

# Minnesota Weatherization Assistance Program Policy Manual Addendum - EAPWX Measure Expansion

EAPWX Measure Expansion is an initiative of the Minnesota Weatherization Assistance Program (WAP) intended to expand the scope and breadth of services provided to income eligible households. The goals of the initiative include the following:

- Increase health and safety, energy efficiency, and renewable energy services to all households served by the Minnesota Weatherization Assistance Program.
- Ensure equitable service to renters, those in manufactured housing, and other homes with structural or other limiting issues.
- Mitigate the cause of household deferrals in order to allow homes that would otherwise be deferred to be weatherized.
- Improve services to customers with fluctuating fuel heating costs and reduce the likelihood of disconnections, price spikes, and emergency energy repairs and replacements.

#### Scope:

- This addendum applies only to EAPWX funds. Policy and guidance for all other aspects of the Minnesota
  Weatherization Assistance Program must adhere to the Minnesota Weatherization Assistance Program
  Policy Manual (Policy Manual) and its related appendices, including measures paid for with non-EAPWX
  funds and policy related to measures paid for with EAPWX funds not listed in this document.
- Measures installed under EAPWX Measure Expansion must meet work standards "Retrofitting Minnesota, Standard Work Specification-Aligned Field Guide," and US DOE's Standard Work Specifications (SWS), unless otherwise noted. This includes all cases where the SWS calls for Energy Star or equivalent products.
- This addendum applies to single family homes, mobile homes, and multifamily dwelling units unless otherwise noted.
- The \$3,000 limit remains for all standalone work orders, except those related to Deemed Savings, on rental properties as detailed in the Policy Manual Section 5.1.1.

#### **Policy Manual and Guidance References:**

- Minnesota Weatherization Assistance Program Policy Manual
- Allowable Measures Chart (Standalone Event) (Appendix C)
- Allowable Measures Chart (Audit Event) (Appendix C)
- Weatherization Assistant User's Manual Addendum (Appendix C)
- Measure and Cumulative Job SIR Verification Guidance (Appendix C)
- State of Minnesota Technical Reference Manual for Energy Conservation Improvement Programs



# I. EAPWX Expansion General Guidance

#### 1. .75 SIR for EAPWX Funds

**POLICY:** EAPWX funds may be used to install energy conservation measures that meet a savings to investment ratio (SIR) of .75 or greater.

- Those measures with an SIR of 1.0 or greater must be installed.
- Audit events that have measures paid for with US DOE or Propane funds must have a job SIR of 1.0 or greater.
- Audit events that do not have measures paid for with US DOE or Propane funds must have a job SIR of .75
  or greater.

**PROCEDURE:** Use Weatherization Assistant Agency Reports to confirm measure SIRs and job SIRs meet program requirements.

- · Job SIRs less than .75 EAPWX Funds
- Measure SIRs less than .75 EAPWX Funds
- Job SIRs less than 1.0 with US DOE Funds
- Measure SIRs less than 1.0 US DOE Funds

#### **REFERENCES:**

- Policy Manual Section 4.2.4 Energy Conservation Measure, 4.2.2 Incidental Repair Measure, 4.4.3.1
   Changes to Energy Model
- Measure and Cumulative Job SIR Verification Guidance (Appendix C)

# 2. No Average Cost per Unit Limit for EAPWX Funds

**POLICY:** EAPWX funds will not be subject to the US DOE Average Cost Per Unit (ACPU) limit. Dwellings that have a total EAPWX cost greater than twice the US DOE ACPU will be regularly reviewed by Commerce WAP staff.

#### **REFERENCES:**

Policy Manual Section 1.3.1 Unit Averages

# 3. EAPWX Health & Safety Average

**POLICY:** The local health and safety average may be equal to or less than \$3,500/household unit. Health and safety expenditures will be monitored by Commerce WAP staff to ensure the necessity of expenses.

#### **References:**

- Policy Manual Section 1.3.1 Unit Averages, 4.2.3 Health & Safety Measure
- State of Minnesota Technical Reference Manual for Energy Conservation Improvement Programs



# 4. EAPWX Non-Emergency Standalone Site Visits

POLICY: Non-emergency standalone site visits shall include the following diagnostic tests:

- Ambient carbon monoxide testing in the living space and combustion appliance zone.
- Combustion appliance fuel leak testing (BPI 1200- 2017, 7.5).
- Diagnostic testing required to evaluate or justify the scope of work.

**REFERENCE:** This modifies Appendix D, Standalone Event Site Visit Diagnostic Tests

# 5. EAPWX Standalone Contractor Requirements

**POLICY:** Mechanical contractors must conduct and document the following diagnostic tests:

- Ambient carbon monoxide testing in the living space and combustion appliance zone.
- In flue CO test on appliance(s) being repaired or replaced (full combustion analysis is suggested but not required).
- Combustion appliance fuel leak testing for any fuel pipes affected by completed work.
- Gas pressure tests for fuel gas system replacements.

**REFERENCE:** This modifies Policy Manual Section 5.6.

#### **PROCEDURE:**

- Contractor testing data is now on the "Service Agreement and Completion Certificate Standalone Event."
- The "Mechanical Testing Form Standalone," form is no longer required.

# 6. EAPWX Standalone Inspection Requirements

**POLICY:** Standalone inspections must be conducted by personnel with the BPI Building Analyst, BPI HEP Energy Auditor, or BPI HEP Quality Control Inspector (QCI) certification.

**REFERENCE:** This modifies Policy Manual Section 5.7.

# 7. EAPWX Standalone Funding Level Requirements

**POLICY:** In addition to all procurement requirements found in the MN WAP Policy Manual:

- Individual standalone mechanical system replacements over \$10,000 must receive pre-approval from Commerce.
  - Mechanical systems replacements are defined as a mechanical appliance and all associated component improvements, for example a heating plant, distribution system, asbestos abatement, condensate removal, electrical circuitry, exhaust venting, and chimney systems etc.



- The intent of this policy is to ensure that a variety of replacement options are considered, particularly in projects that involve elements of system redesign.
- Individual standalone mechanical system replacements over \$10,000 must receive at least two written bids.
  - o Exceptions to this policy will be considered by Commerce on a case-by-case basis.

**REFERENCE:** This is in addition to procurement requirements found in Policy Manual Chapter 7. Specifically, the following applies. "Procurement actions with costs of \$5,000 and over must utilize a competitive process by soliciting written bids from no less than three (s) vendors."

# 8. Lien Waivers Not Required for EAPWX Standalone

**POLICY:** While not required for EAPWX Standalone events, lien waivers are encouraged. A local policy regarding lien waivers for EAPWX Standalone events must be developed and applied.

**REFERENCE:** This modifies Policy Manual Section 5.3.3.



# II. EAPWX Expansion Measure Specific Guidance

#### **Audit Event Measures**

#### 1. Mold and Moisture Remediation with EAPWX Funds

**POLICY:** Up to \$2,000/unit of EAPWX funds can be used to mitigate bulk mold/moisture. Funds can be used for cleaning/painting of building assemblies that have become moldy due to moisture intrusion and measures found in the Allowable Measures Chart such as grading, minor roof repairs, minor plumbing repairs, adding roof venting, and gutter installation/repair. These measures will not be included in the EAPWX health and safety average but will be included in the total audit event cost.

- Measures to address mold or moisture must be completed in conjunction with an audit event.
- Roof replacement is not allowed.
- Justification for mold and moisture remediation measures, including pictures must be kept in the client file.

**PROCEDURES:** Weatherization Assistant Instructions

Work Order Type: Audit Event

Measure Type: Other

Measure Name: EXP Mold and Moisture Remediation

Cost Center: EAPWX

Measure #	Active 🔽 Include In SIR 🗂	Energy Savings No EnergySavings 🔍
MeasureType Other	$\checkmark$	
Measure Name EXP Mold	and Moisture Remediation	
Default Contractor/Crew	~	
Default Cost Center EAP / W	K Program	

#### **REFERENCES:**

- Safety Assessment Mold and Moisture Form (Appendix F)
- Allowable Measures Chart (Audit Event)

# 2. Energy Modeling of LED Lightbulbs Not Required When Using EAPWX Funds

**POLICY:** Incandescent and CFL bulbs may be replaced with equivalent lumen LED light bulbs without energy modeling of each bulb. Replacement bulbs must be *ENERGY STAR\* qualified, equivalent or better, and <u>UL approved.</u> (SWS 7.0103.1)* 

The number of bulbs per bulb type must be included in a work order measure(s). If WAP staff install bulbs, a Weatherization Assistant Work Order should be created with the service provider as the contractor.

**PROCEDURES:** Weatherization Assistant Instructions



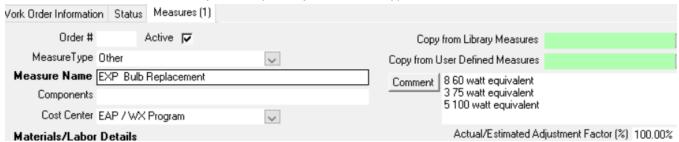
Work Order Type: Audit Event

Measure Type: Other

Measure Name: EXP LED Bulb Replacement

Cost Center: EAPWX

Comments must include number of bulbs replaced for each bulb type



#### **Policy Manual and Guidance References:**

SWS 7.0103.1 Lighting Replacement | Standard Work Specifications (nrel.gov)

# 3. Energy Conservation Cooling Measures Using EAPWX Funds

**POLICY:** EAPWX funds may be used to tune or replace existing cooling systems when an SIR of .75 or greater is met. "Select system that is ENERGY STAR" certified or equivalent," (SWS 5.0108).

- The SIR shall be based on the cost of a system that includes replacement of the compressor, condenser
  coil, and evaporator coil. A new air handler need not be included in the cost when determining the SIR.
- Any components replaced must result in a SEER 15 or greater if all components were replaced.
- Cooling system repairs and replacements are limited to existing systems.
- Cooling system must be replaced with a similar make/model or an equivalent-cost, more efficient model.
  - For example, window units must be replaced with window units and central systems replaced with central systems.

**PROCEDURES:** Weatherization Assistant Instructions

Work Order Type: Audit Event Measure Type: HVAC Systems

Measure Name: EXP Air Conditioner Repair, EXP Air Conditioner Replacement

Cost Center: EAPWX

Setup Library: Under library measures for both NEAT and MHEA click the box in the "active" column and add a

reasonable cost.



#### **REFERENCES:**

SWS 5.0108 and 5.0301 Equipment Installation | Standard Work Specifications (nrel.gov)



# **Audit Event Preferred Measures** (Standalone Event Allowable)

# 1. Health and Safety Cookstove Replacement Using EAPWX Funds

**POLICY:** EAPWX funds can be used to replace gas cookstoves that pose a threat to client safety and are cost prohibitive to repair. The cookstove must be replaced with a similar make/model or an equivalent-cost, more efficient model. Fuel switching under these conditions is allowed.

**PROCEDURES:** Weatherization Assistant Instructions

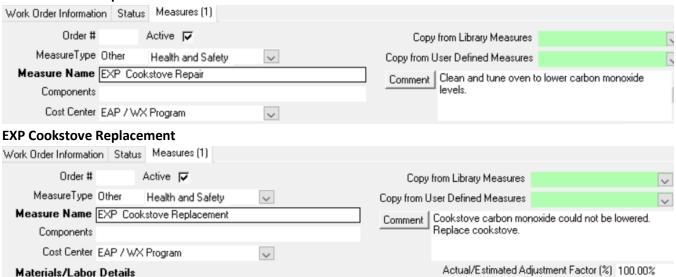
Work Order Type: Audit Event (Standalone Event only when an audit event is not feasible)

Measure Type: Health and Safety

Measure Name: EXP Cookstove Repair, EXP Cookstove Replacement

Cost Center: EAPWX

#### **EXP Cookstove Repair**



#### **REFERENCES:**

- Allowable Measures Chart Audit Event (Appendix C)
- Allowable Measures Chart Standalone Event (Appendix C)

# 2. Health and Safety Cooling Measures Using EAPWX Funds

**POLICY:** Up to \$8,000 in EAPWX funds may be used to repair or replace an existing air conditioning system as a Health & Safety measure, when medically necessary, as identified through a letter from a licensed medical doctor, licensed physician assistant, or nurse practitioner. "Select system that is ENERGY STAR" certified or equivalent," (SWS 5.0108).

- Cooling system repairs and replacements are limited to existing systems.
- Cooling system may be replaced when it is cost prohibitive to repair.



- Cooling system must be replaced with a similar make/model or an equivalent-cost, more efficient model. For
  example, window units must be replaced with window units and central systems replaced with central
  systems.
- Any components replaced must be components that would result in a SEER 15 or greater if all components were replaced.
  - For example, if the compressor and condenser coil are replaced, those systems need to be components that would result in a SEER 15 or greater if the evaporator coil and air handler were also replaced.

**PROCEDURES:** Weatherization Assistant Instructions

Work Order Type: Audit Event (Standalone Event only when an audit event is not feasible)

Measure Type: Health and Safety

Measure Name: EXP Air Conditioner Repair, EXP Air Conditioner Replacement

Cost Center: EAPWX

#### **EXP Air Conditioner Repair**

Order #	Active 🔽		Copy from Library Measures	V
MeasureType	Health and Safety	~	Copy from User Defined Measures	V
Measure Name EXP Air Conditioner Repair			Comment   Repair air conditioner.	^
Components				
Cost Center	EAP / WX Program	~		~
EXP Air Conditi	oner Replacement			
Order #	Active 🔽		Copy from Library Measures	V
MeasureType Health and Safety		~	Copy from User Defined Measures	V
Measure Name FXP Air Conditioner Replacement			-bla Daalaaa siraa addaasa	

#### **REFERENCES:**

Components

SWS 5.0108 and 5.0301 Equipment Installation | Standard Work Specifications (nrel.gov)

## **Standalone Measures**

Cost Center EAP / WX Program

# 1. EAPWX Standalone Heating Plant Replacement for Energy Conservation

POLICY: For replacement through a deemed savings measure, the following must be met:

- Induced draft furnace of any efficiency or a heating system with an AFUE of 80% or lower; and
- Is 10 years or older; and
- the new system must have at least a 10% gain in AFUE.



Replacements will be made for energy conservation reasons based on calculated deemed savings using the Technical Reference Manual instead of site-specific energy modeling. Select Energy Star Certified or equivalent heating plants. (SWS 5.0108.4)

**PROCEDURE:** EAPWX measure expansion heating system replacements for energy conservation must be standalone work orders in Weatherization Assistant. These standalone work orders may be created as standalone events or part of an audit event. When part of an audit event service providers must follow the following procedure.

- Create an itemized cost for the EAPWX measure expansion heating system or water heating system replacement.
- Upload this itemized cost into a separate work order.
- Select the measure type as "other."
- Change the workorder type to "Standalone."
- Select the replacement mandatory option for heating system or water heating system replacements. This
  will result in WA creating a measure with an SIR less than 1.0 in the Recommended Measures list. Do not
  upload this measure into the work order.
  - The result will be that the energy savings of the new heating system will still have interacted with the predicted energy savings and SIRs of the energy conservation measures and incidental repair measures and the measure will not show up on the Measures with SIRs Less Than 1.0 report.

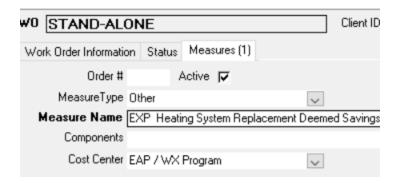
**PROCEDURES:** Weatherization Assistant Instructions

Work Order Type: Standalone

Measure Type: Other

Measure Name: EXP Heating System Replacement Deemed Savings

Cost Center: EAPWX



#### **REFERENCES:**

- Policy Manual Section 4.4.2.1 Heating System Replacement, 4.4.2.13 Gas Line Drip T Replacement
- SWS 5.0108.4 Furnaces | Standard Work Specifications (nrel.gov)



# 2. EAPWX Standalone Water Heater Replacement for Energy Conservation

**POLICY:** Atmospherically drafting water heaters older than 15 years may be replaced with Energy Star rated power vented water heaters based on deemed savings as established through the Technical Reference Manual. "Select a system that: is ENERGY STAR® certified, equivalent, or better, includes a low nitrogen oxide burner, fits in the installation space with required clearances, provides sufficient hot water for the home and occupants" (SWS 7.0302.2). When water heaters with low nitrogen oxide burners are not readily available due to difficulties accessing these appliances in Minnesota for EAPWX Standalone water heater replacements, the SWS 7.0302.2b requirement for low nitrogen oxide burner is waived.

**PROCEDURE:** EAPWX measure expansion water heating system replacements for energy conservation must be standalone work orders in Weatherization Assistant. These standalone work orders may be created as standalone events or part of an audit event. When part of an audit event service providers must follow the following procedure.

- Create an itemized cost for the EAPWX measure expansion heating system or water heating system replacement.
- Upload this itemized cost into a separate work order.
  - The measure type must be "other" and the workorder type must be changed to "Standalone."
- Select the replacement mandatory option for heating system or water heating system replacements.
  - This will result in WA creating a measure with an SIR less than 1.0 in the Recommended Measures list.
  - O Do not upload this measure into the work order.
  - The result will be that the energy savings of the new heating system will still have interacted with the predicted energy savings and SIRs of the energy conservation measures and incidental repair measures and the measure will not show up on the Measures with SIRs Less Than 1.0 report.

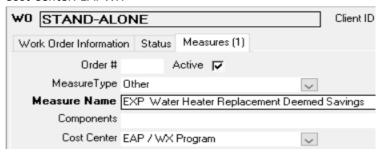
**PROCEDURES:** Weatherization Assistant Instructions

Work Order Type: Standalone

Measure Type: Other

Measure Name: EXP Water Heater Replacement Deemed Savings

Cost Center: EAPWX





#### **REFERENCES:**

- Policy Manual Section 4.4.2.1 Heating System Replacement, 4.4.2.13 Gas Line Drip T Replacement
- SWS 7.0302.2 Fuel-Fired Storage Tank Water Heater | Standard Work Specifications (nrel.gov)

## 3. EAPWX Standalone Cold-Climate Air Source Heat Pump Installation for Energy Conservation

**POLICY:** LIHEAP funds may be used to install Cold-Climate Air Source Heat Pumps (CCASHPs) in the homes of weatherization clients for whom baseboard or ducted electric resistance is the primary heat source and where this heat source will remain as a back-up heat source.

#### **Equipment Selection:**

- Equipment must be selected from the <u>Northeast Energy Efficiency Partnership's (NEEP) Cold Climate</u> Heat Pump List.
- Per SWS 5.0108.1, 5.0108.3, equipment must be EnergyStar rated.

#### Installation Standards:

Best practices from the MN ASHP Collaborative and SWS 5.0108.1, 5.0108.3 must be followed.

#### **Heat Pump Controls:**

- Ducted heat pump thermostatic controls must be tied together with any other heating source supplied through the ductwork.
- Non-ducted heat pumps installed in homes with electric baseboard heat need not be tied into the electric baseboard thermostatic controls.
- All electric baseboard heat should be thermostatically controlled.
- Adding thermostatic controls as part of heat pump installation is allowed. Controls with user friendly features such as digital readouts installed at an accessible height are preferred.

#### Off Peak Rate Customers:

- Customers on off-peak electricity rates will be considered on a case-by-case basis.
- Service providers wishing to pursue the possibility of adding a CCASHP to the home of a weatherization. client who has off-peak electric heat should contact <u>weatherization.commerce@state.mn.us</u>.

**PROCEDURE:** EAPWX measure expansion for CCASHP installations for energy conservation must be standalone work orders in Weatherization Assistant. These standalone work orders may be created as standalone events or part of an audit event. When part of an audit event service providers must follow the following procedure.

- Create an itemized cost for the EAPWX measure expansion CCASHP system installation.
- Upload this itemized cost into a separate work order.
- Select the measure type as "other"
- Change the workorder type to "Standalone."



- Select the replacement mandatory option for heating system or water heating system replacements. This will result in WA creating a measure with an SIR less than 1.0 in the Recommended Measures list. Do not upload this measure into the work order.
  - The result will be that the energy savings of the new heating system will still have interacted with the predicted energy savings and SIRs of the energy conservation measures and incidental repair measures and the measure will not show up on the Measures with SIRs Less Than 1.0 report.

**PROCEDURES:** Weatherization Assistant Instructions

Work Order Type: Standalone

Measure Type: Other

Measure Name: EXP CCASHP Installation Deemed Savings

Cost Center: EAPWX

#### **REFERENCES:**

- "Primary Heating System" is defined in policy in Minnesota Weatherization Assistance Program policy 4.4.2.1 in this way: "The primary system (or system of units) is the heating plant system that is most relied upon to provide heating through-out the season. The secondary system or unit is a system employed only in extreme weather."
- Center for Energy and the Environment (CEE) CCASHP study: <u>Cold Climate Air Source Heat Pump</u> (<u>state.mn.us</u>)
  - CEE Field research observed energy usage for a CCASHP displacing electric baseboard heat in homes in the Twin Cities Metro Area and in northern Minnesota.
  - Observed energy and cost savings ranged from 53% to 56% for homes in the northern Minnesota and the metro area, respectively
- Minnesota Air Source Heat Pump Collaborative Website: <a href="https://www.mnashp.org">https://www.mnashp.org</a>
- MN Potential Study: https://www.mncee.org/minnesota-potential-study
  - 270,000 single family and multifamily homes in MN use electric baseboard heat as a primary heat source, and nearly 90,000 single family and multifamily homes have electric furnaces as a primary heat source.
  - 153,000 electrically heated residential single-family homes in Minnesota that use 3,25 GWh annually to heat their homes. For an approximate average single-family space heating use of 22,000 kWh per year.
- Northeast Energy Efficiency Partnerships
  - Air Source Heat Pump Installer and Consumer Resources | Northeast Energy Efficiency
     Partnerships (neep.org)
- CEE Wisconsin Study FOCUS ON ENERGY EERD REPORT:



# III. Healthy AIR

Asbestos-containing vermiculite insulation remediation is designed to abate vermiculite from attics. This work is done so that weatherization crews can seal by-passes and insulate attics without creating asbestos hazards that threaten household occupants or themselves.

#### **POLICY**

#### **Pilot Period**

Service providers must work with the assistance of Commerce Staff for their first three projects before being cleared to proceed independently. Contact your Healthy AIR Program Administrator at Commerce before beginning your first project.

# **Testing Requirements**

Testing by the Asbestos-Containing Material (ACM) method is prohibited without prior approval by Commerce.

#### Walls and Vermiculite

Homes with wall cavities that contain vermiculite that will not be disturbed by positive pressure blower door testing or the work scope, may be weatherized. When abatement is completed in the attic and vermiculite only remains in the walls, blower door tests must be completed using the positive pressure testing method.

# **Abatement Requirements**

Solicitation and Contractor procurement must follow Chapter 7 of the Minnesota Weatherization Program (WAP) Policy Manual.

Bids must be solicited from certified asbestos abatement contractors.

The only allowable work under this program is asbestos abatement.

A permit must be obtained from the Minnesota Department of Health (MDH) prior to commencing the asbestos abatement project.

Weatherization shall proceed only if asbestos abatement is successfully completed. In situations where vermiculite cannot be safely removed from the attic space(s); weatherization must be deferred.

# **Documentation Requirements**

All documents listed below are required for asbestos abatement. Documentation must be complete and included in the client file before the completion of a Healthy AIR measure:

- Copy of all bids solicited and all bids received
- Contractor invoice with labor and material split
- Copy of MDH permit
- Clearance inspection report
- Before and after color photos



## **Completion Requirements**

Personnel with the BPI Building Analyst, BPI HEP Energy Auditor, or BPI HEP Quality Control Inspector (QCI) certification must determine if the vermiculite has been thoroughly abated and documents are in order and accounted for before each project is paid.

## **Allowable Expenditures**

Funds allowable for attic aspestos insulation remediation include:

- EAPWX funds will cover Healthy AIR For the remainder of PY21 and PY22 for 100% of a job up to \$12,900. Funding amounts above this amount require Commerce approval on a case-by-case basis.
- State administered Healthy AIR funds may be available. Requests for these funds can be made by sending a request to Commerce via the Commerce Weatherization Assistance Program (WAP) email box at weatherization.commerce@state.mn.us.
- Leveraged funds, such as the Zonolite Attic Insulation (ZAI) Trust\*, may be used.
- US DOE program funds cannot be utilized for any remediation work.
- In order to manage fund levels, Commerce may require service providers to utilize particular funds for healthy air projects.

#### **PROCEDURE:**

- 1. Review household and visually assess extent of vermiculite.
- 2. Verify that the segment of the attic containing vermiculite is readily accessible. If the attic contains vermiculite that cannot be removed, defer the project.
- 3. You may proceed without testing the vermiculite, vermiculite is assumed positive, and the job may proceed with asbestos abatement.
- 4. Solicit bids following current MN WAP Policy Manual Section 7. Select the lowest bid that best meets the job specifications. You can find asbestos contractors here: <a href="https://asbs.web.health.state.mn.us/search/find-contractor.isf">https://asbs.web.health.state.mn.us/search/find-contractor.isf</a>
- 5. Create a work order in NEAT as part of the audit event.
  - a. Classify the measure type as "other."
  - b. Cost Center as EAP/WX Program A2117, EAP/WX ARPA Program A2114, or EAP/WX Carryover A2113.

Note: US DOE program funds cannot be utilized for any remediation work.

- 6. Schedule the asbestos remediation.
- 7. If a client is displaced from their home and relocation is necessary, contact Commerce to apply for state funds.
- 8. Conduct asbestos abatement.
- 9. Verify that the vermiculite has been thoroughly abated.
- 10. Review applicable documentation and confirm that all required documentation is present.
- 11. Pass the job and approve payment to the contractor after the vermiculite has been confirmed to be abated and all documents are in order.
- 12. Approve funding and make payment to the contractor.

#### **RESOURCES:**

\*Zonolite Attic Insulation (ZIA) Trust information can be found at: https://www.zonoliteatticinsulation.com/Hm1.aspx

MDH Asbestos contractor information can be found at:

https://asbs.web.health.state.mn.us/search/find-contractor.jsf