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History

DOE regional tech group
Formed out own non-profit
All Volunteer
Strong network
Ever expanding activities



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PARTNERS

DOE

NASCSP

CAP ORGANIZATIONS

BUILDING PERFORMANCE



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Primary Purpose
Conference
Network Support
Technical
Advocacy-Policy & Longevity
Peer Exchange



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ND Health & Safety Client Education Book

STATE OF NORTH DAKOTA
WEATHERIZATION ASSISTANCE
CLIENT EDUCATION
INFORMATION BOOKLET

Bruce Hagen, Program Manager
Rory Hoffmann, Program Administrator

North Dakota Department of Commerce
Division of Community Services
1600 E. Century Ave., Suite 2
Bismarck, N.D. 58502-2057
Phone: 701-328-5300



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Any of the following that are checked yes are to be discussed with client.	YES	NO	N/A
1. Suspected asbestos containing materials present?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Any structurally compromised areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Any code issues present?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Are any fuel or gas leaks present?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Are there any issues with gas ovens or stoves?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Are gutters clean and maintained?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Are downspouts and extensions present?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Are there any landscaping issues?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Are there any issues with solid fuel vents?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Does ventilation need to be added?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Does existing ventilation operate correctly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Are CO and smoke alarms needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Are any pests present?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Any electrical or plumbing problems present?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Any issues with the heating system?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Any issues with the water heater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Any biologicals or sanitation issues?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Any VOC's or other air pollutants present?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Are there any hazardous materials to be disposed of?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Is lead-based paint present that will be disturbed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Are there any issues present that will cause deferral?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Any other issues identified or other comments for documentation?			



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<https://www.epa.gov/radon/citizens-guide-radon-guide-protecting-yourself-and-your-family-radon>



EPA402/K-12/002|2016|www.epa.gov/radon



A Citizen's Guide to Radon

The Guide to Protecting
Yourself and Your Family from
Radon



Indoor Air Quality (IAQ)



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<https://www.epa.gov/indoor-air-quality-iaq/healthy-indoor-environment-protocols-home-energy-upgrades>



Healthy Indoor Environment Protocols for Home Energy Upgrades



GUIDANCE FOR ACHIEVING SAFE AND HEALTHY INDOOR ENVIRONMENTS DURING HOME ENERGY RETROFITS



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<https://www.epa.gov/children/healthy-home-action-brochure-english>



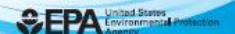
and more environmentally-friendly, too!

Did you know that most people spend over 90% of their time indoors? This brochure offers ways to make your home a healthy place for you and your family. It provides you with information on **mold, radon, carbon monoxide, asthma and allergies, second-hand smoke, volatile organic compounds,**

drinking water contaminants, lead, mercury, and pesticides.

There are also many things you can do in and around your home to help protect and conserve the environment. In this brochure there are tips to help you save energy, save money and make your home **more environmentally-friendly.**

Learn how you can make your home a healthy place to live.



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[https://www.wgeld.org/forestryio/images/Electrical Safety Checklist.pdf](https://www.wgeld.org/forestryio/images/Electrical%20Safety%20Checklist.pdf)



Electrical Safety: Checklist

- ☐ Call a qualified electrician or your landlord if you have:
 - Frequent problems with blowing fuses or tripping circuit breakers
 - A tingling feeling when you touch an electrical appliance
 - Discolored or warm wall outlets
 - A burning or rubbery smell coming from an appliance
 - Flickering or dimming lights
 - Sparks from an outlet

- ☐ Inspect your home for hidden electrical hazards.

- ☐ Check electrical cords to make sure the wires are not damaged, cracked or loose. If the cords need to be repaired, take the item to a professional repair shop, hire an electrician or replace with a new item.

- ☐ Make sure cords are not running across doorways or under carpets. If they are, have a qualified electrician install more outlets.

- ☐ Keep children away from electric cords and outlets. Cords placed in the mouth can cause a burn and objects placed in a receptacle can cause a shock, burns or electrocution.

- ☐ Make sure that all receptacle outlets and switches have faceplates.

- ☐ Never put more than one plug in each receptacle. An outlet may have one or more receptacles — one to receive each plug.

- ☐ Be sure that the bulbs in your lights match what is safe for the lamp. There should be a sticker that indicates the maximum wattage for the light bulb — such as use maximum of a 60 watt bulb.

- ☐ Light bulbs in the living area of your home, including closets, should have a shade or globe for protection. Light bulbs can get very hot and cause a fire if something that can burn is too close.

- ☐ Ground-fault circuit interrupters (GFCIs) reduce the risk of shock by shutting off an electrical circuit when the circuit could be a shock hazard. Your home should have GFCIs in the kitchen, bathroom(s), laundry, basement, garage, and outdoor areas.

- ☐ Heat producing appliances such as a toaster, coffee maker, iron or microwave oven draw a lot of electricity. Plug only one heat producing appliance in each outlet to prevent wiring from overheating.

- ☐ Buy only appliances that are listed by a qualified testing laboratory.

- ☐ Arc-fault circuit interrupters (AFCIs) protect against fire by monitoring the electrical current in a circuit and shutting off the circuit when unintended arcing occurs. AFCIs should be installed in your home. If not, have a qualified electrician install them for you.

- ☐ Keep ladders away from overhead power lines, including the electrical service into your home.

Think Green! Turn off lights when you are not in the room. Unplug appliances when not in use.



**NATIONAL FIRE
PROTECTION ASSOCIATION**
The leading information and knowledge resource
on fire, electrical and related hazards

Keeping Your Community Safe and Energized!
www.nfpa.org/education
© NFPA 2017



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<https://www.epa.gov/lead/lead-safe-certified-guide-renovate-right>



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Foam Insulation



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Foam insulation

IRC Section 316

R316.4 Thermal barrier. Unless otherwise allowed in Section R316.5, foam plastic shall be separated from the interior of a building by an *approved* thermal barrier of not less than 1/2-inch (12.7 mm) gypsum wallboard, 23/32-inch (18.2 mm) wood structural panel or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.



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Foam insulation

IRC Section 316 - Continued

R316.5.3 Attics. The thermal barrier specified in Section R316.4 is not required where all of the following apply:

R316.5.4 Crawl spaces. The thermal barrier specified in Section R316.4 is not required where all of the following apply:



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Foam insulation

IRC Section 316-Continued

2. Entry is made only for purposes of repairs or maintenance.

3. The foam plastic insulation has been tested in accordance with Section R316.6 or the foam plastic insulation is protected against ignition using one of the following ignition barrier materials:

3.1. 1/2-inch-thick (38 mm) mineral fiber insulation.

3.2. 1/4-inch-thick (6.4 mm) wood structural panels.

3.3. 3/8-inch (9.5 mm) particleboard.

3.4. 1/4-inch (6.4 mm) hardboard.

3.5. 3/8-inch (9.5 mm) gypsum board.

3.6. Corrosion-resistant steel having a base metal thickness of 0.016 inch (0.406 mm).

3.7. 1/2-inch-thick (38 mm) cellulose insulation;
or

3.8. 1/4-inch (6.4 mm) fiber-cement panel, soffit or backer board.



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Foam insulation

IRC Section 316 - Continued

R316.5.11 Sill plates and headers. Foam plastic shall be permitted to be spray applied to sill plates and headers or installed in the perimeter joist space without the thermal barrier specified in Section R316.4 subject to all of the following:

1. The thickness of the foam plastic shall be not more than 3 1/4 inches (83 mm).



Foam insulation

Spray Polyurethane Foam Alliance:
<http://www.sprayfoam.org/>

THERMAL BARRIERS AND IGNITION
BARRIERS FOR THE SPRAY POLYURETHANE
FOAM INDUSTRY

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Spray Polyurethane Foam Alliance



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Department of Energy

Washington, DC 20585

WEATHERIZATION PROGRAM NOTICE 19-5

EFFECTIVE DATE: September 6, 2019

**SUBJECT: WEATHERIZATION ASSISTANCE PROGRAM INCIDENTAL REPAIR
MEASURE GUIDANCE, INCLUDING: WINDOWS, DOORS, & ROOFS**



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WEATHERIZATION ASSISTANCE PROGRAM INCIDENTAL REPAIR MEASURE GUIDANCE, INCLUDING: WINDOWS, DOORS, & ROOFS

- **Incidental Repair Measure (IRM)** – A repair necessary for the effective performance or preservation of newly installed weatherization materials, but not part of a standard installation. IRM installations must be associated with a specific ECM or group of ECMs. IRMs must be justified by written and photo documentation in the client file. IRM costs must be included the SIR calculation of the total package of weatherization measures.



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WEATHERIZATION ASSISTANCE PROGRAM INCIDENTAL REPAIR MEASURE GUIDANCE, INCLUDING: WINDOWS, DOORS, & ROOFS

- Justification for the cost of each IRM and why it is necessary for the effective performance or preservation of an ECM must be documented in the client file with photos and written explanation.
- The total cost of the *package of weatherization measures* including any IRMs must have a calculated SIR of 1.0 or greater.



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WINDOWS, DOORS, & ROOF REPAIRS

- Window, door, and roof repairs are allowable as IRMs to preserve the integrity of the associated ECM(s), when they meet the definition and requirements of the IRMs.



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WINDOWS, DOORS, & ROOF REPAIRS

1. Roof repairs are allowable as a H&S measure, if:
 - a. It resolves a bulk water intrusion issue that is the cause of visible biological growth, and;
 - b. The Grantee's Annual Plan *identifies* minor roof repair as an H&S measure, and *defines* it with a monetary or other (e.g., square footage) limitation, and;
 - c. The H&S roof repair is well documented with written explanation and photos of the biological growth in the client file.



WINDOWS, DOORS, & ROOF REPAIRS

1. Window and door repairs are allowable as a H&S measure, if:
 - a. It resolves a bulk water intrusion issue that is the cause of visible biological growth, and;
 - b. The Grantee's Annual Plan *identifies* window and door repair as an H&S measure, and;
 - c. The H&S window and door repairs are well documented with written explanation and photos of the biological growth in the client file.



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WINDOWS AND DOORS REPLACEMENTS

Window and door replacement(s) must first be modeled and treated as ECM(s) if cost justified. Window and door replacements shall not be included in the air sealing ECM. Window and door replacements are allowable as IRMs to preserve the integrity of the associated ECM(s), when they meet the definitions and requirements of IRMs listed above.

From WPN 17-7 Table of Issues - Replacement, repair, or installation is not an allowable H&S cost.



Air Sealing – EOW Tech Committee Discussion

Definitions – major airsealing, minor airsealing

What's allowable? – GHW, Targets

How do the different audits deal with air leakage and reduction?



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Oregon Fuel Switching Protocol



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United States Government

Department of Energy

Memorandum

DATE: May 6, 2015

REPLY TO

ATTN OF: Robert C. Adams, WAP Manager
Weatherization and Intergovernmental Program Office

SUBJECT: Clarification on Fuel Switching

TO: Weatherization Assistance Program (WAP) Grantees

WAP Memorandum 011



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Fuel Switch Approval Process

- Oregon submitted the following for approval:
 - A narrative describing the process
 - An estimation of fuel switching costs by fuel type
 - The proposed fuel switching policy and procedure
 - The fuel switching request form
 - Audit tool technical polices
 - Sample audits



Fuel Switch Approval Process

- Create and submit computerized audit files for each fuel type you intend to switch:
 - Oil-Gas
 - Oil -Electric
 - Propane- Electric
 - Wood-Electric
 - Electric-Gas



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Fuel Switch Approval Process

- The package was submitted on 1/19/17
- Approval received on 2/1/17
- Approved as a supplemental to our audit protocol
- Added as part of our recently approved audit protocol



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Policy

- Local agencies must submit a fuel switching request form to the State office for approval.
- Request form requires the following:
 - Type of fuel switch- Heating or Water heating
 - Current and proposed fuel source
 - Reason for fuel switch



Policy

- Reasons for fuel switching include:
 - Energy Efficiency- SIR of 1.0 or better
 - When installing a heating/hot water system using existing fuel is not possible
 - Client H&S
 - Any other extenuating circumstance not covered above
- All costs must be considered when submitting a fuel switch request.



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Policy

- Allowable Costs
 - Fuel switching is allowed with all Oregon WX grants
 - DOE funds may only be utilized when the fuel switch is cost effective
 - Fuel switching must be included in the SIR calculation for all grant sources.



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Procedure

Agencies Submit the following to the state office:

- Completed fuel switch request form including:
 - Type of request: Heating or water heating
 - Current fuel source/Proposed fuel source
 - Utility provider
 - Reason for fuel switch
 - Cost of upgrading to new fuel source and to existing fuel source



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Procedure

Agencies Submit the following to the state office:

– Backup documentation:

- Photo documentation of existing equipment including data plate and existing conditions
- Relevant testing documentation
- Client utility bills for metered fuel sources
- Unmetered fuel source bills if available

– Audit file – REM Design building file



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Procedure

- State office personnel review and return as either approved or denied
- Approval will include funding sources that may be utilized for the fuel switch
- Client files must include the following documentation
 - Copy of approved fuel switch request
 - Supporting documentation



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Oregon Fuel Switching Protocol

Steve Divan

Weatherization Program Coordinator

Steven.divan@Oregon.gov

503.986.0979



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The B.E.A.S.T. Baseload and Energy Analysis Summary Tool

Jonathan Ballew

Energy Programs Director, Rocky Mountain Development Council (CAA)

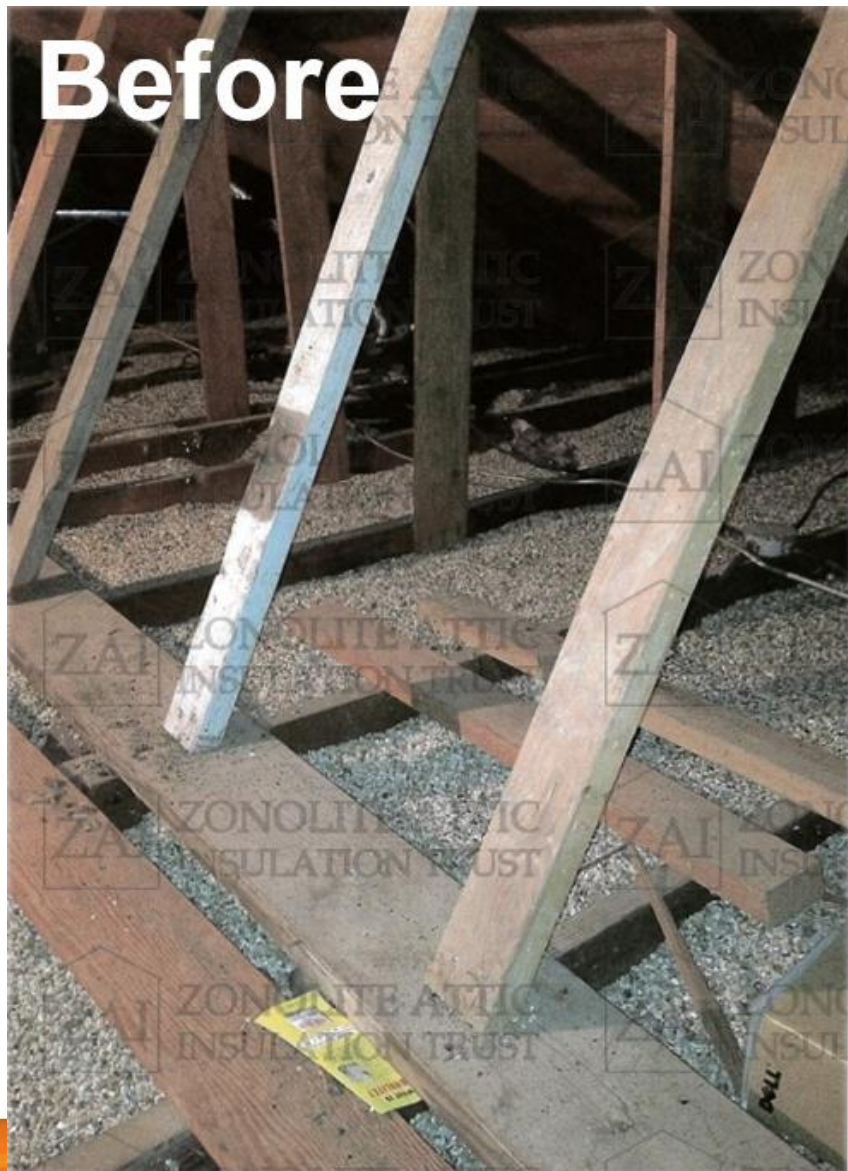
jballew@rmdc.net

406.441.3984



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Before



After



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Overview

- What does DOE say about Vermiculite?
- What is Vermont's Weatherization Program doing?
- Do you know about the Zonolite Trust?
- Contact info if you want to know more or have questions.



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DOE says.....

- Don't do a blower door test "if it will disturb the vermiculite"
- Encapsulation is allowed by asbestos contractor, but removal is not allowed (with DOE funds).
- Client Education: required when found, in writing, "do not disturb", what needs to be done to resume a project if a deferral.
- What's not said....



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What is Vermont's Program doing?

- No blower door test.
- 1 in 10 homes have it. We consider it just a part of Weatherization now, no automatic deferral, no “just treat the rest of the house”.
- Test. Not for asbestos, but for barium and Zonolite Trust eligibility.
- Leverage / braid / combine funding to remediate.
 - State Wx Vermiculite funds
 - VLITE Vermiculite funds
 - Zonolite Trust funds: 9.9 of 10 homes eligible for ZAI
 - Most cases no client contribution



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Zonolite Trust Funds (ZAI):

- ZAI will pay 55% of an abatement project up to \$4,203.
- Prove it by testing for barium, or presence of an old bag.
- Client is the claimant, work with Ed Cottingham and ZAI regarding.
- This has been a huge resource for our Program to get many jobs done.
- Ed Cottingham. Will answer questions and help you access the funds. Edward@zaitrust.com



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If you have questions or need help:

- Geoff Wilcox

Vermont Weatherization Program Director

geoff.wilcox@Vermont.gov 802-279-7964

- Zonolite Trust (South Carolina)

www.zonoliteatticinsulation.com

info@zaitrust.com

843-388-4321



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