testing, as per the BPI 1200 standards, these issues must be corrected in compliance with the Weatherization Program Technical Manual, Section II, Subsection B, Topics 5 through 7 (page 15) or before the home is completed, whichever is most appropriate. Specific protocols for addressing hazards that require immediate response are given in the Weatherization Program Technical Manual, Section II, Subsection B, Topic 5 (page 15). https://energy.mo.gov/sites/energy/files/Technical%20Manual%202017%20%28Final%20with%20attachments-A%29.pdf 					
		Client E	ducation		
Client w	ill be provided with combust	ion safety and haz	ards information.		
		Trai	ning		
•	Training on combustion test	ing and action leve	els as per the BPI 1200	standards will be provided in	
	Comprehensive and/or Spec	ific training.			
•	Quality Control Inspector tra	ining and certifica	tion for all final inspec	ctors.	

7.9 – Electrical					
	Concurrence, Alter	native, or Deferra	l		
Concurrence with Guidance ☑ Alternative Guidance □ F		Results in Deferral			
	Fund	ling			
DOE ☑ LIHEAP ☑	State □	Utility 🗹	Other \square		
What guidance do you provide Subgrantees for dealing with electrical hazards, including knob & tube wiring, in homes slated for weatherization?					

- Minor electrical repairs are allowed as a health and safety measure when the occupant or weatherization workers are at risk and the repairs meet the definition of health and safety as per 10 CFR 440.
- Knob and tube wiring may be replaced in homes slated for weatherization as part of the cost of attic and/or wall insulation or as an incidental repair tied to those ECMs.
- If active knob and tube wiring is to remain in the dwelling, the walls of the dwelling must not be
 insulated unless a licensed electrician inspects the building and provides a letter certifying that no
 knob and tube wiring is present in the exterior walls of the home. Additionally, active knob and tube
 wiring may not be insulated over.

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

- Minor repairs are items such as; placing open wire connections in covered junction box for client or worker safety, replacing or repairing a bad outlet or switch, or replacing a circuit wire for installation of a weatherization measure.
- Minor electrical repairs do not include replacing the service panel or any part of the service wiring into the home.

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

Priority lists are not used. A site specific computerized audit is performed on every home.

Client Education

- When electrical issues are the cause of deferral, the client will be provided information on over current protection, overloading circuits and basic electrical safety/risks.
- When deferral is necessary, information will be provided to the client, in writing, describing what
 must be repaired in order for weatherization to commence. A copy of this notification will also be
 placed in the client file.

Training

- Training on AHJ code compliance will be provided by Specific training.
- How to identify electrical hazards will be provided in Comprehensive and/or Specific training.
- Quality Control Inspector training and certification for all final inspectors.

	7.10 – Formaldehyde, Volatile Organic Compounds (VOCs), Flammable Liquids, and other Air Pollutants				
		Concurrence, Altern	ative, or Deferra		
Concurre	nce with Guidance 🗹	Alternative Gui	dance \square	Results in Deferral	
		Fund	ing		
DOE ☑	LIHEAP ☑	State □	Utility 🗹	Other \square	
What gu	iidance do you provide Su	bgrantees for dealin	g with formaldeh	yde, VOCs, flammable liq	uids, and
	other air pollu	tants identified in h	omes slated for w	reatherization?	
• S	ubgrantees should minimiz	ze or restrict the use	of materials that	may be hazardous to the	client,
h	owever if the subgrantee r	must utilize hazardοι	ıs materials, inclu	ding chemicals, such use n	nust be
	iscussed with the client pr	~			
	strong smelling chemicals	·		_	
	hould not perform any wea			uce the natural air leakage	of the
	welling, therefore the hom				
• If	VOCs or flammable liquid	s are detected which	would make wea	atherization impossible, im	practical,
ir	nhibit the installation of sig	nificant weatherizat	ion measures, or	would pose a hazard to	
W	reatherization workers, the	e home should be de	ferred.		
		Testing Pr	otocols		
Sensory ii	nspection for formaldehyd	e, VOCs, flammable	liquids, and other	air pollutants	
		Client Ed			
• C	lient will be provided writt	en materials on safe	ty issues and pro	per disposal of household	
р	ollutants.				
• C	lient will be informed in w	riting of observed ha	zardous conditio	ns and the associated risks	•
• V	Vhen deferral is necessary,	information will be	provided to the c	ient, in writing, describing	the
C	onditions that must be me	t in order for weathe	erization to comm	ence. A copy of this notifi	cation

will also be placed in the client file.

Training

- Training on recognizing potential hazards and when removal is necessary will be provided in Comprehensive and/or Specific training.
- Quality Control Inspector training and certification for all final inspectors.

	7.1	1 – Fuel Leaks				
(plea	(please indicate specific fuel type if policy differs by type)					
	Concurrenc	e, Alternative, or [Deferral			
Concurrence with Guidan	ce 🗹 Alterna	ative Guidance 🛚	R	Results in Deferral		
		Funding				
DOE ☑ LIHE	AP ☑ State I	□ Utilit	y 🗹	Other		
		ediation Protocols				
•		•		vere to be detected, the client		
	•			e to reduce the risk of any fuel		
		•		be addressed as a health and		
•			•	d in contamination, the home w	/III	
proper cleanup.	subgrantee will work	with the client to c	ontact the	appropriate authorities for		
	vahla fual laak ranairs	and at what noin	t are renai	irs considered beyond the scop	20	
now do you define dilov		weatherization?	t die repu	ins considered beyond the scop	,	
 Fuel leak repairs i 	n natural gas or propa	ne lines that are th	ne respons	ibility of the client (i.e.		
downstream of th	ne gas meter) must be	repaired before co	mpleting v	weatherization on a unit.		
 If the fuel leak rep 	pairs have an estimate	d cost of greater th	nan \$200 (1	this cost limit may be increased	ŀ	
-		l) or the fuel leak h	nas caused	contamination, the home		
should be deferre						
		lient Education				
	rmed in writing if any					
	•	•		nt, in writing, describing the		
		r weatherization to	commen	ce. A copy of this notification		
will also be place	d in the client file.					
		Training				
 Training on fuel le 	eak testing will be prov	vided in Comprehe	nsive and/	or Specific training.		
 Quality Control Ir 	spector training and c	ertification for all f	inal inspec	ctors.		

7.12 – Gas Ovens / Stovetops / Ranges					
		Concurrence, Alter	native, or Deferra	l	
Concurrence v	vith Guidance 🗹	Alternative Gu	idance 🗆	Results in Deferral □	
		Fund	ling		
DOE 🗹	LIHEAP ☑	State □	Utility 🗹	Other 🗆	
What guidance do you provide Subgrantees for addressing unsafe gas ovens/stoves/ranges in homes slated for weatherization?					

- If CO levels are above the action levels as given in the Standard Work Specifications, the subgrantee may defer the home.
- If CO levels are above the action levels as given in the Standard Work Specifications, the subgrantee may perform standard maintenance. After the clean and tune is performed, if the CO is still above action levels, an exhaust hood venting to the exterior of the home must be present or installed prior to completion of the home.
- Replacement is not an allowable weatherization expense.

- Gas ovens will be tested for CO as per the BPI 1200 standards.
- Cooking burners and ovens will be visually inspected for operability and flame quality.

Client Education

Clients will be informed of the importance of using exhaust ventilation when cooking and the importance of keeping burners clean to limit the production of CO.

Training

- Training on testing will be provided in Comprehensive and/or Specific training.
- Quality Control Inspector training and certification for all final inspectors.

EPA Section 608 link (refrigerant): https://www.epa.gov/section608

7.13 – Hazardous Materials Disposal [Lead, Refrigerant, Asbestos, Mercury (including CFLs/fluorescents), etc.] (please indicate material where policy differs by material) Concurrence, Alternative, or Deferral Concurrence with Guidance ✓ Alternative Guidance □ Results in Deferral **Funding** DOE 🗹 LIHEAP 🗹 State □ Utility **☑** Other **Client Education** Clients will be informed, in writing, of hazards associated with hazardous materials being generated/handled/stored in the home. **Training** Not applicable, refer to Lead and Asbestos sections for more information on those topics **Disposal Procedures and Documentation Requirements** Disposal of all hazardous materials will follow Federal, State and AHJ guidelines. Missouri Department of Natural Resources, Managing Construction and Demolition Waste link: https://dnr.mo.gov/pubs/pub2045.htm

7.14 – Injury Prevention of Occupants and Weatherization Workers					
	(Measures such as repairing stairs and replacing handrails)				
	Concurrence, Alternative, or Deferral				
Concurrence with Guidance ☑ Alternative Guidance ☐ Results in D		Results in Deferral			
Funding					
DOE ☑	LIHEAP ☑	State □	Utility ☑	Other \square	•
	_				

What guidance do you provide Subgrantees regarding allowable injury-related repairs (e.g., stairs, handrails, porch deck board)?

• When necessary to effectively weatherize the home, workers may make minor home repairs (e.g. stair steps, handrails, porch deck boards, etc.) that would otherwise not be allowable.

How do you define "minor" or allowable injury prevention measures, and at what point are repairs considered beyond the scope of weatherization? Quantify "minor" or allowable injury prevention measures.

- Allowable injury prevention measures must be tied to a measure being installed.
- If the repairs have an estimated cost greater than \$200 (this cost limit may be increased on a case by case basis with DE approval) and the lack of repairs would make weatherization impossible, impractical, unsafe, or would inhibit the installation of significant weatherization measures, the home should be deferred.

Training

• Training on hazard identifications will be provided in Comprehensive and/or Specific training.

	7.15 – Lea	ad Based Paint		
	Concurrence, A	Iternative, or Deferra		
Concur	rence with Guidance 🗹 Alternative	Guidance 🗆	Results in Deferral	
				_
	F	unding		
DOE 🗹	I LIHEAP ☑ State □	Utility ☑	Other 🗆	_
				_
	Safe W	ork Protocols		
•	Crews must follow EPA's Lead; Renovation,	Repair and Painting P	rogram (RRP) when working in pre-	
	1978 housing, unless testing confirms the w	ork area to be lead fro	ee.	
•	Deferral is required when the extent and co	ndition of lead based	paint in the house would potentially	y
	create further H&S hazards.			
	Testii	ng Protocols		
•	Testing to determine the presence of lead in	n paint that will be dis	turbed by WAP measure installatior	1
	is allowed with EPA approved testing method	ods that are economic	ally feasible and justifiable.	
•	Job site set up and cleaning verification will	be performed by a Ce	rtified Renovator.	
•	Grantees will verify crews are using lead saf	e work practices durir	ng monitoring.	
	Clien	t Education		
•	Pre-renovation education provisions as out	lined by the RRP will b	e followed.	
•	When deferral is necessary, information wil	I be provided to the cl	ient, in writing, describing the	
	conditions that must be met in order for we	eatherization to comm	ence. A copy of this notification	
	will also be placed in the client file.			
_	Training and Cert	tification Requiremen	ts	
	All pro-1978 homes must be tested for lead	or presumed to have	lead hased naints. If test results are	

- All pre-1978 homes must be tested for lead or presumed to have lead based paints. If test results are
 positive for lead or the home is presumed to contain lead paint, then any and all weatherization work
 must follow the SWS and EPA lead safe work practices.
- All employees and contractors working on homes that have tested positive or presumed positive for lead paint, must be a Certified Renovator and must follow the EPA-RRP work standards.
- All employees or contractors conducting work on homes tested positive or presumed positive, must be working for a Certified Firm.
- Grantee technical monitors will be Certified Renovators.

Documentation Requirements

Documentation in the client file must include: Certified Renovator certification; Certified Firm
Certification; Records of onsite training provided to workers; Description of specific actions taken;
lead testing and assessment documentation; record relating to the distribution of the lead pamphlet;
Documentation of compliance with EPA-RRP; Post cleaning records; and photos of site and
containment setup (or reference to location of pictures).

	7.16 – Mold and Moisture					
(Inc	(Including but not limited to: drainage, gutters, down spouts, extensions, flashing,					
sui	ump pumps, dehumidifiers, landscape, vap	or retarde	rs, moisture barriers, etc.)			
	Concurrence, Alternativ	e, or Deferra	l :			
Concur	urrence with Guidance 🗹 Alternative Guidan	ce 🗆	Results in Deferral			
	Funding					
DOE 🗹	☑ LIHEAP ☑ State □	Utility ☑	Other 🗆			
\A/I-	that midden a decreasion of Colombia for decline					
	/hat guidance do you provide Subgrantees for dealing rs, down spouts, moisture barriers, dehumidifiers, va					
gutters	for weatheriza	-	i bare earth noors, in nomes stated			
•	If repair of moisture problems that might result in h		as for the client, damage to			
	structure over the short- or long-term, or diminish t	•				
	are outside the scope of weatherization and cannot					
	home must be deferred.		•			
•	Where severe mold and moisture issues cannot be a	addressed, de	ferral is required. Severe mold			
	issues would include, but are not limited to, moldy a		nan 10ft², mold in HVAC system or			
	mold caused by sewage or other contaminated water					
•	Major drainage issues beyond the scope of the Wea		_			
_	conditions that may create a serious health concern		ferred.			
•	Mold cleanup is not an allowable Health and Safety		-t-ll-dth- ab-an-ad-at af			
•	Surface preparation where weatherization measure the ECM.	s are being in	stalled must be charged as part of			
	Storage water heaters that have leaking tanks that of	cannot he rea	sonably renaired and are creating a			
	moisture problem are eligible for replacement.	carriot be rea	soliably repaired and are creating a			
How de	do you define "minor" or allowable moisture-related	measures, ar	nd at what point is work considered			
	beyond the scope of we					
•	Moisture repairs necessary for the direct installation	n of an ECM sl	hould be incidental repairs to the			
	cost of the measure.					
•	Moisture repairs necessary for the health and safety		•			
	may be done as H&S, given the estimated cost is les		-			
	water heaters that are creating a moisture issue ma					
•	If mold is found to cover an area greater than 10 squ					
•	Minor outside moisture/drainage issues may be add shovel and wheelbarrow. Homes with drainage pro		_			
	hand tools, should be deferred.	DIEILIS OVEL 32	200 of carmot be corrected with			

Client Education

- Occupants will be provided with the EPA "A Brief Guide to Mold, Moisture, and Your Home" brochure. The client will sign attesting to the receipt of this brochure.
- When deferral is necessary, information will be provided to the client, in writing, describing the conditions that must be met in order for weatherization to commence. A copy of this notification will also be placed in the client file.

Training

• Training on a national curriculum on mold and moisture or equivalent will be provided in Comprehensive and/or Specific training.

		7.17 – I	Pests	
		Concurrence, Altern	ative, or Deferra	I
Concui	rrence with Guidance 🗹	Alternative Guid		Results in Deferral
		Fundi	ng	
DOE 🗹	Ĭ LIHEAP ☑	State □	Utility ☑	Other 🗆
What	guidance do you provide Sub	grantees for dealing	with pests and	pest intrusion prevention in homes
	, ,	slated for weat	•	·
•	Pest removal is allowed only	where infestation v	vould prevent we	eatherization.
•	Infestation of pests may be o	ause for deferral wh	nere it cannot be	reasonably removed or poses H&S
	concern for workers.			
•	Screening of windows and po	oints of access, and	incorporating pes	st exclusion into air sealing practices
	to prevent intrusion is allow	able.		-,
	Define Pest Infestation	on Thresholds, Beyo	nd Which Weath	nerization Is Deferred
•	The subgrantee must assess	the situation and th	e severity of the	infestation. If the infestation
	cannot be easily corrected, t	hen the home must	be deferred.	
•	If the infestation is not sever	e and the pests can	be easily eradica	ted and holes plugged then it is an
	allowable health and safety	expense, given that	the costs are less	than \$200. DE approval is
	necessary if the cost is to exc	-		
	,	Testing Pr	otocols	
•	Assessment of presence and	degree of infestation	on and risk to wor	rker.
		Client Edu	ıcation	
•	Client will be informed, in w	riting, of any observe	ed pest condition	s and associated risks.
•	When deferral is necessary,	information will be p	provided to the cl	lient, in writing, describing the
	conditions that must be met	in order for weathe	rization to comm	nence. A copy of this notification
	will also be placed in the clie			
	·	Traini	ng	
•	How to assess presence and	degree of infestatio	n, associated risk	s, and deferral policy will be
	provided in Comprehensive	and/or Specific train	ing.	
	•	•		

7.18 – Radon						
	Concurrence, Alternative, or Deferral					
Concurrence with Guidance ☑ Alternative Guidance ☐ Results in Deferral ☐			Results in Deferral			
	Funding					
DOE 🗹	LIHEAP 🗹	State □	Utility 🗹	Other \square		

What guidance do you provide Subgrantees around radon?

- Radon mitigation is not an allowable H&S cost.
- Clients must sign an informed consent form prior to receiving weatherization services and this form must be kept in the client file
- In homes where radon may be present, the work scope should include precautionary measures based on EPA Health Indoor Environmental Protocols for Home Energy Upgrades, to reduce the possibility of making radon issues worse.
- Whenever site conditions permit, cover exposed dirt floors within the pressure/thermal boundary with 6 mil (or greater) polyethylene sheeting, lapped at least 12" and sealed with appropriate sealant at all seams, walls and penetrations.
- Other precautions may include, but are not limited to sealing any observed floor and/or foundation penetrations (including open sump pits), isolating the basement from the conditioned space, and ensuring crawl space venting is installed.

Testing Protocols

• Radon testing is allowed in areas with high radon potential, as a H&S expense.

Client Education

- Occupants will be provided with EPA's "A Citizen's Guide to Radon".
- The informed consent forms will include:
 - o Information from the results of the IAQ study that there is a small risk of increasing radon levels when building tightness is improved;
 - A list of precautionary measures WAP will install based on EPA Healthy Indoor environment Protocols;
 - Some of the benefits of weatherization including energy savings, energy cost savings, improved home comfort, and increased safety; and
 - Confirmation that EPA's "A Citizen's Guide to Radon" was received and radon related risks were discussed.

Training and Certification Requirements

- Training on what radon is and how it occurs, what factors may make radon worse, and precautionary measures that may be helpful will be provided in Comprehensive and/or Specific training.
- Training on proper vapor retarder installation will be provided in Comprehensive and/or Specific training.

Documentation Requirements

- Informed consent forms will be required prior to receiving weatherization services.
- Confirmation that EPA's "A Citizen's Guide to Radon" was received and radon related risks were discussed.

7.19 – Sa	7.19 – Safety Devices: Smoke and Carbon Monoxide Alarms, Fire Extinguishers					
		Concurrence, Alter	native, or Deferra	1		
Concurrence w	vith Guidance 🗹	Alternative Gu	idance 🗆	Results in Deferral □		
		Fund	ding			
DOE ☑	LIHEAP ☑	State □	Utility 🗹	Other 🗆		
	What is your po	olicy for installation	or replacement	of the following:		
Smoke Alarms:	: Must be installed if	alarms are not pres	ent or are inopera	able.		
Carbon Monox	ride Alarms: Must be	installed if alarms a	re not present or	are inoperable.		
Fire Extinguish	ers: May be installed	if solid fuel burning	g equipment is pre	esent.		

- Existing alarms will be tested for operation.
- Installed alarms will be tested for operation.

Client Education

- Occupant will be provided with verbal information on use of installed devices.
- Manuals of installed devices will be left with the occupant.

Training

- Training on where to install alarms will be provided in Comprehensive and/or Specific training.
- Training will be provided that installed alarms will need to comply with AHJ.

	7.20 – Occupant Health and Safety Concerns and Conditions				
		Concurrence, Alter	native, or Deferral		
Concurren	ce with Guidance 🗹	Alternative Gu	idance 🗆	Results in Deferral	
		Fund	ding		
DOE 🗹	LIHEAP ☑	State □	Utility ☑	Other \square	
What guid	ance do you provide Sub	grantees for solicit	ing the occupants'	health and safety concerns r	elated
		to components	of their homes?		
• W	hen an occupant's health	may be at risk and/	or WAP work activ	ities could constitute a H&S h	azard,
the	e occupant is required to t	take appropriate ac	tion based on the	severity of risk.	
• Ina	ability or failure to take ap	propriate actions v	vill result in deferra	al.	
What	guidance do you provide	Subgrantees for de	etermining whethe	er occupants suffer from heal	th
	conditions that may be negatively affected by the act of weatherizing their home?				
• Oc	cupants will be consulted	on known or suspe	ected health conce	rns that may be affected by	
we	eatherization as part of the	e initial application	and/or during the	initial audit.	
What g	uidance do you provide S	ubgrantees for dea	aling with potentia	I health concerns when they	are
		المرمادة	:t: - 4.2		

identified?

Special precautions must be taken if the occupant of the home has respiratory ailments, allergies, is pregnant or has unique health concerns. Subgrantees should try to protect all clients from respirable particles, such as paint or insulation dust, during the weatherization process. When the occupant is identified as having a health risk that may be affected by any part of the weatherization process, the subgrantee must ensure the client takes appropriate action to protect themselves from the hazard. It is not the responsibility of the subgrantee to remove and or relocate the occupant from the home to allow for weatherization; however the subgrantee needs to make sure the occupant has taken appropriate precautions to protect themselves. If the client has a health risk which may be exacerbated by the weatherization measure and the client refuses to take the appropriate precautions, such as leaving the home during weatherization, then the home may be deferred.

Client Education

- Client will be informed, in writing, of any observed safety concerns and conditions and associated
- When deferral is necessary, information will be provided to the client, in writing, describing the conditions that must be met in order for weatherization to commence. A copy of this notification will also be placed in the client file.
- Client will be provided with Subgrantee contact information for ability to notify subgrantee of any known or suspected health concerns that may affect weatherization.

Documentation Form(s) have been developed and comply with guidance?	Yes 🗹	No □
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7.21 - Ventilation and Indoor Air Quality				
	Concurrence, Alternative, or Deferral			
Concu	rrence with Guidance 🗹	Alternative Gu	idance 🗆	Results in Deferral □
		Fund	ling	
DOE 5	Z LIHEAP ☑	State □	Utility 🗹	Other \square
lo	dentify the Most Recent Version	on of ASHRAE 62.2	Implemented (or	tional: identify Addenda used)
ASHRA	E 62.2-2016 will be implement	:ed		
	Te	sting and Final Ve	rification Protoco	ls
ASHRAE 62.2-2016 Alternative Compliance will be calculated on all homes and mechanical ventilation				
	will be installed when require	ed.		
 Existing fans and installed ventilation will have flow measured to verify performance. 				
Client Education				
 When a ventilation system is installed, information will be provided on the function, use and 				
maintenance of the ventilation system and components.				
 When a ventilation system is installed, the equipment manuals for the installed equipment will be 				
left with the occupant.				
 Client education materials will include a disclaimer that ASHRAE 62.2 does not account for high 				
polluting sources or guarantee indoor air quality.				
Training				
 Training on ASHRAE 62.2, including proper sizing and the evaluation of new and existing systems will 				
	be provided in Comprehensive and/or Specific training.			

7.22 – Window and Door Replacement, Window Guards					
Concurrence, Alternative, or Deferral					
Concurrence v	Concurrence with Guidance Alternative Guidance Results in Deferral				
		Fund	ling		
DOE ☑	LIHEAP 🗹	State □	Utility 🗹	Other \square	
What guida	ance do you provide t	o Subgrantees rega	arding window and	d door replacement and win	ndow
guards?					
 Door replacements, window replacements, and window guards are not allowable as H&S. 					
Testing Protocols					
N/A					
Client Education					
Client will be provided written information on lead risks whenever issues are identified.					
Training					
Training on the awareness of guidance will be provided in Specific training.					

7.23 – Worker Safety (OSHA, etc.)

Concurrence, Alternative, or Deferral

Concurre	nce with Guidance 🗹	Alternative Gui	idance \square	Results in Deferral
		Fund	ing	
DOE 🗹	LIHEAP ☑	State □	Utility 🗹	Other 🗆
How do you verify safe work practices? What is your policy for in-progress monitoring?				
• T	he Grantee will perform on	site visits to units ir	the process of be	eing weatherized when the
weatherization workers are performing work to the home.				
 Grantee will verify Safety Data Sheets (SDS), OSHA certifications, RRP certifications (if applicable), 				
Lead Safe Work Practices (if applicable), Daily CAZ Spillage Testing procedures (if applicable),				
presence of safety equipment, and other worker safety issues as identified as needed onsite.				
Training and Certification Requirements				
 Weatherization workers will be required to have OSHA 10 certification or equivalent. 				
• (• OSHA Confined Space for Construction will be adhered to when work in confined spaces is required.			
Ongoing training as required by the OSHA Hazard Communication Program.				