Minnesota Weatherization Assistance Program

PY 21 Policy Manual Addendum - EAPWX Measure Expansion

Updated 2/07/2022

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 expended beginning July 1\textsuperscript{st}, 2021. 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 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 $2,000 limit remains for all standalone work orders 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)
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 USDOE or Propane funds must have a job SIR of 1.0 or greater.
- Audit events that do not have measures paid for with USDOE 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 DOE Funds
- Measure SIRs less than 1.0 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 USDOE Average Cost Per Unit limit. Dwellings that have a total EAPWX cost greater than twice the USDOE 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.

**Policy Manual and Guidance References:**
- Policy Manual Section 1.3.1 Unit Averages, 4.2.3 Health & Safety Measure
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.
- 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.
  - 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

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 US DOE approved measures or for cleaning/painting of building assemblies that have become moldy due to moisture intrusion. 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

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 UL approved. (SWS 7.0103.1)

PROCEDURE: 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 agency as the contractor.

PROCEDURES: Weatherization Assistant Instructions

Work Order Type: Audit Event
Measure Type: Other
Updated February 7, 2022

Effective July 1, 2021
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. EAPWX Standalone Heating Plant Replacement for Energy Conservation

POLICY: Induced-draft furnaces - or other heating plants, that have an AFUE of 80% or lower – and that are 10 years or older, may be replaced with a system that achieves 10% or greater gain in AFUE as part of an EAPWX funded standalone event. 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)

4. 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.
  - Do not upload this measure into the work order.

Updated February 7, 2022
Effective July 1, 2021
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)

5. 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 Northeast Energy Efficiency Partnership’s (NEEP) Cold Climate 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 weatherization.commerce@state.mn.us.

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.
  o 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.”
- CEE CCASHP study: Cold Climate Air Source Heat Pump (state.mn.us)
  o 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.
  o 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: https://www.mnashp.org
- 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:

6. 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**

**EXP Cookstove Replacement**

**REFERENCES:**

- Allowable Measures Chart Audit Event (Appendix C)
- Allowable Measures Chart Standalone Event (Appendix C)
7. 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

REFERENCES:

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

Updated February 7, 2022
Effective July 1, 2021
8. 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 does not need to 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.

![HVAC Systems](image)

**REFERENCES:**

- SWS 5.0108 and 5.0301 [Equipment Installation | Standard Work Specifications (nrel.gov)]
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 bypasses and insulate attics without creating asbestos hazards that threaten household occupants or themselves.

1. Pilot Period

POLICY: Service providers must work with the assistance of Commerce Staff for their first two projects before being cleared to proceed independently.

2. Testing Requirements

POLICY: All dwellings containing vermiculite insulation must be either deferred or tested in accordance with Zonolite Attic Insulation Trust (ZAI) requirements. If the job meets ZAI’s submission requirements, asbestos abatement can proceed. If testing determines the material does not contain barium, Commerce must be contacted for further instruction. Testing by the ACM method is prohibited without prior approval by Commerce.

3. Abatement Requirements

POLICY: Following current procurement policy from Chapter 7 of the MN WAP Policy Manual, bids must be solicited from certified asbestos abatement contractors to abate the vermiculite. 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 will occur only if asbestos abatement has been completed. In situations where vermiculite cannot safely be removed from attic spaces, weatherization must be deferred.

4. Documentation Requirements

POLICY: All documents listed below are required and must be complete and on file before the completion of a project:

- Healthy AIR Program client application
- Copy of Zonolite Attic Insulation Trust documentation
- 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

5. Verification Requirements

POLICY: 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.
6. Walls and Vermiculite

**POLICY:** 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.

7. Payment Requirements

**POLICY:** In most cases, leveraging funds to pay for attic asbestos insulation remediation is required. Funding options include:

- **EAPWX funds** - within a Service Provider’s annual allocation - may be utilized for up to 60% of a job or $7500. Funding amounts above this level may be approved by Commerce, on a case-by-case basis.
- **Zonolite Attic Insulation Trust funds** – reimbursed by ZAI to either the Service Provider or contractor - may be requested for up to 55% of the abatement cost for eligible claimants up to a ceiling of $4330.42.
- Additionally, state administered Healthy AIR funds may be available through pre-approval by Commerce.
- **USDOE program funds** cannot be utilized for any remediation work.

**RESOURCES:**
More information on Zonolite Attic Insulation Trust requirements and funds can be found at the following link: [https://www.zonoliteatticinsulation.com/Hm1.aspx](https://www.zonoliteatticinsulation.com/Hm1.aspx)

MDH Asbestos contractor information can be found at the link below: [https://asbs.web.health.state.mn.us/search/find-contractor.jsf](https://asbs.web.health.state.mn.us/search/find-contractor.jsf)

**PROCEDURE:**

1. Review household and visually assess extent of vermiculite. Verify that the segment of the attic containing vermiculite is readily accessible. If the attic contains vermiculite that cannot be removed, defer the project.

2. Sample the vermiculite in accordance with Zonolite Attic Insulation Trust (ZAI) rules and send it in to ZAI. Do not proceed with work until results are received.

   - If testing results indicate the vermiculite is from Libby, Montana, you will be enrolled in the ZAI Trust and may proceed with work. If testing results are negative, contact Commerce for further guidance.

4. Solicit bids following current MN WAP Policy Manual Section 7. Select the lowest bid that best meets job specifications. You may find asbestos contractors here:

   - [https://asbs.web.health.state.mn.us/_search/find-contractor.jsf](https://asbs.web.health.state.mn.us/_search/find-contractor.jsf)

5. Create a work order in NEAT as part of the audit event
   - Classify the measure type as “other.”

Updated February 7, 2022  Effective July 1, 2021
• Cost Center as EAP/WX Program, EAP/WX ARPA Program, or EAP/WX Carryover.
• USDOE program funds cannot be utilized for any remediation work.
• Schedule remediation.

6. Contact Commerce to apply for state funds if relocation is necessary for clients.

7. Conduct asbestos abatement.

8. Verify that the vermiculite has been thoroughly abated and review applicable documentation. Confirm that all documentation is present. Pass the job and approve payment to the contractor after the vermiculite has been confirmed to be abated and all documents are in order.

9. Approve funding and make payment to the contractor.

10. Apply for Zonolite reimbursement. Follow instructions on the ZAI website.