

**U.S. Department of Energy  
WEATHERIZATION ASSISTANCE PROGRAM (WAP)  
WEATHERIZATION ANNUAL FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

**IV.1 Subgrantees**

<b>Subgrantee (City)</b>	<b>Planned Funds/Units</b>
Arrowhead Economic Opportunity Agency, Inc. (Virginia)	\$1,494,913.63 142
Bi-County Community Action program, Inc. (Bemidji)	\$796,701.23 74
Community Action Partnership of Ramsey & Washington Counties (Saint Paul)	\$2,755,161.70 263
Dakota County Community Development Agency (Eagan)	\$987,788.59 92
Fond Du Lac Reservation Business Committee (Cloquet)	\$60,926.10 3
Inter-County Community Council (Oklee)	\$410,894.35 36
KOOTASCA Community Action, Inc. (Grand Rapids)	\$418,203.83 36
Lakes and Pines Community Action Council, Inc. (Mora)	\$1,177,942.10 111
Mahube-OTWA Community Action Partnership, Inc. (Detroit Lakes)	\$1,370,800.25 130
Mille Lacs Band of Ojibwe Indians (Onamia)	\$69,242.98 4
Minnesota Valley Action Council (Mankato)	\$987,631.28 92
Northwest Community Action, Inc (Badger)	\$270,902.20 22
Prairie Five Community Action Council, Inc. (Montevideo)	\$291,411.33 24
Semcac (Rushford)	\$1,328,631.57 125
Southwestern Minnesota Opportunity Council, Inc. (Worthington)	\$331,850.58 28
Sustainable Resources Center (Minneapolis)	\$3,078,129.77 293
Three Rivers Community Action, Inc. (Zumbrota)	\$418,654.01 36
Tri-County Action Programs, Inc. (SC) (Waite Park)	\$1,146,459.53 108
Tri-County Community Action, Inc. (LF) (Little Falls)	\$788,576.19 73
United Community Action Partnership (Marshall)	\$912,934.48 85
West Central Minnesota Communities Action, Inc. (Elbow Lake)	\$913,905.64 85
White Earth Reservation Tribal Council (Waubun)	\$164,025.53 13
Wright County Community Action, Inc. (Maple Lake)	\$374,200.24 32
<b>Total:</b>	<b>\$20,549,887.11 1,907</b>

**U.S. Department of Energy  
WEATHERIZATION ASSISTANCE PROGRAM (WAP)  
WEATHERIZATION ANNUAL FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

**IV.2 WAP Production Schedule**

<b>Weatherization Plans</b>	<b>Units</b>
Total Units (excluding reweatherized)	1,907
Reweatherized Units	0

Note: Planned units by quarter or category are no longer required, no information required for persons.

<b>Average Unit Costs, Units subject to DOE Project Rules</b>		
<b>VEHICLE &amp; EQUIPMENT AVERAGE COST PER DWELLING UNIT (DOE RULES)</b>		
A	Total Vehicles & Equipment (\$5,000 or more) Budget	\$0.00
B	Total Units Weatherized	1,907
C	Total Units Reweatherized	00
D	Total Dwelling Units to be Weatherized and Reweatherized (B + C)	1,907
E	Average Vehicles & Equipment Acquisition Cost per Unit (A divided by D)	\$0.00
<b>AVERAGE COST PER DWELLING UNIT (DOE RULES)</b>		
F	Total Funds for Program Operations	\$14,604,526.49
G	Total Dwelling Units to be Weatherized and Reweatherized (from line D)	1,907
H	Average Program Operations Costs per Unit (F divided by G)	\$7,658.38
I	Average Vehicles & Equipment Acquisition Cost per Unit (from line E)	\$0.00
J	Total Average Cost per Dwelling (H plus I)	\$7,658.38

**IV.3 Energy Savings**

Method used to calculate savings: <input checked="" type="checkbox"/> WAP algorithm <input type="checkbox"/> Other (describe below)			
	Units	Savings Calculator (MBtus)	Energy Savings
This Year Estimate	1907	29.3	55875
Prior Year Estimate	931	29.3	27278
Prior Year Actual	924	29.3	27073

**Method used to calculate savings description:**

**IV.4 DOE-Funded Leveraging Activities**

<b>PY2020 MINNESOTA WEATHERIZATION ASSISTANCE PROGRAM STATE LEVERAGING PLAN</b>
<p>Minnesota's leveraging activities for PY20 will build on activities undertaken in PY19, with the goal of expanding the number of households weatherized and expanding the services provided to weatherization-eligible households. Leveraging activities to be paid for with USDOE funds include:</p> <ol style="list-style-type: none"> <li><b>Commerce leveraging staffing:</b> staffing will include a full-time Weatherization Leveraging Specialist position and, in conjunction with LIHEAP, a full time Benefits Coordinator at Commerce. Activities will include: <ul style="list-style-type: none"> <li>Build a robust partnership network;</li> <li>Develop long-term, aligned cooperative agreements and projects;</li> <li>Investigate and acquire additional non-federal leveraged funds to support or expand WAP services.</li> </ul> </li> <li><b>Underwrite leveraging activity at WAP Service Providers:</b> A frequent response from Service Providers as to why available leveraged funding are not better utilized is "lack of time and money." Most leveraged funding does not cover the associated administrative costs and Service Provider staff do not have time to work on a program which doesn't cover costs. Commerce will provide a minimum of \$10,000 in Leveraging Activity funds to any of the 23 WAP</li> </ol>

**U.S. Department of Energy**  
**WEATHERIZATION ASSISTANCE PROGRAM (WAP)**  
**WEATHERIZATION ANNUAL FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

Service Providers who prepare and submit a Leveraging Plan for PY20. Leveraging plans will delineate how Service Provider staff begin or increase their organization's leveraging activities to increase the use of leveraged funding on WAP households. Leveraging activity funds provided to the Service Providers may then be used to:

- Develop tactical activities to support plans outlined in the Service Provider Leveraging Plan;
- Conduct activities to implement the plan, including but not limited to:
  - i. Give consideration to current hurdles stifling greater utilization of leveraged funds and develop solutions to overcome these hurdles;
  - ii. Find, apply for, and report on available leveraged funding;
  - iii. Develop localized leveraged-fund programs in collaboration with aligned organizations to specifically target deferrals, or to develop new funding streams for new initiatives such as solar or asthma-trigger mitigation;
  - iv. Increase coordination with utility Low Income Conservation Improvement Programs, LIHEAP, and other leveraged funders;
  - v. Delineate process and reporting needs, within the organization, to improve access and ability to utilize leveraged funding. Consideration should be given, and recommendations made, to any potential cross-organizational report streamlining, including software development potential.

Activities under this item will be accomplished in conjunction with item 3 below, and build on work completed by two separate working groups. Work groups were formed to focus on 1) Leveraging, and 2) Deferrals, with the work groups comprised of WAP Service Provider network personnel and led by Commerce staff. Information from these work groups will be used to inform the PY20 Leveraging activities.

3. **WAP Analytics** – Energy Efficiency work lies at the nexus of three areas of high interest to all levels of government and private organizations: Energy Equity, improving Health Equity, and reducing the effects of Climate Change. Energy efficiency improvements instituted by WAP can help reach defined goals in all three of these focus areas.

The energy benefits from energy efficiency efforts have long been quantifiable, but quantifying the non-energy benefits of energy efficiency is only now starting to be a focus. Better analytics and delineation of the non-energy benefits of WAP work will allow more persuasive funding requests to government agencies and organizations not primarily focused on energy, but whose goals are positively affected by WAP work. Broadening the analytics will deepen the knowledge base, allowing greater reach in targeting organizations to acquire leveraged funds, whether the potential funder is the State Legislature, a local government, a utility, a health-care organization, a foundation, or other stakeholder.

3. **Consulting Contract – Solar implementation into WAP:** A solar subject-matter-expert (SME) consultant will be funded to assist Service Providers in handling and rolling out the Solar PV projects. The solar SME consultant will have extensive knowledge of the day-to-day operations of WAP and deep solar industry knowledge in order to facilitate the field adoption of solar PV as a WAP measure.

**Leveraging Activities Focus:**

Minnesota WAP currently has a deferral rate of 47%. Households deferred do not receive WAP services, therefore, USDOE WAP funds are being spent to audit households which do not get weatherization services. Leveraging activities will focus on reducing deferrals within the program by building relationships and collaborative initiatives to address the factors causing the deferrals. This will expand the pool of households eligible to receive WAP services and ensure the best use of USDOE funding by preventing the associated audit and administrative costs from becoming sunk costs; USDOE funds will be spent on homes that can then be weatherized, rather than on houses that end up deferred from WAP services.

The Minnesota Legislature is again considering legislation, originally proposed in 2019, which would drastically increase the amount of Conservation Improvement Programs (CIP) funding Minnesota utilities are required to provide. Utilities have signaled that, if the legislation passes, they will be looking for help in developing programs that effectively and efficiently target their spending.

The proposed increased CIP funding will increase energy efficiency initiatives in all sectors throughout the state, but one Investor Owned Utility (IOU) is already discussing ideas to reduce energy burdens for low-income residential customers. WAP's leveraging activities will work collaboratively with utilities to reduce deferrals and service additional households with WAP services while also broadening the types of services offered beyond energy efficiency measures. Program initiatives to broaden in-home service will target a number of focus areas:

- Accessibility to solar for income-qualified clients (continuing pilot program);
- Healthy Homes:
  - Reduction of in-home triggers of asthma/chronic respiratory conditions & improving indoor air quality;
  - Remediation of harmful contaminants or gases (Lead, Radon, Vermiculite);
  - Improving roofing and other structural defects to mitigate moisture, vermin, insect issues
- Aging in Place programs, to keep elderly safe and healthy at home.

Commerce has identified five approaches to use while layering in additional services for WAP's income-qualified clientele.

1. **Individualized utility outreach and program support:**

**U.S. Department of Energy  
WEATHERIZATION ASSISTANCE PROGRAM (WAP)  
WEATHERIZATION ANNUAL FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

- a. Analysis has been undertaken to identify and target utilities that are underperforming on their current legislatively mandated Low Income – Conservation Improvement Plan (LI-CIP) goal. Commerce staff will work with the LI-CIP personnel at 6-9 utilities, and with the WAP Service Providers covering those territories, to undertake the following actions:
    - delve into the reasons behind utilities’ non-performance to goal;
    - assist in addressing any hurdles present;
    - develop approaches and tactics to increase LI-CIP funding on WAP households;
    - develop and coordinate relationships between utility staff and WAP Service Providers as necessary.
  - b. A sub-focus of this outreach project will be to identify the reporting requirements of utilities offering LI-CIP programs, looking for ways to streamline the process for WAP Service Providers while addressing the utilities’ needs. While this project will be part of the outreach discussions with the identified 6-9 utilities, consideration and assessment will also be given to the processes and needs of the larger IOUs and the other municipal and cooperative utilities.
2. **Further inter-departmental coordination with aligned State of MN departments:** Coordination between WAP and various other State of MN departments increased in PY19, and coordinating efforts will continue and expand in PY20. State departments with aligned goals include: Minnesota Department of Health, Minnesota Housing, Minnesota Occupational Health and Safety Administration, Minnesota Department of Human Services, and the Minnesota Pollution Control Agency. Coordination discussions and efforts center on alignment and initiatives surrounding a number of energy efficiency, Healthy Homes and climate change-related issues. Examples of current efforts to be continued in PY20, include:
- a. **Joint WAP / Minnesota Housing Finance Agency Multi-family project collaborative efforts:** Bi-monthly interdepartmental meetings to review MN Housing current and proposed multi-family building projects under the Rental Rehabilitation Deferred Loan (RRDL) program and the Publicly-Owned Housing Projects (POHP) program. Focus is on identifying and coordinating on multi-family projects suitable for collaborative WAP/MN Housing efforts.
  - b. **Minnesota Department of Health / WAP collaborative efforts:** MDH representatives from the Children’s Council, Lead and Asthma programs are active participants in bi-monthly meetings with WAP. Discussions are underway on various ways to better coordinate services to eligible Minnesotans. Additionally, discussions are being held around merging portions of the “mapping” projects each department has been undertaking, in order to provide a streamlined, easy-to-use service portal to Minnesotans seeking assistance.
  - c. **Closer Alignment with Low-Income Heating Energy Assistance Program:** Within Commerce, WAP is increasing alignment with the Low-Income Heating Energy Assistance Program (LIHEAP). A new staff position has been approved to hire a Coordinated Benefits Specialist who will focus on continual improvement in aligning WAP and LIHEAP and with other State of Minnesota departments as well.
3. **Healthy AIR (Asbestos Insulation Remediation) Program:** The Healthy AIR pilot program was implemented in PY17 with State funds. In the 2.5 years since then, Minnesota’s WAP network remediated the vermiculite hazards in 51 homes with an average job cost of \$8,429. Commerce has again requested State funds to continue this initiative.
4. **Multi-Focus site assessments:** BPI Healthy Homes related training will be provided to WAP energy auditors and other Service Provider staff. Auditors and Quality Control Inspectors will be asked to train and certify as Healthy Homes Assessors. Other appropriate WAP Service Provider staff will be encouraged to take the BPI Healthy Homes Principles certificate training.
5. **Outreach and relationship development with opportunity organizations:** Commerce leveraging staff will continue to develop relationships and discuss alignment possibilities with organizations focused on respiratory, health equity, climate change, and community improvement/development issues.

**IV.5 Policy Advisory Council Members**

Check if an existing state council or commission serves in this category and add name below

CenterPoint Energy	Type of organization: Utility Contact Name: Nick Mark Phone: 6123214613 Email: <a href="mailto:nick.mark@centerpointenergy.com">nick.mark@centerpointenergy.com</a>
Citizens Utility Board	Type of organization: Non-profit (not a financial institution) Contact Name: Annie Levenson-Falk Phone: 65130047016 Email: <a href="mailto:annielf@cubminnesota.org">annielf@cubminnesota.org</a>
Clean Energy Resource Teams	Type of organization: Non-profit (not a financial institution) Contact Name: Joel Haskard Phone: 6126258759 Email: <a href="mailto:haska004@umn.edu">haska004@umn.edu</a>
Energy Conservatory	Type of organization: Other Contact Name: Paul Morin Phone: 6128271117 Email: <a href="mailto:pmorin@energyconservatory.com">pmorin@energyconservatory.com</a>
Fond Du Lac Reservation Business Committee	Type of organization: Indian Tribe Contact Name: Joan Markon Phone: 2188794593

**U.S. Department of Energy  
WEATHERIZATION ASSISTANCE PROGRAM (WAP)  
WEATHERIZATION ANNUAL FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

Fresh Energy	Email: <a href="mailto:joanmarkon@fdlrez.com">joanmarkon@fdlrez.com</a> Type of organization: Non-profit (not a financial institution) Contact Name: Ben Passer Phone: 6517267567 Email: <a href="mailto:passer@fresh-energy.org">passer@fresh-energy.org</a>
Great River Energy	Type of organization: Utility Contact Name: Jeff Haase Phone: 7634456106 Email: <a href="mailto:jhaase@greenergy.com">jhaase@greenergy.com</a>
Home Performance Strategies	Type of organization: For-profit or Corporate (not a financial institution or utility) Contact Name: Kevin Brauer Phone: 6128680365 Email: <a href="mailto:kevinbrauermn@gmail.com">kevinbrauermn@gmail.com</a>
Minnesota Valley Action Council	Type of organization: Non-profit (not a financial institution) Contact Name: Kris Perendy Phone: 5073452434 Email: <a href="mailto:krisp@mnvac.org">krisp@mnvac.org</a>
Prairie Five Community Action Council, Inc.	Type of organization: Non-profit (not a financial institution) Contact Name: Laura Milbrandt Phone: 3202696578 Email: <a href="mailto:Laura.Milbrandt@prairiefive.org">Laura.Milbrandt@prairiefive.org</a>
STATE OF MINNESOTA	Type of organization: Unit of State Government Contact Name: Anthony Fryer Phone: 6515391858 Email: <a href="mailto:anthony.fryer@state.mn.us">anthony.fryer@state.mn.us</a>
State of Minnesota	Type of organization: Unit of State Government Contact Name: Katherine Teiken Phone: 6512967610 Email: <a href="mailto:katherine.teiken@state.mn.us">katherine.teiken@state.mn.us</a>
State of Minnesota	Type of organization: Unit of State Government Contact Name: Andrew Grewell Phone: 6514313135 Email: <a href="mailto:andrew.grewell@state.mn.us">andrew.grewell@state.mn.us</a>
State of Minnesota	Type of organization: Unit of State Government Contact Name: Michelle Gransee Phone: 6515391855 Email: <a href="mailto:michelle.gransee@state.mn.us">michelle.gransee@state.mn.us</a>
State of Minnesota	Type of organization: Unit of State Government Contact Name: Douglas J. Burns Phone: 6515391808 Email: <a href="mailto:doug.burns@state.mn.us">doug.burns@state.mn.us</a>
United Community Action Partnership	Type of organization: Non-profit (not a financial institution) Contact Name: Jeff Gladis Phone: 50753714162136 Email: <a href="mailto:jeff.gladis@unitedcapmn.org">jeff.gladis@unitedcapmn.org</a>
Xcel Energy	Type of organization: Utility Contact Name: Yvonne Pfeifer Phone: 6123306581 Email: <a href="mailto:yvonne.m.pfeifer@xcelenergy.com">yvonne.m.pfeifer@xcelenergy.com</a>
Xcel Energy	Type of organization: Utility Contact Name: Aaron Tinjum Phone: 6123428967 Email: <a href="mailto:aaron.j.tinjum@xcelenergy.com">aaron.j.tinjum@xcelenergy.com</a>

**IV.6 State Plan Hearings (Note: attach notes and transcripts to the SF-424)**

Date Held	Newspapers that publicized the hearings and the dates the notice ran
04/16/2020	A notice of two Virtual State Plan public hearings appeared in the April 7, 2020 WAP Wire sent to all WAP Service Providers and subscribers of the Conservation Improvement Program newsletter, which focuses on utilities (8,500+). The draft copy of the PY20 State Plan was posted on the

**U.S. Department of Energy  
WEATHERIZATION ASSISTANCE PROGRAM (WAP)  
WEATHERIZATION ANNUAL FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

Commerce website on April 7, 2020 and a link to the posting was included in the WAP Wire. Two Virtual Public Hearings took place on April 16 at 1:00 PM and 3:00 PM via WebEx to comply with the annual state plan hearing required in 10 CFR 440.14 and COVID-related guidance from DOE.
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**IV.7 Miscellaneous**

**PY20 Annual File Content: Miscellaneous**

**American Consumer Survey Index Action Plan**

Through the 2019 American Consumer Survey Index (ACSI), MN WAP sub-grantees indicated several areas in which the Minnesota Department of Commerce Weatherization Program was exceling and showed significant increase from the PY17 survey including Fund Distribution, Awareness of efforts to serve eligible households, and Effectiveness of partnerships created to better serve clients. Commerce was gratified to see these improvements as they aligned with a number of our improvement efforts over the past two years.

In other areas, sub-grantees indicated room for improvement, including:

- Technical Assistance
  - Responses:
    - MWAG policy review group
    - Deploy Learning Management System (LMS)
- Consistency and timeliness of monitoring
  - Responses:
    - ACSI Review group
    - Development of Monitoring Team
    - Timeliness of Monitoring Letters
- Clarity and responsiveness to Agency staff requests
  - Responses:
    - Question of the Week

In response, Commerce has updated our ACSI Action Plan designed to address the identified areas with a focus on improving program management and delivering maximum benefits to WAP clients. There are a number of items listed below from the previous year’s plan that were either modified or delayed due to impacts of COVID-19.

Action Items	Status	Details/Next Steps
<b>ACSI Review group</b>	Complete	Commerce met with a group of subgrantees to review the 2019 ACSI results and discuss underlying issues in order to design effective solutions.
<b>MWAG policy review group</b>	In-progress	Starting in the fall of 2019 a sub-committee of the Minnesota Weatherization Advisory Group began meeting on a monthly basis with Commerce staff to discuss challenging issues within WAP and develop policy or procedural solutions to address them. The work of this group is driving substantive change to the PY20 Policy Manual.
<b>Increased partnerships and leveraging efforts</b>	In-progress	In PY19 the leveraging specialist worked to add solar as a measure in WAP. They continue to work on a number of leveraging opportunities including Healthy AIR (asbestos abatement), Healthy Homes activities, and the increased integration of utility

**U.S. Department of Energy  
WEATHERIZATION ASSISTANCE PROGRAM (WAP)  
WEATHERIZATION ANNUAL FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

		funds. See leveraging plan for more details.
<b>Development of Monitoring Team</b>	On-going	All monitors meet regularly to review monitoring reports, gain consensus on interpretation of policy, update policy guidance as needed, and update the policy manual annually. This group also works together with the training specialist to triage sub-grantee program questions and provide unified answers.
<b>Deploy Learning Management System (LMS)</b>	On-going	Commerce procured a LMS to deploy technical and administrative trainings for subgrantees. The system is also being used to issue topic specific policy trainings to address frequently asked questions and issues identified during monitoring visits.
<b>Question of the Week</b>	On-going	To increase the clarity and consistency of responses to subgrantee questions, Commerce has implemented a weekly email that includes a recently asked question to increase network-wide understanding of policy. The list of questions is then updated on our website as an archive that is accessible to subgrantees.
<b>Increase number of field monitors for timely response</b>	Complete: update from PY19	Two field and one admin monitors were brought on in PY17. Training, shadowing, and mentoring was conducted in PY18. In PY19 all technical and administrative monitoring reports were issued within the 30 day timeline. In PY20 Commerce plans to maintain staff levels to meet monitoring timeliness goals.
<b>In partnership with one of our sub-grantees, fund a centrally located technical training facility</b>	Modified from PY19	Commerce has built a training room focused on mechanical and ventilation systems at one of our subgrantees. Due to COVID-19 we will be exploring how to deliver effective remote training.
<b>Provide FACSPRO training to sub-grantees in multiple locations (FACSPRO is a software program used for both financial reporting and interface with Weatherization Assistance)</b>	In-progress: update from PY19	Work in PY19 focused on incorporating: client search functions, waiting and deferral lists, verification of previous weatherization, and development of an onsite data collection tool for energy auditors QCIs. A training was conducted by a local subgrantee on some of this new functionality in the fall of 2019. In PY20 the focus will be on incorporating the WA energy modeling functionality and continued development of the field data

**U.S. Department of Energy  
WEATHERIZATION ASSISTANCE PROGRAM (WAP)  
WEATHERIZATION ANNUAL FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

collection tool.
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**Recipient Business Officer:**

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Prefix: Mr  
First Name: Tim  
Middle Name:  
Last Name: Jahnke  
Suffix:  
Title: Chief Financial Officer  
Telephone Number: (651) 539-1501  
Fax: (651) 539-0109  
Email: tim.jahnke@state.mn.us  
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**Recipient Principal Investigator:**

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Prefix: Ms  
First Name: Michelle  
Middle Name:  
Last Name: Gransee  
Suffix:  
Title: State Energy Office Manager  
Organization Affiliation: Department of Commerce/Div. of Energy Resources  
Telephone Number: (651) 539-1855  
Fax Number:  
Email: [michelle.gransee@state.mn.us](mailto:michelle.gransee@state.mn.us)  
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**U.S. Department of Energy**  
**WEATHERIZATION ASSISTANCE PROGRAM (WAP)**  
**STATE PLAN/MASTER FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

This worksheet should be completed as specified in Section III of the Weatherization Assistance Program Application Package.

**V.1 Eligibility**

**V.1.1 Approach to Determining Client Eligibility**

Provide a description of the definition of income used to determine eligibility

The Minnesota Department of Commerce (Commerce) uses a combined LIHEAP/WAP application to determine eligibility for both Energy Assistance (LIHEAP) and Weatherization Assistance Program (WAP). For the purpose of this application, income is defined as all income and all money received by each household member. This includes:

- Wages
- Minnesota Family Investment Program, Diversionary Work Program, General Assistance
- Spousal Support or Alimony
- Disability Payments, Veteran's Benefits, Workers' Compensation, Social Security, RSDI and SSI
- Unemployment Compensation
- Self Employed, Farm, and Rental Income
- Interest, Dividend
- Retirement Income
- Pensions and Annuities
- Tribal Bonus, Judgments or Per Capita Payments

Historically, income received in the last three full calendar months has been considered. In light of the COVID-19 situation, LI-HEAP will base eligibility on one month of income during the period from July 1, 2020 through September 30, 2020 at which time the income timeframe will be re-evaluated.

Describe what household eligibility basis will be used in the Program

A dwelling unit is eligible for Weatherization services if it is occupied by a household whose income is at or below 200% of Federal Poverty Income Guidelines, or is eligible for assistance under the LIHEAP income limit of 50% of State Median Income, whichever is greater, as allowed by 10 CFR 440.22 and required under Minnesota 2009 Session Laws, Chapter 138, Article 2, Subd. 4.

Households in which one or more members have received payment under Title IV or XVI of the Social Security Act during the preceding 12 months are also eligible.

Households with both ineligible household members and eligible household members may apply for weatherization services to benefit the eligible household members. All household income (including income from ineligible household members) must be considered when determining eligibility. When determining level of benefits, income of ineligible household members must be excluded. Ineligible household members may apply for weatherization services to benefit eligible household children, providing that SSN and proper documentation is provided at the time of application.

In all cases, eligibility is determined by the eHEAT software system, a tool developed by Minnesota's LIHEAP program with input from WAP staff. The eHEAT system determines income eligibility and centralizes payments to utility companies.

The eHEAT system also identifies individuals that do not qualify for LIHEAP but are eligible for WAP. For individuals that choose not to apply for LIHEAP, the application and eHEAT process is used to determine eligibility for WAP services.

All application eligibility expires 12 months from certification date if work on dwelling unit (energy audit) has not been initiated.

Describe the process for ensuring qualified aliens are eligible for weatherization benefits

All potential recipients of WAP services are asked to provide information that ensures they are eligible as described. Qualified aliens may provide an alternative to a Social Security number to meet this requirement.

**U.S. Department of Energy**  
**WEATHERIZATION ASSISTANCE PROGRAM (WAP)**  
**STATE PLAN/MASTER FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

**V.1.2 Approach to Determining Building Eligibility**

Procedures to determine that units weatherized have eligibility documentation

When occupied by an eligible household, the following dwellings are eligible for weatherization, whether owner-occupied or rental properties:

- Single Family Homes;
- Mobile Homes/Manufactured Homes;
- Multifamily buildings containing 2 or more units;
- Townhomes (treated as individual single-family dwellings provided there is a physical separation between each townhome's thermal barrier, air pressure boundary, mechanical systems, and individually metered units).

Owner Occupied Dwellings - Proof of Ownership

Service Providers must verify home ownership and add proof of ownership to the household file for owner-occupied households. Proof of ownership ensures that proper authorization is obtained prior to weatherizing a dwelling.

Proof of ownership documentation includes:

- Property tax statements;
- Mortgage statements;
- Contract for deeds recorded with the county;
- Quit claim deeds recorded with the county;
- Online or written information from a county recorder or assessor;
- Official county receipt for transfer of title;
- Ownership validation from a tribal government;
- Other documentation pre-approved by Commerce.

Mobile/manufactured homes may be owned either as personal property or real property. If the mobile home is titled through Driver and Vehicle Services, it is considered personal property and the Certificate of Title issued by Driver and Vehicle Services serves as proof of home ownership. If the mobile home title was surrendered to the county, then the home is considered real property and documentation of ownership would be the same as for other non-mobile homes.

Rental Dwelling Income Documentation Requirements

Single-Family Rental Requirements: a single-family dwelling (one unit) must be occupied by an eligible household prior to the start of any weatherization activities. Household eligibility is determined through review of household-supplied information contained in eHEAT as described earlier.

Multifamily Rental Requirements: Service Providers may weatherize multifamily buildings containing two or more units. Weatherization is designed to occur on the whole building in a systems approach. A single unit within a multi-unit building may not be weatherized.

Eligibility for each building in a multi-family complex of buildings is determined separately. For a multifamily building to be eligible for weatherization services, at least 66% of the building units (50% for duplexes and fourplexes and "certain eligible types of large multifamily buildings" as referenced in WPN 16-5) must meet one of the following:

- Have income-eligible households in the dwelling units, or;
- Will have income-eligible households in the dwelling units within 180 days under a Federal/State program for rehabilitating the building.

Prior to being accepted into the Weatherization program, multi-family buildings are checked against household eligibility requirements, and the expenditure limits for Weatherization work in the building are verified. Minnesota uses the HUD self-certification process when appropriate and otherwise uses the percentage eligibility rule given above.

Rented townhomes with complete separation between the building units' thermal barriers, air pressure boundaries, mechanical systems, and with individually metered units may be treated either as individual units, or, if eligibility is met, as a multifamily building.

Describe Reweathering compliance

Per 10 CFR 440.18 (f) (2) (iii), dwellings which were weatherized after September 30, 1994 and used USDOE funds are not eligible to receive additional

**U.S. Department of Energy**  
**WEATHERIZATION ASSISTANCE PROGRAM (WAP)**  
**STATE PLAN/MASTER FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

weatherization services using USDOE funds. Dwellings weatherized prior to September 30, 1994 may be re-weatherized if the household in the dwelling is currently eligible and if a current energy audit documents that additional cost-effective work can be performed. Minnesota's Disaster Plan allows an exception to the restriction against re-weatherizing previously weatherized homes in situations where there is a federal or state disaster designation (See section V.9).

Minnesota maintains a centralized previously weatherized list in the FACSPRO Software used by both Commerce and Service Providers. This centralized list captures all homes previously weatherized in Minnesota and is based on the historical previously weatherized lists of all active and past Service Providers. Service Providers verify previously weatherized status to ensure current eligibility prior to undertaking Weatherization work on the home. Households will be added to the list in FACSPRO as Weatherization work is completed.

Describe what structures are eligible for weatherization

Structures that are eligible for weatherization include single family, manufactured homes and multi-family buildings. Minnesota has approved audits for single family (2016), manufactured homes (2016), and multifamily buildings (2019). Non-traditional dwelling types such as shelters and mixed-use buildings may be allowed, but must be reviewed and approved by Commerce prior to weatherization to ensure that the dwelling meets program regulations. If deemed necessary, Commerce will seek approval from the USDOE Project Officer for the weatherization of a non-traditional dwelling. Single family structures must be occupied prior to weatherization.

Service Providers are required to complete a State Historic Preservation (SHPO) review for all dwellings prior to the commencement of any weatherization activity. Minnesota's SHPO Programmatic Agreement (PA) was extended until December 31, 2020 by a Program Comment published in the Federal Register on March 14, 2013. Compliance monitoring includes verification of SHPO review and previously weatherization status in sampled household files.

Describe how Rental Units/Multifamily Buildings will be addressed

Rental dwellings have equal access to WAP services as owner-occupied dwellings with household eligibility determined through eHEAT as described above.

Per 10 CFR 440.22, Service Providers may weatherize rental properties where tenants do not directly pay heating bills, provided the benefits of weatherization accrue primarily to the income eligible tenant(s). In those cases, landlords must provide detailed justification to Service Providers indicating how benefits of weatherization will accrue to tenants.

Examples of accrual of benefits to tenants who do not directly pay heating bills include, but are not limited to:

- Investment of the energy savings from weatherization work in specific health and safety improvements with measurable benefits to tenants,
- Longer term preservation of the property as affordable housing,
- Investment of the energy savings in facilities or services that offer measurable and direct benefits to tenants,
- Improvements to heat or water distribution and ventilation to improve the comfort of residents,
- Continuation of protection against rent increased beyond the local written agreements required under WAP regulations (10 CFR 440.22), and
- Establishment of a shared savings program.

Once deemed sufficient by the Service Provider, Commerce approval is required prior to beginning weatherization work.

Service Providers and landlords are required to sign a Landlord Agreement prior to the start of weatherization work. The Landlord Agreement must be approved by Commerce, and must contain several elements:

- The Landlord Agreement contains written permission of the building owner (or agent) for Weatherization service personnel to undertake weatherization work on the building.
- The Landlord Agreement must state that rent on WAP weatherized properties (those using USDOE funds) cannot be increased as a result of the increased property value associated with the weatherization work. This agreement is required to be in force to cover "a reasonable period of time after weatherization work has been completed."
- Landlord agreements must contain language that no undue or excessive enhancement shall occur to the value of the dwelling unit being weatherized.

Tenants may file complaints to Service Providers, Commerce, or both if concerns arise over the agreed upon terms of the Landlord Agreement. Landlords, in response to such complaints, shall demonstrate that the rent increase concerned is related to matters other than

**U.S. Department of Energy**  
**WEATHERIZATION ASSISTANCE PROGRAM (WAP)**  
**STATE PLAN/MASTER FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

the weatherization work performed.

Minnesota requires the landlord to financially contribute to the weatherization of a multi-family property with five or more dwelling units, except in cases where the landlord also qualifies for weatherization services. Service Providers have discretion in setting the level of contribution.

Local Service Providers may choose to require a landlord contribution when weatherizing rental properties containing 2-4 units. Landlord participation may be used to buy-down a SIR.

Landlord contributions for single family dwellings may not be required but may be accepted.

In Minnesota, duplexes and fourplexes are eligible for weatherization services if at least 50% of the building units meet one of the following:

- Have income-eligible households in the dwelling units, or;
- Will have income-eligible households in the dwelling units within 180 days under a Federal/State program for rehabilitating the building.

Describe the deferral Process

There are conditions or situations when an eligible dwelling unit should not be immediately weatherized, but rather be deferred until the unacceptable conditions are mitigated. A deferral determination may be made during the eligibility process, during the audit, or after weatherization work has begun. Given the goals of the WAP program, a deferral decision is difficult to make, but at times necessary.

Service Providers may elect to defer a home from receiving weatherization services when health and safety hazards exist for the staff, contractors or clients, or when conditions exist in the home which cannot be addressed by WAP and which prevent the safe and effective implementation of weatherization measures.

This does not mean that weatherization assistance will never be available. It does mean that weatherization work will need to be postponed until the problems can be resolved or alternative resources are found to address the hazards.

Homes that have been deferred due to COVID-19 safety restrictions will return to their spot on the waiting list when restrictions are lifted.

Service Providers are expected to pursue reasonable options on behalf of the dwelling owner and to use good judgment in dealing with difficult situations. Service Providers shall not defer service without pursuing other options and identifying other resources to address the identified hazards. Whenever appropriate, educational information on how to address the hazard shall be shared with the occupant. If corrections are made to the deferred dwelling and the corrections eliminate the issue that led to the deferral, the Service Provider may proceed with weatherization so long as the household's EAP application is current and approved. Service Providers maintain a list of deferred dwellings for that purpose.

Conditions where Service Providers must not use DOE funds to weatherize dwellings include:

- The dwelling was weatherized after September 30, 1994;
- The dwelling is scheduled for demolition;
- The condition of the structure would make weatherization impossible or impractical (e.g. inability to meet SWS).

Other deferral situations may arise as the result of a review and judgement made by the Service Provider. Examples where the deferral may occur, depending on the Service Provider assessment, include, but are not limited to:

- The dwelling is in the process of being sold;
- The dwelling is in the process of being remodeled;
- The owners have refused cost effective measures determined by the Weatherization Assistant (WA) software tool. Service Providers must then defer that dwelling per WPN 19-4 attachment 8 unless approval from Commerce is requested and approved;
- The building structure or its mechanical systems (including electrical and plumbing), are in such a state of disrepair that failure is imminent and the conditions cannot be resolved cost-effectively;
- The house has sewage or other sanitary problems that would further endanger the client and or weatherization installers if weatherization work were performed;
- The house has been condemned or a major household system (electrical, heating, plumbing, or other equipment) has been "red tagged" by a local or state building official or a utility, and the unacceptable conditions cannot be resolved with WAP funds;
- The dwelling has severe moisture problems which are so severe they cannot be resolved under existing health and safety measures and with minor repairs;
- The dwelling has dangerously high carbon monoxide levels in combustion appliances that cannot be resolved under existing health and safety measures;

**U.S. Department of Energy  
WEATHERIZATION ASSISTANCE PROGRAM (WAP)  
STATE PLAN/MASTER FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

- The extent and condition of lead-based paint in the house would potentially create further health and safety hazards;
- The energy auditor determines a condition(s) exists which may endanger the health or safety of the work crew or subcontractor, requiring that the work not proceed until the unsafe condition is corrected;
- The client has a known health condition(s) that prohibits the installation of insulation and other weatherization materials;
- Dwellings which contain vermiculite insulation, as all vermiculite insulation is assumed to contain asbestos.
  - Weatherization of a dwelling containing vermiculite may only proceed if testing indicates the vermiculite has passed barium testing and further, the vermiculite tests negative for the presence of asbestos fibers. The ACM test must be done per Minnesota Department of Health vermiculite testing guidelines.
  - Service Providers must have an internal policy, based on the current DOE State Plan, for how to address vermiculite insulation, including whether testing will be conducted.
- The cost to weatherize a home is so significant that it will negatively impact the Service Provider's ability to meet the state-wide average cost per dwelling. Commerce must be notified in writing prior to deferring a dwelling for this reason.

Service Providers may also defer households for the reasons below. In these cases, Service Providers must issue, in a timely manner, written notification to the client. Client signatures on a deferral form are not required in cases where Service Provider staff feel threatened or unsafe. In these cases, notification by certified mail is recommended.

- The presence or use of any controlled substance is evident or observed by auditors, inspectors, contractors, crews, or anyone else who must work on or visit the home;
- The client is uncooperative, abusive, or threatening to the crew, subcontractors, auditors, inspectors, or others who must work on or visit the house.

In cases where an individual client feels a deferral is unfairly determined, the client may appeal a decision to defer.

Anecdotally, the most common reasons for deferral in the Minnesota weatherization program are vermiculite, inaccessible crawl spaces, deferred maintenance, and client issues (unsafe situation, hoarding, etc.). In the next few months, Service Provider staff will make documenting deferrals a priority. This information will be centralized in the FACSPRO system using the taxonomy provided by the Department of Energy.

**V.1.3 Definition of Children**

Definition of children (below age): **19**

**V.1.4 Approach to Tribal Organizations**

Recommend tribal organization(s) be treated as local applicant?

If YES, Recommendation. If NO, Statement that assistance to low-income tribe members and other low-income persons is equal.

All eligible households, including those with Native American Indian members, are served equally without regard to race, color, national origin, gender or religion. The Minnesota Weatherization Assistance Program contracts directly with three of Minnesota's tribal nations. Tribal sub-grantees for the Minnesota WAP program are Fond du Lac Reservation Business Council, White Earth Reservation Tribal Council, and the Mille Lacs Band of Ojibwe. The other five tribal nations within Minnesota are served by the WAP Service Providers who serve the closest geographic territory to tribal lands.

**V.2 Selection of Areas to Be Served**

Minnesota serves all 87 counties in the state and provides equal access to WAP services for all eligible households. The Minnesota Weatherization Assistance Program serves these 87 counties via a network of 23 Service Providers. Service Providers are either Community Action Partners, Tribal Nations, Counties, or other non-profit organizations.

**V.3 Priorities**

**U.S. Department of Energy**  
**WEATHERIZATION ASSISTANCE PROGRAM (WAP)**  
**STATE PLAN/MASTER FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

As required by federal regulation, Minnesota WAP prioritizes households which contain:

- Children under 19;
- Persons with disabilities;
- Elderly persons;
- A high-energy burden;
- A high-energy use.

On an annual basis, WAP staff work with LIHEAP staff to determine thresholds for high energy use and high energy burden. In PY20, Commerce will update the high energy burden priority to use the median energy burden for all low income Minnesota households from the American Communities Survey data from 2016 that was made available through the LEAD tool.

Service Providers set the order of priorities to determine which households to weatherize first and may elect to use a combination of priorities to best serve the eligible population in their service territory. Service Providers may also choose to queue waiting households within a prioritization category based on the length of time since the EAP/WAP application approval date. Service Providers are required to have a written policy for their prioritization system and they must not discriminate due to housing type.

High energy use households, especially those without secondary heat sources, may be prioritized by a Service Provider when an energy crisis is anticipated or in the year following an energy crisis, especially for households using high-cost fuels such as propane.

Service Providers use FACSPRO to communicate to Commerce the household prioritization criteria implemented. Commerce staff review and approve the priority criteria and monitor for performance against goals during the annual Administrative Monitoring visit.

#### V.4 Climatic Conditions

Minnesota has a continental type climate, subject to frequent outbreaks of continental polar air during the cold season and periods of prolonged heating during summer, particularly in the southern portion of Minnesota. Mean annual temperatures range from 37.4 ° F in the extreme north to 48.85 ° F along the Mississippi River in the southeast. State temperature extremes range from -60 to 114° F. Monthly mean temperatures vary from 85° F in the southwest to -11° F in the northwest. Mean temperatures during January in the northern portions of the State average near 4° F.

Minnesota is located in International Energy Conservation Code Climate Zones 6 and 7. Minnesota uses the Weatherization Assistant software tool and adjusts for client's specific climatic conditions and fuel costs as appropriate. Average Heating Degree days in Minnesota range from 7,340 to 10,269.

(Sources: National Weather Service and Minnesota Department of Natural Resources)

#### V.5 Type of Weatherization Work to Be Done

##### V.5.1 Technical Guides and Materials

All weatherization work in Minnesota is performed in accordance with DOE-approved procedures, including the appropriate DOE-approved energy audit (single family, multifamily, or mobile home), The Minnesota WAP Policy Manual, 10 CFR 440 Appendix A, and the Standard Work Specifications (SWS). The Minnesota SWS aligned Field Guide ([http://wxfieldguide.com/mn/MNWxFg\\_2018\\_SWS\\_web.pdf](http://wxfieldguide.com/mn/MNWxFg_2018_SWS_web.pdf)), which contains information about audits/testing, installation of energy conservation, health and safety and incidental repair measures, and final inspections, and the Minnesota SWS Variances (<http://mn.gov/commerce-stat/pdfs/doe-approved-sws-variances.pdf>) were updated and reapproved by DOE in August of 2018. Both went into effect January 17, 2019. A multifamily field guide based on NREL's Multifamily SWS also was approved by DOE in August 2018 and went into effect January 17, 2019 (attached).

All sub-grantee Service Provider contracts contain language confirming the receipt of, and conformance with, all applicable USDOE WPNs and Memoranda, the MN WAP State Plan, the MN WAP Policy Manual, and the MN WAP Field Guide including the SWS for single family, multifamily and mobile homes.

The Grantee will perform work and expend funds within the above timeframes. Work must be performed in full accordance and to the quality of the specifications outlined in the following: The Minnesota WAP Policy Manual, Minnesota WAP Weatherization Field Guide, for single family, multifamily and mobile homes, the Standard Work Specifications (SWS), and Minnesota's DOE

**U.S. Department of Energy  
WEATHERIZATION ASSISTANCE PROGRAM (WAP)  
STATE PLAN/MASTER FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

Approved SWS Variances.

PY20 Minnesota WAP Sub-grantee contracts

Sub-grantees have access to the WAP Policy Manual, Field Guide, and a number of other documents and information resources at the provider-facing weatherization site located here: <https://mn.gov/commerce/industries/energy/service-providers/wap/>. In signing the contract, sub-grantees confirm that they have read and acknowledged the expectations for work quality as outlined in the contract. Additional information on all standards is available through training opportunities and through technical assistance received during monitoring or by sending an email to the weatherization in-box seeking technical guidance.

Service Providers are required to include similar language in their contracts with contractors who perform work for WAP. MN WAP Policy Manual Section 7.4.3 requires:

1. There is written agreement with all contractors specifying the terms and conditions under which work will be performed, including consequences for non-compliance or underperformance
2. Contracts confirm terms, conditions, and specification of the agreement.
3. Contractors complete work that is in accordance with the policies in this manual.

...incompliance with UD DOE's Weatherization Program Notice (WPN) 15-4, Service Providers must provide contractors with technical requirements for field work including the Minnesota Weatherization SWS Field Guide.

These contracts include acknowledgement that their contractors have read and acknowledged the expectations for work quality including the Minnesota WAP Policy Manual, Minnesota WAP Weatherization Field Guide, for single family, multifamily and mobile homes, the Standard Work Specifications (SWS), and Minnesota's DOE Approved SWS Variances. Contractor signatures on the contract indicate receipt of the relevant documents and agreement to conduct weatherization work to the indicated standard. Dependent on the individual Service Provider, these are provided as hard copies or web links. Administrative monitors review contracts for compliance. Field monitors, through monitoring inspections, confirm conformance with the SWS.

Minnesota does not conduct any weatherization activities not listed in Section 2.8 of WPN 20-1.

The following materials are approved for use and not in Appendix A of CFR 440:

- LED lighting approved by DOE 4/8/2016
- Energy Star Refrigerators 7/5/2019
- Spray foam as an insulation material 9/14/2018
- Solar photovoltaics (PV) as a pilot 9/5/2019
- Domestic hot water (DHW) heater replacements 7/5/2019
- Grantee-administered fuel switching authority 2/10/2016
- Increased NEAT/MHEA ECM lifetimes 3/21/2019.

Field guide types approval dates

Single-Family: 8/27/2018
Manufactured Housing: 8/27/2018
Multi-Family: 8/27/2018

**V.5.2 Energy Audit Procedures**

Audit Procedures and Dates Most Recently Approved by DOE

Audit Procedure: Single-Family
Audit Name: NEAT
Approval Date: 2/10/2016

**U.S. Department of Energy**  
**WEATHERIZATION ASSISTANCE PROGRAM (WAP)**  
**STATE PLAN/MASTER FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

Audit Procedure: Manufactured Housing  
Audit Name: MHEA  
Approval Date: 2/16/2016

Audit Procedure: Multi-Family  
Audit Name: EA-QUIP  
Approval Date: 7/3/2019

**Comments**

All dwellings scheduled for weatherization must have a comprehensive energy audit that treats the dwelling as a whole system. Data from the audit is entered into the Weatherization Assistant (WA) software, which then determines which energy conservation measures are cost-effective for the dwelling. Weatherization measures for a dwelling are considered cost effective if the Savings to Investment Ratio (SIR) is 1 or greater for each measure and the job as a whole. In addition to DOE approved conservation measures, Minnesota WAP Service Providers also install health and safety and general (incidental) repair measures as dictated by the audit on each dwelling. Minnesota also uses WA for multifamily audits of all buildings up to four units and up to twelve units for specific building types.

Minnesota's approved single family audit procedures (NEAT) and manufactured home procedures (MHEA) will expire in early 2021. With that in mind, weatherization staff is now beginning the process of reviewing and submitting audits for DOE approval. Prior to submittal on August 10, 2020 Minnesota will review and update the current audit procedure, including its appendices, in light of WPN 19-4 and current Minnesota policy and guidance.

**V.5.3 Final Inspection**

The Minnesota Weatherization Policy Manual specifies the activities and tests that must be completed in a final inspection and the process for rework should the need arise (MN WAP Policy Manual 4.6). Final inspections on weatherized homes are conducted to confirm that all work was done to the SWS standards and in a workman-like and professional manner. Dwelling units may not be reported as complete until all work passes a final inspection and all required signatures are obtained on the required forms. Each Service Provider or its authorized representative is required to use a certified Quality Control Inspector (QCI) who is in good standing with the Building Performance Institute to conduct all final inspection of all dwelling units. The QCI may oversee and signoff on final inspection duties conducted by non-QCI certified staff related to NEAT data entry, fiscal entry, etc.

In PY20, Minnesota will explore remote and social distancing inspection options for both subgrantees and Commerce Staff.

At the beginning of each program year, Service Providers will provide Commerce the names and BPI certification numbers of the QCIs they intend to use for final inspections. Commerce will maintain a current list of QCIs to ensure that adequate numbers are available to inspect all jobs statewide.

Commerce uses monitoring forms that are provided to Service Providers prior to monitoring visits. These forms are structured to ensure compliance with the work quality requirements outlined in WPN 15-4 Section 1.

Service Providers will provide QCI certified inspections according to the following protocol:

**Independent QCI:** A final inspection on every home will be conducted by a QCI who had no involvement in the weatherization work on the home, either as the auditor or as a member of the crew. State field monitoring will be done through Commerce by a certified QCI. Commerce will conduct field monitoring visits of at least five percent of all completed units.

Commerce also conducts desk monitoring of Weatherization Assistant to ensure that QCIs are performing final inspections.

**QCI Shortage:** To meet production goals in a timely manner, Service Providers are responsible for maintaining staff and/or contractual relationships with QCI certified inspectors. In the case of a shortage of QCI certified inspectors in the service territory, Commerce may choose to allow the following, in accordance with WPN 15-4, Section 3:

The QCI certified auditor performs the audit and the final quality control inspection. The auditor is not involved in any of the actual work on the home. In this case, a Commerce certified QCI or DOE approved representative will perform quality assurance reviews of at least 10 percent of all completed units as this model does not allow for an independent review of the audit on every home.

**U.S. Department of Energy**  
**WEATHERIZATION ASSISTANCE PROGRAM (WAP)**  
**STATE PLAN/MASTER FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

Additionally, the Service Provider will be required to develop and submit a quality assurance plan to ensure that the individual who is functioning as both the auditor and the quality control inspector is able to consistently perform both tasks. Commerce may choose to reduce the respective Service Provider T&TA allocation to cover the expense of increased monitoring.

Disciplinary Actions: If a QCI is found to be negligent, either through repeat findings or gross negligence in their duties, Commerce, with or without the support of a Service Provider, may institute the following:

1. Additional training
2. Temporary suspension (e.g. six months)
3. Permanent suspension and written notification to BPI

**V.6 Weatherization Analysis of Effectiveness**

**How is the effectiveness of Service Provider weatherization assessed?**

Commerce conducts both administrative and field visits, periodic desk reviews, and analysis of each Service Provider. These assessments of effectiveness are conducted through a number of methods: an administrative monitoring tool completed by the Service Provider and reviewed by Commerce staff prior to onsite visit, onsite interviews with WAP staff (coordinators, fiscal staff, energy auditors, final inspectors, crews and contractors), onsite visits to homes that have received WAP services, regular desk monitoring of Service Provider production and spending statuses, and extensive use of over 40 different reports incorporated into the Minnesota version of WA and FACSPRO. Commerce performs monthly desk monitoring that includes 14 of these reports.

Beginning in PY20, Commerce will add a blower door reduction report to its cadre of monthly reports and will compare blower door reduction between service providers. Because Minnesota has over 200 utilities, bill analysis and comparison is not a feasible strategy for understanding weatherization's effectiveness. The blower door reduction data can also be used to focus responsive training and drive continuous improvement along with the approaches below.

**How are these comparisons used in the development of T&TA activities and priorities?**

Commerce WAP staff and the Program Supervisor meet weekly to discuss monitoring visits and reports, technical issues, and T&TA needs. The staff also gathers feedback from Service Providers through email, phone, and regular meetings of the MN Weatherization Advisory Group (MWAG), the MN Community Action Partnership (MinnCAP) directors meeting, and the Fiscal Directors meeting. If Commerce determines a Service Provider is not meeting production goals, additional monitoring visits may take place in conjunction with responsive trainings to address barriers. As themes of training needs emerge, comprehensive trainings are also scheduled. All T&TA activities are outlined in section V.8.4.

**How are training needs being assessed and how is the Grantee incorporating monitoring feedback?**

Training needs are assessed in a number of ways. Commerce conducts surveys with all Service Providers on their anticipated training needs at least twice each year. Commerce also conducts a risk assessment of each Service Provider annually as part of the contracting process which identifies areas of concern and informs the number and type of trainings offered. In addition, monitoring activities are reviewed weekly with the Program Supervisor and any training needs that are identified are shared with the larger WAP staff and incorporated into future training activities.

**How the Grantee is incorporating monitoring feedback?**

In PY19, Minnesota hosted A DOE technical monitoring visit and had the opportunity to incorporate this recent feedback into this year's State Plan. The items highlighted in the DOE monitoring report point to two opportunities for Minnesota: improvement to monitoring processes and identifying trainings and specific technical assistance opportunities for subgrantees.

Based on the feedback from DOE, Minnesota will make a number of improvements to our technical monitoring process. The technical monitoring process has been updated to include review of individual audits, Service Provider audit libraries, and audit inputs. Additionally, field monitors will use a combination of observing the SPs conduct diagnostics tests in the houses monitored and conducting the tests themselves with the goal of independently verifying numbers.

Minnesota will also incorporate the DOE feedback to implement specific training and technical assistance opportunities. While more detail is provided in the Training and Technical Assistance Plan, these opportunities include energy audit review, library update process and timing, ASHRAE ventilation measurements and calculations, and contractor training on use of the field guide and Standard Work Specifications.

**What is the Grantee doing to be on a path of continuous improvement?**

**U.S. Department of Energy**  
**WEATHERIZATION ASSISTANCE PROGRAM (WAP)**  
**STATE PLAN/MASTER FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

In addition to incorporating DOE Monitoring Feedback as outlined, Minnesota incorporates feedback from its Service Provider network as well as review of subgrantee performance.

Minnesota receives feedback from the subgrantee network in two ways. Our service provider network meets regularly as the Minnesota Weatherization Advisory Group (MWAG). The chair of MWAG, leads these meetings, gathers feedback from members and funnels that feedback to the Program Supervisor. In order to close the feedback loop, the Program Supervisor is given the opportunity to address MWAG to responds to feedback or gather additional information as necessary.

Minnesota also gathers information through DOE's American Customer Satisfaction Index. This feedback is reviewed with the weatherization staff and consideration is given as to how specific items can be improved. In PY19, this lead to the establishment of a sub-committee of the MWAG group made up of Service Provider members, with the goal of improving the Weatherization Assistance Program in MN that is described more fully in the Miscellaneous section of the Annual File.

**How is the Grantee tracking Service Provider performance reviews?**

Commerce utilizes a monitoring module within FACSPRO to document issues found through local Service Provider field monitoring visits. The module generates a report that includes required corrections for each household monitored along with a cover letter and summary of observations, compliance issues, and findings. Monitoring reports for all monitoring visits are sent to Service Providers within thirty days, on average, of the monitoring visit. Service Providers make corrections and upload any additional documents in FACSPRO within thirty days. Commerce staff then review and either close the issue or ask for additional action. Monitoring reports are stored in FACSPRO and are accessible to Service Providers and Commerce weatherization staff.

While the expectation is that administrative monitoring reports will be managed through FACSPRO in the same way, that conversion has not yet taken place. However, the approach (if not the method) is the same: monitors generate reports based on their visits including corrective steps required, responses are tracked and issues are either resolved or further information or action is requested.

**If a Service Provider has failed final inspections, how are things improving?**

In cases where final inspections have failed, Service Providers require reworks and callbacks of contractors or crews, as appropriate. In addition, technical assistance is offered to individual Service Providers as needed and at times, required. All final inspections are conducted by a certified Quality Control Inspector.

**If a Service Provider has management findings or concerns cited as a result of Grantee monitoring or audit proceedings, how are things improving?**

Commerce continues to develop and offer trainings to address monitoring issues. Greater emphasis has been placed on sharing best practices among Service Providers. Past findings are reviewed prior to each monitoring visit. Major monitoring findings or concerns are followed up on until resolution is verified.

In addition, WAP staff work closely with LIHEAP and Minnesota Department of Human Services staff to identify any systematic issues, with consistency and resolution.

Commerce's fiscal division reviews third party single audits for all Service Providers. Management decision letters are issued to any Service Provider if the audit indicates findings related to WAP or crosscutting findings that affect the management of WAP. Audit findings or the resolution of prior audit findings could potentially impact future WAP awards to a local Service Provider.

**What are the management mechanisms being put in place this year to affect improvement?**

Commerce will continue to move functionality previously conducted with spreadsheets into the FACSPRO system which will allow for increased data analysis to identify areas where efficiencies can be implemented. Centralizing and streamlining program functions will also save staff time at the state and local levels. A continued focus on analysis of performance trends will allow for clearer identification of where the program can improve.

**Are there technical and financial systems that have been reviewed?**

Commerce has been using the FACSPRO system to streamline many fiscal, administrative, and technical aspects of the program for both Commerce and Service Provider staff.

**What has the Grantee done in the area of market analysis to ensure particular measures are being costed accurately?**

Commerce does not conduct market research as a means of evaluating cost accuracy, rather this evaluation is completed through the monitoring process.

**U.S. Department of Energy**  
**WEATHERIZATION ASSISTANCE PROGRAM (WAP)**  
**STATE PLAN/MASTER FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

Monitors evaluate measure costs for each Service Provider and compares them to similar measure costs seen over the same period statewide.

**V.7 Health and Safety**

Minnesota's Health and Safety Plan is a separate attachment to SF-424.

**V.8 Program Management**

**V.8.1 Overview and Organization**

The Minnesota Department of Commerce (Commerce) serves as the statewide administrator of Minnesota's Weatherization Assistance Program (WAP). Commerce's Division of Energy Resources includes not only WAP but also the State Energy Program (SEP), Low Income Energy Assistance Program (LIHEAP), and the Conservation Improvement Program (CIP), as well as other energy regulatory departments. Placement of WAP in close proximity to these programs (especially LIHEAP and CIP) provides the best opportunities for coordination of programs affecting low-income households.

In addition to USDOE funds, Commerce manages LIHEAP, Healthy AIR, and Propane funds for weatherization. USDOE funds are governed by the WAP State Plan. LIHEAP funds are governed by the LIHEAP State Plan and Healthy AIR and Propane funds are governed by relevant Minnesota statute.

WAP staffing within Commerce consists of a program supervisor, a leveraging specialist, two administrative monitors, three field monitors, and a training and technical assistance specialist. The Weatherization team is overseen by the SEO Director within Commerce. Details about these and other positions supporting WAP can be found in the budget.

Commerce annually contracts for program delivery activities with twenty-three local Service Providers. These Service Providers include Community Action Agencies, tribal nations, a private non-profit agency, and a community development authority.

**V.8.2 Administrative Expenditure Limits**

Commerce retains 3.5% of USDOE Program Year funds for statewide program administration. The remaining 6.5% is allocated to subgrantees by the allocation formula.

Subgrantees who receive less than \$350,000 in USDOE funds receive up to an additional 5% for administrative purposes. The additional funds will come from subgrantees' program allocation and will be inversely pro-rated according to the amount of USDOE funds received. The higher a subgrantee allocation, the less the subgrantee will receive in additional administrative dollars. The pro-rated formula percent decreases at a rate of 0.5% per \$25,000 until the allocation reaches \$350,000.

**V.8.3 Monitoring Activities**

The overall goals of monitoring are to ensure compliance with federal and state rules and policies and establish the efficiency, quality and effectiveness of Service Provider operations. An additional goal is to identify and correct issues that have the potential to cause major program deficiencies.

Staff with responsibility for monitoring include: the Energy Equity Programs Supervisor, the training and technical assistance specialist, and field (4) and administrative (2) monitors. All field monitors and the training and technical assistance specialist are QCI Certified. Because work with Service Providers has a broader focus than just compliance, TTA dollars support activities in this area. 10.85% of all admin/TTA funds are allotted for monitoring activities.

Monitoring strategies include the following:

Weatherization In-box: Service Providers are encouraged to submit weatherization program or policy questions to Commerce staff via a group email box.

**U.S. Department of Energy**  
**WEATHERIZATION ASSISTANCE PROGRAM (WAP)**  
**STATE PLAN/MASTER FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

Responding to these questions from Service Providers serves two monitoring purposes: reduction in the number of monitoring compliance issues and documentation of technical assistance responses for consistency.

Desk monitoring: Desk monitoring includes ongoing reviews of monthly programmatic and fiscal data submitted by Service Providers. Examples of reviewed data include number of units completed, number of units in progress, estimated and final cost data by measure and by job, mechanical test results, blower door readings and other pre/post building performance metrics. Fiscal data is also reviewed and includes Service Provider monthly expenses and cash requests as well as allocations.

Fiscal review also includes audit review and financial reconciliation. Each Service Provider is required to submit their annual single audit no more than nine months after the conclusion of the agency's fiscal year. Commerce's Senior Accounting Officer reviews the audits for any internal control issues, crosscutting findings, or management issues. If there are any findings for Federal Programs the Senior Accounting Officer sends the Service Provider a management decision letter that outlines the findings from the audit report and requests follow up. If Commerce is the cognizant agency, this management decision letter is also submitted to the other Federal funding agencies.

Administrative Monitoring: Administrative Monitoring takes place to document local Service Providers' program management, internal controls and administrative capacity to deliver WAP services.

Field Monitoring: All Commerce field inspections are conducted by a certified Quality Control Inspector who ensures compliance with the Standard Work Specifications.

#### **PY20 Monitoring Visit Details and Tentative Schedule**

A Risk Assessment is conducted prior to the start of the program year to determine priority in monitoring. The Risk Assessment weighs issues like size of allocation, staff expertise and experience, and past monitoring results. For both field and administrative monitoring, additional visits are scheduled, as needed, to address specific Service Provider issues as they arise.

Administrative and Field Monitoring visits are scheduled from August through May to best fit the demands of the program year.

During PY20, Minnesota will explore remote and social distancing inspection options for Commerce Administrative and Field Monitoring Staff as dictated by current conditions.

#### Administrative Monitoring

Each Service Provider receives a minimum of one administrative monitoring visit annually. The components of Administrative Monitoring include:

1. Pre-Visit Review

Administrative Monitoring Tool: Service Providers complete an Administrative Monitoring Tool prior to the visit. This Tool gives the monitor information about the approach used by the Provider (contractor vs crew, set price list vs. bidding, etc.) as well as other information on relevant compliance issues.

FACSPRO Tracking: FACSPRO software is used to track all households engaged in weatherization as well as funds released to each Service Provider. Monitors use this information both to monitor to household issues (eligibility, procurement, fiscal verification, etc.) and fiscal reporting.

2. On-Site Review

Administrative Monitors review the pre-visit information with Weatherization staff at each Service Provider as well as discuss production, spending, workflow, staffing, and other relevant processes.

These reviews include follow-up on issues raised in desk monitoring and prior monitoring reports, as well as any other issues as needed, including but not limited to:

- Equipment/Inventory/Materials
- Client/Household eligibility
- Distribution of services between renters and owners
- Geographic distribution within the Service Provider service territory
- Reporting compliance
- Internal controls related to financial management and operations
- Fiscal Audits
- Payroll/Personnel
- Vehicles and equipment
- Invoicing

**U.S. Department of Energy**  
**WEATHERIZATION ASSISTANCE PROGRAM (WAP)**  
**STATE PLAN/MASTER FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

- Staff qualifications and training
- Procurement procedures
- Outreach efforts to incorporate minority and disadvantaged contractors

Household file reviews: Administrative monitors randomly sample files during on-site visits to demonstrate compliance with DOE, Commerce, and local Service Provider policies such as Client/Household eligibility, distribution of service, and adherence to procurement procedures.

Contractor/Crew file review: Administrative monitors randomly sample contractor files to ascertain adherence to contract requirements as outlined in the Minnesota Weatherization Assistance Program Policy Manual (and DOE guidelines).

Monitors conclude the visit with a brief “exit interview” intended to provide Service Provider staff with a high-level review of any issues found during monitoring.

### 3. Post-Visit Report

Administrative Monitoring Report: Monitors review all site documentation, discuss outstanding issues with the monitoring team, and generate a monitoring report. This report highlights any compliance issues, recommendations, or best practices. The Service Provider receives the report within 30 days of the Site visit and is asked to respond within an additional 30 days.

#### Field Monitoring

Each Service Provider receives at least one on-site field visit per year, with a minimum of 5% of all weatherized households monitored statewide. All Commerce field inspections are conducted by certified Quality Control Inspectors.

#### 1. Pre-Visit Review

Service Providers are required to upload files of dwellings to be inspected by Commerce field monitors to a secure website.

Commerce staff reviews FACSPRO and household files for required data, forms, signatures, bids, invoices, and other documentation. Based on DOE Monitoring in PY19, Field Monitors will now also review audits for the households monitored including data inputs and spot check audit libraries to determine if they are current.

#### 2. On-Site Review

Field Monitors review the pre-visit information with Weatherization staff at each Service Provider. These reviews include follow-up on issues raised in desk monitoring and prior monitoring reports, as well as any other issues as needed, including but not limited to:

- Administrative field work (Client file review, Work orders, Audit reporting)
- Energy audits
- Training & Technical Assistance activities and needs
- Weatherization of units
- Health and safety
- Final inspections and verification that all inspections are performed by a QCI
- How monitoring results are handled and required follow-up procedures
- Lead-safe work practices Quality Assurance
- Compliance with Standard Work Specifications (SWS)

Inspections of dwellings: Inspections of completed dwellings are conducted to determine compliance with federal and state requirements, client satisfaction and work quality. Based on PY19 DOE Monitoring, Field Monitors will now also spot check ASHRAE measurements and calculations. Also based on DOE recommendation, monitors will select a certain number of homes to perform diagnostics as both a verification of findings and a teaching opportunity. Commerce also may choose to visit "in progress" jobs. All Commerce household inspections are completed by a certified Quality Control Inspector.

At the conclusion of the visit, Service Providers are briefed on observations and findings in an exit interview. Health and Safety issues are noted at that time, particularly if they present an imminent danger to occupants.

#### 3. Post-Visit Report

Field Monitoring Reports: Written reports are provided to Service Providers within thirty days of the Service Provider visit.

#### Issue Resolution

**U.S. Department of Energy**  
**WEATHERIZATION ASSISTANCE PROGRAM (WAP)**  
**STATE PLAN/MASTER FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

Once monitors produce the monitoring report, the Service Provider is asked to respond within 30 days. Responses may include correcting individual errors, describing new systems to avoid future errors, or return of funds for disallowed costs. All information about compliance issues and resolution is tracked in FACSPRO software.

This tool tracks the date and number of all visits by the monitors as well as information about any findings, concerns, or other issues. Additionally Service Providers use FACSPRO to track resolution of their issues. Monitors communicate resolution via FACSPRO or ask for additional steps if needed.

In addition, FACSPRO makes it possible to review not only individual household data, but also aggregate data by Service Provider and across the state. Over time, it also enables longitudinal analysis of various programmatic and fiscal data. The results of such analysis are used to discern not only trends and common themes, but also to guide program policy, overall program direction, and T&TA needs.

**Corrective Action/Removal**

In the event that a Service Provider remains out of compliance, Commerce will follow the Corrective Action Process outlined in the Minnesota Weatherization Program Policy Manual and below.

In response to Service Provider non-compliance, Commerce may impose additional requirements on a Service Provider in a written Corrective Action Plan. Corrective Action Plans may be issued in response to single issues of non-compliance or larger internal control, administrative or programmatic issues. Written Corrective Action Plans include:

- Nature of the requirements and why they are being imposed;
- Corrective actions that are needed; and
- Deadline(s) for meeting terms of the Corrective Action Plan.

If a Corrective Action Plan is necessary, Commerce will work with the Service Provider to resolve issues. Additionally, individual Service Providers must remediate monitoring findings prior to entering into a new program year contract with Commerce.

In the case that a Service Provider continues to be out of compliance and with or without a Corrective Action plan in place, Commerce may impose additional sanctions. These may include additional monitoring visits, financial reporting, training or technical assistance requirements, or making payments on a reimbursement basis only.

If non-compliance issues are still not resolved, Commerce may terminate a Service Provider's WAP contract upon 30 days written notice. Commerce may elect to immediately terminate the contract if it is found that the Service Provider has failed to comply with the contract, reasonable progress has not been made, or the purposes for which the funds were granted have not been or will not be fulfilled.

**V.8.4 Training and Technical Assistance Approach and Activities**

Training and Technical Assistance activities (T&TA) for both Service Provider and Commerce WAP staff are instrumental in the provision of weatherization services to low-income households in Minnesota. Commerce offers Comprehensive (Tier 1) training through IREC accredited providers and Responsive (Tier 2) training through a combination of qualified State staff, industry professionals, and certified trainers. T&TA activities increase the efficiency, quality, and effectiveness of the Minnesota WAP. All T&TA activities have the following objectives:

- Maximize energy savings.
- Ensure the health and safety of low income households and weatherization workers.
- Increase the effectiveness of client education.
- Minimize production costs and maximize production efficiencies.
- Improve the quality of weatherization work on dwellings.
- Improve program management and administrative procedures.
- Avoid the potential for waste, fraud, abuse and mismanagement.

Commerce retains 60% of the state's total T&TA allocation for training, planning, oversight, and monitoring activities. The remaining 40% of the state's T&TA allocation passes to Service Providers. The completion of regular Job Task Analysis (JTA)-aligned comprehensive training is required for staff in all Home Energy Professional (HEP) job classifications. The State verifies through the Service Provider's Local Plan and Training Activities Report that sufficient training is provided to appropriate staff. While Service Providers are not required to attend all T&TA activities, they are responsible for understanding and implementing any technical and policy content covered in those T&TA activities.

**U.S. Department of Energy**  
**WEATHERIZATION ASSISTANCE PROGRAM (WAP)**  
**STATE PLAN/MASTER FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

For PY20, Commerce plans to relicense and utilize a learning management system (LMS) to deliver online interactive trainings and improve the delivery and tracking of T&TA activities. Commerce will implement a strategy of requiring regular JTA-aligned online training for building shell crew leaders and retrofit installers in order to meet the requirements of WPN 15-4 Section 4 for these job classifications. Minnesota Quality Control Inspectors (QCIs) and energy auditors will also be able to access JTA-aligned content for Building Performance Institute (BPI) Continuing Education Units (CEUs), enrichment, and responsive T&TA.

Commerce does not require specific certification of Service Provider staff prior to hire. Rather, it is the responsibility of the Service Provider to ensure the qualifications of its hires. Auditors must successfully complete the Building Analyst (BA) or (starting in PY20) the Home Energy Professional (HEP) Energy Auditor certification from (BPI) within the first year of work. Equivalent certification may be used with approval from Commerce. The work of new energy auditors must be closely supervised during the course of their training and prior to meeting certification requirements to ensure compliance to program guidelines. All inspectors must be QCI certified prior to completing inspections.

Commerce will offer continuing education credits through its online LMS and where possible at state trainings. Commerce will also make Service Providers aware of additional resources for continuing education.

Commerce staff must have all required DOE certifications that directly relate to their job duties.

T&TA funds may be used to pay for wages of Service Provider weatherization workers during training events. Service Provider T&TA funds may also be used to train contractors, including providing a reasonable stipend to contractors who attend WAP training at the request of the Service Provider. All such contractors must sign a retention agreement in accordance with DOE guidelines. T&TA funds may also be used for Service Provider administrative staff to attend weatherization-related training.

Commerce utilizes local home performance industry experts as members of our policy advisory council and as trainers at our annual WAP training conference.

Individual Service Provider T&TA needs are assessed in four ways:

- Monitoring activities (dwelling inspections, fiscal/administrative, desk monitoring, DOE inspections, and all other types) are used to identify specific areas where improvement is needed. In addition, informal conversations with Service Provider personnel, not connected to monitoring, are used as a means of identifying specific T&TA needs at the Service Provider level.
- Service Providers assess their own T&TA needs and objectives via the submission of a Local Plan as a part of their budget.
- Monthly desk monitoring reports direct responsive training to service providers to improve effectiveness and drive continuous improvement.
- Each Service Provider's work plan and budget are reviewed as part of the contract submission process, and are evaluated during monitoring activities.

Additionally in PY20, Commerce will add a blower door reduction report to its cadre of monthly reports and will compare blower door reduction between service providers. This data will be used to focus responsive training and drive continuous improvement along with the approaches below.

A quarterly updated Training Activities Report is filled out by each Service Provider and submitted to Commerce and includes a list of training taken by each employee. As Minnesota begins to utilize its learning management system as well as the FACSPRO software during PY20, it intends to continue to transition to tracking service provider training activities electronically through these means.

On a broader level, T&TA needs, including client education, are assessed in a number of ways:

- Commerce staff members compile and compare individual Service Provider monitoring results to determine multiagency needs and trends.
- Service Provider surveys are used to elicit input for not only general policy/procedural issues but also T&TA needs.
- The Minnesota Weatherization Advisory Group (MWAG) provides an excellent source of input and feedback regarding T&TA. MWAG membership includes representatives of Service Providers.
- The Policy Advisory Council (PAC) is used to garner input from a broader spectrum of WAP affected constituents within the state.
- Cooperation with other energy program units within the Department of Commerce provides sharing of information about energy conservation issues, some of which may be addressed by T&TA activities.

Evaluation forms are distributed as a part of every group T&TA event. The completed evaluations provide information about the effectiveness of the workshop, class or other group activity. Evaluations may also prompt Commerce to consider additional training. The results of these evaluations become part of future T&TA needs assessments.

State field and fiscal monitoring visits are also used to evaluate T&TA training effectiveness and to determine specific training that may be necessary.

**PY20 Training Plan Overview**

PY20 Comprehensive (formerly Tier 1) trainings include JTA-aligned Crew Leader, Retrofit Installer, Energy Auditor and Quality Control Inspector trainings to

**U.S. Department of Energy**  
**WEATHERIZATION ASSISTANCE PROGRAM (WAP)**  
**STATE PLAN/MASTER FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

reflect industry-wide initiatives and broaden the skills necessary to successfully maintain quality work in the WAP. Commerce also plans to address recent changes to the HEP Energy Auditor and QCI certification scheme. Responsive (formerly Tier 2) trainings will focus on the FACSPRO data management system, Weatherization Assistant, mechanical systems and CAZ testing, Building Analyst and Uniform Grant Guidance among other topics. In particular, responsive trainings will include air sealing and mobile home training for building shell crews and contractors and delivery of health and safety curriculum.

In PY20, Commerce staff will meet quarterly to review the training schedule and cross reference it with federal and state monitoring reports, the Training Activities Report, and any other relevant indicators to determine if the training plan is on track and effective.

Because it is unknown if and how the impact of COVID-19 on travel and large group gatherings will extend into PY20, Minnesota will continue to expand its distance learning and remote meeting options with the intention of being able to quickly pivot to remote training and meeting options as circumstances require. As Minnesota plans and procures in-person trainings in PY20, it will build remote training options into its contracts.

Additionally Minnesota is examining the possibility of including elements of energy audits such as client education and review of work scope remotely to minimize the amount of time Weatherization staff spend in clients' homes.

**Analysis of Training Needs for Weatherization Workers**

**Quality Control Inspector (QCI)**

As of the end of the third quarter of PY19, Minnesota WAP has 51 QCI certified individuals in its statewide network as well as four state staff. All Service Providers currently have access to a QCI through direct employment or a contractual agreement. In PY19, five people took and passed QCI testing and certifications. In April 2020, Commerce will offer a review and QCI written test for ten staff who passed the HEP Energy Auditor written and field tests. There are currently 14 QCIs that will require recertification in PY20. We expect approximately 5-10 newly HEP-certified energy auditors to be ready to take the QCI course and testing in PY20. The need for QCI training and QCI recertification is high.

**Energy Auditor (EA)**

In January and February of 2020 Commerce offered HEP Energy Auditor (EA) training and testing to ten newer energy auditors. In PY20, Commerce anticipates the need for up to two BA courses and testing and up to two HEP Energy Auditor courses and testing.

**Crew Leader (CL) and Retrofit Installer (RI)**

For building shell work, Minnesota has six crew based Service Providers and the remaining 17 are contractor based. While crew based agencies consistently send their staff to offered trainings, agencies that utilize contractors have historically had difficulty convincing building shell contractors to attend JTA-aligned trainings in spite of offering stipends. In PY20, Commerce will address the WPN 15-4 Section 4 requirement that building shell crews and contractors receive JTA-aligned training by requiring eight hours of JTA-aligned training annually. Commerce will provide all weatherization contractors and crews with the opportunity to attend a one-day training in the first quarter of PY20, focused on topics such as air sealing, mobile home weatherization, and vermiculite safe work practices. In PY20, contractor training will also include review of the DOE Standard Work Specifications (SWS) and Minnesota's SWS Field Guide. Minnesota is considering the possibility of adding a badges program for field staff.

**Multifamily: All Four Job Titles**

In PY20, 11 service provider staff completed a multifamily QCI Gap Training. Minnesota now has four state staff and 25 service provider staff who have successfully completed the Multifamily QCI training. In PY20, Commerce will again offer a multifamily QCI Gap Training.

**Anticipated Intervals for Comprehensive Training for Weatherization Workers**

To address staff turnover, Commerce anticipates offering HEP Energy Auditor and HEP QCI training at regular intervals. Current staff who have achieved certifications for their job classifications will also receive regular comprehensive training.

**Quality Control Inspector**

Since the QCI certification is required by DOE, Commerce anticipates the need to offer up to two sessions of QCI training and written testing for new QCIs each program year. Current QCIs who have six QCI-specific CEUs will become Energy Auditor and QCI certified under the new certification scheme when they pass the Energy Auditor field-test per page 9 of the *Updated Home Energy Professional Quality Control Inspector and Energy Auditor Certifications: What You Need to Know*. Commerce plans to offer EA field training and testing to current QCIs systematically within six months of their QCI certification expiration during PY20 and PY21 including fifteen current QCI in PY20. Comprehensive training aligned to the QCI JTAs will be provided regularly to existing QCI certified staff. Commerce will require ten hours of JTA aligned training annually.

**U.S. Department of Energy**  
**WEATHERIZATION ASSISTANCE PROGRAM (WAP)**  
**STATE PLAN/MASTER FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

**Energy Auditor**

Since the EA certification is now required to obtain the QCI certification, Commerce plans to provide regular Comprehensive training up to two times annually to provide a path to QCI certification for new staff. Comprehensive training aligned to the EA JTAs will be provided regularly to existing EA-certified staff. Commerce will require ten hours of JTA aligned training annually.

**Crew Leader**

Since the Crew Leader (CL) certification is not required by DOE at this time, Commerce plans to provide annual one-day required JTA-aligned trainings and regular online-training for all crew leaders and will require ten hours of JTA-aligned training annually.

**Retrofit Installer**

Since the Retrofit Installer (RI) certification is not required by DOE at this time, Commerce plans to provide annual one-day required JTA-aligned trainings and regular online-training for all crew leaders and will require ten hours of JTA-aligned training annually. Comprehensive training aligned to the RI JTAs will be provided regularly to existing crew and contractors. Commerce will require ten hours of JTA aligned training annually.

**Multifamily**

Commerce plans to provide Multifamily QCI Gap training to QCI certified individuals to meet program requirements annually or biennially based on need.

**PY20 Statewide Training Offerings**

Comprehensive (Tier 1) Training

**Quality Control Inspector:** This two to three day JTA-aligned training with BPI certification written testing included will provide those with the HEP Energy Auditor Certification the opportunity to become QCI certified. The training and testing will be offered up to two times this program year.

**Recertification for current Quality Control Inspector:** A one day refresher and HEP Energy Auditor field testing will be offered for all current QCI certified individuals whose certification will expire in PY20 up to three times this program year.

**Energy Auditor:** This five-day JTA-aligned training with course completion testing included will provide auditors a comprehensive energy auditor-focused training. Training and testing will be offered up to two times this program year.

**Multifamily QCI:** This three day JTA-aligned training with course completion testing included will be provided for auditors and inspectors who plan on working on multifamily buildings. The training will be offered up to one time this program year.

Responsive (Tier 2) Training

**Building Analyst Training and Testing:** A five day course that includes written testing followed by field testing. Building Analyst (BA) or equivalent is required within one year of hire for Minnesota energy auditors. BA training and certification also provides essential prerequisites for the HEP Energy Auditor certification. Training and testing will be offered up to two times this program year.

**Health and Safety Training:** In PY19, Commerce procured a WPN 17-7 aligned health and safety training curriculum. This one to two day course will be offered up to two times this program year.

**Healthy Homes Training:** As part of Minnesota's leveraging initiatives, Healthy Homes training will be offered to agency staff to enable them to more effectively perform health and safety measures and partner with Healthy Homes programs.

**Vermiculite:** Minnesota will provide training to technical staff as it develops policy and procedures around how to treat vermiculite to decrease deferrals while ensuring the health and safety of clients and workers.

**ASHARE 62.2 in Practice:** Minnesota will provide a practical review of ASHRAE 62.2 calculations and equipment selection best practices.

**WA Libraries, Energy Audit Review: Accurate Prices and Accurate Work Orders:** Minnesota will provide training to all service providers that describe the relationship between Weatherization Assistant Library costs, energy audit recommended measures and work orders. The training will emphasize the importance of providing accurate prices from procurement to work orders to ensure Minnesota performs effective and cost effective work.

**Mechanical Systems/ CAZ training:** A three day course covering topics such as refrigeration, combustion and CAZ depressurization testing, ventilation, and

**U.S. Department of Energy  
WEATHERIZATION ASSISTANCE PROGRAM (WAP)  
STATE PLAN/MASTER FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

multifamily HVAC will be offered to Service Providers utilizing the Minnesota state WAP specific training materials and training facility. This training will be offered up to three times this program year.

**Introduction to Weatherization Assistant 8.11 Software:** This one to two day course is a complete overview of the Weatherization Assistant Software (NEAT and MHEA) and will be offered up to two times this program year.

**Advanced Weatherization Assistant 8.11 Software:** This one to two day course is an in depth overview of the setup libraries and backend data base functions of the Weatherization Assistant Software (NEAT & MHEA). It will be offered up to two times this program year.

**Policy Changes Introduction and Implementation: Tools for a Successful and Seamless Program Year.** In response to COVID-19 restrictions on travel, the PY20 Policy Changes Introduction and Implementation training session will be a webinar scheduled for June. This year’s policy updates will include the changes to health and safety policy, HEP Auditor and QCI certification scheme, and the FACSPRO program management software.

**Administrative Training for New and Seasoned Program and Fiscal Directors:** Training on administrative and fiscal topics such as the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, budgets, expense plans, FSRs and cash requests. This will be offered as needed during the year.

Additional Responsive training anticipated for PY20:

- Regional or State Energy Conference

Service Providers will be responsible for costs related to:

- Travel and labor related to state sponsored Comprehensive and Specific training
- LSW and Lead Renovator training and certification
- Continuing education credits for any relevant certifications (e.g. QCI or Building Analyst)
- Additional Comprehensive and Specific training not available through Commerce
- Contractor stipends, if any

Service Providers will provide a T&TA budget as part of the contracting process that communicates a thorough plan to expend all T&TA funds in an effective manner.

Percent of overall trainings

Comprehensive Trainings:	76.0
Specific Trainings:	24.0

Breakdown of T&TA training budget

Percent of budget allocated to Auditor/QCI trainings:	67.0
Percent of budget allocated to Crew/Installer trainings:	21.0
Percent of budget allocated to Management/Financial trainings:	12.0

**V.9 Energy Crisis and Disaster Plan**

The purpose of the Minnesota Disaster Plan is to allow the WAP program to respond quickly and effectively to disasters that affect the lives and dwellings of low-income households. This plan reflects the requirements of WPN 12-7 and will be implemented whenever and wherever there is a federal or state disaster designation. For weatherization purposes, a disaster is determined by a Presidential or Gubernatorial order declaring either a Federal or State Emergency.

**Goal:** In the event of a disaster, low-income households often incur the greatest hardship and have the least amount of resources available to assist them in recovery. Minnesota’s WAP goal is to assist eligible households, within the confines of WPN 12-7, in restoring their dwellings to the predisaster state.

**Household Eligibility:** Households in disaster areas must meet the same eligibility criteria as other WAP eligible households. WAP rules (10 CFR 440.16(b)) require that priority be given to identifying and providing weatherization assistance to elderly persons, persons with disabilities, families with children, high residential energy users and households with high energy burdens. It is permissible to consider households located in the disaster areas as a priority as long as the households are eligible, meet one of the priorities established in regulation, are free and clear of any insurance claim or other form of compensation resulting from damage incurred from the disaster.

**U.S. Department of Energy**  
**WEATHERIZATION ASSISTANCE PROGRAM (WAP)**  
**STATE PLAN/MASTER FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

Dwelling Eligibility: In order for a dwelling to be considered eligible for WAP assistance under this plan it:

- Must be occupied by an eligible household
- Must be in a federal or state designated disaster area, or is located in a county contiguous to the official disaster counties and sustained damage caused by the disaster
- Must be a habitable structure, or will be once all work is complete.

Either:

- Was an in progress WAP unit at the time of the disaster where already installed materials were damaged or destroyed by the disaster; or
- Was previously weatherized and materials installed with weatherization funds were damaged or destroyed by the disaster.

Priority of Service: Disaster-damaged dwellings will be a priority in designated disaster areas. Both in progress and previously weatherized dwellings are included. This priority designation will last for up to one year, depending upon the circumstances of the disaster, unless determined otherwise by Commerce.

Eligible Activities: The use of USDOE WAP funds is limited to eligible weatherization activities and the purchase and delivery of weatherization materials. All dwellings must have a current energy audit in order to determine which of the following allowed activities are needed and feasible within the parameters of the WAP rules and guidance:

- Securing weatherization materials, tools, equipment, weatherization vehicles or protection of local agency weatherization files, records and the like during initial phase of disaster response
- The cost of incidental repairs to an eligible dwelling unit if such repairs are necessary to make the installation of weatherization materials effective
- The cost of eliminating health and safety hazards which is necessary before the installation of weatherization materials
- Removal of previously installed weatherization and/or health and safety materials that are damaged beyond repair and will be replaced as part of the current activity
- Installation of weatherization materials as described in the State Plan and the MN "Allowed Activities and Measure Type Chart"

Service Providers may use weatherization vehicles and/or equipment to help assist in disaster relief provided the WAP is reimbursed according to the OMB regulations, 2 CFR Part 200.

Work Quality/Inspection: All work must be completed according to the standards contained in the WAP Policy Manual, Standard Work Specifications, and field guides, as well as building, mechanical or other relevant codes. No unit will be counted as complete until all materials are installed in a quality manner and have passed a Quality Control Inspection by Service Provider staff.

Coordination with Other Funds: It is expected that WAP activities will be coordinated with other funded activities to the maximum extent practical. This will not only help make the most prudent and nonduplicative use of all funds, but will also help to ensure that service to eligible households will be maximized. However, WAP funds will not be used to supplant other funds such as FEMA and insurance dollars, which must be applied first in renovating disaster-damaged dwellings.

Deferral: Some dwellings may be found to be unsalvageable, uninhabitable, or beyond the scope of the WAP assistance because of a disaster. The Service Provider will carefully evaluate, document, and inform the client in writing of the reasons for the deferral determination.

Required Documentation: Files must contain sufficient documentation to establish the eligibility of the household and dwelling, as well as to justify the work performed, in accordance with Minnesota's WAP State Plan and WAP Policy Manual. Such documentation includes but is not limited to:

- Household eligibility
- Certification of disaster status (ex: disaster declaration for the household's county, FEMA letter or habitability document)
- Documentation that all other applicable funds have been used or have been denied prior to the use of WAP funds
- Existing conditions that will be remediated by WAP activities
- Amount of other funds being used in renovation of the dwelling
- Reasons for deferral, where appropriate
- Other, as specified by Commerce

Costs/Averages: While exact costs for work in disaster-damaged dwellings are anticipated to run somewhat higher than the state average cost per unit, Commerce will maintain its statewide average at the same level as it would be if there were no disaster completions. Incidental repairs determined necessary to complete weatherization work, which will exceed the \$1,000 per unit limit, will be reviewed by Commerce on a case-by-case basis.

In light of the COVID-19 situation, this plan will be reviewed and updated in PY20 to include the action intended to address the impacts of infectious disease and pandemics on weatherization. Commerce will be creating a subgrantee/Commerce working group to review changes to the program that result from

**U.S. Department of Energy**  
**WEATHERIZATION ASSISTANCE PROGRAM (WAP)**  
**STATE PLAN/MASTER FILE WORKSHEET**

**(Grant Number: EE0007928, State: MN, Program Year: 2019)**

COVID-19.

# Weatherization Grantee 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.*

#### Acronyms/Definitions:

ECM – energy conservation measure

IRM – incidental repair measure

HSM – health and safety measure

Cost Justified – measure that achieves a savings-to-investment ratio of 1.0 or greater when correctly modeled in the Weatherization Assistant software

Primary System (or system of units) – system that is most relied upon to provide heating/cooling through the season.

Secondary system/unit – employed only in extreme weather

Minnesota has followed the "House as a System" approach to weatherization since 1990. Both Commerce and Service Provider staff understand that health and safety concerns are important because, when addressed, the lives of low-income persons served by the program are improved, especially those that are particularly vulnerable such as the elderly, persons with disabilities and children.

In addition to assessment of the dwelling, Service Providers assess client health issues in the Client Survey, which includes health and safety questions and is available for download from Weatherization Assistant (WA). This assessment allows Service Providers to capture pre-existing occupant health conditions.

Health and safety issues are a required part of every dwelling audit. Service Providers conduct an on-site audit for each dwelling using the WA software tool to document the audit. WA includes a detailed assessment of potential hazards. The assessment sets a framework for individual weatherization work plans. In some instances, the hazard must be remedied prior to the start of weatherization. In other instances, the hazard is addressed as part of weatherizing the dwelling.

Service Providers must defer a dwelling when the health and safety problems are beyond the scope of weatherization activities. Service Providers evaluate each dwelling individually and make decisions accordingly. Commerce staff regularly provide assistance to Service Providers in problem-solving specific situations. All health and safety problems and their resolutions are documented in individual household files.

Assessments of indoor air quality problems are conducted at the time of the energy audit. Because conditions in each dwelling vary greatly, potential remedies are developed on a case-by-case basis. Possibilities might include ventilation or allowable repairs within the scope of weatherization, client education, and/or referrals to other potential fund sources for work that is outside the scope of the Weatherization Program.

Health and safety issues are addressed at a number of levels throughout Minnesota's Weatherization Assistance Program (WAP). Minnesota's WAP Policy Manual is incorporated by reference into all grant contracts with Service Providers. The policy manual is updated regularly so it is compliant with current USDOE rules and guidance and the Minnesota State Plan.

Commerce conducts a policy training each year to inform all Service Providers of policy changes for the current program year. In addition, any regulatory/policy updates or new test standards are delivered to Service Providers via email and changes are posted on the Commerce website.

Commerce allows Service Providers to budget health and safety costs outside the overall per unit average and monitors statewide averages regularly. Minnesota strives to keep health and safety costs reasonable, recognizing weatherization's primary goal of energy conservation.

**Pollution Occurrence Insurance:** Commerce strongly recommends Service Providers carry appropriate Pollution Occurrence Insurance.

**Client/building owner notification:** Commerce requires that clients and rental property owners/landlords be notified in writing in all instances where a health and safety issue is found. This includes, but is not limited to the issues listed in the remainder of this Plan. Minnesota developed a standard *Notice of a Safety Problem* form that must be signed by the Service Provider, the client and/or landlord and must be included in the client file. Documentation given to the client and/or landlord must include client name and address, dates of the audit/assessment and when the client was informed of a potential health and safety issue, a clear description of the problem, a statement indicating if or when and under what conditions weatherization could continue, the responsibility of all parties involved, and the client(s) signature(s) indicating that they understand and have been informed of their rights and options.

**Referrals:** In cases where the scope or cost of needed repairs is beyond the range of the weatherization program, Service Providers refer clients to housing rehabilitation programs and other funding sources wherever possible.

## 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.



## 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"](#))*

Allowable measures are detailed [here](#) in the Allowable Measures Chart found in Appendix C of our MN WAP Policy Manual. This document provides guidance regarding categorizing measures and indicates when designation as incidental repairs is appropriate.

## 5.0 – DEFERRAL/REFERRAL POLICY

*Deferral of services may be necessary if H&S issues cannot be adequately addressed according to WPN 17-07 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?

V.1.2 in the master file and Section 3.8 of the MN WAP Policy manual found [here](http://mn.gov/commerce-stat/pdfs/wap-policy-manual.pdf) (<http://mn.gov/commerce-stat/pdfs/wap-policy-manual.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 17-07 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 17-07, Grantees must concur, or choose to defer all units where the specific category is encountered.*
- *“Allowable” items under WPN 17-07 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.*

<b>7.1 – Air Conditioning and Heating Systems</b>				
<b>Concurrence, Alternative, or Deferral</b>				
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>		
Air Conditioning Unallowable Measure <input type="checkbox"/>		Heating Unallowable Measure <input type="checkbox"/>		
<b>Funding</b>				
DOE <input checked="" type="checkbox"/>	LIHEAP <input checked="" type="checkbox"/>	State <input checked="" type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
<b>How do you address unsafe or non-functioning primary heating/cooling systems?</b>				
<p><b>Heating Systems:</b>            Primary heating systems (space and water heating plants) are evaluated at the energy audit following current testing protocols, and results are recorded in the client file. Any unsafe or non-functional system is corrected (repaired, replaced, or rendered inoperable) before additional work is called for. If an unsafe primary system cannot be corrected, the dwelling must be deferred. All other heating system work must be completed prior to or in conjunction with building shell work following all testing protocols.</p> <p>All primary heating systems are first modeled in the WA software for replacement as an ECM. If the replacement measure is not cost justified, a clean &amp; tune measure is evaluated. In the case where the replacement/clean &amp; tune measure is either not cost justified or does not correct the unsafe condition, health and safety funds are used to correct the unsafe situation.</p> <p>Heating plant replacements require a Manual J calculation based on estimated post weatherization housing characteristics.</p> <p>In cases where unsafe conditions such as back drafting or high in-flue or ambient carbon monoxide levels are identified by a crew or contractor during the course of weatherization, work that will contribute to the unsafe condition will stop immediately and the WAP Service Provider that issued the work will be contacted and informed of the situation. Together the Service Provider and crew/contractor will take actions to ensure that the dwelling is left in a safe condition.</p>				
<p><b>Air Conditioning:</b>            Minnesota does not repair or replace air conditioners as an ECM, except in the case of multifamily buildings. Minnesota does repair or replace air conditioners as a HSM in any of the following situations:</p> <ul style="list-style-type: none"> <li>• medical necessity</li> <li>• leaking component causes a mold hazard</li> <li>• leaking component could drip onto a heat exchanger of a heating plant</li> </ul> <p>Minnesota does allow repairs to air conditioning components as an IRM when needed to protect heating plant components from water damage.</p>				
<b>How do you address unsafe or non-functioning secondary heating systems, Including unvented secondary space heaters?</b>				
<p><b>Heating Systems:</b>            Secondary heating systems (space and water heating plants) are evaluated at the energy audit following current testing protocols and results are recorded in the client file. Any unsafe system is corrected (repaired, removed, or rendered inoperable) before additional work is called for. If an unsafe secondary system cannot be corrected the dwelling must be deferred. Replacement of secondary heating systems is not allowed.</p>				
<b>Indicate Documentation Required for At-Risk Occupants</b>				
<p>The client must provide a signed letter from a medical doctor that justifies the medical need for air conditioning. Medical conditions requiring air conditioning could include but are not limited to asthma, emphysema or heart disease.</p>				

<b>Testing Protocols</b>
<p>Required tests are listed in MN WAP Policy Manual 4.5.3 and Appendix D.</p> <p>For combustion equipment, a visual inspection of the chimney and flue is conducted. For solid fuel appliances, a visual inspection for soot on building assemblies near the unit or flue is conducted.</p>
<b>Client Education</b>
<p>Verbal or written material covering operation, maintenance, and how to identify health and safety concerns. In cases of installations, all manuals are provided to the homeowner. In cases where bulk fuel tanks are not removed as part of weatherization, written or verbal instruction of proper disposal is provided.</p>
<b>Training</b>
<p>MN WAP Training – Heating and Water Heating Fundamentals                      MN WAP Training – Combustion Safety Fundamentals                      MN WAP Training – Air Conditioners and Heat Pumps</p> <p>HEP Energy Auditor                      HEP Quality Control Inspector</p>

<b>7.2 - Asbestos - All</b>
<p><b>What is the blower door testing policy when suspected Asbestos Containing Material (ACM) is identified?</b></p>
<p>Positive pressure blower door testing will be used when vermiculite insulation is present. When a material within the pressure boundary of the dwelling (other than vermiculite) is suspected of being an ACM and is friable, blower door testing is not allowed until the friable material is either confirmed to be a non ACM or it has been encapsulated or removed in accordance with all applicable rules.</p>
<p style="text-align: center;"><b>7.2a – Asbestos - in siding, walls, ceilings, etc.</b></p>
<b>Concurrence, Alternative, or Deferral</b>
<p>Concurrence with Guidance <input checked="" type="checkbox"/>      Alternative Guidance <input type="checkbox"/>      Results in Deferral <input type="checkbox"/></p>
<b>Funding</b>
<p>DOE <input checked="" type="checkbox"/>      LIHEAP <input checked="" type="checkbox"/>      State <input checked="" type="checkbox"/>      Utility <input type="checkbox"/>      Other <input type="checkbox"/></p>

<b>How do you address suspected ACM's in siding, walls, or ceilings that will be disturbed through the course of weatherization work?</b>
<p>Service Provider and contractors will take reasonable and necessary precautions to prevent asbestos contamination in the home. The general abatement of asbestos siding or replacement with new siding is not an allowable HSM. All WAP workers that are removing or reinstalling asbestos siding will follow all working safety protocols as detailed in the SWS.</p> <p><b>1-4 Unit dwelling:</b> Asbestos siding, commonly called slate or Transite siding, is assumed to be an ACM unless testing determines otherwise. The presence of slate siding that is in good condition does not prevent the installation of dense packed insulation. To insulate walls in dwellings where asbestos-containing siding is present, the siding must be removed in a manner that allows the siding to remain as intact as possible. Drilling asbestos-containing siding is not allowed. WAP installers are allowed to remove asbestos-containing siding as long as asbestos-safe work practices are performed when doing so. The cost of removal and reinstallation of slate siding can be included in the associate ECM.</p> <p>After the walls have been insulated, the siding must be reinstalled in a manner that allows the siding to remain as intact as possible. Keeping asbestos-containing siding intact greatly reduces a health risk to workers or clients. Chipped, cracked or brittle asbestos-containing siding may require that walls be insulated from the interior of the dwelling.</p> <p><b>5+ Unit dwelling:</b> Dwellings with five or more units fall under EPA asbestos regulations, which have more stringent requirements governing removal. EPA asbestos regulations apply to structures or dwellings used for, or once used for, commercial purposes. Removal of siding from these structures may be allowed once the applicable standards are determined and applied. If removal of asbestos-containing siding is not necessary, other weatherization measures may be applied to these structures.</p>
<b>Testing Protocols</b>
<p>A visual inspection of exterior wall surface and subsurface, floors, walls, and ceiling for suspected ACM is conducted during the energy audit and again prior to drilling or cutting.</p> <p>Asbestos testing in a material is allowable and must be done by a Minnesota Department of Health certified tester in accordance with the Asbestos Hazard Emergency Response Act (AHERA).</p>
<b>Client Education</b>
<p>Clients are informed in writing of any suspected ACMs that will be disturbed during the weatherization process and the precautions that will be taken to ensure the occupants and workers safety through the weatherization process. If testing of a suspected ACM is conducted, the owner will be informed in writing of the results.</p>
<b>Training and Certification Requirements</b>
<p>HEP Energy Auditor  HEP Quality Control Inspector  HEP Crew Leader  MN WAP Training - Health &amp; Safety</p> <p>Minnesota Department of Health certification is required for all asbestos testing.</p>

<b>7.2b – Asbestos - in vermiculite</b>				
<b>Concurrence, Alternative, or Deferral</b>				
Concurrence with Guidance <input type="checkbox"/>	Alternative Guidance <input checked="" type="checkbox"/>	Results in Deferral <input checked="" type="checkbox"/>		
<b>Funding</b>				
DOE <input checked="" type="checkbox"/>	LIHEAP <input checked="" type="checkbox"/>	State <input checked="" type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
<b>How do you address suspected ACM's in vermiculite that will be disturbed through the course of weatherization work?</b>				
<p>Vermiculite insulation in attics is assumed to be contaminated with asbestos fibers. The Asbestos Containing Material (ACM) test that is utilized for contiguous materials such as heating chamber liners and pipe wrap is not designed to work with a material that is contaminated by friable asbestos, as is the case with vermiculite. Therefore, Commerce does not require Service Providers to test vermiculite.</p> <p>When vermiculite is present within a home Service Providers may choose from the following courses of actions:</p> <ol style="list-style-type: none"> <li>1. Defer the home.</li> <li>2. Utilize the Healthy AIR fund to hire a contractor certified by the Minnesota Department of Health (MDH) to remove the vermiculite from the home. The contractor must obtain a permit from MDH and all work done in accordance with MDH asbestos removal protocols. As the MDH only regulates asbestos removal that has tested positive according to the ACM test mentioned above, Commerce requires that all abatement of vermiculite being conducted with Healthy AIR funds be done so, assuming the vermiculite is positive for asbestos according to the ACM test.</li> </ol> <p>Addition notes on vermiculite:</p> <ul style="list-style-type: none"> <li>• The cost for removal of vermiculite insulation is not allowed using DOE funds.</li> <li>• When deferral is necessary due to the presence of vermiculite, and the homeowner has the vermiculite removed, the homeowner must provide documentation that a MDH certified professional performed the remediation before weatherization work continues.</li> <li>• All WAP workers operating in areas with vermiculite will follow all safety protocols as detailed in the SWS. The cost of removal is not allowed using DOE funds.</li> <li>• DOE funds may be used for testing by a MDH certified professional.</li> <li>• Once asbestos is properly removed, a previously deferred home can be weatherized.</li> </ul> <p>Vermiculite remains one the largest sources of deferrals in the MN Weatherization Assistance Program. In an effort to decrease the number of homes deferred due to asbestos containing vermiculite, Commerce sought and received state funds for the removal of vermiculite insulation starting in PY17. However, due to the cost of abatement, the amount of funding available was not sufficient to significantly drive down the overall deferral rate. Therefore, in PY19 Commerce and Service providers formed a working group to evaluate the model of asbestos safe work practices utilized by the Wisconsin Weatherization Assistance Program. These efforts will continue in PY20 and are intended to create a MNOSHA compliant policy to allow WAP clients to receive Weatherization service when vermiculite is present without the need for abatement.</p>				
<b>Testing Protocols</b>				
<p>A visual inspection of all insulation is conducted during the energy audit. Testing for asbestos in a material (including vermiculite) is an allowable expense with USDOE funds and must be done by a Minnesota Department of Health certified tester in accordance with the Asbestos Hazard Emergency Response Act (AHERA). As noted above the ACM test is not designed for asbestos in vermiculite and the positive threshold of the test (1%) does not reflect the danger posed to workers and occupants when WAP work is done in homes that test &lt;1% but still show the presence of asbestos fibers. Therefore,</p>				

the ACM test is not recommended for use in the MN WAP.

A barium test can also be conducted to determine if the vermiculite was mined in Libby, MT. All vermiculite produced in Libby was contaminated with friable asbestos as part of the mining extraction process. This test is also allowable and the Vermiculite Trust Fund should be utilized as a first option for testing before utilizing USDOE funds, as they will conduct the test at no charge.

**Client Education**

If testing of a suspected ACM is conducted, the owner will be informed in writing of the results.

**Training and Certification Requirements**

MN WAP Training - Health & Safety  
Vermiculite Safe Work Practices

7.2c – Asbestos - on pipes, furnaces, other small covered surfaces				
Concurrence, Alternative, or Deferral				
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>		
Funding				
DOE <input checked="" type="checkbox"/>	LIHEAP <input checked="" type="checkbox"/>	State <input checked="" type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
How do you address suspected ACM's (e.g., pipes, furnaces, other small surfaces) that will be disturbed through the course of weatherization work?				
<p>Space heating systems in single or multi-family dwellings may have components that contain asbestos such as duct and boiler pipe wrap or parts of the heating plant itself. Testing to determine if a material is an ACM is an allowable health and safety expense as is the encapsulation or removal of an ACM under the following conditions:</p> <ul style="list-style-type: none"> <li>At any point during the WAP process, if the ACM is friable, it must be encapsulated or removed prior to the resumption of work or blower door testing by a Minnesota Department of Health certified professional, in accordance with the Asbestos Hazard Emergency Response Act (AHERA).</li> <li>If the ACM is intact (not friable) but will be disturbed as part of the WAP work (i.e. duct sealing or heating plant replacement) it must be encapsulated or removed by a Minnesota Department of Health certified professional in accordance with the Asbestos Hazard Emergency Response Act (AHERA).</li> </ul> <p>Any additional asbestos removal may not proceed without Commerce approval.</p> <p>In the cases above, the clients are provided with asbestos safety information and are instructed not to disturb the suspected asbestos containing material.</p>				
Testing Protocols				
A visual inspection is conducted during the energy audit of all heating plants and distribution systems. Testing for asbestos in a material is allowable and must be done by a Minnesota Department of Health certified professional in accordance with the Asbestos Hazard Emergency Response Act (AHERA).				
Client Education				
If testing of a suspected ACM is conducted, the owner will be informed in writing of the results.				
Training and Certification Requirements				
MN WAP Training – Heating and Water Heating Fundamentals MN WAP Training - Health & Safety				

<b>7.5 – Biologicals and Unsanitary Conditions</b> (odors, mustiness, bacteria, viruses, raw sewage, rotting wood, etc.)				
<b>Concurrence, Alternative, or Deferral</b>				
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>		
Unallowable Measure <input type="checkbox"/>				
<b>Funding</b>				
DOE <input checked="" type="checkbox"/>	LIHEAP <input checked="" type="checkbox"/>	State <input type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
<b>What guidance do you provide Subgrantees for dealing with biological and/or unsanitary conditions in homes slated for weatherization?</b>				
<p>Service Providers are continually alert to potential and actual problems with biological contaminants such as mold, moisture, and rotting wood. Each energy audit contains a sensory assessment of these issues with photos and other documentation such as moisture meter readings, as needed. Auditors and inspectors are trained to identify mold and moisture problems. The presence of large amounts of mold or mildew are grounds for deferral. Service Providers are encouraged to contact Commerce in situations where mold is present in more than isolated areas or where a moisture source is not apparent. Work may proceed in cases where there is a small amount of mold or mildew where the source can be determined and, in the judgement of the service provider staff, can be addressed through a combination of controlling the moisture source and the addition of ventilation (ASHRAE 62.2-2016). Testing for mold, mildew or other biological contaminants or the cleaning of mold are not allowed USDOE expenses. Instructions on general cleaning of small amounts of mold can be provided to the homeowner.</p> <p>Remediation of conditions that may lead to or promote biological concerns and unsanitary conditions is allowed as an HSM or IRM within Commerce prescribed requirements noted on the most current version of the Allowable Measures Chart and cost averages or limits.</p> <p>In PY20 Commerce will be evaluating how WAP work will need to adjust to account for the roll that viruses/bacteria may play in all aspects of WAP work. Remediation of odors, viruses or bacteria problems is beyond the scope of weatherization and is not allowed. If a known agent in a dwelling may create a serious risk to occupants or weatherization workers, then deferral may be necessary.</p> <p>In addition, weatherization installers and contractors are also alert to the possibility that biological contaminant issues, not evident at the time of the energy audit, could arise in the course of installing weatherization materials. If post-audit problems are discovered, crews and contractors are required to notify Service Provider staff to determine if weatherization work can continue.</p> <p>Basements and crawlspaces can be a source of potential biological contaminants. Auditors are trained to identify and evaluate how best to address each situation and determine allowable measures to address situations or recommend deferral for cases outside the scope of the program.</p> <ol style="list-style-type: none"> <li>1. Crawlspaces that are physically connected to a building but not within the pressure boundary as determined by pressure diagnostics are not part of the house as a system. Examples include: <ul style="list-style-type: none"> <li>• Foundation under a small entryway</li> <li>• Cantilevered floor with vented skirting (site built or mobile home).</li> </ul> </li> <li>2. Accessible basements and crawlspaces within the pressure boundary shall have all exposed soil and sump systems covered in accordance with the SWS. The home will have ventilation installed to meet the ASHRAE 62.2 standard. Auditors will evaluate any grading or drainage issues that may cause bulk moisture to enter the home and call for mitigation within allowed measures and cost limits on the</li> </ol>				

allowable measures chart.

3. Auditors must evaluate the condition of an inaccessible crawlspace within the pressure boundary. The crawlspace and the surrounding areas, including the exterior grading, must be evaluated for signs of mold and bulk moisture entry. Where possible, the inaccessible area must be evaluated via camera or borescope to determine what course of action to take.
  - a. In cases where a small percentage of the footprint of a home is an inaccessible crawlspace (i.e. the size of a small bedroom ~120 sq. ft.) and the condition of the surrounding area is dry, work may proceed as in #2. In the event that signs of minor or past moisture are present, the auditor may proceed using the approach described in 3b.
  - b. In cases where a moderate portion of the footprint of a home is an inaccessible crawlspace (i.e. the size of 1-3 rooms ~360 sq. ft.) and the condition of the surrounding area is dry or shows signs of minor or past moisture, the auditor may call for an ASHRAE 62.2 ventilation system and negatively pressurize the inaccessible space by drawing air from the crawlspace and exhausting it outside. The flow rate must be variable and a negative pressure must be measurable (>-2 pa with reference to the house). Air sealing between the inaccessible crawlspace and the rest of the house may be needed in some cases to create a negative pressure.
  - c. In cases where a large portion of the home’s footprint is an inaccessible crawlspace (i.e. an area more than half of the footprint) or a situation listed in 3a or 3b, or a situation that in the judgement of the auditor has moisture, mold, or drainage issues beyond the scope of allowable weatherization measures as listed in the Allowable Measures Chart, the home must be deferred.

For the situations described in 3a-3c., if the crawlspace can be partially accessed but a ground moisture barrier cannot be fully mechanically fastened and sealed per the SWS, a ground moisture barrier shall be installed to cover as much of the ground as possible.

<b>Testing Protocols</b>
Sensory inspection as part of the energy audit, moisture meter testing as needed.
<b>Client Education</b>
The energy auditor will review any findings from the audit.
<b>Training</b>
MN WAP Training - Health & Safety

<b>7.6 – Building Structure and Roofing</b>		
<b>Concurrence, Alternative, or Deferral</b>		
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>
<b>Funding</b>		
DOE <input checked="" type="checkbox"/>	LIHEAP <input checked="" type="checkbox"/>	State <input type="checkbox"/>
	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
<b>What guidance do you provide Subgrantees for dealing with structural issues (e.g., roofing, wall, foundation) in homes slated for weatherization?</b>		
<p>As part of the energy audit, a visual assessment of any roofing and/or structural problems along with photos and other documentation is needed. Repairs are allowed in order to protect the safety of clients and installers both during and after the weatherization process. Repairs must be allowable Incidental Repairs as defined by WPN 19-5 and be within the cost limitations as defined by the current DOE state plan.</p> <p>Dwellings in need of rehabilitation beyond the scope and cost limits of weatherization are referred to other programs and funding sources. Weatherization activities are either deferred until rehabilitation activities are complete or, in some instances, are completed simultaneously with rehabilitation activities.</p>		
<b>How do you define “minor” or allowable structure and roofing repairs, and at what point are repairs considered beyond the scope of weatherization?</b>		
<p>Repairs are beyond the scope of weatherization if they involve:</p> <ul style="list-style-type: none"> <li>• More than 100 square feet of missing sheetrock.</li> <li>• Roofing or structural repairs that exceed \$400 in material and labor to correct.</li> </ul>		
<b>If priority lists are used, and these repairs are designated as Incidental Repairs, at what point is a site-specific audit required?</b>		
n/a		
<b>Client Education</b>		
Any situations discovered during the energy audit that would require deferral or correction are reviewed with the client and documented on the appropriate form or scope of work.		
<b>Training</b>		
MN WAP Training - Health & Safety		

<b>7.7 – Code Compliance</b>		
<b>Concurrence, Alternative, or Deferral</b>		
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>
<b>Funding</b>		
DOE <input checked="" type="checkbox"/>	LIHEAP <input checked="" type="checkbox"/>	State <input checked="" type="checkbox"/>
	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
<b>What guidance do you provide Subgrantees for dealing with code compliance issues in homes receiving weatherization measures?</b>		
<p>All weatherization work in Minnesota is required to be completed to the standard contained in the applicable code. This applies in places where codes are actively enforced and as a work standard where code enforcement is lacking. Service Provider staff and contractors are expected to be aware of health and safety issues associated with building codes. Correction of pre-existing code compliance issues is not an allowable expense other than where weatherization measures are being conducted. In these situations, the specific code triggering the work must be documented in the client file. State codes must be followed when installing WAP measures.</p>		

<b>What specific situations commonly trigger code compliance work requirements for your network? How are they addressed?</b>
The most common such situations include adding drip tees to gas lines when working on any gas appliance, GFCI outlets on water heaters, and electrical components when installing heating plants or ASHRAE fans. Guidance on drip tee’s can be found in the MN WAP Policy Manual section 4.4.2.12. Items that are required by local code such as, GFCI outlets, electrical components, etc. are included with the WAP measure.
<b>Client Education</b>
Any situations discovered during the energy audit which would require deferral or correction are reviewed with the client and documented on the appropriate form or scope of work.
<b>Training</b>
HEP Energy Auditor HEP Quality Control Inspector MN WAP Training - Health & Safety

<b>7.8 – Combustion Gases</b>				
<b>Concurrence, Alternative, or Deferral</b>				
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>		
<b>Funding</b>				
DOE <input checked="" type="checkbox"/>	LIHEAP <input checked="" type="checkbox"/>	State <input checked="" type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
<b>Testing Protocols</b>				
<p>Testing of combustion appliances, including heating plants, water heaters, ovens (excluding burners, visual inspection only), and space heaters, is required during the energy audit. Acceptable test procedures are included in the current Minnesota Field Guide, the Minnesota Policy Manual, and supplemental documents that can be found on the Department of Commerce website. The policy manual, field guide, and supplements provide standards that must be met before weatherization can proceed.</p> <p>The Minnesota Policy Manual requires that naturally-drafting appliances are tested for spillage under worse case Combustion Appliance Zone (CAZ) conditions and are verified to be operating safely before and after any weatherization activities that change the pressure balance in the dwelling, such as: air sealing, increasing exhaust ventilation, duct sealing, insulating, etc. Mechanical work must be completed before or in conjunction with air sealing/insulation work. In extreme cases, a family may be asked to leave the dwelling until a problem is remedied. USDOE funds cannot cover costs for temporary relocation in these instances.</p> <p>Minnesota also requires the measurement and recording of the pressure in the CAZ under worst-case conditions. This information is collected as part of the worst-case CAZ spillage test. The worst case CAZ pressure is compared to the CAZ limit defined in the SWS for each appliance. Measured CAZ pressures that exceed the CAZ limit may, depending on the situation, require action to correct. Minnesota has developed a detailed procedural document with the help of local building science experts to help guide field staff through the decision making process around health and safety remediation of CAZ and spillage issues.</p> <p>As part of the worst case CAZ test the effect of unsealed return ducts is measured. In cases where return ducts inside the thermal boundary on single-family homes causes a negative pressure, action will be taken to reduce the negative pressure. This is typically done through duct sealing or relief venting between the CAZ and the rest of the house.</p>				

In addition, an inspection of the venting for all combustion appliances is conducted. All combustion appliances designed to be vented must be properly vented to the outside. When testing indicates an issue with the venting, it will be corrected in accordance with the SWS. If unsafe conditions, whose remediation is necessary to perform weatherization, cannot be remedied by repair or tuning, replacement is an allowable H&S measure. In cases where both repair and replacement is an option, a cost comparison of the options will be included in the client file.

When all weatherization activities are completed, testing is repeated at final inspection. Tests performed at the audit and the final inspection include: carbon monoxide in the flue, worst case CAZ spillage, CAZ pressure, and fuel leaks. Every dwelling must pass a worst case CAZ spillage test during the energy audit, before the installers begin work, daily while completing work, once installers complete work, and again at final inspection.

<b>How are crews instructed to handle problems discovered during testing, and what are the specific protocols for addressing hazards that require an immediate response?</b>
In cases where unsafe conditions such as back drafting or high in flue or ambient carbon monoxide levels are identified by a crew or contractor during the course of weatherization, work that will contribute to the unsafe condition will stop immediately and the Service Provider that issued the work will be contacted and informed of the situation. Together the Service Provider and crew/contractor will take actions to ensure that the dwelling is left in safe condition.
<b>Client Education</b>
Combustion safety is a topic that energy auditors discuss with clients after the energy audit.
<b>Training</b>
MN WAP Training – Heating and Water Heating Fundamentals MN WAP Training – Combustion Safety Fundamentals MN WAP Training - Health & Safety  HEP Energy Auditor HEP Quality Control Inspector HEP Crew Leader

7.9 – Electrical				
Concurrence, Alternative, or Deferral				
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>		
Funding				
DOE <input checked="" type="checkbox"/>	LIHEAP <input checked="" type="checkbox"/>	State <input type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
<b>What guidance do you provide Subgrantees for dealing with electrical hazards, including knob &amp; tube wiring, in homes slated for weatherization?</b>				

**Electrical – Other Than Knob and Tube:** Weatherization audits in Minnesota assess and document electrical hazards, especially as they pertain to weatherization activities. Both the policy manual and the field guide contain information on how to identify and address electrical issues. Wires are inspected to ensure that they are not bare or frayed. Service boxes are inspected to ensure that they have secure covers.

Correcting general electrical wiring problems is generally not an allowable weatherization measure. However, instances where electrical issues are directly related to the weatherization process, health and safety funds may be used for repairs. If it is determined that a hazardous situation exists, the problem is corrected before weatherization work commences. If a hazardous situation is discovered during weatherization work, all work must cease until the hazardous situation is corrected.

If repairs are beyond the scope of the weatherization program to address, Service Providers refer clients to rehabilitation programs and other fund sources where possible. A licensed electrical contractor must perform any electrical work needed to correct a problem.

**Electrical – Knob and Tube:** Minnesota uses health and safety dollars to address knob and tube wiring when it has a direct impact on weatherization activities. Any insulation activities completed where knob and tube wiring is present must conform to applicable codes. Knob and tube wiring repair/replacement in attics and walls is completed before insulation activities begin. In consultation with the Minnesota Board of Electricity, the following protocol has been developed:

- Service Providers must verify if the knob and tube system is in service before proceeding with any additional measures.
- Service Providers must inspect the wiring that will be covered to determine the type(s) of wiring present, the circuit protection, wiring condition, and to identify any other hazards.
- Service Providers must obtain permission from the homeowner or authorized agent to install proper over-current protection. If permission is not given, insulation cannot be installed.
- Install insulation only as follows:
  - In those areas where knob and tube wiring is active, circuits must be protected by properly sized over-current protection;
  - Insulation is to be placed up to a depth of two inches from the underside of the knob and tube wiring, provided that an open air space is permanently maintained above such wires; OR
  - Barriers must be installed in such a manner around knob and tube wiring to ensure that the insulation shall not directly cover the wiring, and an adequate air space of at least one inch on all sides is maintained.
  - Document whether sidewall cavities are insulated. Sidewalls containing live knob and

tube wiring are not allowed to be insulated.

- When knob and tube wiring is replaced it must be done in accordance with all state building codes and statutes.

The presence of knob and tube wiring may dictate that some insulation activities may not be completed. Clients receive education on the dangers and implications of knob and tube wiring in their homes. If knob and tube repairs or replacements are beyond the scope of the weatherization program to address, Service Providers refer clients to rehabilitation programs and other funding sources as feasible.

<b>How do you define “minor” or allowable electrical repairs, and at what point are repairs considered beyond the scope of weatherization?</b>
<p>Service providers may make minor repairs to correct hazardous situations for items up to \$800 in labor and materials for non-knob and tube electrical work without Commerce approval. In cases where the non-knob and tube electrical hazard is greater than \$800, Commerce approval is required. Commerce will consider these situations on a case-by-case basis. Factors considered are total cost, total energy savings of the WAP activities, location of the hazard, status of WAP activities, etc.</p> <p>Knob and tube replacement in areas where insulation is being installed is allowable. The cost is first considered an IRM when the replacement protects an installed ECM or ensures the effectiveness of an installed ECM. Replacement is considered an HSM measure only if no funds are available for an IRM and it directly poses a health and safety risk to the workers or occupants.</p>

<b>If priority lists are used, and these repairs are designated as Incidental Repairs, at what point is a site-specific audit required?</b>
n/a
<b>Client Education</b>
When this hazard is identified, it is reviewed with the client and noted on the Safety Assessment form.
<b>Training</b>
HEP Energy Auditor HEP Quality Control Inspector HEP Crew Leader MN WAP Training - Health & Safety

<b>7.10 – Formaldehyde, Volatile Organic Compounds (VOCs), Flammable Liquids, and other Air Pollutants</b>		
<b>Concurrence, Alternative, or Deferral</b>		
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>
<b>Funding</b>		
DOE <input checked="" type="checkbox"/>	LIHEAP <input checked="" type="checkbox"/>	State <input type="checkbox"/> Utility <input type="checkbox"/> Other <input type="checkbox"/>
<b>What guidance do you provide Subgrantees for dealing with formaldehyde, VOCs, flammable liquids, and other air pollutants identified in homes slated for weatherization?</b>		
<p>Removal of pollutants is allowed and is required if they pose a risk to workers. If pollutants pose a risk to workers and removal cannot be performed or is not allowed by the client, the unit must be deferred.</p> <p><b>Fire Hazards:</b> All energy audits include an assessment of fire hazards within the dwelling. This assessment may include, but is not limited to, clearances to combustibles, creosote build-up, and storage of flammable materials in proximity to combustion appliances.</p> <p>Resolution of these types of hazards may include health and safety measures before or during weatherization activities, depending on the nature and severity of the problem. Clients are educated and informed in writing by all Weatherization staff and workers about potential hazards. Inspectors and auditors are trained on fire hazards.</p> <p><b>VOCs:</b> Volatile Organic Compounds (VOCs) are widely used as ingredients in many household products, such as paints, varnishes, fuels, and many cleaning, disinfecting, cosmetic, and hobby products. These products can release organic compounds as vapor when they are used and, to some extent, when they are stored. Formaldehyde is a volatile organic compound found in many building materials and household products, such as new carpets and plywood. These products release organic compounds over time. Organic compounds sometimes have adverse health effects on people. At this time, Commerce does not allow the removal of materials deemed to contain excessive amounts of VOCs. Because of the potential adverse health effects, local Service Providers must take this into consideration when air-sealing and when deciding on the need for ventilation. Clients must be informed and educated about this potential health issue. If it is not possible to control the VOCs, weatherization work must be deferred. Testing for VOCs is not allowed using DOE funds.</p>		
<b>Testing Protocols</b>		
None		
<b>Client Education</b>		
When this hazard is identified, it is reviewed with the client and noted on the Safety Assessment form.		
<b>Training</b>		
HEP Energy Auditor HEP Quality Control Inspector HEP Crew Leader MN WAP Training - Health & Safety		

<b>7.11 – Fuel Leaks</b> <i>(please indicate specific fuel type if policy differs by type)</i>				
<b>Concurrence, Alternative, or Deferral</b>				
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>		
<b>Funding</b>				
DOE <input checked="" type="checkbox"/>	LIHEAP <input checked="" type="checkbox"/>	State <input type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
<b>Remediation Protocols</b>				
Fuel leak testing is a require part of all energy audits and QCI inspection. When a minor gas leak is found on the utility side of service, the utility must be contacted before work may proceed. Fuel leaks that are the responsibility of the client (vs. the utility) must be repaired before additional weatherization measures are installed.				
<b>How do you define allowable fuel leak repairs, and at what point are repairs considered beyond the scope of weatherization?</b>				
Fuel leak repairs that are accessible are an allowable expense. If the leak requires opening a closed building assembly, such as a wall cavity, it is beyond the scope of weatherization and would result in a deferral.				
<b>Client Education</b>				
When this hazard is identified, it is reviewed with the client and noted on the Safety Assessment form.				
<b>Training</b>				
MN WAP Training – Heating and Water Heating Fundamentals MN WAP Training – Combustion Safety Fundamentals MN WAP Training - Health & Safety  HEP Energy Auditor HEP Quality Control Inspector HEP Crew Leader				

7.12 – Gas Ovens / Stovetops / Ranges				
Concurrence, Alternative, or Deferral				
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>		
Funding				
DOE <input checked="" type="checkbox"/>	LIHEAP <input checked="" type="checkbox"/>	State <input type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>

What guidance do you provide Subgrantees for addressing unsafe gas ovens/stoves/ranges in homes slated for weatherization?
Ovens are tested at the audit in accordance with the current BPI standards and include a combustion test of the oven, a visual inspection of the burners, and gas leak detection where gas lines are accessible. Service or repair is allowable when CO limits are exceeded as detailed in the MN Field Guide. Testing of stovetop burners is no longer allowed. Replacement of stoves is not an allowable DOE expense.
Testing Protocols
See Appendix D. of the Minnesota WAP Policy Manual (which reference the Minnesota Field Guide and the BPI 1200 Standard.
Client Education
Training
MN WAP Training – Combustion Safety Fundamentals MN WAP Training - Health & Safety  HEP Energy Auditor HEP Quality Control Inspector

<b>7.13 – Hazardous Materials Disposal</b> <b>[Lead, Refrigerant, Asbestos, Mercury (including CFLs/fluorescents), etc.]</b> <i>(please indicate material where policy differs by material)</i>		
<b>Concurrence, Alternative, or Deferral</b>		
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>
<b>Funding</b>		
DOE <input checked="" type="checkbox"/>	LIHEAP <input checked="" type="checkbox"/>	State <input type="checkbox"/> Utility <input type="checkbox"/> Other <input type="checkbox"/>
<b>Client Education</b>		
<b>Training</b>		
MN WAP Training – Air Conditioners and Heat Pumps MN WAP Training – Heating and Water Heating Fundamentals MN WAP Training - Health & Safety HEP Quality Control Inspector HEP Crew Leader		
<b>Disposal Procedures and Documentation Requirements</b>		
When hazardous materials (refrigerant, mercury thermostats, lead paint dust/chips, etc.) are generated in the course of weatherization work, proper disposal is required and removal/disposal costs must be included. Refer to lead and asbestos sections for more information on those topics.		
<p><b>Refrigerant Issues:</b> Refrigerator replacements may be completed using USDOE funds. The cost of disposal of the appliance (including refrigerant) may be included in the replacement measure providing it does not drop the measure SIR below one. If the replacement measure SIR drops below one, the cost of reclaiming the refrigerant may be covered as a health and safety cost. Refrigeration appliances that are replaced must be disposed of according to the environmental standards in the Clean Air Act (1990), Section 608, as amended by the Final Rule, 40 CFR 82, May 14, 1993. The party recovering the refrigerant must possess an EPA-approved Section 608 Type II license or an approved universal certification. Clients should be cautioned not to disturb refrigerant.</p>		

<b>7.14 – Injury Prevention of Occupants and Weatherization Workers (Measures such as repairing stairs and replacing handrails)</b>				
<b>Concurrence, Alternative, or Deferral</b>				
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>		
<b>Funding</b>				
DOE <input checked="" type="checkbox"/>	LIHEAP <input checked="" type="checkbox"/>	State <input type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
<b>What guidance do you provide Subgrantees regarding allowable injury-related repairs (e.g., stairs, handrails, porch deck board)?</b>				
<p>Service Provider staff is instructed to be alert to any possible client health issues relevant to a broad range of potential weatherization activities. Energy auditors are the primary staff responsible for identifying such issues, either as a part of the actual energy audit or through required interviews with household members. Because these issues may also arise when they are in the dwelling, installers are also trained to identify health and safety issues. Once an issue is identified, Service Provider staff works with the client to address the hazard either directly through the allowable weatherization activities, referrals, or deferral of work. All issues and efforts to resolve them must be documented in the household file and must include a client signature.</p> <p>In some instances, uncorrected hazards could result in injury to weatherization workers or preclude the completion of weatherization measures. In these instances, Service Providers are allowed to make repairs with incidental repair dollars to enable weatherization activities to be completed, provided they are within the Allowable Measures Chart and within required cost limits. Photos and other documentation of the hazard are required.</p> <p><b>Crew/Contractor Health and Safety:</b> The Minnesota Field Guide is incorporated by reference into all Service Provider weatherization contracts with Commerce. The field guide is SWS-aligned and describes Service Provider responsibilities for staff and contractors. The guides address common worker safety issues including vehicle safety, falls, back injuries (proper lifting procedures), exposure to hazardous materials, electrical hazards, repetitive stress injuries, and the use of personal protective gear.</p> <p>The field guide language requires that local Service Providers and their installers comply with OSHA rules pertaining to worker safety. Service Providers are also required to provide annual training for their crews, auditors, and contractors in all worker and weatherization-related health/safety topics so that they understand and meet the rules and regulations of the USDOE WAP. Or they may alternatively send them to state-based training to meet this requirement.</p>				
<b>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.</b>				
<p>Allowable measures are detailed in the Allowable Measure Chart in appendix C of the Minnesota Policy Manual. Minor is defined as work up to \$400 in labor and materials.</p>				
<b>Training</b>				
<p>HEP Quality Control Inspector                      HEP Crew Leader                      MN WAP Training - Health &amp; Safety</p>				

<b>7.15 – Lead Based Paint</b>				
<b>Concurrence, Alternative, or Deferral</b>				
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>		
<b>Funding</b>				
DOE <input checked="" type="checkbox"/>	LIHEAP <input checked="" type="checkbox"/>	State <input type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
<b>Safe Work Protocols</b>				
<p>Appropriate containment and clean up procedures must be used to protect occupants from lead-based paint hazards while weatherization work is in progress. Proper notification of the existence of these hazards must be provided to the occupants. Commerce will verify lead safe containment through photos or on-site monitoring.</p> <p>When weatherization work is in progress the following steps must be followed, as referenced in WPN 17-7:</p> <ul style="list-style-type: none"> <li>• Renovations must be completed by Certified Renovation firms.</li> <li>• Crews and contractors must use containment procedures to ensure protection of the occupants.</li> <li>• Occupants, especially young children or pregnant women, may not enter the work site.</li> <li>• Occupants are allowed to return only after the work is completed and the dwelling has passed a visual inspection or a wipe test, if applicable.</li> <li>• Occupants' belongings must be protected from lead contamination.</li> <li>• The work site must be set up to prevent the spread of lead dust and debris.</li> <li>• Warning signs must be posted at entrances to the worksite when occupants are present; at the main and secondary entrances to the building; and at exterior work sites. The signs must be readable from 20 feet from the edge of the worksite. Signs should be in the occupants' primary language, when practical.</li> <li>• The work area must be contained.</li> <li>• If containment cannot be achieved with occupants in the unit, occupants must move out of the unit or the work must be deferred until containment can be achieved. Minnesota does not use USDOE funds for temporary relocation of clients.</li> <li>• Measures to ensure that containment procedures do not interfere with occupant and worker egress in the case of an emergency must be established.</li> <li>• Photos of lead safe work containment procedures and other documentation are required in all dwellings where lead safe work practices are used.</li> </ul> <p>Containment procedures must ensure that any dust or debris will not be spread beyond the work area to non-work areas. The level of containment must be determined by the auditor/inspector or supervisor before work is assigned to a crew or contractor.</p> <p>The level of containment is based on the hazards present, the age of the home, the scope of work activities, and any customer health issues. Lead safe work generally falls into two levels of containment: Level 1 and Level 2 containment and their related standards are outlined in WPN 17-7.</p> <p>Level 1 containment is required in pre-1978 homes when less than 6 ft<sup>2</sup> of interior painted surface per room, or 20 ft<sup>2</sup> of exterior painted surface will be disturbed. Level 1 containment consists of methods that prevent dust generation and contains all debris generated during the work process. The containment establishes the work area that must be kept secure. Measures that may fall within this guideline include:</p>				

- Installing or replacing a thermostat
- Drilling and patching test holes
- Replacing HEPA filters and cleaning HEPA vacuums
- Changing a furnace filter
- Removing caulk or window putty (interior)
- Removing caulk or window putty (exterior)
- Removing weather-stripping

Level 2 containment is required when Weatherization activities will disturb more than 6 ft<sup>2</sup> of interior surface per room, or 20 ft<sup>2</sup> of exterior surfaces in homes built prior to 1978. Level 2 containment consists of methods that define a work area that will not allow any dust or debris from that work area to spread. Level 2 containment requires the covering of all horizontal surfaces, constructing barrier walls, sealing doorways, covering HVAC registers with approved materials, and closing windows to prevent the spread of dust and debris.

Measures requiring Level 2 containment may include:

- Drilling holes in interior walls
- Drilling holes in exterior walls
- Removing siding
- Cutting attic access into ceiling or knee walls
- Planing a door in place
- Replacing door jambs and thresholds
- Replacing windows or doors
- Furnace replacements

Level 2 containment must always be used where any of the following is conducted, even if the activities will disturb less than the minimum hazard levels within the Level 1 category:

- Window replacement
- Demolition of painted surfaces

Proper lead safe work clean-up and disposal of debris is required to adequately clean up the job site. All dust, dirt, material scraps, containers, wrappers, and work-related debris must be removed from the client's home. A HEPA vacuum must be used to clean up the work areas. Further cleaning may be necessary, based on the hazard. Disposal of debris must meet federal, state and local regulations.

A visual inspection by the crew or contractor must be completed to ensure that the cleaning process is complete. Clearance must be achieved in accordance with RRP rules. Verification is conducted by the QCI at the time of final inspection of the weatherization work. If debris, paint chips, or dust is observed, the weatherization crew or contractor must repeat the cleaning process. Client files will contain lead testing documentation, a description of lead work done, the certified renovator certificate, photos of lead safe containment and setup, and any training offered on site. In cases where extensive lead testing will take place to determine whether lead based paint is present, an analysis of the economic feasibility will be conducted by the Service Provider.

<b>Testing Protocols</b>
EPA approved lead testing  HEP Energy Auditor HEP Quality Control Inspector HEP Crew Leader
<b>Client Education</b>
If lead testing is conducted, the owner will be informed in writing of the results.
<b>Training and Certification Requirements</b>
<p>Commerce requires that all Service Providers use only contractors and installers trained in Lead Safe Work (LSW) or Renovation, Repair and Painting Program (RRP) in accordance with EPA-certified curricula by EPA certified trainers. It is the responsibility of Service Providers to maintain documentation that the requirements for LSW/RRP Practices have been met. Commerce monitors Service Provider compliance with these requirements through training reports and as a part of regular administrative and field monitoring.</p> <p>Commerce also requires that Service Providers contract lead renovators who have been trained in accordance with EPA-certified curricula taught by EPA-certified trainers. It is the responsibility of Service Providers to maintain documentation that lead renovators have met criteria enabling them to oversee the lead-safe setup, work, and clean up. Commerce monitors Service Providers compliance with these requirements through training reports and as a part of regular administrative monitoring</p> <p>Monitoring of LSW/RRP practices to verify compliance with minimum standards will be completed by review of client files for proper documentation, current certification of workers, and client interviews during on-site monitoring visits. Agencies found not to be in compliance with the minimum LSW/RRP standards will be provided with the requirements and the appropriate training opportunities to bring them into compliance.</p> <p>Minnesota will use EPA-certified curriculum and trainers for implementation of the LSW/RRP standards.</p> <p>Minnesota follows the EPA requirements under Lead: Renovation, Repair and Painting Program. Training is required and a certificate is presented upon successful completion. Service Providers may use T&amp;TA funds to attend a qualified training program of their choice.</p> <p>MN WAP Training - Health &amp; Safety</p>
<b>Documentation Requirements</b>
Notification of a lead hazard must be given to all clients in dwellings that come under the LSW/RRP guidance. All agencies must give each client the lead notification publication, "Renovate Right – Important Lead Hazard Information for Families, Child Care Providers and Schools." A signed certification of receipt of this notice must be present in the client file.

## 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.)

<b>Concurrence, Alternative, or Deferral</b>				
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>		
<b>Funding</b>				
DOE <input checked="" type="checkbox"/>	LIHEAP <input checked="" type="checkbox"/>	State <input type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>

**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?**

**Drainage:** DOE funds may be used to remedy moisture issues resolved by repair or replacement of gutters, downspouts, grading, flashing, or sump pumps, where the total cost is less than \$400. Drainage issues above that cost are beyond the scope of the Weatherization Assistance Program. Homes with such conditions may create a serious health problem and work must be deferred until these issues are addressed by the client or by other funding sources. Clients are notified of such problems in writing.

**Mold and Moisture:** An indoor air quality problem is excess moisture or humidity in a home. Too much moisture may result in moisture penetration, condensation, and build-up in walls and ceilings. Moisture accumulation may also cause wood rot. Too much indoor moisture or humidity can also lead to the growth of mold and mildew which can cause adverse health effects for the occupants. Energy auditors use the following to identify potential moisture problems when assessing a client’s home:

- Damp atmosphere or a musty smell in the dwelling, basement, or crawlspace
- Client complaints of allergy-like symptoms
- Mold growth on walls and ceilings, especially in bathrooms and kitchens
- Mold growth on attic roof sheathing
- Signs of condensation on walls or windows
- Water damage or mold on the underside of roof decking
- Evidence of crawlspace moisture
- Rusted metal in basements, crawlspaces, bathrooms and/or kitchens
- Efflorescence (white, powdery deposits) on concrete or masonry surfaces
- Water stains on foundation walls

Although the entire dwelling is inspected for mold, particular attention is paid to the following areas: bathrooms, kitchens, laundry areas, basement walls, ceilings next to exterior walls, attics, and crawlspaces. The mold assessment, completed in tandem with the moisture assessment, is performed by the auditor. Auditors document the presence of visible mold. Details are filed in the client file. The existence of mold is documented to confirm that mold was pre-existing and that weatherization activities were not the cause of mold growth.

When a moisture problem is identified, energy auditors determine the source of the problem and outline solutions or generate specific work order measures to mitigate the problem.

Energy auditors inform clients of any mold that is found and of its location. Auditors explain to clients that the auditor is not a mold expert and that the mold assessment was a visual assessment only and that no testing for mold was completed.

Auditors use forms provided by Commerce and the WA software to document and generate specific health and safety measures that address or alleviate moisture problems. Whole Dwelling, Equipment, and Building Shell tabs within WA detail 41 individual remedies, all addressing health and safety concerns. Many of these concerns are related to moisture issues.

Identifying and solving the source of moisture problems is the first priority when a problem is discovered. The following are possible solutions to moisture problems:

- **Mechanical Ventilation.** One of the main strategies for solving moisture problems in a home is mechanical ventilation. Installing intermittent or continuous ventilation is allowed and may be paid for with health and safety funds. Moisture problems may be reduced or eliminated by ventilating areas that routinely generate large moisture loads such as bathrooms, kitchens and laundry areas. Commerce requires Service Providers to implement ASHRAE 62.2-2016 on all dwellings weatherized, effective July 1, 2017. Clients are reminded of the importance of using kitchen exhaust fans while cooking and using bathroom exhaust fans after showers or baths. Clients are instructed how to operate the fans properly.
- **Plumbing/Sewer Repairs.** Leaking water pipes and sewer lines cause moisture and pose serious health problems for affected dwellings. Auditors carefully note any problems. Minor repairs, costing less than \$400 related to plumbing and sewer repairs, may be completed as a part of the weatherization process, provided the repairs are necessary to weatherize the home. Referrals are made to non-weatherization resources that may assist the household in making more substantial repairs to pipes or sewer lines. Cleanup of any unsanitary conditions due to plumbing leaks is the responsibility of the client.
- **Attic Bypass Sealing.** Attic bypass sealing must be completed on all homes, with the exception of homes that have vermiculite insulation present in the attic. One of the most important benefits of attic bypass sealing is that it prevents the migration of moisture into the attic where it could cause ice dams, wood rot, and mold growth. Pressure diagnostic measurements are taken on both a 'pre' and 'post' basis to ensure and measure bypass-sealing effectiveness. Bypass sealing is completed as an air-sealing measure when it achieves a SIR of one or more.
- **Health and safety funds are used only in dwellings where necessary bypass sealing has an SIR of less than one.**
- **Crawlspace Ground Moisture Barriers.** Crawlspace moisture can lead to condensation, mold, and rot. Air passing through the soil can contain radon and pesticides. It is important to prevent moisture, radon and other soil gasses from entering the dwelling. This is accomplished by covering the accessible crawlspace ground with a vapor barrier with a perm rating of less than 0.1. This vapor barrier must be installed continuously over the top of the exposed soil with all seams and penetrations sealed to establish a continuous air barrier to seal out water vapor and soil gasses.
- **Bulk Water Control.** Health and Safety dollars may be used to make repairs to deteriorated roofs and other framing members where such repairs are needed to eliminate or prevent moisture or water from entering the dwelling. These repairs are allowed when necessary to address moisture sources that create health/safety hazards in the dwelling. Doors, window sash or total window replacements are not allowable health and safety activities.

**Mold Remediation:** Controlling moisture is critical to controlling mold. If mold is found in a home, it is likely the result of moisture, excessive humidity or water intrusion. Moisture problems must be solved before any mold problem is addressed.

<p>If the auditor determines that moisture problems can be solved satisfactorily, the Service Provider may determine that the mold will not be disturbed by weatherization activities and work may proceed without the need for remediating the mold.</p> <p>The Service Provider may defer any work on the home until the mold is remediated by the client or landlord. This policy is recommended if there are large areas of mold growth. If the auditor determines the moisture problem cannot be satisfactorily eliminated, weatherization work must be deferred.</p> <p>Mold Clean-up Information and Referral: If the weatherization work can be completed without disturbing mold/mildew, or if cleanup is not required, work may be completed at the discretion of the auditor or program manager. If cleanup is required, information on cleanup procedures will be provided to the client. Information sources for mold clean up include but are not limited to the University of Minnesota Extension Service, FEMA, Minnesota Department of Health, and Canada Mortgage and Housing Corporation.</p> <p>Procedures are designed to protect the health of the occupants and cleanup personnel during remediation.</p>
<p><b>How do you define “minor” or allowable moisture-related measures, and at what point is work considered beyond the scope of weatherization?</b></p>
<p>See sections above</p>
<p><b>Client Education</b></p>
<p>Auditors provide one-on-one general education to all clients regarding high indoor moisture levels or actual moisture penetration, including the cause of moisture problems and how to avoid moisture problems. Clients are taught how to maintain acceptable relative humidity levels in the dwelling and how to operate any newly installed bath and/or kitchen fans.</p> <p>Energy auditors educate clients on moisture if they identify practices that might result in high moisture levels in the home. Energy auditors are encouraged to utilize moisture meters to help quantify the moisture content of suspect building components. The following are client practices which may have an effect on the moisture levels:</p> <ul style="list-style-type: none"><li>• Cooking and use of kitchen exhaust fans</li><li>• Bathing, showering and use of bathroom exhaust fans</li><li>• Proper use and placement of humidifiers and dehumidifiers</li><li>• Indoor plants</li><li>• Aquariums</li><li>• Storage of firewood inside the dwelling or attached garage</li><li>• Plastic window covers</li><li>• Keeping gutters clean</li><li>• Leaky plumbing or fixtures</li><li>• Site drainage</li><li>• Sump Pumps</li></ul> <p>Correction of moisture and mold-creating conditions are allowed when it is necessary to ensure the long-term stability and durability of the measures in weatherizing the home. Commerce therefore allows the treatment of moisture sources and drainage issues (see Drainage) when such actions are either necessary to effectively perform weatherization work to ensure the work will be lasting and effective OR are necessary, as a result of weatherization work, so as not to create a health or safety problem for the occupant.</p> <p>Activities, as outlined in WPN 17-7 are limited to those that are conducted where efficiency measures are identified for installation. Installation of these items must be pre-approved by Commerce.</p>

<p>If moisture problems in a dwelling are severe and cannot be resolved under existing allowable health and safety measures or repair allowances, Service Provider auditors must explain to clients that weatherization measures could make the situation worse (e.g. attic and wall insulation and high-efficient furnace installation) and may not be completed until moisture problems are remedied by the client or landlord. Weatherization measures that do not disturb mold or exacerbate existing moisture problems may be completed with prior approval from Commerce in certain circumstances.</p>
<b>Training</b>
<p>MN WAP Training – Combustion Safety Fundamentals                  MN WAP Training – Ventilation Fundamentals                  MN WAP Training - Health &amp; Safety</p> <p>HEP Energy Auditor                  HEP Quality Control Inspector                  HEP Crew Leader</p>

7.17 – Pests				
Concurrence, Alternative, or Deferral				
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>		
<b>Funding</b>				
DOE <input checked="" type="checkbox"/>	LIHEAP <input checked="" type="checkbox"/>	State <input type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
What guidance do you provide Subgrantees for dealing with pests and pest intrusion prevention in homes slated for weatherization?				
<p>Pest removal is allowed only where infestation would prevent weatherization. Screening of windows and points of access, and incorporating pest exclusion into air sealing practices to prevent intrusion is allowed.</p> <p>In cases where a pest issues is seasonal, Service Providers are encouraged to defer weatherization until the problem can be resolved. Example: Stinging insects are not active in colder weather so weatherization may be deferred until after temperatures are consistently at or below freezing if stinging insects are found. If there is a menacing domestic animal in a dwelling or if the worker is uncomfortable around the animal, weatherization workers may require the client to restrain the animal before proceeding with weatherization. If the client refuses, weatherization workers may document the situation and defer the work until the situation is resolved.</p> <p>Animal bites should be immediately responded to and reported. If necessary, workers should seek medical care. If a worker is bitten by a bat, an attempt should be made to kill the bat without destroying the head. The bat should be placed in plastic and shipped to a local lab to test for rabies.</p>				
Define Pest Infestation Thresholds, Beyond Which Weatherization Is Deferred				
<p>Pest removal is allowed only where infestation would prevent weatherization. Infestation of pests may be cause for deferral where removal costs exceed \$400.</p>				
Testing Protocols				
none				
Client Education				

<b>Training</b>
HEP Energy Auditor HEP Quality Control Inspector HEP Crew Leader  MN WAP Training - Health & Safety

<b>7.18 – Radon</b>				
<b>Concurrence, Alternative, or Deferral</b>				
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>		
<b>Funding</b>				
DOE <input type="checkbox"/>	LIHEAP <input type="checkbox"/>	State <input type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
<b>What guidance do you provide Subgrantees around radon?</b>				
<p>Radon mitigation is not an allowable health and safety cost. Clients must sign an informed consent form prior to receiving weatherization services. This form must be kept in the client file. In homes where radon may be present, work scope should include precautionary measures based on EPA Healthy Indoor Environment 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 in place or installed.</p> <p>Radon assessments are not part of weatherization in Minnesota. Dwellings with previously identified radon problems should not be left with an increased negative pressure in the contaminated area after weatherization work. Vapor barriers are installed in dwellings with accessible crawlspaces where there is exposed soil.</p>				
<b>Testing Protocols</b>				
n/a				
<b>Client Education</b>				
If radon testing is conducted, the owner will be informed in writing of the results.				
<b>Training and Certification Requirements</b>				
MN WAP Training – Ventilation Fundamentals MN WAP Training - Health & Safety				
<b>Documentation Requirements</b>				
Client informed consent form is required on all houses.				

<b>7.19 – Safety Devices: Smoke and Carbon Monoxide Alarms, Fire Extinguishers</b>		
<b>Concurrence, Alternative, or Deferral</b>		
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>

Funding				
DOE <input checked="" type="checkbox"/>	LIHEAP <input checked="" type="checkbox"/>	State <input type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
<b>What is your policy for installation or replacement of the following:</b>				
Smoke Alarms: Installation of individual or combination smoke and CO detectors and/or alarms is required when absent, inoperable or expired. Replacement of operable non-expired units is not allowed. Service Providers are required to meet State and local fire codes for the number and placement of installed units.				
Carbon Monoxide Alarms: CO alarms must be installed where alarms are not present or are inoperable.				
Fire Extinguishers: Installation allowed only in cases where solid fuel is burned as part of the primary heating system.				
Testing Protocols				
Units are tested at energy audit by pressing the test button.				
Client Education				
Energy Auditors are required to educate the client on operating procedures, care and replacement of units.				
Training				
MN WAP Training – Combustion Safety Fundamentals MN WAP Training - Health & Safety  HEP Energy Auditor HEP Quality Control Inspector HEP Crew Leader				

## 7.20 – Occupant Health and Safety Concerns and Conditions

Concurrence, Alternative, or Deferral				
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>		
Funding				
DOE <input checked="" type="checkbox"/>	LIHEAP <input checked="" type="checkbox"/>	State <input type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
<b>What guidance do you provide Subgrantees for soliciting the occupants' health and safety concerns related to components of their homes?</b>				
Every energy audit includes a client interview aimed at identifying existing or known client concerns related to their home.				
<b>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?</b>				
Service Provider staff is instructed to be alert to any possible client health issues relevant to a broad range of potential weatherization activities. Every energy audit includes a client interview aimed at identifying existing or known client health problems. Energy auditors are the primary staff responsible for identifying health issues either as a part of the energy audit or through required interviews with household members. Because these issues may also arise when installers are in the dwelling, installers are trained to identify health and safety issues.				
<b>What guidance do you provide Subgrantees for dealing with potential health concerns when they are identified?</b>				
Once an issue is identified, Service Provider staff works with the client to deal with the hazard through referrals or deferrals of work. All issues and efforts to resolve health hazards are documented in the household file				

Client Education		
Identified items are reviewed with clients.		
Documentation Form(s) have been developed and comply with guidance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

7.21 – Ventilation and Indoor Air Quality				
Concurrence, Alternative, or Deferral				
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>		
Funding				
DOE <input checked="" type="checkbox"/>	LIHEAP <input checked="" type="checkbox"/>	State <input type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
Identify the Most Recent Version of ASHRAE 62.2 Implemented (optional: identify Addenda used)				
2016, no additional addenda utilized.				
Testing and Final Verification Protocols				
Exhaust fan flow rates are measured at the energy audit and during the QCI inspection. Required tests are detailed in Appendix D of the WAP Policy Manual. The continuous flow setting at the QCI is based on the actual final blower door results. Room to room pressure tests are conducted and action to relieve pressure is taken when the pressure differential between a room and the house is greater than 3 pa.				
Client Education				
Clients are presented with information on combustion safety and hazards, including the importance of using exhaust ventilation when cooking as a part of client education on combustion appliances. Client education is conducted during the QCI and includes information on the location of service switches and cleaning.				
Training				
MN WAP Training – Ventilation Fundamentals				
HEP Energy Auditor HEP Quality Control Inspector HEP Crew Leader				

7.22 – Window and Door Replacement, Window Guards				
Concurrence, Alternative, or Deferral				
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>		
Funding				
DOE <input checked="" type="checkbox"/>	LIHEAP <input checked="" type="checkbox"/>	State <input type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
What guidance do you provide to Subgrantees regarding window and door replacement and window guards?				
Window and door replacement, repair, or installation is not an allowable health and safety expense.				
Testing Protocols				
None				
Client Education				
None				

Training
None

<b>7.23 – Worker Safety (OSHA, etc.)</b>				
<b>Concurrence, Alternative, or Deferral</b>				
Concurrence with Guidance <input checked="" type="checkbox"/>	Alternative Guidance <input type="checkbox"/>	Results in Deferral <input type="checkbox"/>		
<b>Funding</b>				
DOE <input checked="" type="checkbox"/>	LIHEAP <input checked="" type="checkbox"/>	State <input type="checkbox"/>	Utility <input type="checkbox"/>	Other <input type="checkbox"/>
<b>How do you verify safe work practices? What is your policy for in-progress monitoring?</b>				
Minnesota Service Providers must comply with OSHA (29 CFR 1910 and 1926) regulations, local health and safety plans, and use of Material Safety Data Sheets. Commerce currently performs monitoring for OSHA rules and regulations, as it pertains to the SWS, when performing monitoring on in-progress units.				
<b>Training and Certification Requirements</b>				
HEP Energy Auditor HEP Quality Control Inspector HEP Crew Leader				

## **Attachment A: Additional Health and Safety Guidance Related to Heating Systems**

**Electric Space Heaters:** Commerce does not allow repairs or replacements of electric standalone units. Energy Auditors are strongly encouraged to educate clients about their high cost and safety issues related to their use.

**Solid Fuel Heating:** Commerce allows the replacement or repair of indoor primary solid fuel heating plants only with prior approval from Commerce and only if occupant health and safety is at risk. Only repairs are allowed for secondary units and must be justified for documented health and safety reasons. Repair of flues and proper installation (e.g. protection of combustibles), is required for both primary and secondary solid fuel heating appliances. All installations/repairs are done according to applicable codes, standards and manufacturer's instructions including adequate combustion air.

**Vented Gas- and Liquid-Fueled Space Heaters:** Commerce treats vented gas- and liquid-fueled space heaters the same as furnaces in terms of combustion safety testing, repair and replacement. This policy applies to vented space heaters fueled by natural gas, propane, or oil.

**Unvented Secondary Space Heaters:** Repair or replacement of unvented secondary space heaters is not allowed using USDOE funds. Units not meeting the ANSI Z 21.11.2 standard must be removed prior to beginning weatherization activities. Units that do meet ANSI Z 21.112 cannot be located in, or take their combustion air from bedrooms, closets, or bathrooms. Weatherization activities must be deferred until the removal is complete.

**Manufactured Homes – Special Considerations:** All fuel-burning, heat-producing appliances in mobile homes, except ranges and ovens, must be vented to the outside. All fuel-burning appliances in mobile homes, except ranges, ovens, illuminating appliances, clothes dryers, solid fuel-burning fireplaces and solid fuel-burning stoves, must be installed to provide for the complete separation of the combustion system from the interior atmosphere of the manufactured home (i.e., to draw their combustion air from outside).

**Masonry Chimneys:** Masonry chimneys used by vented space heaters should be properly lined in compliance with the International Fuel Gas Code (IFGC). When WAP installs new equipment it must meet local code requirements. Masonry chimneys that have been retired (i.e. not being used by existing equipment) should be assessed for energy savings opportunities such as air sealing and capping to reduce thermal bypass.

**Fireplaces – Special Considerations:** Solid fuel fired appliances are inspected at the energy audit including venting/chimney to ensure they adhere to all applicable codes. Non-code compliance venting that can be corrected as part of the weatherization work must be completed. In cases where venting does not meet code and the venting correction is not related to weatherization work the fireplace must be made inoperable or the home must be deferred. Operable fireplaces must be included in the CAZ depressurization testing; protocols can be found in the current version on the MN Field Guide