Missouri Weatherization PY2020 Health and Safety Plan

☑ POLICY SUBMITTED WITH PLAN

1.0 – GENERAL INFORMATION

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

2.0 – BUDGETING

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

Select which option is used below.

Separate Health and Safety Budget ☑	Contained in Program Operations ☐

3.0 – HEALTH AND SAFETY EXPENDITURE LIMITS

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

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

15 percent is not a limit on H&S expenditures but exceeding this amount will require ample justification. These funds are to be expended by the Program in direct weatherization activities. While required as a percentage of the ACPU, if budgeted separately, the H&S costs are not calculated into the per-house limitation. 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			
Enter Measure ↓	**Enter** Cost ↓	**Enter** Frequency % ↓	Auto Calculates
Air Conditioner Reapair	$223.00	1.0%	$2.23
Air Conditioner Replacement	$1,589.00	1.4%	$22.25
ASHRAE Compliance	$234.00	77.6%	$181.58
CO Detector	$36.00	98.4%	$35.42
Combustion Air Installation	$44.00	3.1%	$1.36
Combustion Vent Replacement	$92.00	17.3%	$15.92
Daily CAZ Test	$39.00	20.2%	$7.88
Ventilation Fans (non-ASHRAE)	$110.00	31.2%	$34.32
Gas Leak Repair	$139.00	1.4%	$1.95
Heat Source Barrier	$216.00	0.7%	$1.51
Heating System Clean and Tune	$98.00	23.2%	$22.74
Heating System Replacement	$1,474.00	14.1%	$207.83
Heating System Repair	$175.00	12.3%	$21.53
Misc.	$75.00	87.4%	$65.55
Moisture Repair	$82.00	45.9%	$37.64
Oven Repair	$76.00	0.0%	$0.02
Smoke Detector	$24.00	69.1%	$16.58
Water Heater Repair	$36.00	12.9%	$4.64
Water Heater Replacement	$817.00	7.8%	$63.73
Wiring Repair	$50.00	1.5%	$0.75
Total Average H&S Cost Per Unit			$745.42
Enter Estimated Production (Annual File: IV.2 WAP Production Schedule) ➔			1395
Enter Estimated Program Operations Budget ➔			4,937,837
H&S Budget (Total Average H&S Cost Per Unit * Estimated Production)			$1,039,863.97
Requested H&S Percentage Per Unit (H&S Budget/Program Operations)			21.1%

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 PY20, the average cost per measure was determined using the actual expenses for all homes weatherized in the first 7 months in FY20. 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 21.1 percent

Missouri may request to exceed the 21.1 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.

Grantee has developed a comprehensive written deferral/referral policy that covers both H&S, and other deferral reasons?

Yes ☑ No ☐

Where can this deferral/referral policy be accessed?

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, Alternative, or Deferral		
Concurrence with Guidance ☑	Alternative Guidance ☐	Results in Deferral ☐
Air Conditioning Unallowable Measure ☐	Heating Unallowable Measure ☐	
Funding		
DOE ☑	LIHEAP ☑	State ☐
Utility ☑	Other ☐	
How do you address unsafe or non-functioning primary heating/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 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

Concurrence with Guidance ☑ Alternative Guidance ☐ Results in Deferral ☐

Funding

DOE ☑ LIHEAP ☑ State ☐ Utility ☑ Other ☐

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

- All reasonable and necessary precautions to prevent asbestos contamination in the home will be taken.
- PACM in walls and/or ceilings will never be cut, drilled, sanded or otherwise disturbed
- The removal of PACM siding, only where necessary, to install wall insulation is allowable.
- Existence of asbestos siding that is in good condition does not prevent installing dense pack insulation from the exterior. The siding may be removed and reinstalled 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 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.
- 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

- Licensing/certification for removal and reinstallation of asbestos siding, if required by AHJ.
- Safe practices for siding removal and replacement through Comprehensive and/or Specific training.
- How to visually identify PACM through Comprehensive and/or Specific training.
- Quality Control Inspector training and certification for all final inspectors.

7.2b – Asbestos - in vermiculite

Concurrence, Alternative, or Deferral

Concurrence with Guidance ☑ Alternative Guidance ☐ Results in Deferral ☐

Funding				
DOE ☑	LIHEAP ☑	State ☐	Utility ☑	Other ☐

How do you address suspected ACM's in vermiculite that will be disturbed through the course of weatherization work?

- When vermiculite is present, it will be assumed that it contains asbestos unless testing determines otherwise.
- Blower door tests will not be performed if it will disturb asbestos containing vermiculite.
- Proper respiratory protection will be used while in areas containing asbestos containing vermiculite.
- Encapsulation by an appropriately trained asbestos control professional is allowable.
- Removal of vermiculite is not allowable.
- When deferral is necessary due to asbestos, the occupant must provide documentation that a certified professional performed the remediation before work continues.

Testing Protocols

- 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).

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.
- Quality Control Inspector training and certification for all final inspectors.

7.2c – Asbestos - on pipes, furnaces, other small covered surfaces

Concurrence, Alternative, or Deferral		
Concurrence with Guidance ☑	Alternative Guidance ☐	Results in Deferral ☐

Funding				
DOE ☑	LIHEAP ☑	State ☐	Utility ☑	Other ☐

How do you address suspected ACM's (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.

Testing Protocols

- 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, mustiness, bacteria, viruses, raw sewage, rotting wood, etc.)

Concurrence, Alternative, or Deferral

Concurrence with Guidance ☑	Alternative Guidance ☐	Results in Deferral ☐
	Unallowable Measure ☐	

Funding

DOE ☑	LIHEAP ☑	State ☐	Utility ☑	Other ☐

What guidance do you provide Subgrantees for dealing with biological and/or unsanitary conditions in homes slated for weatherization?

• 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.
Testing Protocols
• 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 ☐
Funding				
DOE ☑	LIHEAP ☑	State ☐	Utility ☑	Other ☐
What guidance do you provide Subgrantees for dealing with structural issues (e.g., roofing, wall, foundation) in homes slated for weatherization?				
• Structural issues that would make weatherization impossible, impractical, unsafe, or would inhibit the installation of significant weatherization measures 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?				
• Structural and/or roof repairs that cannot be performed within the 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 audit required?				
Priority lists are not used. A site specific computerized audit is performed on every home.				
Client Education				

- 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 with Guidance ☑ Alternative Guidance ☐ Results in Deferral ☐

Funding

DOE ☑ LIHEAP ☑ State ☐ Utility ☑ Other ☐

What guidance do you provide Subgrantees for dealing with code compliance issues in homes receiving weatherization measures?

- Correction of preexisting code compliance issues is not an allowable health and safety cost unless it is necessary for weatherization measures being installed or is a result of weatherization work.
- If correction of preexisting code compliance issues are necessary and paid for with WAP funding, the specific code requirement with reference to the weatherization measure that required the correction of the preexisting code compliance issue will be documented in the client file.

What specific situations commonly trigger code compliance work requirements 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 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 determine what code compliance of preexisting conditions may be required through Comprehensive and/or Specific training.
- Quality 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 Protocols

- Testing of combustion gases will be performed following BPI 1200 standards.
- 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.

How are crews instructed to handle problems discovered during testing, and what are the specific 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 Education

Client will be provided with combustion safety and hazards information.

Training

- Training on combustion testing and action levels as per the BPI 1200 standards will be provided in Comprehensive and/or Specific training.
- Quality Control Inspector training and certification for all final inspectors.

7.9 – Electrical

Concurrence, Alternative, or Deferral

Concurrence with Guidance ☑	Alternative Guidance ☐	Results in Deferral ☐

Funding

DOE ☑	LIHEAP ☑	State ☐	Utility ☑	Other ☐

What guidance do you provide Subgrantees for dealing with electrical hazards, including knob & tube wiring, in homes slated for weatherization?

- 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 site-specific 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, Alternative, or Deferral

Concurrence with Guidance ☑ Alternative Guidance ☐ Results in Deferral ☐

Funding

DOE ☑ LIHEAP ☑ State ☐ Utility ☑ Other ☐

What guidance do you provide Subgrantees for dealing with formaldehyde, VOCs, flammable liquids, and other air pollutants identified in homes slated for weatherization?

- Subgrantees should minimize or restrict the use of materials that may be hazardous to the client, however if the subgrantee must utilize hazardous materials, including chemicals, such use must be discussed with the client prior to using.
- If strong smelling chemicals, such as formaldehyde, are detected in the client's home, subgrantees should not perform any weatherization measures that would reduce the natural air leakage of the dwelling, therefore the home should be deferred.
- If VOCs or flammable liquids are detected which would make weatherization impossible, impractical, inhibit the installation of significant weatherization measures, or would pose a hazard to weatherization workers, the home should be deferred.

Testing Protocols

Sensory inspection for formaldehyde, VOCs, flammable liquids, and other air pollutants

Client Education

- Client will be provided written materials on safety issues and proper disposal of household pollutants.
- Client will be informed in writing of observed hazardous conditions and the associated risks.
- 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 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.

7.11 – Fuel Leaks *(please indicate specific fuel type if policy differs by type)*				
Concurrence, Alternative, or Deferral				
Concurrence with Guidance ☑		Alternative Guidance ☐		Results in Deferral ☐
Funding				
DOE ☑	LIHEAP ☑	State ☐	Utility ☑	Other ☐
Remediation Protocols				
• Missouri has very few fuel tanks remaining in homes. If a fuel leak were to be detected, the client would be notified (in writing) and immediate action would take place to reduce the risk of any fuel contamination. If it is a small leak and can be repaired, the leak will be addressed as a health and safety measure. If the leak is substantial and/or has already resulted in contamination, the home will be deferred. The subgrantee will work with the client to contact the appropriate authorities for proper cleanup.				
How do you define allowable fuel leak repairs, and at what point are repairs considered beyond the scope of weatherization?				
• Fuel leak repairs in natural gas or propane lines that are the responsibility of the client (i.e. downstream of the gas meter) must be repaired before completing weatherization on a unit. • If the fuel leak repairs have an estimated cost of greater than $200 (this cost limit may be increased on a case by case basis with DE approval) or the fuel leak has caused contamination, the home should be deferred.				
Client Education				
• Client will be informed in writing if any fuel leaks are detected. • 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 fuel leak testing will be provided in Comprehensive and/or Specific training. • Quality Control Inspector training and certification for all final inspectors.				

7.12 – Gas Ovens / Stovetops / Ranges				
Concurrence, Alternative, or Deferral				
Concurrence with Guidance ☑		Alternative Guidance ☐		Results in Deferral ☐
Funding				
DOE ☑	LIHEAP ☑	State ☐	Utility ☑	Other ☐
What guidance do you provide Subgrantees for 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.
Testing Protocols
• 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.

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

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 Deferral ☐
Funding				
DOE ☑	LIHEAP ☑	State ☐	Utility ☑	Other ☐

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 – Lead Based Paint				
Concurrence, Alternative, or Deferral				
Concurrence with Guidance ☑		Alternative Guidance ☐		Results in Deferral ☐
Funding				
DOE ☑	LIHEAP ☑	State ☐	Utility ☑	Other ☐
Safe Work Protocols				
• Crews must follow EPA's Lead; Renovation, Repair and Painting Program (RRP) when working in pre-1978 housing, unless testing confirms the work area to be lead free. • Deferral is required when the extent and condition of lead based paint in the house would potentially create further H&S hazards.				
Testing Protocols				
• Testing to determine the presence of lead in paint that will be disturbed by WAP measure installation is allowed with EPA approved testing methods that are economically feasible and justifiable. • Job site set up and cleaning verification will be performed by a Certified Renovator. • Grantees will verify crews are using lead safe work practices during monitoring.				
Client Education				
• Pre-renovation education provisions as outlined by the RRP will be followed. • 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				
• 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

(Including but not limited to: drainage, gutters, down spouts, extensions, flashing, sump pumps, dehumidifiers, landscape, vapor retarders, moisture barriers, etc.)

Concurrence, Alternative, or Deferral

Concurrence with Guidance ☑ Alternative Guidance ☐ Results in Deferral ☐

Funding

DOE ☑ LIHEAP ☑ State ☐ Utility ☑ Other ☐

What guidance do you provide Subgrantees for dealing with moisture related issues (e.g., drainage, gutters, down spouts, moisture barriers, dehumidifiers, vapor barrier on bare earth floors) in homes slated for weatherization?

- If repair of moisture problems that might result in health problems for the client, damage to structure over the short- or long-term, or diminish the effectiveness of the weatherization measures, are outside the scope of weatherization and cannot be addressed as part of weatherization, the home must be deferred.
- Where severe mold and moisture issues cannot be addressed, deferral is required. Severe mold issues would include, but are not limited to, moldy areas larger than 10ft², mold in HVAC system or mold caused by sewage or other contaminated water.
- Major drainage issues beyond the scope of the Weatherization Assistance Program or homes with conditions that may create a serious health concern should be deferred.
- Mold cleanup is not an allowable Health and Safety cost.
- Surface preparation where weatherization measures are being installed must be charged as part of the ECM.
- Storage water heaters that have leaking tanks that cannot be reasonably repaired and are creating a moisture problem are eligible for replacement.

How do you define "minor" or allowable moisture-related measures, and at what point is work considered beyond the scope of weatherization?

- Moisture repairs necessary for the direct installation of an ECM should be incidental repairs to the cost of the measure.
- Moisture repairs necessary for the health and safety of the weatherization workers and/or occupant may be done as H&S, given the estimated cost is less than $200 or DE approval is obtained. Leaking water heaters that are creating a moisture issue may be replaced as H&S and are not limited to $200.
- If mold is found to cover an area greater than 10 square feet, the home should be deferred.
- Minor outside moisture/drainage issues may be addressed if the drainage can be corrected with a shovel and wheelbarrow. Homes with drainage problems over $200 or cannot be corrected with hand tools, should be deferred.

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 – Pests				
Concurrence, Alternative, or Deferral				
Concurrence with Guidance ☑		Alternative Guidance ☐		Results in Deferral ☐
Funding				
DOE ☑	LIHEAP ☑	State ☐	Utility ☑	Other ☐
What guidance do you provide Subgrantees for dealing with pests and pest intrusion prevention in homes slated for weatherization?				
• Pest removal is allowed only where infestation would prevent weatherization. • Infestation of pests may be cause for deferral where it cannot be reasonably removed or poses H&S concern for workers. • Screening of windows and points of access, and incorporating pest exclusion into air sealing practices to prevent intrusion is allowable.				
Define Pest Infestation Thresholds, Beyond Which Weatherization Is Deferred				
• The subgrantee must assess the situation and the severity of the infestation. If the infestation cannot be easily corrected, then the home must be deferred. • If the infestation is not severe and the pests can be easily eradicated 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 exceed $200.				
Testing Protocols				
• Assessment of presence and degree of infestation and risk to worker.				
Client Education				
• Client will be informed, in writing, of any observed pest conditions and associated risks. • 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 assess presence and degree of infestation, associated risks, and deferral policy will be provided in Comprehensive and/or Specific training.				

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

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;
  o A list of precautionary measures WAP will install based on EPA Healthy Indoor environment Protocols;
  o Some of the benefits of weatherization including energy savings, energy cost savings, improved home comfort, and increased safety; and
  o 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 – Safety Devices: Smoke and Carbon Monoxide Alarms, Fire Extinguishers				
Concurrence, Alternative, or Deferral				
Concurrence with Guidance ☑	Alternative Guidance ☐	Results in Deferral ☐		
Funding				
DOE ☑	LIHEAP ☑	State ☐	Utility ☑	Other ☐
What is your policy for installation or replacement of the following:				
Smoke Alarms: Must be installed if alarms are not present or are inoperable.				
Carbon Monoxide Alarms: Must be installed if alarms are not present or are inoperable.				
Fire Extinguishers: May be installed if solid fuel burning equipment is present.				

Testing Protocols
• 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, Alternative, or Deferral				
Concurrence with Guidance ☑		Alternative Guidance ☐		Results in Deferral ☐
Funding				
DOE ☑	LIHEAP ☑	State ☐	Utility ☑	Other ☐
What guidance do you provide Subgrantees for soliciting the occupants' health and safety concerns related to components of their homes?				
• When an occupant's health may be at risk and/or WAP work activities could constitute a H&S hazard, the occupant is required to take appropriate action based on the severity of risk. • Inability or failure to take appropriate actions will result in deferral.				
What guidance do you provide Subgrantees for determining whether occupants suffer from health conditions that may be negatively affected by the act of weatherizing their home?				
• Occupants will be consulted on known or suspected health concerns that may be affected by weatherization as part of the initial application and/or during the initial audit.				
What guidance do you provide Subgrantees for dealing with potential health concerns when they are 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 risks. • 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 ☐				

7.21 – Ventilation and Indoor Air Quality				
Concurrence, Alternative, or Deferral				
Concurrence with Guidance ☑		Alternative Guidance ☐		Results in Deferral ☐
Funding				
DOE ☑	LIHEAP ☑	State ☐	Utility ☑	Other ☐
Identify the Most Recent Version of ASHRAE 62.2 Implemented (optional: identify Addenda used)				
ASHRAE 62.2-2016 will be implemented				
Testing and Final Verification Protocols				
• ASHRAE 62.2-2016 Alternative Compliance will be calculated on all homes and mechanical ventilation will be installed when required. • 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 with Guidance ☐		Alternative Guidance ☑		Results in Deferral ☐
Funding				
DOE ☑	LIHEAP ☑	State ☐	Utility ☑	Other ☐
What guidance do you provide to Subgrantees regarding window and door replacement and window 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

Concurrence with Guidance ☑		Alternative Guidance ☐		Results in Deferral ☐
Funding				
DOE ☑	LIHEAP ☑	State ☐	Utility ☑	Other ☐
How do you verify safe work practices? What is your policy for in-progress monitoring?				
• The Grantee will perform onsite visits to units in the process of being 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.				

MISSOURI DEPARTMENT OF ECONOMIC DEVELOPMENT

WEATHERIZATION SUBGRANTEE – _____

ENGAGEMENT PERIOD: __7/1/2020_ TO __6/30/2021 _.

OBJECTIVES

1. To determine that internal controls were adequate and functioning properly at the Low-Income Weatherization Assistance Program (LIWAP) Subgrantee.
2. To determine that the LIWAP Subgrantee was in compliance with laws, regulations, rules, contracts, grants, policies and procedures including the following:
   - Policies of the subgrantee;
   - Missouri Department of Economic Development/Division of Energy's *Weatherization Program Operational Manual*;
   - 10 CFR Part 440 and 2 CFR Part 200.
3. To determine that all receipts, disbursements, and cash balances of the LIWAP Subgrantee were accurately reported in the accounting records.
4. To determine that payments to the LIWAP Subgrantee were for eligible costs and were properly documented and approved.
5. To verify the accuracy of data used in reporting.

Tab	Procedures – I. Pre-work	Initials, Date, & Comments
I A	***Pre-work:*** Review risk assessment (*FY19 Risk Assessment.xlsx*) to determine the scope of the monitoring visit and the number of client files to be reviewed.	
I B	***Pre-work:*** Print out and review the Positions and Processes Questionnaire that was completed by the subgrantee.	

Tab	Procedures – II. Entrance Conference	Initials, Date, & Comments
II	Meet with subgrantee staff to discuss the scope of the engagement and the status of the program's activities. Subgrantee staff should be offered the opportunity to be present at the entrance conference. Put notes from the entrance conference in the subgrantee monitoring binder.	
	Ask the two conflict of interest questions at the bottom of the entrance conference outline.	

MISSOURI DEPARTMENT OF ECONOMIC DEVELOPMENT

WEATHERIZATION SUBGRANTEE – _____

ENGAGEMENT PERIOD: __7/1/2020_ TO __6/30/2021 _.

Tab	Procedures – III. Operations A. Conflict of Interest	Initials, Date, & Comments
III A	***Pre-work:*** Open the Agency Measure Approvals spreadsheet here and save a copy to the subgrantee's monitoring folder. Click on the Conflict of Interest tab. Highlight all of that subgrantee's clients that don't have a month and year in the last column. Also highlight all of that subgrantee's clients who have a month and date after the subgrantee's last monitoring visit. During the monitoring visit, review the highlighted client files for any signs of preferential treatment.	
	If anyone mentioned a conflict of interest in the entrance conference which had not already been reported to DED-DE, note what was said and, if appropriate, get a written statement from that person. • If it was an employee, board member, or family member of either, who had their home weatherized, request that client file and add it to the list of client files to be reviewed. Verify that DED/DE approval was obtained as required by the Program Operational Manual. • If it involved a contractor who is related to an employee or a board member, request all bids/bid packages submitted by that contractor and check for fairness and open competition. Also check several of the contractor's invoices to ensure that the amounts invoiced matched the amounts that the contractor bid. Verify that DED/DE approval was obtained as required by the Program Operational Manual.	

MISSOURI DEPARTMENT OF ECONOMIC DEVELOPMENT

WEATHERIZATION SUBGRANTEE – _____

ENGAGEMENT PERIOD: __7/1/2020_ TO __6/30/2021 .

Tab	Procedures – III. Operations B. Financial Controls	Initials, Date, & Comments
III B I	***Pre-work:*** Obtain the subgrantee's Financial and Procurement Policies & Procedures to determine if they comply with the requirements of 2 CFR 200. Review for the following: ◆ Tripartite Board ◆ Travel Policy ◆ Annual Audit ◆ Stale Checks ◆ Check Signers ◆ References to 2 CFR 200 ◆ Required contract clauses ◆ Conflict of Interest ◆ Bank Reconciliations ◆ Purchasing approvals & limits If the policies are delivered electronically and a copy has been placed in the subgrantee's monitoring folder, it is not necessary to print out a hard copy for the binder.	
III B 2	Obtain a list of all subgrantee bank accounts held, in which weatherization funds were deposited during the engagement period. Ensure *advances* of federal funds are maintained in interest-bearing accounts and that interest earned on DOE funds has not exceeded the allowable threshold of $500 for non-profits. If *advanced* federal funds exceeded $250,000, obtain a pledged security agreement/repurchase agreement.	
	Review all weatherization bank authorization forms and obtain a list of authorized check signers during the review period. • Review the bank authorization signature cards for board of directors authorization. • Review the bank authorization signature cards to ensure terminated employees and ex-board members were removed from check signing authority. • Are there adequate procedures for approving and recording interbank transfers? *(Policies & Procedures)* • Is the blank check stock adequately secured? *(View at agency)*	

Tab	Procedures – III. Operations B. Financial Controls	Initials, Date, & Comments
III B 3	***Pre-work:*** Document the bank reconciliation process. Determine who completes the monthly bank reconciliation and who approves the bank reconciliation. Review the bank reconciliation for one month within the period being monitored for all accounts that involve weatherization funds. (If the subgrantee's receives advances, review the bank statement for December 31 of the previous year and determine if the subgrantee received more than $250 in interest on the advanced funds for that calendar year.) Determine that the reconciliations were prepared accurately and approved properly. • Are all bank statements reconciled in accordance with the subgrantee's financial policies and procedures? Do the policies require the reconciliation to be completed and approved within thirty days after the statement date?	
III B 4	***Pre-work:*** Using the subgrantee's budgets, reimbursements, and advancements from MoWAP, the SAM II (Crystal) reports, and the revenue report that was provided by the subgrantee, fill in the *Revenues & Expenditures Test.xlsx* and determine if the subgrantee's records of payments from the grants match those of DED/DE and SAM II. • Determine if the subgrantee is spending a significantly higher percentage of admin funds than were budgeted or than are allowed. • Determine if the subgrantee is spending their admin funds at a significantly faster rate than the rest of the grant. (The highlighted cells on line 15 of the spreadsheet will turn red if either of the above conditions exist; otherwise they will be green.)	

MISSOURI DEPARTMENT OF ECONOMIC DEVELOPMENT

WEATHERIZATION SUBGRANTEE – _____

ENGAGEMENT PERIOD: __7/1/2020_ TO __6/30/2021 .

Tab	Procedures – III. Operations C. Expenditures	Initials, Date, & Comments
III C 1	Determine if the invoices were allocated correctly to the weatherization program, according to their cost allocation plan. Verify that all invoices on your list for vehicle expenses (including fuel) are clearly marked with the V.I.N. (or other unique identifier) of the vehicle for which the expense was incurred. Verify that the payments match the invoices, were for allowable costs, and check them against the chart of accounts to see that they were coded to the correct account. Make a copy of *one* invoice and its backup documentation for the working papers. Make copies of any payments that did not match the invoice(s), were for costs that were not allowable, or were coded to the wrong account(s). • Were all expenditures supported by an invoice, employee reimbursement claim form, or other documentation? • Were invoices properly marked "Paid" with the date and check number to prevent duplicate payment? • Were expenditures posted correctly to the accounting records? • Were expenditures approved according to their policies & procedures and positions & processes?	
III C 2	Review Insurance Coverages – All subgrantees are required to carry the following types of insurance: • General Liability Insurance • Automobile Insurance *(compare to vehicles on inventory)* • Real and Personal Property Insurance • Environmental/Pollution Occurrence Insurance • Workers Compensation Insurance (Most policies should be uploaded with the subgrantee's most recent budget.)	

MISSOURI DEPARTMENT OF ECONOMIC DEVELOPMENT

WEATHERIZATION SUBGRANTEE – _____

ENGAGEMENT PERIOD: __7/1/2020_ TO __6/30/2021 _.

Tab	Procedures – III. Operations C. Expenditures	Initials, Date, & Comments
III C 3	***Pre-work:*** Obtain the subgrantee's indirect rate and cost allocation plan from MoWAP and review it (these should be in the uploaded documents of every budget). If the indirect rate has been approved by the federal cognizant agency, testing is not necessary. Cost allocation plan must be fair and reasonable. Determine also how the subgrantee distributes expenses across all grants (including agency managed grants).	
III C 4	***Pre-work:*** Administrative costs must be allocated based on the principles and procedures established in the cost allocation plan or indirect rate. • Review the Revenues and Expenditures spreadsheet to determine the percentage of Administrative Expenditures budgeted to actual Administrative Expenditures. • Compare the amount of Administrative Indirect Rate Expenditures in the test month(s) to the Indirect Rate percentage. • Determine if subgrantee is distributing administrative costs to all grants (including agency managed grants).	
III C 5	Determine if T&TA expenditures are allowable. (***Pre-work:*** Print the T&TA report from the MoWAP reportal and compare to backup documentation and the general ledger.) Print a copy of one of the T&TA invoices for the binder.	
III C 6	***Pre-work:*** Review the WAP portion of the subgrantee's single audit cost. This is to be included in the Financial Audit budget category unless financial audits have been included in the indirect cost pool of an approved indirect cost rate. Check to see if the audit was charged out to Weatherization in accordance with the subgrantee's cost allocation plan. Ask how many years they have used their current audit firm.	

MISSOURI DEPARTMENT OF ECONOMIC DEVELOPMENT

WEATHERIZATION SUBGRANTEE – _____

ENGAGEMENT PERIOD: __7/1/2020_ TO __6/30/2021 .

Tab	Procedures – III. Operations D. Procurement	Initials, Date, & Comments
III D 1	***Pre-work:*** Obtain a listing of payments to vendors for the fiscal year being monitored. The listing should be summarized by fiscal year, vendor, and amount paid.	
	Identify any vendor receiving more than $3,000, request bid documentation for these purchases, and review for the following: • All purchases must be made by competitive procurement except for single, local purchases or repetitive purchases of like items with total value *less than $3,000* in a single year. • Informal telephone bids are required for purchases *of $3,000 to $24,999* for repetitive purchases of like items. • Invitation for Bid procurement instrument must be used for purchases *exceeding $25,000* for repetitive purchases of like items, unless using the home-by-home contractor pool for HVAC. These purchases must be advertised and use formal, sealed bids. If possible, a minimum of three bids must be received.	

Tab	Procedures – III. Operations D. Procurement	Initials, Date, & Comments
III D 2	Obtain and examine the bid packages for all contractors, including home-by-home contractor pool, to determine if the subgrantee correctly executed the bid process, and retained all necessary documentation. (IFB, newspaper ads or affidavits, list of bidders the IFB was sent to, list of those present at the bid opening with time, date and location of opening, and bid evaluation score sheet.) Determine how the subgrantee is bidding each type of contract labor and include that in the report.	

III D 3	Determine how the subgrantee procured their insurance policies. Review the procurement documentation if the policies were bid directly from the insurance company (not an insurance broker). If an insurance broker was used, ***Ask:*** How often do you bid out your insurance broker?	
III D 4	Find out how much the agency was charged for their most recent single audit and when they last bid it out. Review the bid package (or the contract extension) for the audit if over $25,000. Review 2 CFR 200.501-512 (Audit Requirements) and 2 CFR 200.317-326 (Procurement Standards) with the subgrantee if there are issues found.	

Tab	Procedures – III. Operations E. Program Compliance	Initials, Date, & Comments
III E 1	Utilizing the agency's most current waiting list from the MoWAP reportal, determine how the next clients are selected. ***Ask:*** Who are the next clients to be served and how are they selected? ***Pre-work:*** Obtain copies of communications to applicants who are eligible and ineligible for program benefits. ***Pre-work:*** Include copies of any outreach materials or presentations used to attract new applicants that were sent in by the subgrantee with the requested documents.	

Tab	Procedures – III. Operations E. Program Compliance	Initials, Date, & Comments
III E 2	If the subgrantee maintains a weatherization materials inventory, request the most current inventory listing available and evaluate for the following: • Determine if the subgrantee is using the FIFO method of inventory valuation. • Determine if the inventory is being valued correctly. Check the prices of at least five items on the inventory listing to the invoices on which they were purchased. • Determine if the inventory is being charged to the home correctly. Check the inventory costs charged to at least three client files to the costs on the inventory listing. • Is the inventory stored in a manner which protects the materials from damage? • Is the inventory stored in a organized manner, and is it easily accessible to those who need the materials? • Is a control system in place to ensure adequate safeguards to prevent against loss, damage, or theft of property and adequately safeguarded with limited access? • Is the loss, damage, or theft of property reported to local authorities for investigation? Note instances. If the inventory was purchased with funds from a grant administered by DED/DE: • Determine how often an inventory count is performed by the subgrantee, who does the inventory count, and what the process is. • Perform a physical inventory count for a minimum of eight inventory items. Choose the five items with the highest dollar value per unit, plus three other randomly selected items.	

Tab	Procedures – III. Operations E. Program Compliance	Initials, Date, & Comments
III E 3	***Pre-work:*** Print out the Access .pdf labeled "Agency Inventory Report" and the Vehicle and Equipment Inventory Report from the subgrantee's monitoring folder. Copy the Vehicle and Equipment Inventory Report from the previous years' monitoring binder, and the Agency Inventory Report from the subgrantee's inventory file. Place all four in the current monitoring binder. ***Ask:*** Is anyone in the agency using weatherization vehicles or equipment for any purpose outside of DED/DE's Weatherization Assistance Program? Are any vehicles or equipment being taken home by an employee or anyone else? If so, get as much information as possible and include it in the monitoring report. • Were any new vehicle or equipment items purchased during the review period? If so, obtain from the subgrantee's inventory file copies of the title, or application for title, and all purchase documentation for vehicles purchased during the review period. Include purchase approval documentation from DOE and DED/DE. Were the new vehicle or equipment items bid with several vendors providing quotes? Were the proper bid processes followed for the type and value of asset acquired? • Did the subgrantee sell any vehicles or equipment during the review period? If so, obtain from the subgrantee's inventory file copies of all documents from the sale of the vehicle/equipment. Include disposal approval documentation from DOE and DED/DE. • Verify that the proceeds from the sale of any equipment or vehicles that were purchased with DOE funds, and had a fair market value of $5,000 or more, were returned to the Federal Treasury (less $500 that could be kept to cover sale expenses). • Verify that any proceeds retained by the subgrantee were deposited into the appropriate weatherization fund account for future use on weatherization projects. • Check VIN/Serial numbers on the vehicles/equipment against those reported on the inventory list. • Verify that all vehicles have the required DED/DE signage. Record the mileage of all vehicles on the Vehicle and Equipment Inventory spreadsheet, and compare to the previous year's monitoring report to determine if the vehicles were utilized to a reasonable extent.	

Tab	Procedures – III. Operations E. Program Compliance	Initials, Date, & Comments
III E 4	***Pre-work:*** Run the Homes Complete Summary report from the MoWAP Reportal for the DOE grant for the time period being monitored. This will show you which fund sources were used on each home. Select client files to be monitored based on the number of homes completed during the review period and the risk assessment. Enter client job numbers and names in *Client File Test.xls*. Print out the Client File Summary from MoWAP for each client file to be reviewed. Print out all uploaded invoices, and any uploaded bids if the subgrantee uses home-by-home bidding. ***Pre-work:*** Review the selected client files in MoWAP using process found on *Client File Test.xls*. • Compare each contractors' bid document to a sampling of their invoices in the client files to ensure materials and labor are being charged in accordance with their bid. • Review a sampling of the client files to ensure that inventory materials and crew labor are being charged at the correct price/rate. • Determine if the subgrantee is keeping the information in MoWAP up-to-date as the client file progresses through the weatherization process. If time permits, one of the monitors should go over the findings with all weatherization personnel that work on the client files, before the exit conference.	
III E 5	***Pre-work:*** Obtain the number of homes completed by the subgrantee by county from MoWAP and enter into *LIWAP Monitoring.xlsx*. ***Pre-work:*** Obtain the 2014 estimated county populations and percent of persons below poverty level from http://quickfacts.census.gov/qfd and enter into the *LIWAP Monitoring.xlsx* spreadsheet. ***Pre-work:*** Check that the percent of homes complete by county is within +/- 8% of the percent of service area population below poverty.	

MISSOURI DEPARTMENT OF ECONOMIC DEVELOPMENT

WEATHERIZATION SUBGRANTEE – _____

ENGAGEMENT PERIOD: __7/1/2020_ TO __6/30/2021 _.

Tab	Procedures – III. Operations E. Program Compliance	Initials, Date, & Comments
	Complete all three tabs on "Production Spreadsheets" for **III E 6, 7, & 8** below.	
III E 6	***Pre-work:*** Calculate the percentage of grant dollars spent as compared to the grant time elapsed for each grant.	
III E 7	***Pre-work:*** Calculate the percentage of homes completed by the subgrantee as compared to the number of homes projected to be completed in the subgrantee's budget for each grant.	
III E 8	***Pre-work:*** Calculate the average cost per home for each grant by dividing the total expended in the program operations category by the total number of homes completed.	
III E 9	Review the files of all contractors after bid is done, and verify that each has the following information: • Ensure subgrantee has verified that the contractors are in Good Standing with the Missouri Secretary of State and checked both the Federal and State debarment lists for all contractors. • Weatherization and HVAC contractor(s) must have commercial general liability insurance, automobile insurance, workers compensation insurance (or waiver), a current, signed contract with the subgrantee, and (for Weatherization Contractors only) lead-safe practice certifications. • Evidence that the contractor submitted one of the following types of performance criteria: 1) Successfully completed a contract with the agency in the past; 2) Submitted references for whom they have performed satisfactorily; 3) Posted a performance bond.	
III E 10	***Pre-work:*** Obtain the two reports which indicate the timeliness of reports submitted by the subgrantee to DED/DE. *(P:/energy/residential/Wx. Monthly Report Tracking)* *(P:/energy/residential/Wx. Quarterly Report Tracking)* Review the report and document any trends of late submittals. Monthly: _____ Quarterly: _____	

MISSOURI DEPARTMENT OF ECONOMIC DEVELOPMENT

WEATHERIZATION SUBGRANTEE – _____

ENGAGEMENT PERIOD: __7/1/2020_ TO __6/30/2021 _.

Tab	Procedures – IV. Prior Monitoring and Audits	Initials, Date, & Comments
IV	***Pre-work:*** Print out the previous year's monitoring report and the subgrantee's corrective action response and place them in the monitoring binder. Pull the subgrantee's single audit report from the financial audits folder in the Green room. Copy 1) the cover page to show the audit firm and the year ending date, 2) the Findings and Questioned Costs pages at the back of the report, 3) the subgrantee's corrective action response, and 4) any communication from or to DED/DE concerning the audit report. Review the findings and the subgrantee's response from each. Document the status of the findings and any actions that the subgrantee has taken to correct the findings. If the subgrantee has not had sufficient time to implement corrective action, the follow-up should state such.	

Tab	Procedures – V. Exit Conference	Initials, Date, & Comments
V	Conduct an exit conference with the subgrantee to discuss the results of the monitoring. Subgrantee staff should be offered the opportunity to be present at the exit conference. Put notes from the exit conference in the subgrantee monitoring binder.	

V.8.3 Monitoring Activities (PY2020)

I. INTRODUCTION

The State of Missouri historically has administered the Weatherization Assistance Program (WAP) through a supervised network of nonprofit subgrantee agencies. The state may procure new implementation subgrantees as described elsewhere in this document. As the granting agency for the statewide program, the DE is responsible for monitoring the performance of each WAP subgrantee.

DE conducts a fiscal/procedural risk assessment each year for all subgrantees to determine the percentage of client files that will be reviewed during the upcoming monitoring year. Based on the risk assessment, fiscal/procedural monitors will review a minimum of 5 percent of the client files of each of the subgrantee homes that they completed during that year (or a minimum of 10 client files, whichever is greater). For medium risk subgrantees a minimum of 9 percent of the client files of each of the subgrantee homes that they completed during that year will be reviewed (or a minimum of 15 client files, whichever is greater). For high risk subgrantees a minimum of 18 percent of the client files of each of the subgrantee homes that they completed during that year will be reviewed (or a minimum of 20 client files, whichever is greater). Every subgrantee is monitored at least once in the program year.

DE conducts a technical risk assessment each year for all subgrantees, which determines the percentage of completed homes that will be inspected during the upcoming monitoring year. Based on the risk assessment, for subgrantees assessed as low risk, technical monitors will inspect a minimum of 5 percent of the each of the subgrantee homes that they completed during that year. For subgrantees assessed as medium risk, technical monitors will inspect a minimum 7.5 percent of each of the subgrantee homes that they completed during that year. For subgrantees assessed as high risk, technical monitors will inspect a minimum 10 percent of each of the subgrantee homes that they completed during that year. Additionally, for subgrantees where the auditor performs both the initial audit and final quality control inspection, as described in WPN 15-4 Section 3, the technical monitors will inspect a minimum of 10 percent of that subgrantee homes that they complete during that year. For subgrantees that use a combination of the Independent QCI and the Independent Auditor/QCI as outlined in WPN 20-4, Missouri will follow the standard monitoring protocol based on the risk assessment, plus inspect an additional 10 percent of the homes completed by the Independent Auditor/QCI, up to a total of 10 percent of all completed homes. DE technical monitors also inspect homes with initial audits, homes in progress and final inspections being performed by subgrantee staff during the monitoring visits, when applicable. Technical monitoring visits are conducted twice per year for each subgrantee. Approximately one-half of the total number of homes to be inspected for the year is inspected during each monitoring visit. All subgrantee final inspections as well as grantee technical monitoring for completed homes will be performed by a certified Quality Control Inspector as outlined in WPN 15-4 Section 3.

A. Monitoring Procedure

Monitoring enables DE to determine if the residents of Missouri are being adequately served and if the WAP is being operated in compliance with the federal/state regulations and requirements. Information obtained by the monitoring effort is used to determine:

- Internal controls and processes used by subgrantees
- Types of training and technical assistance required
- Fiscal integrity of subgrantees
- Production rates
- Proactive measures that may be taken to improve program operations
- Compliance with federal/state regulations and requirements
- Quality of weatherization work performed on clients homes
- Programmatic and Management Monitoring
    - Subgrantee Review
        - Subgrantees are reviewed through desk reviews and on-site monitoring visits.
    - Financial/Administrative
        - Desk reviews are conducted on an on-going basis through monthly reports of expenditures; clients served, and completed homes.
        - On-site reviews are held at least once each program year to review procedural, fiscal, technical and compliance issues.
        - Annual independent audits are reviewed to ensure audited financial schedules match financial reports during the year.
    - Equipment/Inventory/Materials
        - An annual equipment inventory is required. Equipment and vehicles are reportable with a cost equal to or greater than $5,000.
    - Eligibility
        - Eligibility is reviewed during through desk reviews and on-site visits. Any issues of in-eligibility are deducted from future reimbursements.
    - Rental
        - Landlord agreement forms (if applicable) are reviewed to determine authorization from the client's landlord.
    - Feedback and Reporting
        - Monitoring reports are issued with findings and recommendations.
        - Follow-up action as a result of the monitoring report is due within 30 days for fiscal/procedural and 45 days for technical.
    - Energy Audits
        - Energy audits, including on-site evaluations and computerized audits, are reviewed during on-site technical monitoring visits and through desk reviews.
    - Field Work
        - Field work is reviewed during on-site technical monitoring visits.
    - Quality Assurance
        - Quality assurance is reviewed on-site during technical monitoring and by tracking subgrantee field inspectors reoccurring issues.

        - Client satisfaction is tracked via a client survey during the quality assurance visits.
    - Training and Technical Assistance
        - Required technical training of personnel is review on-site during monitoring.
        - Training and Technical Assistance expenditures are reviewed via desk reviews through monthly reports of expenditures; clients served, and completed homes.
    - Staff or entity performing the monitoring
        - DE staff or contract monitors on behalf of the DE perform the monitoring.
    - How monitoring results are handled and required follow-up procedures
        - Corrective action plans from the subgrantees are required based upon findings from monitoring reports.
        - Required actions noted within the monitoring reports are required to be performed by the subgrantees lest future funding be withheld.
        - Follow-up action as a result of the monitoring report is due within 30 days for fiscal/procedural and 45 days for technical.

- Subgrantee Monitoring
    - Program Overview (Client File Review, Work Orders, etc.)
        - Client Files are reviewed for the following documents: weatherization application, proof of income, re-verification of income (if applicable), proof of ownership, landlord agreement (if applicable), NEAT or MHEA audit data, invoices, bills for materials and labor charges, work orders/estimates, recommended measures, utility bills, photos, work order changes, date of energy audit, date of final inspection, etc.
        - Annual household income is recalculated to determine compliance with Federal requirements for eligibility.
        - County statistics are reviewed to determine whether all areas are served equally based on population and poverty numbers.
        - Average cost per home is calculated and reviewed.
    - Financial/Administration
        - Subgrantees have appropriate insurance coverage for their agency and their personnel
    - Inventory
        - Materials inventory is valued using the First In, First Out (FIFO) inventory valuation method.
    - Energy Audits
        - Energy audits, including on-site evaluations and computerized audits, are reviewed during on-site technical monitoring visits and through desk reviews.
    - Qualifications & Training
        - Required training and certifications of subgrantee staff are evaluated on-site and through desk monitoring.
    - Weatherization of Units
        - Work performed on-site is reviewed during technical monitoring visits.

- Health and Safety
    - A limit for the average cost per home for Health & Safety costs is 18 percent of expenditures.
    - Installed health and safety measures are reviewed for proper installation
    - Homes monitored are reviewed for any health and safety measures that were not appropriately addressed.
- In Progress
    - Homes in progress are reviewed on-site during technical monitoring visits.
- Final Inspections
    - Final inspections are reviewed on-site during technical monitoring visits and through desk monitoring.
- Staff or entity performing the monitoring
    - DE staff or contract monitors on behalf of the DE perform the monitoring.
- How monitoring results are handled and required follow-up procedures
    - Corrective action plans from the subgrantees are required based upon findings from monitoring reports.
    - Required actions noted within the monitoring reports are required to be performed by the subgrantees lest future funding be withheld.
    - Follow-up action as a result of the monitoring report is due within 30 days for fiscal/procedural and 45 days for technical.

- Financial Monitoring
    - Financial Management/Accounting Systems and Operations
        - Subgrantee has accounting policies and procedures.
        - Bank reconciliations are performed in a timely manner.
        - Advance funding is deposited into an insured, interest bearing account.
        - Weatherization costs trace to the general ledger.
        - Weatherization reimbursements from DED trace to the general ledger.
    - Audits
        - Follow-up of prior monitoring concerns.
        - Single Audit was performed by an independent auditor and prior audit concerns, if any, were addressed.
    - Payroll/Personnel
        - Crew labor is traced to timesheets.
        - Contract labor is traced to the contractor's invoice.
    - Vehicles and Equipment
        - All vehicles require both DOE and DE approval before the vehicle may be purchased.
        - Subgrantee completes and submits the Vehicle and Equipment Inventory Report by December 1 of each year.
        - Subgrantee completes and submits the Equipment/Vehicle Disposal Report no later than 90 days from the DE disposal approval letter.
        - Subgrantee completes and submits the Vehicle/Equipment/Building Purchase, Lease Request form for any leases, if applicable.
    - Procurement

        - Subgrantee procurement requirements are met per Section VI of the Weatherization Operations Manual.
    - Sub-awards/Subgrantee Monitoring
        - Desk reviews are conducted on an on-going basis through monthly reports of expenditures; clients served, and completed homes.
        - Annual independent audits are reviewed to ensure audited financial schedules match financial reports during the year.
    - Invoicing
        - Materials, contract labor, crew labor and incidental repair costs per the client file match invoices and work orders in the client file.
    - Records Retention
        - All records are kept for three years.
    - Staff or entity performing the monitoring
        - DE staff or contract monitors on behalf of the DE perform the monitoring.
    - How monitoring results are handled and required follow-up procedures
        - Corrective action plans from the subgrantees are required based upon findings from monitoring reports.
        - Required actions noted within the monitoring reports are required to be performed by the subgrantees lest future funding be withheld.
        - Follow-up action as a result of the monitoring report is due within 30 days for fiscal/procedural and 45 days for technical.

B. Tentative Monitoring Schedule

Each subgrantee has fiscal monitoring occur once a year and technical monitoring occur twice a year. Below is a tentative monitoring schedule for PY20.

Subgrantee # From Annual File	Subgrantee Acronym	Fiscal Monitoring*	Technical Monitoring Visit 1*	Technical Monitoring Visit 2*
1	CSI	10/6/2020	9/29/2020	3/2/2021
2	DAEOC	3/10/2021	11/3/2020	4/6/2021
3	EMAA	1/19/2021	10/20/2020	3/23/2021
5	ESC	11/3/2020	8/18/2020	1/26/2021
6	GHCAA	4/6/2021	9/15/2020	2/16/2021
7	CMCA	5/18/2021	10/6/2020	3/9/2021
8	ULMSL	12/1/2020	11/17/2020	4/20/2021
9	JFCAC	6/8/2021	12/1/2020	5/4/2021
11	CAASTLC	1/5/2021	11/10/2020	4/13/2021
12	MOCA	11/17/2020	10/13/2020	3/16/2021
13	MVCAA	12/08/2020	10/27/2020	3/30/2021
14	NECAC	3/30/2021	8/25/2020	2/2/2021
15	NMCAA	5/11/2021	9/8/2020	2/9/2021
16	OAI	2/2/2021	8/11/2020	1/19/2021
17	OACAC	10/20/2020	12/8/2020	5/11/2021
18	SCMCAA	6/22/2021	12/15/2020	5/18/2021
19	WCMCAA	4/20/2021	9/22/2020	2/23/2021
36	CAAGKC	2/23/2021	11/24/2020	4/27/2021

* Dates are tentative and visits are for the week of the date.

II. PROBLEM RESOLUTION:

A variety of problems may arise during the course of a program year that may require different methods of resolution. Most problems can be placed into one of four categories:

1. Reporting
Reporting problems can generally be resolved using written communication explaining the problem. Where the problem is significant, an on-site visit will be made to gather the correct data and assist the subgrantee in developing better reporting procedures.

2. Housing Quality
A housing quality problem may be noticed during a field visit. Where significant problems are found in the workmanship on the home, the subgrantee will be required to return to the

home(s) and correct the problem. Where a problem is found to be widespread, the subgrantee will be required to notify DE of the resolution to the problem following procedures as defined in the Weatherization Program Operational Manual. This may include informal or formal staff training.

3. Safety
For safety issues, the subgrantee will be required to correct all deficient work and to re-inspect all completed homes with similar concerns, providing routine updates to DE until all concerns are corrected. DE will re-inspect to verify that corrections have been made either through an on-site inspection, photo documentation, or by telephone contact with clients.

4. Fiscal Compliance
DE will require subgrantees to take corrective action when a subgrantee is not in compliance with the federal and state requirements. The action taken will depend upon the nature of the problem. If, for example, a problem involves a disallowed cost, the subgrantee will be required to reimburse DE. DE will require the subgrantee to provide documented evidence of corrective action(s) when DE has determined that the subgrantee is not in compliance. DE will monitor subgrantee implementation of corrective actions during annual on-site monitoring visits.

The processes that DE follows for the discipline and/or removal of a subgrantee from the program are outlined in the Weatherization Program Operations Manual, Section 1, Subsection V and Subsection VI.

III. IMPROVEMENTS BASED ON PAST YEARS' EXPERIENCES

The Weatherization Assistance Program will continue to be upgraded to keep current with new accepted technology and improved ways of conducting business such as BPI certifications and NREL JTAs.

IV. QUALITY CONTROL MEASURES

A. Statewide Requirements

1. Inspections
See the Missouri WAP Grantee Master File V.5.3.

2. Work Measures
See the Missouri WAP Grantee Master File V.5.1.

B. Purchasing Controls

1. Materials Specifications 10 CFR 440 Appendix A (Revised)
Each subgrantee is required to specify material standards in their bid documents. Materials are required to meet or exceed standards specified in the most current 10 CFR Part 440 Appendix A and the Missouri WAP material standards list. DE requires all materials have a

long term life expectancy, if applicable. Missouri subgrantees require that vendors submit certification documentation for all major weatherization materials such as insulation and storm windows. Bid and contract documents are reviewed by DE.

2. Materials Purchasing Standards
Standards for competitive bidding are detailed in the Weatherization Program Operations Manual, Section 5.

C. On-Site or Local Controls

1. Responsibility for Post-Work Inspections
DE monitoring staff reviews the homes completed for each subgrantee for compliance with either the Independent QCI or Independent Auditor/QCI as outlined in WPN 15-4 Section 3 DOE Prescribed QCI Policy.

2. Accuracy of Work Orders and Inspections
The subgrantee Quality Control Inspectors are required to assure that proper work priorities were followed and that the work has been properly performed. DE monitoring staff will review the process. A subgrantee having problems will first be provided more technical assistance. Continued problems will result in further steps beginning with disqualification of subgrantee inspectors and ending with the subgrantee loss of DE funding. DE will implement this provision to emphasize the importance of completing work in a cost-effective and quality manner.

V. MONITORING REPORTS

DE will submit a monitoring report (fiscal/procedural and technical) to the subgrantee within 30 days of completing a monitoring visit. For subgrantee fiscal/procedural monitoring reports that contain recommendations that require implementation, DE requires that the subgrantee submit a corrective action plan within 30 days of receipt of the report. For subgrantee technical monitoring reports that contain recommendations that require implementation, DE requires that the subgrantee submit a corrective action plan within 45 days of receipt of the report. All corrective actions are reviewed for implementation during the subsequent fiscal/procedural or technical monitoring visit.

DE will report progress to DOE using the following method:

A. Submitting an Annual/Project Summary Report
The annual/project summary report documents the following:

- Number and types of monitoring visits scheduled and completed
- Significant findings
- Findings status
- Significant corrective actions
- Current management issues
- Assistance needs

An annual summary report will be provided to DOE giving an overview of the year end and the status of activities that were planned.

VI. STAFFING FOR MONITORING ACTIVITIES

DE staff are listed below by title and should correlate to the personnel section of the SF424A. Please note, this will not completely match the SF424A as not all positions or personnel services are utilized for monitoring activities.

Environmental Manager: Procedural/Fiscal Monitor and Monitoring Report Approval, Technical Monitor and Monitoring Report Approval; Building Performance Institute (BPI) Quality Control Inspector; BPI Building Analysts; BPI Envelope Professional; BPI Healthy Homes Evaluator; EPA Certified Renovator; Energy Related Mold and Moisture training; OSHA Confined Space for Construction - **Grantee T&TA, 20 percent and Grantee Admin, 10 percent for this application**

Energy Specialist IV: Procedural/Fiscal Monitor and Monitoring Report Reviewer and Approval, Technical Monitor, Building Performance Institute (BPI) Quality Control Inspector; BPI Building Analysts Professional; BPI Envelope Professional; BPI Healthy Home Evaluator; EPA Certified Renovator; Energy Related Mold and Moisture training; OSHA Confined Space for Construction - **Grantee T&TA, 50 percent and Grantee Admin, 20 percent for this application**

Management Analysis Specialist I: Procedural/Fiscal Monitor (including payment desk monitoring) - **Grantee T&TA, 20 percent and Grantee Admin, 25 percent for this application**

Environmental Specialist III: Technical Monitor, Building Performance Institute (BPI) Quality Control Inspector; BPI Building Analysts Professional; BPI Healthy Home Evaluator; EPA Certified Renovator; OSHA Confined Space for Construction - **Grantee T&TA, 80 percent for this application**

Environmental Specialist II: Technical Monitor, Building Performance Institute (BPI) Building Analyst; EPA Certified Renovator; OSHA Confined Space for Construction (forthcoming), BPI Energy Auditor (forthcoming); BPI Quality Control Inspector (forthcoming) - **Grantee T&TA, 80 percent for this application**

Energy Specialist III: Procedural/Fiscal Monitor (including desk review of payment submissions and reports) - **Grantee T&TA, 65 percent and Grantee Admin, 10 percent for this application**

Energy Specialist I: Procedural/Fiscal Monitor (including desk review of payment submissions and reports) - **Grantee T&TA, 80 percent and Grantee Admin, 5 percent for this application**

Energy Specialist I/II/III: Procedural/Fiscal Monitor (including desk review of payment submissions and reports) - **Grantee T&TA, 80 percent and Grantee Admin, 5 percent for this application percent**

Account Clerk II: Fiscal Monitor (including payment desk monitoring) - **Grantee Admin, 5 percent for this application**

Fiscal & Administrative Manager: Procedural/Fiscal Monitoring – **Grantee Admin, 5 percent and Grantee T&TA, 20 percent for this application**

Administrative Office Support Assistant: Misc. monitoring/report writing duties - **Grantee Admin, 5 percent and Grantee T&TA, 5 percent for this application**

MISSOURI
Department of Economic Development

Quality Assurance Checklist Form

Client Name:	**Date:**
Agency:	**Job Number:**
DE QCI Name: (print)	**QCI Signature:**

Requirement:		**Comply: Y**	**N**	**N/A**	**Comments:**
Client file/computerized audit/documentation satisfactory					
All work completed in relation to work scope. See Attached : Housing Quality Inspection Form					
All measures installed meet SWS and DED/DE specifications, objectives & outcomes					
Incidental Repair Justification Form:					
Mechanical systems pass visual safety inspection					
	Electrical Shut-Off Switch				
Fuel delivery system safe					
	Shut-off Valve				
	Drip Leg				
Home passes all combustion safety tests					
	WH Spillage				
	WH CO within limits				
	Furnace Spillage				
	Furnace CO within Limits				
Blower door results are acceptable					Pre: CFM_{50} Target: CFM_{50} Post: CFM_{50} DE/QA: CFM_{50}
Pressure pan results are within acceptable variance					
Zonal Pressure Diagnostic measurements are within acceptable variance					
Mechanical ventilation meets necessary ASHRAE 62.2 requirements					Required: CFM Post: CFM DED/DE: CFM
Missed Opportunities					

Deficiencies/Notes:

Additional Action Required:

Technical Monitoring Protocol for Agencies

This document contains the monitoring protocol of the Weatherization Assistance Program (WAP) for the Missouri Department of Natural Resources' Division of Energy (DE). Monitoring visits will include office review of documents and site visits to:

a. Initial Audits - these are homes where the initial audit and computerized audit have been performed, but work at the home has not yet commenced.
b. Homes in Progress (HIP) - these are homes where work is in progress at the home, but has not yet been completed and is therefore not to the final inspection stage.
c. Final Inspections - these are homes where the work at the home has been completed and the quality control inspection is being performed by subgrantee staff.
d. Quality Assurance Inspection of Completed Homes - these are homes where the quality control inspection has been completed and the home has passed final inspection stage. These homes may or may not have been submitted to the DE for reimbursement.

Prior to arriving at the subgrantee office, the DE will provide a list of Completed Homes to the subgrantee which are planned to be reviewed and visited. The subgrantee will be responsible for scheduling visits to the Completed Homes. Visits to the Initial Audits, Homes in Progress and Final Inspections will be selected and scheduled by the subgrantee at the discretion of the DE

IN OFFICE

1) Upon arrival, DE staff will conduct an entrance interview, which will include detailing the initial itinerary of the monitoring visit and review with agency staff what will be expected during the technical review.

2) DE staff will review the "Technical Monitoring Equipment Check List" for maintenance and calibration requirement for each piece of equipment. (Attachment "C")

3) DE staff will review Average Fuel Costs in the NEAT/MHEA program to be sure they are current prices.

4) DE staff will download a copy of the current NEAT/MHEA MDB file for DE records.

5) The subgrantee will be asked to provide copies of the documentation listed below for scheduled client. Not all documentation may be available for Initial Audits and Homes in Progress.

Forms Needed	Initial	HIP	Final	Completed
NEAT / MHEA Input Report	x	x	x	x
NEAT / MHEA Recommended Measures	x	x	x	x
Quality Control Inspection Form (Attachment 2.1)	x		x	x
Client Interview & Audit Assessment Form (Attachment 2.2)	x	x	x	x
Worst Case Draft Test Form (Attachment 2.3)	x		x	x
Diagnostic Field Form (Attachment 2.4)	x		x	x
Mechanical Systems Audit Form (Attachment 2.5)	x		x	x
Base load Replacement Audit Form (Attachment 2.6)	x		x	x
Incidental Repair Justification Form (Attachment 2.7)	x	x	x	x

ASHRAE 62.2 Form (Attachment 2.8)	x		x	x
Daily Combustion Appliance Zone Test Form (Attachment 2.9)	x	x	x	x
All Combustion Gas Analyzer Test Tapes	x		x	x
Agency Work Order and/or Agency Work Specs	x	x	x	x
MoWAP work order(s)	x	x	x	x
All change orders and client refusal documentation			x	x
All contractor invoices			x	x
RRP/LSW documentation and test results			x	x
DED/DE approval documentation (window approvals, exemptions, etc.)			x	x
Doctor's notes for health and safety AC replacement			x	x

6) Review work orders and invoices for each client to get familiar with the scope of work for each home.

7) Prepare a "Housing Quality Inspection Form" and "Quality Assurance Checklist Form" for each final inspection and completed home.

IN FIELD

1) Initial Audit: Visit the homes which have had an initial NEAT/MHEA audit; however, no work has begun.

   A. Make an assessment of area of conditioned space and if the basement is inside or outside the thermal boundary.

   B. Review the NEAT/MHEA Recommended Measures
      - Check for measure eligibility
      - Check for appropriate unit costs
      - Review pre and post energy usage and cost savings

   C. Review and compare the NEAT/MHEA Input Report with the existing conditions in the home, including, but not limited to:
      - Verify the existing depth and type of insulation in the attic
      - Verify the existing wall insulation
      - Verify the existing floor insulation type and thickness
      - Verify the existing furnace type and SSE
      - Verify the existing air conditioner type and SEER/EER

   D. If windows are to be replaced, make an assessment of the condition of the windows are beyond repair and were properly assessed.

   E. If exhaust fans are present in the home, verify the evaluated exhaust fan flow to the ASHRAE 62.2 Form (Attachment 2.8).

2) Homes in Progress: Visit the selected homes where work is being conducted and check for health & safety equipment/data at job site:

A. Ask crew chief to verify the MSDS sheets for potentially hazardous materials and substances.

B. Ask crew chief to verify the first aid kit, fire extinguisher, etc. are available and on site at the home in progress.

C. Ask crew chief to verify the necessary safety certifications of individuals performing work on the home in progress.

D. Review LSW field procedures for compliance
   1. Add components to monitoring checklist
   2. Check inventory for critical materials and necessary crew protective gear.
   3. Check truck for materials and equipment: HEPA vacuum, rolls of polyethylene, and personal protective gear.
   4. Assess whether trucks have been contaminated with lead dust.
   5. Assess the level of lead safe weatherization training that crews and contractors have received. Determine if there is a need for additional training based upon materials assessment, protective gear available and condition of truck.
   6. Review work in progress by visiting job sites to ensure crews/contractors understand and are following LSW procedures.

3) <u>Final Inspection:</u> Visit the selected homes while Quality Control Inspector conducts a final inspection and observe the following:

A. Look for any significant features, potential problems and obvious issues which may be relevant to the weatherization of the home.

B. Check work scope to make sure work was completed in a satisfactorily manner.

C. Record any additional items that should have been included in the scope of work, such as dryer vented to outside, doors missing, or duct sealing that should have been installed, etc.

D. Be cognizant of and denote any health and safety hazards which may have occurred due to weatherization done on the home.

E. Observe the final inspector conduct the blower door test, zonal pressure diagnostics and pressure pan tests on the home to determine the reduction and location of air infiltration and verify the results.

F. Observe the final inspector conduct all appropriate inspections and tests on the mechanical systems and verify the results. The tests may include:
   1. <u>Combustion Systems</u>
      - Combustion safety test
      - Proper venting of the system
      - Acceptable diagnostic measurement on “Worst Case Spillage Test Form”
      - Signs of concern: soot, rust, disrepair, etc.

   2. <u>Water Heater</u>

- Combustion safety test
- Proper venting of the system
- Pressure relief valve and discharge pipe
- Expansion tank
- Pilot and burner access plate in place
- Signs of concern: soot, rust or disrepair
- Water heater blanket and pipe wrap properly installed

3. Mechanical venting (if required)
   - Testing exhaust fans for adequate ventilation.
   - Proper operation of the system
   - Calculate the required air flow rates for exhaust fans based on blower door reading.
   - Set mechanical ventilation rates based on the ASHRAE 62.2 standards.

4. Gas Cook Range (if applicable)
   - Testing gas range for high levels of carbon monoxide

G. Record all observations on the final inspection to provide feedback during the exit interview.

4) Completed Home: Conduct a quality assurance inspection on the homes which have been completed and a final inspection has previously been conducted and proceed as followed: (Refer to the "Quality Assurance Checklist Form)

A. Walk around the outside of house to get familiar with location of doors and windows, flues, vents, etc. Look for any significant features, potential problems and obvious issues which may be relevant to the weatherization of the home.

B. Walk through interior of home. Check work scope to make sure all work was completed in a satisfactorily manner. (Refer to the “Housing Quality Inspection Form”)

C. Walk through the home and record any additional items that should have been included in the scope of work, such as dryer vented to outside, or doors missing, or duct sealing that should have been installed, etc.

D. Check for health and safety hazards which may have occurred due to weatherization done on the home.

E. Review the blower door test results, zonal pressure diagnostics and pressure pan tests from the final inspection and perform and compare results, as needed.

F. Evaluate the mechanical systems, a possible protocol may include:
   1. Evaluate the mechanical systems and perform combustion and CAZ testing, as needed to compare with test results from the final inspection.
      a. Combustion Systems
         - Note if repaired or replaced
         - Proper venting of the system

- Acceptable diagnostic measurements on the "Mechanical Systems Audit Form" and “Worst Case Spillage Test Form”
- Signs of concern: soot, rust, disrepair, etc.

b. Water Heater
- Note if repaired or replaced
- Pressure relief valve and discharge pipe
- Expansion tank
- Pilot and burner access plate in place
- Signs of concern: soot, rust or disrepair

c. Mechanical venting (if required)
- Note if required based on minimum air flow standards.
- Proper operation and installation of the system

d. Gas Range
- Evaluate the gas range to ensure it is within the allowable safety variance. (See Attachment 2.5)

G. If present, interview the occupant asking general questions about the weatherization work which took place.
- Does occupant notice any difference in comfort level?
- Has there been a noticeable difference in the utilities?
- Is occupant happy with weatherization work conducted?

H. Record all observations on the inspection form and leave the home.

POST SITE VISIT

1) During an exit review with subgrantee staff, discuss any issues that were identified during the home visits and provide any recommended action which may be taken.

2) Return to the DE office and write a technical summary report of each home monitored. The technical summary will include all concerns and findings identified during the inspection of homes and client files and provide corrective action as a result of any issues found.