

**STATE OF OREGON
WEATHERIZATION ASSISTANCE PLAN
FOR THE UNITED STATES
DEPARTMENT OF ENERGY**

JULY 1, 2015-JUNE 30, 2016

**Oregon Housing and Community Services
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Table of Contents

INTRODUCTION.....	5
1.0 PART I – ANNUAL FILE.....	5
1.01 Overall Main Budget with Allocations	5
1.02 Subgrantees	6
1.03 Estimated Production Schedule	11
1.04 Energy Savings	11
1.05 Monitoring Activities.....	12
1.05.1 Introduction.....	12
1.05.2 Peer Exchange	12
1.05.3 OHCS Monitoring of Subgrantees.....	13
1.06 Training and Technical Assistance	14
1.06.1 Allocation of T&TA Funds.....	14
1.06.2 Availability of T&TA funds	14
1.06.3 Technical Assistance.....	15
1.06.4 Contract Training.....	15
1.06.5 Travel.....	15
1.07 Leveraging Activities.....	15
1.07.1 Other Funds	15
1.07.2 DOE Funds as Leverage	16
1.08 Policy Advisory Council.....	16
1.08.1 Make up and Meetings.....	16
1.08.2 ACE Membership List	16
1.09 Public Hearing	18
2.0 PART II – MASTER FILE	19
2.01 Eligible Population.....	19
2.01.1a What is Income	19
2.01.1b What Is Not Considered Income	20
2.01.2a What is Income	21
2.01.2b What Is Not Considered Income	21
2.01.3 Time Period for Income Verification	22
2.01.4 Priorities.....	23
2.01.5 Nondiscrimination	23
2.01.6 Temporary Disqualification of certain newly legalized aliens from receipt of weatherization benefits ..	23
2.02 Climatic Conditions	24
2.03 Weatherization Work	25
2.03.1 Prior to Audit	25
2.03.2 Permission to Proceed.....	25
2.04 Energy Audit Procedure.....	26
2.04.1 Use of the Computerized Audit Tool.....	27
2.04.2 Coordinator Override.....	27

2.04.3 Prioritization of Work	27
2.04.4 Audit Tool Training	28
2.05 Final Inspection.....	28
2.05.1 Self Declaration	29
2.05.2 Funding Summary Report.....	29
2.06 Analysis of Effectiveness.....	29
2.07 Health and Safety Plan.....	30
2.07.1 Mold and Mildew	30
2.07.2 Certification for Mold & Mildew Safe Work Practices	30
2.08 Health and Safety – Incidental Repairs.....	31
2.08.1 Reporting	31
2.09 Rental Procedures	31
2.10 Lien on Property	32
2.11 Documentation.....	32
2.12 Program Management.....	32
2.12.1 Overview	32
2.12.2 Service Delivery System.....	33
2.12.3 Designated Subgrantee	33
2.12.4 Contract with Subgrantees	33
2.12.5 Administrative Expenditure Limits.....	33
2.12.6 Special Populations.....	34
2.12.7 Funding Formula	35
2.12.8 Floor Funding	35
2.13 Monitoring – Quality Assurance.....	35
2.13.1 Exemplary Agencies	36
2.15 Certification for Lead Safe Renovators	38
2.16 Monitoring - Productivity	39
2.17 T&TA Plan.....	39
2.18 Evaluation	39
2.19 Multi-Family	39
2.19.1 Eligibility	39
2.19.2 Landlord Contribution Clause.....	39
2.19.3 Flexibility within the Multifamily Weatherization Provisions	40
2.20 Standard Weatherization Procedures	40
2.20.1 Labor.....	40
2.20.2 Davis-Bacon Act-Compliance	41
2.20.3 Authorization	41
2.20.4 Operation of the Program	41
2.20.5 Expansion of Manufactured home Definition.....	42
2.20.6 Certify Work.....	42
2.21 General Accounting Practices.....	42
2.21.1 Submit an Annual Audit	42
2.21.2 Inventory Control.....	43
2.21.3 Receive Authorization from OHCS for Purchases or Lease	43
2.21.4 Travel Regulations.....	44
2.21.5 Financial Operations Manual	44

2.21.6 Use of Weatherization Funds for Renewable Energy Systems	44
2.21.7 Prohibited Expenditures	44
2.21.8 Discretion of Procurement	44
2.21.9 EPA Compliance	45
2.22 Reporting Requirements	45
2.22.1 Success Story Reports.....	45
2.22.2 Petroleum Violation Escrow (PVE).....	45
2.22.3 Fuel Switching	45
2.22.4 Cook Stoves	46
2.22.5 Disaster Relief	46
2.22.6 Wood Stove Replacement.....	47
2.23 Quality Control	47
2.23.1 Fire Codes.....	47
2.23.2 Electrical Codes	47
2.23.3 Building Codes	47
2.23.4 Materials Installed Properly	47
2.23.5 Maximum Service – Holistic Approach.....	47
APPENDICES 48	
Appendix A – Peer Exchange Protocol	49
Appendix C – Training and Technical Assistance Plan.....	66
Appendix D – Health & Safety Plan.....	72
Appendix E – Native American Funding.....	108
EXHIBITS 111	
Exhibit 1 - Approval to Include Wood Stoves as a Weatherization Assistance Program Measure	112
Exhibit 2 - Knob and Tube Wiring: Revised Policy Superseding Guidance of July 25, 1983 and July 13, 1988.....	114
Exhibit 3 – June 5, 2000 Excerpts, Study - Insulating Homes Containing Knob and Tube Wiring	116
Exhibit 4 – Space Heater Policy	125
Exhibit 5 – Activities and Federal Lead-Based Paint Regulations	130
Exhibit 6 – Mold & Mildew Protocol	147
Exhibit 7 – Agency Weatherization Self-Assessment	152
Exhibit 8 – Performance Evaluation	153
Exhibit 9 Health & Safety Documents.....	154

INTRODUCTION

The State of Oregon Weatherization Assistance Program State Plan for United States Department Of Energy (DOE) is based on the rules contained within 10 CFR Part 440; 10 CFR Part 600; and all subsequent guidance contained in the U.S. DOE Weatherization Program Notices (WPN). It is the responsibility of the Subgrantee to know and be familiar with these rules and guidance. All DOE rules and guidance can be found on the web at www.waptac.org

1.0 PART I – ANNUAL FILE

1.01 Overall Main Budget with Allocations

DOE 2014-1015 Allocations

2015 AGENCY	Admin	Program	T&TA	Total
ACCESS	\$ 9,581.34	\$ 86,232.05	\$ 11,188.69	\$ 107,002.07
CAO	\$ 16,825.54	\$ 151,429.82	\$ 19,648.16	\$ 187,903.51
CAPECO	\$ 6,550.08	\$ 58,950.71	\$ 7,648.91	\$ 73,149.69
CAT	\$ 5,914.58	\$ 53,231.20	\$ 6,906.80	\$ 66,052.57
Clackamas	\$ 12,606.42	\$ 113,457.81	\$ 14,721.25	\$ 140,785.49
Neighbor Impact	\$ 9,186.56	\$ 82,679.01	\$ 10,727.68	\$ 102,593.25
Community Connections	\$ 5,879.75	\$ 52,917.72	\$ 6,866.12	\$ 65,663.59
CSC	\$ 12,095.77	\$ 108,861.92	\$ 14,124.93	\$ 135,082.62
Siletz Tribe	\$ 703.63	\$ 6,332.70	\$ 821.67	\$ 7,858.00
CINA	\$ 7,036.01	\$ 63,324.12	\$ 8,216.36	\$ 78,576.50
Lane Co.	\$ 17,023.85	\$ 153,214.65	\$ 19,879.74	\$ 190,118.24
Klamath Tribe	\$ 1,212.74	\$ 10,914.65	\$ 1,416.19	\$ 13,543.58
Mid Columbia	\$ 5,528.64	\$ 49,757.75	\$ 6,456.11	\$ 61,742.50
Mid Willamette	\$ 17,894.64	\$ 161,051.78	\$ 20,896.61	\$ 199,843.03
Multnomah Co.	\$ 26,750.82	\$ 240,757.36	\$ 31,238.48	\$ 298,746.67
OHDC	\$ 6,586.16	\$ 59,275.44	\$ 7,691.04	\$ 73,552.64
ORCAA	\$ 5,536.77	\$ 49,830.96	\$ 6,465.61	\$ 61,833.34
UCAN	\$ 11,324.30	\$ 101,918.72	\$ 13,224.05	\$ 126,467.07
Y-CAP	\$ 4,519.10	\$ 40,671.92	\$ 5,277.22	\$ 50,468.24
Native American Allocation	\$ 3,804.16	\$ 34,237.47	\$ 4,442.34	\$ 42,483.98
Sub-Total	\$ 186,560.86	\$ 1,679,047.76	\$ 217,857.96	\$ 2,083,466.58

OHCS Admin	\$ 121,122.00
SUBS Admin	\$ 186,561.00
Program	\$ 1,679,047.76
OHCS T&TA	\$ 217,858.00
SUBS T&TA	\$ 217,858.00
TOTAL	\$ 2,422,447.00

***If grant funds are not obligated for reimbursement by Subgrantee in a timely manner as determined by OHCS, OHCS may at its sole discretion, reduce Subgrantee funding and redistribute such funds to other Subgrantees. OHCS may implement adjustments by modifying the applicable Notice of Allocation (NOA). This remedy is in addition to any other remedies available to OHCS under the Master Grant Agreement or otherwise.**

1.02 Subgrantees

Oregon's low income weatherization network is made up of 19 subgrantees each with their own service area. The subgrantees are comprised of 17 community action agencies; housing authorities; local governments; area agencies on aging; senior centers; a development corporation; and two (2) tribes. Many of the weatherization subgrantees have over 20 years' experience in delivering weatherization services.

The Oregon Energy Coordinators Association (OECA) is a statewide association made up of weatherization and energy assistance coordinators from a majority of the subgrantees. OECA serves as standing committee on energy issues for the Community Action Partnership of Oregon. OECA is also the primary training provider for Oregon Housing and Community Services (OHCS) Weatherization Assistance Program (WAP), and has been instrumental in helping to implement Oregon's energy deregulation legislation for the benefit of public purposes and low income people.

The following is a list of Oregon's weatherization subgrantees. Note that DOE Native American funds shown below are projected if Option #2 is selected (see Section 2.12.6) and funds are not expended under Option #1.

Name:	ACCESS	Contact:	Cindy Dyer
Address:	3630 Aviation Way	Phone:	541-779-6691
City:	Medford	FAX:	541-779-8886
State:	Oregon	E-mail:	cdyer@accesshelps.org
Zip:	97504	Congressional District(s):	2 & 4
County(s) served:			Jackson

Name:	NeighborImpact	Contact:	Ken Hanna
Address:	2303 SW 1 st Street	Phone:	541-504-5664
City:	Redmond	FAX:	541.749-4948
State:	Oregon	E-mail:	kenh@neighborimpact.org
Zip:	97756	Congressional District(s):	2
County(s) served:			Crook, Deschutes, and Jefferson

Name: **Community Action Organization (CAO)**
Address: 1001 SW Baseline Contact: Renee Bruce
City: Hillsboro Phone: 503-648-6646
State: Oregon FAX: 503-648-4175
Zip: 97123 E-mail: rbruce@caowash.org
Congressional District(s): 1
County(s) served: Washington

Name: **Community Action Programs of East Central Oregon (CAPECO)**
Address: 721 SE 3rd Suite D Contact: Donna Kinnaman
City: Pendleton Phone: 541-278-5671
State: Oregon FAX: 541-276-7541
Zip: 97801 E-mail: dkinnaman@capeco-works.org
Congressional District(s): 2
County(s) served: Gilliam, Morrow, Umatilla, and Wheeler

Name: **Community Action Team (CAT)**
Address: 125 N 17th Street Contact: Carmen Kulp
City: St. Helens Phone: 971-219-0946
State: Oregon FAX: 503-325-6738
Zip: 97051 E-mail: ckulp@cat-team.org
Congressional District(s): 1
County(s) served: Clatsop, Columbia, and Tillamook

Name: **Community Connections of Northeast Oregon (CCNO)**
Address: 104 Elm Street Contact: Kale Elmer
City: La Grande Phone: 541-963-3186
State: Oregon FAX: 541-963-3187
Zip: 97050 E-mail: Kale@ccno.org
Congressional District(s): 2
County(s) served: Baker, Grant, Union, and Wallowa

Name: **Community Services Consortium (CSC)**
Address: 545 SW 2nd Street, Suite A Contact: Joe Collette
City: Corvallis Phone: 541-758-2782
State: Oregon FAX: 541-752-6025
Zip: 97330 E-mail: sjole@csc.gen.or.us
Congressional District(s): 4 & 5
County(s) served: Benton, Lincoln, and Linn

Name: **Confederated Tribes of Siletz**
Address: 201 SE Swan Ave Contact: Tracy Bailey
City: Siletz Phone: 541-444-2532
State: Oregon FAX: 541-444-2307
Zip: 97330 E-mail: tracyb@ctsi.nsn.us
Congressional District(s): 4 & 5
County(s) served: Lincoln

Name: **Community in Action**
Address: 49 NW 1st Street Contact: Barb Higinbotham
City: Ontario Phone: 541-889-1060
State: Oregon FAX: 541-889-0768
Zip: 97914 E-mail: barb.community@live.com
Congressional District(s): 2
County(s) served: Harney and Malheur

Name: **Oregon Human Development Corporation (OHDC)**
Address: 531 S. 6th Street Contact: Jim Minix
City: Klamath Falls Phone: 541-881-1491
State: Oregon FAX: 541-883-8053
Zip: 97601 E-mail: jminix@ohdc.org
Congressional District(s): 2
County(s) served: Klamath and Lake

Name: **Mid-Columbia Community Action Agency (MCCAC)**
Address: PO Box 1969 Contact: Steve Bishop
City: The Dalles Phone: 541-298-5131
State: Oregon FAX: 541-298-5141
Zip: 97058 E-mail: steveb@mccac.com
Congressional District(s): 2
County(s) served: Hood River, Wasco, and Sherman

Name: **Mid-Willamette Valley Community Action Agency (MWVCAA)**
Address: 2585 State Street Contact: Rogelio Cortes
City: Salem Phone: 503-585-8491
State: Oregon FAX: 503-585-8462
Zip: 97301 E-mail: Rogelio.Cortes@mwvcaa.org
Congressional District(s): 5
County(s) served: Marion and Polk

Name: **Oregon Coast Community Action (ORCCA)**
Address: P.O. Box 899 Contact: Cory Clawson
City: Coos Bay Phone: 541-888-7417
State: Oregon FAX: 541-435-7764
Zip: 97420 E-mail: cclawson@orcca.us
Congressional District(s): 4
County(s) served: Coos and Curry

Name: **Yamhill County Community Action Partnership (YCAP)**
Address: PO Box 621 Contact: Kraig Ludwig
City: McMinnville Phone: 503-472-0457
State: Oregon FAX: 503-472-5555
Zip: 97801 E-mail: kludwig@yamhillcap.org
Congressional District(s): 1
County(s) served: Yamhill

Name: **Clackamas County Weatherization (CCSS)**
Address: PO Box 2950 Contact: Jacque Meier
City: Oregon City Phone: 503-650-3339
State: Oregon FAX: 503-650-3336
Zip: 97045 E-mail: JacqueM@co.clackamas.or.us
Congressional District(s): 3 & 5
County(s) served: Clackamas

Name: **Lane County Human Services Division (LCHSD)**
Address: 125 E 8th Ave Contact: Mary Ellen Bennett
City: Eugene Phone: 541-682-7473
State: Oregon FAX: 541-682-3760
Zip: 97401 E-mail: MaryEllen.Bennett@co.lane.or.us
Congressional District(s): 4
County(s) served: Lane

Name: **The Klamath Tribes**
Address: PO Box 436 Contact: Sheri Brown
City: Chiloquin Phone: 541-783-2219
State: Oregon FAX: 541-783-2029
Zip: 97624 E-mail: sheri.brown@klamathtribes.com
Congressional District(s): 2
County(s) served: Parts of Klamath County

Name: **Multnomah County**
Address: 421 SW 6th, Suite 200
City: Portland
State: Oregon
Zip: 97204
Congressional District(s):
County(s) served:

Contact: Christina Kenney
Phone: 503-988-6139
FAX: 503-988-3332
E-mail: Christina.l.kenney@co.multco.us
1 & 3
Multnomah

Name: **United Community Action Network (UCAN)**
Address: 280 Kenneth Ford Drive
City: Roseburg
State: Oregon
Zip: 97470
Congressional District(s):
County(s) served:

Contact: Alesha Sullivan
Phone: 541-492-3512
FAX: 541-672-1983
E-mail: alesha.sullivan@ucan.org
4
Douglas and Josephine

NOTE: The following numbers may change with final budget figures

1.03 Estimated Production Schedule

	Annual Total
Weatherized Units (total).....	291
Units by Type	
Owner-Occupied Single Family	88
Single-Family Rental	28
Multi-Family (5 or more units per building & Geographical-Multi)	16
Owner-Occupied Manufactured home.....	121
Renter-Occupied Manufactured home	29
Shelter	9
Units by Occupancy	
Elderly-Occupied	139
Persons with Disabilities-Occupied	122
Native American-Occupied	11
Children-Occupied	60
High Residential Energy User-Occupied.....	0
Households with High Energy Burden	0
Other Unit Types	
Re-weatherized Units.....	0
Low-Cost / No-Cost.....	0
Total People Assisted	
Elderly.....	284
Persons with Disabilities.....	205
Native Americans.....	37
Children.....	140

1.04 Energy Savings

DOE cites the 2005 Meta-evaluation that suggests a much higher rate of energy savings from weatherization. In this study, a weatherized home saved an average of 30.5 MMBTUs based on all fuel types. If we apply this average to Oregon’s 291 projected homes to be weatherized, the resulting energy savings climbs to 8,876 MMBTUs.

1.05 Monitoring Activities

1.05.1 Introduction

Monitoring is the principle method by which OHCS can identify areas within the subgrantee's program operation and administration where assistance may be required. OHCS ensures that each subgrantee is monitored during the current grant year. The monitoring visit will consist of all areas under item **1.05.3 c. On-Site Review** of this section. The results of these reviews and individual subgrantee requirements will determine the need for Training and Technical Assistance (T&TA) and/or additional monitoring.

There have been many improvements as a result of monitoring efforts of OHCS. Client files have become more complete, forms contained within those files are more consistent statewide, and the quality of work is continuing to improve across the state.

1.05.2 Peer Exchange

Subgrantees will receive Training and Technical Assistance funds to participate in Peer Exchange. These funds are designed to cover the cost of time, travel, lodging and meals of those involved in Peer Exchange. The Peer Exchange funds will be included in the general T&TA allocation.

- a. The cost of Peer Exchange visits has been established at \$1,000 per subgrantee. OHCS reserves the right to reduce the allocation for Peer Exchange if federal funds are reduced to the state. T&TA funds are used because the emphasis of Peer Exchange reviews is on information exchange and the opportunity to learn new skills and techniques, as well as the inspection of DOE funded weatherization and job performance. However, with downsizing and contracting of services, some subgrantees have entered into contracts with other subgrantees to deliver weatherization services including audits, inspections, and installation of weatherization measures. OHCS reserves the right to disallow allocations of T&TA Peer Exchange funds to subgrantees
- b. Training needs of subgrantees will in part be identified and remedied through Peer Exchange, the OECA T&TA Committee and OHCS.
- c. Agencies **must** submit a proposal plan in their CRD workplan with OHCS that identifies the agency(s) they have made arrangements with to visit.
- d. Agencies will follow the Peer Exchange Protocol (See Appendix A).

1.05.3 OHCS Monitoring of Subgrantees

- a. **Audit** - An annual audit, as required by contract agreement, shall be monitored by OHCS to verify information received on quarterly reports and clarify questions raised by OHCS, the subgrantee and/or the auditor.
- b. **In-House** - All quarterly reports shall be monitored by OHCS to determine compliance with program requirements, monitor spending patterns and chart program progress. Any irregularities or questions raised by the in-house review will be sufficient reasons to schedule an on-site review.
- c. **On-Site Review** - OHCS may conduct an on-site review on an annual basis and when required in item 2 above. The on-site review shall consist of staff from OHCS and qualified technicians as necessary under the direction of OHCS. The following items shall be reviewed at a minimum.
 - c.1 **Financial Records** - Including but not limited to: general ledger, bank statements, checks, audit reports, financial statements and other records necessary for the review of the financial records.
 - c.2 **Inventory System** - Including but not limited to purchasing system, controls, perpetual inventory, financial records and other records deemed necessary by the reviewer.
 - c.3 **Client Files** - For accuracy, completeness, demographic information and proper reflections of work needed/work completed, client eligibility and inspection of work.
 - c.4 **Work Completed** - Homes shall be reviewed to determine: quality of work, completeness of work, conservation measures installed follow a computerized methodology to determine cost effectiveness, geographic distribution, proper documentation in client files, client satisfaction and other information deemed necessary by the reviewer.
- d. **Subgrantee Post-Installation Inspection** - Each weatherized unit **must** be inspected by the subgrantee to ensure that the work is in compliance with required specifications before the unit is reported to OHCS as completed. A complete inspection, legibly signed by the subgrantee's inspector shall be placed in each job file. In addition, subgrantee shall provide homeowner with a legibly signed copy of the inspection form that includes a statement that the completed work is guaranteed for one year.
- e. **Subgrantee Review** - If deficiencies in agency program operations indicate non-compliance with OHCS CRD Work Plans, Master Grant and/or federal rules and regulations, OHCS will respond by working with the subgrantee to correct deficiencies.
- f. **Provide Training and Technical Assistance** - T&TA activities are intended to maintain or increase the efficiency, quality, and effectiveness of the Weatherization Assistance Program at all levels. Such activities should be designed to maximize energy savings, minimize production cost, improve program management, and/or reduce the potential for waste, fraud and abuse.

1.06 Training and Technical Assistance

Training and Technical Assistance (T&TA) funds are allocated to support all levels of staff working within the weatherization program; this includes field/technical staff as well as staff responsible for supporting and/or managing the program. Training for field staff should be tied into an overall certification program (Residential Energy Analyst (REA) Program, Building Performance Institute (BPI) certification program or Home Energy Professional (HEP) certifications, which is designed to bring the skill and competence level of all weatherization subgrantee staff and contractors to a uniform standard.

The T&TA Plan identifies the type of training that is required and which certifications are required to perform work for the WAP program in each of the following four job categories:

- Auditor
- Inspector
- Crew Leader
- Field Installer

A detailed Training & Technical Assistance (T&TA) Plan has been developed by OHCS. See appendix C.

A detailed budget has been developed as part of the T&TA Plan.

1.06.1 Allocation of T&TA Funds

OHCS will allocate T&TA funds to subgrantees to meet their training and technical assistance needs. Subgrantees need not notify OHCS when they spend T&TA “Training” funds as long as they are spent on the following:

- a. Registration costs for conferences, meetings, workshops and other related energy functions.
- b. Travel, lodging, meals and parking to attend activities identified in a. above.
- c. Salary and fringe costs for direct agency staff while attending approved training functions.
- d. The purchase of specialized equipment or tools. No equipment or tools used in normal day-to-day weatherization activities are to be purchased with T&TA funds. Such items should be purchased with “DOE Program” or other funds.
- e. Subscriptions to magazines, newsletters and memberships.
- f. Other energy related functions, activities or events not mentioned in **1.06.1 a. - d.** above.

1.06.2 Availability of T&TA funds

OHCS will determine the amount of T&TA funds to allocate to subgrantees based on availability of funding from DOE and the cost of planned trainings such as Energy Outwest and REA Program or BPI certification programs. OHCS will hold back (not allocate all available T&TA funds) and use T&TA funds to pay for subgrantees to attend trainings, conferences and workshops as prescribed within the T&TA Plan.

1.06.3 Technical Assistance

OHCS staff will provide technical assistance on DOE related matters to all weatherization programs. Technical assistance shall include but not be limited to the following:

- a.** Provide guidance in use of regulations.
- b.** Advise and assist in use of a computerized audit tool for determining the cost effectiveness of weatherization measures.
- c.** Provide information obtained from local programs on innovative and successful program methods that are readily adaptable to other projects.
- d.** Provide monitoring of local projects to assure improvement in quality and services.
- e.** Identify specific problem solving techniques in areas of labor, transportation, administration, management and financial control.
- f.** Provide information on new materials, procedures and processes for weatherization work.
- g.** Coordinate efforts among federal, state, local and private agencies to assure continued improvements in the effectiveness of weatherization projects.
- h.** OHCS shall address deficiencies that are identified by program review, audit, reports, regional or national reviewer or other sources.

1.06.4 Contract Training

OHCS may contract with the Oregon Training Institute (OTI) or other approved training organizations for some of the required weatherization certification trainings.

1.06.5 Travel

All travel will be consistent with the State T&TA Plan. DOE considers attendance by State staff at National and regional conferences, as well as participation on related planning committees, task forces and other scheduled and related meetings as high priorities. DOE is aware that many states have placed travel restrictions due to budgetary constraints. It should be noted that funds to pay for state and local travel are provided as part of the Weatherization grant, and proper usage of these funds will be closely monitored by DOE to ensure compliance with state travel indicated in states' annual plans.

1.07 Leveraging Activities

1.07.1 Other Funds

OHCS administers "Other Funds" for low income weatherization. These "Other Funds" include Low Income Home Energy Assistance Program (LIHEAP), Bonneville Power Administration Low Income Weatherization Program (BPA), the occasional Petroleum Violation Escrow Program (PVE) funds and the Energy Conservation Helping Oregonians (ECHO) program and any funds designated for low income weatherization awarded to the state as a result of legal settlements. Subgrantees also have access to funds from utility rebates and the State Home Oil Weatherization Program (SHOW). Utility rebates and SHOW funds are not administered by OHCS.

1.07.2 DOE Funds as Leverage

Historically, DOE funds have not been used to create leverage opportunities. However, subgrantees are encouraged to use all available funding (including DOE) to perform energy audits and related activities on homes that will be weatherized under ECHO, NW Natural Low Income Energy Efficiency program (OLIEE), Cascade Natural Gas Oregon Low-Income Energy Conservation Program (OLIEC), BPA, SHOW, REACH and the AVISTA program. DOE funds used in any part of a completed weatherization project (single family, multifamily and shelters) are considered a DOE completion, regardless of the amount of DOE funds actually spent.

Utilization of DOE funding in every unit completion is encouraged, but not required.

1.08 Policy Advisory Council

1.08.1 Make up and Meetings

Members of the Advisory Committee on Energy (ACE) are appointed by the Director of Oregon Housing and Community Services. Members are drawn broadly from organizations and agencies that represent low income persons, utilities, government agencies, and trade industries. Meetings have been held at a minimum of once a quarter.

1.08.2 ACE Membership List

ACE MEMBERSHIP LIST 2015-2016	
As of April 1, 2015	
Jess Kincaid Oregon Department of Energy 625 Marion St. NE Salem, OR 97301 Phone: 503-378-4032 Email: jess.kincaid@state.or.us Jess Kincaid	Jacque Meier (Chair) Clackamas County Weatherization 146 Molalla Ave Oregon City, OR 97045 Phone: 503-650-3339 Fax: 503-650-3336 E-mail: jacquem@co.clackamas.or.us
Margo Bryant Portland General Electric 121 SW Salmon Street Portland, OR 97204 Phone: 503-464-7616 Fax: 503-464-2929 E-mail: margo.bryant@pgn.com	Marisa DeCristoforo (Secretary) PacifiCorp 825 NE Multnomah Street, Suite 300 Portland, OR 97322 Phone: 503-813-5154 Fax: 503-813-5231 E-mail: marisa.decrisoforo@pacificorp.com

ACE MEMBERSHIP LIST 2015-2016 As of April 1, 2015 (continue)	
<p>Jeff Bissonnette (Legislative Chair) Citizens' Utility Board of Oregon 610 SW Broadway, Suite 400 Portland, OR 97205 Phone: 503-227-1984 Fax: E-mail: Jeff@oregoncub.org</p>	<p>Terry Knoll Community Services Consortium 545 SW Second, Suite A Corvallis, OR 97333 Phone: 541-758-2607 Fax: 541-752-2348 E-mail: tknoll@csc.gen.or.us</p>
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ACE Committee Membership

Executive: Jacque Meier, Jim Abrahamson, Marisa DeCristoforo, Jeff Bissonnette

Evaluation: Jim Abrahamson, Margo Bryant, Jacque Meier

Energy Programs: Jim Abrahamson, Jacque Meier, and Margo Bryant

Legislative: Jeff Bissonnette

Note: The above list reflects only ACE members. Others may serve on these committees if requested.

1.09 Public Hearing

Oregon Housing and Community Services (OHCS) the Public Hearing on Monday, April 20, 2016 at OHCS Room 124 B from 8:30 AM to 10:30 AM located at: North Mall Office Building, 725 Summer Street NE, Salem OR 97301. Contact John Rutledge at (503) 986-6706.

2.0 PART II – MASTER FILE

2.01 Eligible Population

2.01.1 Households at or under 60% State Median Income

In determining the level of eligibility, the State shall use the LIHEAP criteria for those households that are at or under 60 percent of state median income. These criteria shall be applied throughout an agency's entire service territory. Persons who have applied for and have been found eligible for the Low Income Home Energy Assistance Program Act of 1981 (LIHEAP) will be eligible for DOE-WAP. The state of Oregon will use the current statewide LIHEAP manual established for LIHEAP, as established by the U.S. Office of Management and Budget in determining eligibility for households that meet LIHEAP criteria.

Eligibility under LIHEAP or DOE-WAP is valid for a period of twelve months. Applicants whose most recent LIHEAP or DOE application is older than twelve months or who have not applied can qualify using the following criteria.

Those households are eligible whose incomes are at or below the current criteria, which is 60% of state median income.

Income is defined by the Department of Health and Human Services as a household's countable cash receipts, before taxes. To be eligible for assistance, a household's gross income must be in accordance with the LIHEAP Income Guidelines provided by OHCS each program year.

Eligibility for LIHEAP/DOE WAP is based on the following:

- All household income before any deductions (gross income).
- Number of household members.

Households must provide documentation of their gross income for the eligibility period determined by their local agency (in compliance with the timelines expressed the LIHEAP manual). State-approved, agency-developed Declaration of Household Income Forms (DHI) must be used for the households or household members claiming zero income (local agencies may require that applicants and/or households claiming zero income to submit additional information).

2.01.1a What is Income

Please refer to the current Oregon LIHEAP manual for definition of income for those households at or below 60% SMI

<http://www.oregon.gov/ohcs/CRD/SOS/docs/2015-Energy-Assistance-Intake-Operations-Manual.pdf>

2.01.1b What Is Not Considered Income

Please refer to the current Oregon LIHEAP manual for the definition of what is not considered income for those households at or below 60% SMI.

<http://www.oregon.gov/ohcs/CRD/SOS/docs/2015-Energy-Assistance-Intake-Operations-Manual.pdf>

60% of State Median Income by Household Size
For Use in Federal Fiscal Year 2014
Estimated State Median by Household Size-Source HHS

Household Unit Size	Annual Income	Monthly Income
1	\$21,706.88,	\$1,808.91
2	\$28,385.92	\$2,365.49
3	\$35,064.96	\$2,922.08
4	\$41,744.00	\$3,478.67
5	\$48,423.04	\$4,035.25
6	\$55,102.08	\$4,591.84
7	\$56,354.40	\$4,696.20
8	\$57,606.72	\$4,800.56
9	\$58,859.04	\$4,904.92
10	\$60,111.36	\$5,009.28
11	\$61,363.68	\$5,113.64
12	\$62,616.00	\$5,218.00
Each Additional Member	\$1,277.00	\$106.42

2.01.2 Households between 61% State Median Income and 200% Federal Poverty Level (FPL)

In determining eligibility for those households that are over 60% SMI but at or below 200% of FPL, the State shall use the DOE-WAP criteria as outlined in this section. These criteria shall be applied throughout an agency's entire service territory.

Eligibility under DOE-WAP is valid for a period of twelve months. Applicants whose most recent DOE application is older than twelve months or who have not applied can qualify using the following criteria.

Those households are eligible whose incomes are at or below the current criteria, or 200% FPL

Income as defined by the United States Department of Energy means Cash Receipts earned and/or received by the applicant before taxes during applicable tax year(s) **but not** the Income Exclusions listed below in this Section. Gross Income is to be used, not Net Income. Eligibility for DOE-WAP is based on the following:

- All household income before any deductions (gross income).
- Number of household members.

Households must provide documentation of their gross income for the eligibility period determined by their local agency not to exceed 12 months. After all other avenues of documenting income eligibility are exhausted a state-approved, agency-developed Declaration of Household Income Forms (DHI) must be used for the households or household members claiming zero income (local agencies may require that applicants and/or households claiming zero income to submit additional information). However, evidence of the various attempts at proving eligibility must be contained in the client file, **including** a notarized statement signed by the potential applicant indicating that he has no other proof of income.

2.01.2a What is Income

CASH RECEIPTS: *Cash Receipts include the following:*

1. Money, wages and salaries before any deductions;
2. Net receipts from non-farm or farm self-employment (receipts from a person's own business or from an owned or rented farm after deductions for business or farm expenses);
3. Regular payments from social security, railroad retirement, unemployment compensation, strike benefits from union funds, worker's compensation, veteran's payments, training stipends, alimony, and military family allotments;
4. Private pensions, government employee pensions (including military retirement pay), and regular insurance or annuity payments;
5. Dividends and/or interest;
6. Net rental income and net royalties;
7. Periodic receipts from estates or trusts; and
8. Net gambling or lottery winnings.

2.01.2b What Is Not Considered Income

INCOME EXCLUSIONS: *The following Cash Receipts are not considered sources of Income for the purposes of determining applicant eligibility:*

1. Capital gains;
2. Any assets drawn down as withdrawals from a bank;
3. Money received from the sale of a property, house, or car;
4. One-time payments from a welfare agency to a family or person who is in temporary financial difficulty;
5. Tax refunds;
6. Gifts, loans, or lump-sum inheritances;
7. College scholarships;
8. One-time insurance payments, or compensation for injury;
9. Non-cash benefits, such as the employer-paid or union-paid portion of health insurance;
10. Employee fringe benefits, food or housing received in lieu of wages;

11. The value of food and fuel produced and consumed on farms;
12. The imputed value of rent from owner-occupied non-farm or farm housing;
13. Depreciation for farm or business assets;
14. Federal non-cash benefit programs such as Medicare, Medicaid, Food Stamps, school lunches, and housing assistance;
15. Combat zone pay to the military
16. Child support
17. Reverse mortgages
18. Payments for care of Foster Children

**200% of Federal Poverty Level by Household Size
For Use in Federal Fiscal Year 2014
Poverty Income Guidelines by Family Size-Source USDOE**

Household Unit Size	Annual Income	Monthly Income
1	\$23,340	\$1950.00
2	\$31,460	\$2,621.67
3	\$39,580	\$3,298.33
4	\$47,700	\$3,975.00
5	\$55,820	\$4,651.67
6	\$63,940	\$5,328.33
7	\$72,060	\$6,005.00
8	\$80,180	\$6,681.67
9	\$88,300	\$7,358.33
10	\$96,420	\$8,035.00
11	\$104,540	\$8,711.67
12	\$112,660	\$9,388.33
Each Additional Member	\$8,120	\$676.67

2.01.3 Time Period for Income Verification

The period for determining income eligibility will be based on the same standards, protocols, and guidelines for LIHEAP. Verification of income **must** be recertified when the eligibility determination exceeds 12 months. In multi-family buildings agencies must make every effort to obtain an application for each household. If it is not possible to obtain applications for all households, then documentation must be included in the file as to why the application(s) could not be obtained. A minimum of 66% of the households in the multi-family building must meet income guidelines in order to qualify for assistance unless the requirements of section 2.19.2 are met. Both renters and homeowners will be eligible, and those households in similar circumstances will receive similar benefits. Applications older than one (1) year **must** have the household income

verified again. **Subgrantees are not required to re-verify income eligibility once the project is started. The project start is defined as the date the energy audit is completed.** Subgrantees are strongly encouraged to coordinate with the local Low Income Home Energy Assistance Program provider to obtain eligible LIHEAP/DOE applicants who have requested weatherization.

2.01.4 Priorities

An actual waiting list to determine who is next to receive weatherization services must be developed with priority given to: elderly persons (60 years of age and older), persons with disabilities, and families with children six (6) years of age and under. Priority can also be given to high residential energy users (i.e. energy usage is above average as a result of household composition or unusual needs for energy), and households with a high energy burden (i.e. when 11.6 percent or more of the household income is going towards energy).

The priority criteria used for determining applicant priority **must** be in writing and on file with the subgrantee. The criteria must be used consistently for all applicants unless the subgrantee is involved in an OHCS sanctioned special project. Subgrantees must notify OHCS of changes and additions to their priority criteria.

Subgrantees shall ensure that weatherization services are being provided to low-income persons that live in all types of housing (i.e. single family, rentals, manufactured housing units, and multi-family buildings). Housing type is not a recognized priority.

2.01.5 Nondiscrimination

No person shall on the grounds of race, color, national origin, or sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or part with DOE funds. Any prohibition against discrimination on the basis of age under the Age Discrimination Act of 1975, or with respect to an otherwise qualified disabled individual as provided in section 504 of the Rehabilitation Act of 1973, also shall apply to this weatherization program.

2.01.6 Temporary Disqualification of certain newly legalized aliens from receipt of weatherization benefits

Sections 245A and 210A of the Immigration and Nationality Act (INA), as amended, made certain aliens, legalized under the Immigration and Control Act (ICA) of 1986, temporarily ineligible for Weatherization assistance. The provisions of this law have expired. The only potential implications affecting weatherization services are those individual cases that were open while this law was in effect.

The Welfare Reform Act, officially referred to as the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA), H.R. 3734, placed specific restrictions on the

eligibility of aliens for "Federal Means-Tested Public Benefits" for a period of five (5) years. As defined in a Federal Register notice dated August 26, 1997 (62 FR 45256) the U.S. Department of Health and Human Services (HHS) is interpreting "Federal Means-Tested Public Benefits" to include only those benefits provided under Federal Means-Tested, mandatory spending programs.

HHS Information Memorandum LIHEAP-IM-25 dated August 28, 1997, states that all qualified aliens, regardless of when they entered the United States, continue to be eligible to receive assistance and services under the Low Income Home Energy Assistance Program (LIHEAP) if they meet other program requirements. To eliminate any possible contradiction of eligibility for weatherization services at the state and local levels for qualified aliens, the definition adopted by HHS will also apply to the U.S. DOE Weatherization Assistance Program.

HHS issued Information Memorandum LIHEAP-IM-98-25 dated August 6, 1998, outlining procedures for LIHEAP and weatherization grantees serving non-qualified aliens to implement new status verification requirements. This memorandum is based on a proposed rule issued by the U.S. Department of Justice (DOJ) on August 4, 1998. The Welfare Reform Act is a complex issue, and there is some confusion on the specific application of this part of the Act. To insure program continuity between LIHEAP & Weatherization for the many subgrantees operating both programs, the U.S. DOE Weatherization Assistance Program will follow the interpretation as adopted by HHS.

The primary area of confusion resides in the types of local agencies that are exempt/non-exempt from "status verification requirements." Local agencies that are both charitable and non-profit, which comprise about three-quarters of the local agency network, would be exempt. **However, those agencies which are designated as local government agencies operating the Weatherization Program would not be exempt; therefore, must conduct "status verification." Under the DOJ ruling, grantees subject to this ruling have two (2) years to fully implement this procedure after the publication date of the final rule. As of this date the final rule has not yet been issued.**

Also addressed in the LIHEAP-IM-98-25, is the issue of unqualified aliens residing in multi-family buildings. Since many LIHEAP grantees also use the DOE rules to implement their programs, HHS has adopted the 66 percent provision of the DOE regulations to address this issue. Under DOE rules, a multi-family building may be weatherized if 2/3 of the units are eligible for assistance (2 units in the case of a 2 or 4 unit building). HHS has modified the provision concerning citizenship verification in multi-family buildings. LIHEAP-IM-99-10 issued June 15, 1999, retracts any requirement that Weatherization Program providers **must** do any type of certification of citizenship in multi-family buildings.

2.02 Climatic Conditions

The State of Oregon is comprised of two (2) basic climatic regions. Western Oregon (west of the Cascade Mountains) experiences a wetter climate, and has an average of approximately 4,500 heating degree-days. Eastern Oregon (east of the Cascade Mountains) experiences a drier, colder climate and averages close to 6,000 heating degree-days.

2.03 Weatherization Work

Activities included in the weatherization of qualified homes will include measures allowed in the Oregon Single family and multi-family audit protocols and health and safety inspections. These activities will be guided by a DOE approved computerized audit and in accordance with the provisions of the Oregon Housing and Community Services Department's Site Built & Mobile/Manufactured Homes Weatherization Specifications, or amendments to it. The actual installation of weatherization materials is specified in the above referenced documents.

Oregon has added LED lighting upgrades as an approved baseload measure. LED lighting upgrades must be determined cost effective using the USDOE approved audit tool using a measure life of 12 years based on a daily use of 3 hours. Any LED lighting installed must be Energy Star rated.

Housing units that were weatherized prior to September 30, 1994 may be "re-weatherized" using DOE funds. No unit weatherized after September 30, 1994 can be re-weatherized using DOE funds at this time. **DOE funds may not be used for call-backs or missed opportunities. Once a DOE funded project is reported as complete, only funds other than DOE funding can be utilized for this type of activity.**

2.03.1 Prior to Audit

Prior to an audit of a prospective dwelling, the subgrantee **must** have a completed application and all necessary paper work, including proof of income eligibility, owner's name and address/contact information as well as utility supplier(s).

2.03.2 Permission to Proceed

Prior to any work being done on a dwelling (including baseload measures), and prior to a subcontractor visiting the dwelling for purposes of evaluating job costs, the subgrantee **must** have a signed statement from the owner or their agent that permission has been granted to perform weatherization and baseload measures on and at the dwelling. At a minimum, the statement **must** include:

1. A list of possible measures that may be installed.
2. If walls are to be blown with insulation, it must indicate the owner or their agent has seen pictures of what a wall blown with insulation includes, and how the dwelling will look when completed.
3. If windows are replaced or repaired it must indicate that the owner or their agent is aware the measure will not include the cosmetic treatment of the window trim.
4. If a refrigerator(s) is to be installed, the statement **must** clearly indicate who owns the refrigerator. A copy of this statement with owner's (**and** owner's agent) signature,

printed/typed name of each signatory, and date signed, **must** be clearly visible in the job file. A second copy of the signed refrigerator owner statement **must** be given to the tenant; and the original signed statement **must** be given to the owner (or owner's agent).

Neither stand-alone freezers nor through the door ice/water dispensers are allowed when utilizing DOE funding.

*Note: Subgrantees **must** have an OHCS approved refrigerator replacement plan prior to replacing refrigerators.*

2.04 Energy Audit Procedure

OHCS has two audit protocols approved for use by USDOE. They include an audit protocol for both large multi-family (≥ 25 units) and single family, mobile home and small multi-family (5-25 units). These protocols outline the process required to be followed when completing a WAP project.

Two energy modeling software platforms have been approved by DOE for use in the OR WAP program. REM/Design™ (Architectural Energy Corporation) is approved for single family homes, manufactured homes and small multifamily dwellings, and TREAT (PSD Consulting) is approved for use in large multifamily dwellings. The energy audit software policy is provided below.

TREAT Dwelling Criteria

As defined in the policy, a TREAT audit is to be used for the following building types:

- Multi-Family residential buildings 4 stories and above.
- Multi-Family residential buildings 3 stories or fewer with shared HVAC Systems.
- Multi-family residential buildings containing 5 or more units with shared HVAC systems.
- Multi-Family residential buildings containing 26 or more units.
- Multi-Family residential buildings not meeting the REM/Design™ criteria listed below.

For residential buildings meeting the above criteria, a “whole-building” energy audit and TREAT software based energy simulation must be conducted to determine the feasibility and cost effectiveness of all available measures. Only those subgrantees determined by OHCS to have an adequate number of projects meeting the TREAT dwelling criteria are required to have staff trained in the use of the TREAT software. OHCS staff can assist in the modeling of the occasional project that meets the TREAT dwelling criteria for those agencies not required to have staff trained in the use of the software.

REM/Design™ Dwelling Criteria

As defined in the policy, REM/Design™ audit is to be used for the following building types:

- Single-family dwellings up to 4-plexes,
- Manufactured homes, and
- Low-rise multifamily buildings:
 - Containing five to 25 dwelling units,
 - Having 3 stories or fewer,
 - Individually metered,

- Where the unit is heated and cooled independently.

The REM/Design™ energy audit process requires a physical inspection of the home, specific diagnostic tests, and proper data input into the software program. An energy profile of the existing home is compared to a set of improvements recommended for installation. Each individual measure is then evaluated using actual costs. A report is then generated with the cost-effectiveness of each measure listed by Savings to Investment Ratio (SIR)

Subgrantees are required to have two (2) staff members certified in the use of the REM/Design™ software. Subgrantees may request a waiver to the staff certification requirements if all three of the following apply:

- a. Subgrantee has limited staff.
- b. Subgrantee has limited funds (less than \$80,000 in DOE funding per grant year).
- c. Subgrantee has fewer than 50 DOE weatherization completions per year.

This waiver will be good for the biennium contract time it was authorized within.

REM/Design™ certifications will be valid for a period of 5 years.

Continuing Education Units: All REM/design™ Operators are required to complete 4 hours of training in the use of REM/Design™ during each calendar year.

2.04.1 Use of the Computerized Audit Tool

Subgrantees **are required** to only provide weatherization measures that have been identified as “**cost effective**” (a SIR of 1.0 or greater) by a DOE approved computerized audit, or other computerized audit approved by DOE and adopted by OHCS. Actual costs must be used to determine cost effectiveness of individual measures, At this time, REM/Design™ and TREAT are the approved audit tools. No other method of establishing cost effectiveness/SIRs can be used by a subgrantee other than those approved by DOE and adopted by OHCS.

2.04.2 Coordinator Override

Coordinator Override is not allowed under the DOE state plan. If a measure is deemed not cost effective through the use of a computerized audit, it must be omitted or the non-cost effective portion “bought down” or paid for completely utilizing appropriate funding sources. All measure buy down activity must be documented in OPUS and on a funding summary report included in the file.

2.04.3 Prioritization of Work

Work will be prioritized and completed in descending order with measures receiving the highest cost effectiveness (SIR) to lowest cost effectiveness. The average unit cost for overall program expenditure is limited to **\$7,105** as established by DOE.

2.04.4 Audit Tool Training

OHCS currently requires training on TREAT (for agencies designated by OHCS) and REM/Design™. Training is available for any subgrantee that is having difficulties using the approved computerized audit tool. Agencies should contact OHCS for assistance.

2.05 Final Inspection

All dwelling units (100 percent of jobs weatherized or where baseload measures were installed) that are being reported as completed for the purpose of obtaining DOE funds, **must** have in the job file a Oregon Weatherization Assistance Program Quality Control Inspection form completely filled out and legibly signed by an inspector certified in the HEP Quality Control Inspector designation (staff person other than those that performed the installation). The inspection form **must** indicate that all measures designated to be installed, including mechanical work, were installed in compliance with the Standard Work Specifications and the Oregon Site Built and Manufactured Home Field Guide and Standards. *If a designated measure is not installed, then a written explanation shall be included in the file and noted on the inspection form.*

For OHCS Quality Control Inspector Policy, see Appendix E.

A DOE Weatherized unit is: A dwelling unit on which a DOE-approved energy audit has been applied. As funds allow, the DOE measures installed on this unit have an SIR of 1.0 or greater, but also may include any necessary incidental and health and safety repairs. The use of DOE funds on this unit may include, but are not limited to: auditing; testing; measure installation; inspection; use of DOE equipment; vehicles; or DOE provided training and/or administration. Therefore, a dwelling unit that meets both the definition of a DOE weatherized unit, and has DOE funds used directly, must be counted as a DOE completed unit.

Furthermore, a Final Inspection Certification form legibly signed by a designated subgrantee staff person and all warranties and user manuals for installed equipment shall remain with the occupant. This completion form **must** indicate:

- a. All of the measures were installed in a workmanlike manner and according to specifications.
- b. The measures installed should under reasonable conditions save energy and make the dwelling more comfortable for the inhabitants.
- c. All of the weatherization measures installed are guaranteed for material and workmanship defect for a period of one year (365 days) from the date signed.
- d. The contact information for the contractors who completed work on the project.

2.05.1 Self Declaration

Subgrantees may use an OHCS approved form (such as a post card mailed by owner) for declaration of receipt and installation of refrigerator. If subgrantee does not receive the self-declaration form within two weeks of delivery, subgrantee **must** explore other ways of verifying inspection. A measure is not considered completed until it has passed final inspection (1 CFR, Part 440, 16 (g)).

2.05.2 Funding Summary Report

All weatherization projects are required to include a funding summary report in the file. The funding summary report **must**, at minimum, include:

- Actual costs of each measure completed
- Funding source(s) utilized for each measure
- If a non-cost effective measure is “bought down” using appropriate funding, the amount of the “buy down” must be indicated, funding source identified and explained on the funding summary report.
- If a non-cost effective measure is completed and paid for completely using appropriate funding, the funding must be identified and explained on the funding summary report.
- Health & Safety (H&S) repair costs: Indicate which funding source(s) were utilized and an explanation of what the H&S repairs included
- Incidental repairs costs, funding source(s) utilized and an explanation of what the incidental repairs included.
- Total of each individual funding source as well a combined total of all funding sources.

2.06 Analysis of Effectiveness

In order to calculate the most accurate energy savings, subgrantees are required, when possible, to obtain twelve months prior energy usage of metered energy sources for each dwelling to be weatherized.

REM/Design™: If 12 months usage is not available, and missing usage can be estimated reasonably, it is allowable to estimate the missing billing periods. Documentation of thought processes to estimate usage must be included in the file. The REM/Design™ model must be tried according to the OHCS Memo Wx-2011-10-A.

TREAT: For projects that fall under the use requirements of the TREAT software, obtaining 12 months usage is required to ensure accuracy of the model. If 12 months usage is not available, the TREAT software can be used to generate the missing usage data. In the event that the building is served by more than one meter, the bills for those meters shall be aggregated against the building calculated consumption as a whole. The TREAT model must be trued to actual usage in baseload, heating and heating slope categories to within 10% of actual using the TREAT truing utility.

2.07 Health and Safety Plan

DOE requires that all grantees develop a Health & Safety Plan (H&SP). OHCS will work with ACE and OECA to consistently review and maintain the Oregon Health & Safety Plan as an updated, useful and meaningful tool for all subgrantees and contractors.

The primary goal of the DOE Weatherization Assistance Program is energy efficiency. DOE is concerned that the achievement of this goal endures even with the program changes which allow DOE funds to be used for health and safety risk mitigation. ***The final rule has eliminated the requirement that the cost of all energy-related health and safety risk mitigation be within the per home expenditure average. Agencies are still required to identify health and safety procedures and the percentage of costs involved per DOE.*** This change will allow local agencies greater flexibility and incentive to incorporate new technologies and their costs into their programs by removing health and safety costs from the per-house limitation, if they are budgeted separately. In providing this flexibility, OHCS will continue to encourage agencies to be prudent in their oversight of the percentage of funds approved for health and safety mitigation on homes weatherized by their local agencies

The final rule does not mandate a separate health and safety budget cost category, but rather allows the state to budget health and safety costs as a separate category and, thereby, exclude such costs from the average cost calculation. The related health and safety costs will be included in the calculation of the average cost per home and cost-justified through the audit.

2.07.1 Mold and Mildew

See Exhibit 6

2.07.2 Certification for Mold & Mildew Safe Work Practices

OHCS in conjunction with ACE and OECA, has developed and instituted a training program. The training program for weatherization workers included:

- a. How to identify molds and mildew.
- b. How to understand and eliminate the conditions responsible for the growth of mold and mildew.
- c. How to protect occupants and workers from the harmful effects of mold and mildew.

2.08 Health and Safety – Incidental Repairs

This is an issue that concerns everyone involved in the delivery of weatherization services. As our understanding of the systems within a house expands, attention **must** be given to health and safety of the occupants and workers. All subgrantees have the equipment and skill to identify the major energy related health and safety/ incidental repair problems found in dwellings. To support subgrantees in the identification and reduction of health and safety repair problems, a maximum of 15 percent of the Average Cost Per Home (ACPH) may be used to mitigate problems identified (ACPH = \$7,105 x .15 = \$1,065). Funds dedicated for health and safety repairs **cannot** exceed 15 percent of a subgrantees allocated program dollars.

A health and safety repair is defined as those actions necessary to maintain the physical well-being of both the occupants and/or weatherization workers where:

- Costs are reasonable and do not exceed 15% of the subgrantees total allocated program dollars ; **AND**
- The actions must be taken to effectively perform weatherization work; **OR**
- The actions are necessary as a result of weatherization work.

Health and safety repairs **do have to be included in the overall job cost. But do not have to be included in SIR calculations.**

An incidental repair is a repair necessary for the effective performance or preservation of weatherization materials. **Incidental repair costs must be included in the job cost and SIR calculations.**

For additional information on Health and Safety see Appendix D.

2.08.1 Reporting

Subgrantees **must** report all expenditures related to Health & Safety into OPUS database within 15 days of the end of a quarter.

2.09 Rental Procedures

The following guidelines are to be followed when rental units are to be weatherized. Specifically these regulations say when a subgrantee weatherizes rental dwellings:

- a. No rental dwelling unit shall be weatherized without first obtaining the written permission of the owner or the owners authorized agent.

- b. The subgrantee shall establish procedures to be approved by OHCS to issue that:
 - b1. The benefits of weatherization assistance shall accrue primarily to the low income tenants;
 - b2. Rents shall not be raised because of the increased value of the dwelling unit(s) due solely to weatherization assistance provided under this part;
 - b3. No undue or excessive enhancement shall occur to the value of the dwelling unit(s).
 - b4. The residence is not currently for sale by owner of property, nor is it designated for acquisition or clearance (foreclosure) by federal, state or local programs.
- c. Weatherization services will not be provided to eligible clients who pay their energy cost as part of their rent unless;
 - c1. Landlord agrees to make reductions in rent to reflect in some equitable way the reductions achieved in fuel cost due to weatherization;
 - c2. There are health or safety reasons, which justify weatherization.

2.10 Lien on Property

As stated in 10 CFR Part 440.22 (c) : “In order to secure the Federal investment made under this part and address the issues of eviction from and sale of property receiving weatherization materials, States may seek landlord agreement to placement of a lien or to other contractual restrictions.”

At the current time, OHCS encourages but does not require any subgrantee to include lien or contractual restrictions on property owners.

2.11 Documentation

All documentation shall remain the property of OHCS. In the event of program closure, such files shall revert to OHCS.

2.12 Program Management

Under the Energy Conservation in Existing Building Act of 1976, funds are available for weatherization assistance for low income persons. As outlined in 10 CFR 440, the Governor of each state shall designate a grantee at the state level to receive and administer these funds within the state.

2.12.1 Overview

Based on experience in granting funds to local agencies for operating programs designed to assist low income persons, the Governor of Oregon has designated the Oregon Housing and Community Services Department (OHCS) as the agency that shall have responsibility to apply for, receive, and administer U.S. Department of Energy - Weatherization Assistance Program funds.

2.12.2 Service Delivery System

OHCS intends to utilize the existing network of service provider agencies including: Community Action Agencies (CAAs); Community Based Organizations (CBOs); Area Agencies on Aging (AAAs); and Special Population Organizations (SPOs). For the purpose of this plan, there will not be a distinction as to type of agency, but rather all agencies shall be identified as “Subgrantees.”

2.12.3 Designated Subgrantee

OHCS will fund only one subgrantee within any geographical area. An exception to this rule is “Special Population Organizations,” in which case, if any two subgrantees operate within a common geographical area, a “Memorandum of Understanding” will first be negotiated to insure full access to the program for all persons within the geographical area and to prevent duplication of services.

2.12.4 Contract with Subgrantees

Subgrantees identified for weatherization funds shall prepare a work plan as part of their Community Resources Division (CRD) planning process. OHCS shall review and approve all work plans. Funding to subgrantees shall be formula based and subgrantee status shall be protected except for the following reasons:

- a. Funding from U.S. DOE ceases or is rescinded.
- b. A subgrantee elects to close out their grant and return funds or does not request new funds.
- c. Subgrantee is determined to be consistently below program standards by public hearing process.
- d. Subgrantee does not comply with the terms of negotiated contract or CRD Work Plan.

2.12.5 Administrative Expenditure Limits

U.S. DOE Weatherization Assistance Program Final Rule 10 CFR Part 440.18 (d) clearly defines the amount of allowable administration funds as up to 10 percent, where subgrantees receive less than \$350,000. There is a statutory limit of 10 percent on funds that may be used for administrative purposes. Not more than 5 percent of new funds may be used by the state for administrative purposes, with the remainder to go to subgrantees. Subgrantees receiving more the \$350,000 will receive no more than 5 percent for administration. An exception to exceed the 10

percent total administrative requirement may apply to subgrantees funded at **less than \$350,000 of new DOE funds if the state provides its administration**. Subgrantees that fall below the above threshold are allotted the full 10 percent administration funding level under DOE rule. However, OHCS is limited to 5 percent administration for their part in the DOE WAP.

2.12.6 Special Populations

Allocation of weatherization funds to subgrantees will correspond to the following formula:

- a. OHCS will calculate from the total grant received an amount equal to 10 percent, which will be allocated to subgrantees, based on the percent of farm worker population measured in the state as a whole. OHCS will utilize the best information available from all sources, including but not limited to, the State Employment Division using peak season population figures and U.S. Census data.
- b. OHCS will calculate from the total grant received an amount equal to 3 percent which will be used in one of the following ways:
 - b1. Option 1: New DOE funds set aside for Native Americans are being proposed to be used in total for weatherization projects directed at Native Americans. These funds will be awarded each year on July 1st, to any weatherization subgrantee that proposes a Native American weatherization project in cooperation with one or more of the nine Tribes of Oregon. Weatherization subgrantees are encouraged to work with Tribes to coordinate these projects. Projects will be evaluated based on their overall merit by a review committee of OHCS, OECA, Community Action Partnership of Oregon (CAPO), and ACE. Number of units, type of measures, energy savings and leverage will be considered. The review committee may recommend that all or part of the available set-aside funds be awarded. All proposals **must** be submitted no later than March 1st of each year.
 - b2. Option 2: If no proposals are received by July 1st of each year, all remaining Native American funds will be allocated in the traditional fashion to the six (6) subgrantees with Tribal Reservation lands within their service areas.
 - b3. Klamath Tribes and Siletz are not affected by Options 1 or 2, but are eligible to propose weatherization projects under Option 1.
- c. OHCS reserves the right to provide direct funding to Native American Tribes. A list of Tribes currently receiving funding through their local community agency is located in Appendix G.

2.12.7 Funding Formula

Funds remaining, after Administration, T&TA, Farm Worker and Native American allocations have been removed from the grant will be allocated to subgrantees using the following formula:

- a. Households below the poverty level as established by the Federal Office of Management and Budget and the most current U.S. Census will account for 85 percent of the funds allocated to subgrantees.
- b. Heating degree-days squared, (averaged for subgrantees with multi-county service areas) will account for 15 percent of funds allocated.

2.12.8 Floor Funding

A weatherization funding floor of \$100,000 has been established to assist subgrantees. When the allocation based on factors in section 2.12.7(a) and (b) does not provide \$100,000 to a subgrantee (based on a combination of weatherization funding from the U.S. DOE, HHS, BPA, public purposes, PVE, or legal settlements), then floor funding kicks in. Floor funding is only available to subgrantees if OHCS has access to funds in excess of the grant allocation formula.

- a. **Initial Funding/Start-Up Funds** – OHCS, as a part of the CRD grant process, shall negotiate with all subgrantees a contract to transfer to the subgrantees an amount not to exceed 10 percent of the subgrantees allocation. These funds shall be available within the first 15 days after the approval of the agreement for delegation of funds.
- b. **Expenditure Reports** – Subgrantees shall enter completions and expenditures into the OPUS database within 15 days of the end of a quarter. Completions entered and expenditures into OPUS after 15 days of the end of a quarter must be entered into the next quarter. OHCS will generate a quarterly report based on the submitted information. These reports shall be considered amendable allowing for revisions. Any revisions or amendments to submitted reports shall be noted in the following quarter.
- c. **Expenditure Reimbursements** – All reimbursements are subject to approval by OHCS and may be denied on the basis of lack of funds; improper documentation; improper expenditures; or other reasons deemed necessary by OHCS. It is the responsibility of the subgrantee to reimburse OHCS for any expenditure determined improper by OHCS.
- d. **Cash Requests** – Subgrantees are encouraged to request cash as needed upon completion of weatherization work. Only funds sufficient to cover all costs of the work should be requested. Funds requested in advance of completed jobs (except as stated in 2.12.8(a) above) are not permitted.

2.13 Monitoring – Quality Assurance

OHCS employs four types of monitoring activities to ensure the quality of work and the adequate financial management controls at the subgrantee level.

- a. OHCS’s Weatherization Field Monitor schedules, at minimum, a yearly visit to each subgrantee. During these visits the Monitor reviews subgrantee policy, procedures, client files and field operations.
- b. OHCS’s Fiscal Monitor schedules a yearly visit to each subgrantee. During these visits, the Monitor conducts a comprehensive review of all ledgers, budgets, and accounting systems, related to the weatherization program.
- c. The Weatherization Program Manager may conduct spot visits of subgrantees at random. During these visits all aspects of the program may be reviewed.
- d. Peer Exchange is optional, and is used as both a monitoring tool as well as a training opportunity. Subgrantees may choose to visit another subgrantee for the exchange.

2.13.1 Exemplary Agencies

Note: WPN 12-1 has suspended the designation of exemplary agencies until further notice. OHCS will not be using the designation of exemplary until this suspension has been lifted.

OHCS will use the following criteria for designating a subgrantee as an “Exemplary Agency”.

Levels of Agency Performance

High Performance or Exemplary Agencies:

By way of monitoring review, an agency has demonstrated performance standards that meet or exceed that commonly observed in the following areas:

1. Program Operations:
 - a. No Health and Safety finding as identified in previous monitoring report.
 - b. No procedural findings related to program rules, and policies and procedures.
2. Fiscal:
 - a. No annual program specific audit findings.
3. Technical:
 - a. Provide comprehensive service utilizing the latest building science and renewable technology, in a cost-effective manner in accordance with State of Oregon guidelines. Peer monitoring is completed as documented in Agency Work Plan.
4. Production:
 - a. In general the agencies production is high relative to funding.
5. Qualified staff:
 - a. Agency will receive higher credit for exemplary status with REA Program or BPI certified staff and contractors. Agency staff has received appropriate job related certification.

Agency staff have conducted, or proctored, OHCS sponsored/endorsed certification trainings.

6. Risk:

- a. No “at-risk” elements are found in major categories for an agency.

If the above is met, a final visit may be made by an OHCS Weatherization Coordinator for final confirmation of achievement.

Typical Agency Performance:

Typically, the frequency of monitoring will be one or two visits per year by an OHCS Program Monitor and/or an OHCS Weatherization Program Monitor and Fiscal Monitor. Peer Exchange may also be included. The need for a second visit will be determined by OHCS based on such factors as past state and peer monitoring results, an agency’s program funding and production level, and the completeness of the monitoring within the time available. OHCS expects every agency to meet these standards of performance:

1. Well-established systems for program administration and operations, with no finding in the following areas:
 - a. Compliance with major program requirements, such as, lead-based paint procedures, cost allocation plan/indirect rate, required contractor information.
 - b. No program specific finding in the annual audit.
 - c. Staff well trained in performance of specific job duties.
 - d. Complete and organized files.
2. Evidence of prudent decision making as to use of program resources:
 - a. Complete scopes of work.
 - b. REM/Design™ documentation is current and consistent with billing.
 - c. Staff proficient in its use.
 - d. Evidence REM/Design™ is used with actual and true pre-post data (including costs).
 - e. Evidence REM/Design™ is used effectively and thoughtfully in determining cost-effective measures.
3. Staff and contractors have demonstrated proficiency in technical applications, including diagnostics.
4. Agency has a minimal number and severity of procedural findings (as related to programs rules and policies and procedures), as well as health and safety findings from previous monitoring report.
5. Agency complies with Occupational Safety and Health Administration (OSHA)/DHS/OHCS safety rules, as applicable.

6. The agency maintains a professional working relationship with OHCS.
7. Past corrections made and reported in a timely manner.
8. No “at-risk” elements are found in major categories for an agency.

At-Risk Agency Performance:

At-risk agencies may be identified as a result of a variety of factors that may include:

1. There is evidence of significant administrative or program sub-standard performance; for example, repetitive pattern of findings, failure to have copies of permits on file, or lack of compliance with historical preservation rules.
2. The agency is not in compliance with three (3) or more program policies, procedures and specifications.
3. The agency has three (3) or more health and safety findings.
4. Agency staff/crew members have been unable to pass certification training.
5. The agency has deficient scopes of work.
6. The agency has three (3) or more program specific audit findings.
7. The agency files are incomplete or disorganized.
8. The agency staff is unresponsive to OHCS requests and deadlines. For example, the agency consistently fails to provide monthly reports and contract closeouts in a timely manner.
9. Agency production is substantially low relative to funding.
10. Other OHCS programs (Community Services Block Grant (CSBG), LIHEAP, Food, Homeless, etc.) have indicated problems with, or concerns about, the agency.

At-risk agencies will be monitored no less than twice annually. Other factors in the frequency of monitoring visits may be based upon the requirements of specific funding sources.

2.15 Certification for Lead Safe Renovators

OHCS will continue with the help of Oregon Training Institute to make training available for the Lead Based Paint Renovation, Repair and Painting Program (RRP). All individuals performing

lead safe weatherization **must** be either certified renovators or have been trained by a certified renovator. Training is required prior to performing any weatherization work that will disturb lead based materials in homes built before 1978. All Subgrantees and contractors **must** be a certified firm. **See Appendix D V11**

2.16 Monitoring - Productivity

OHCS monitors subgrantee productivity through information provided on quarterly reports, Peer Exchange, and Fiscal/Program Monitoring reports. If a subgrantee falls consistently and considerably below their projections, OHCS reserves the right to redistribute their unexpended funds.

2.17 T&TA Plan

See Appendix C

2.18 Evaluation

OHCS continually evaluates the effective utilization of T&TA funds through the monitoring process, subgrantee input, and quality of work. Information from these sources has shown that OHCS/T&TA activities have had a beneficial effect on statewide weatherization services provided to low income consumers. OHCS will continue to evaluate T&TA activities and expenditures in an effort to ensure that the level of technical expertise necessary to provide efficient, effective service to low income consumers is maintained.

2.19 Multi-Family

2.19.1 Eligibility

Prior to weatherizing multi-family housing units, not less than 66 percent (50 percent for duplexes and four plexes) must be occupied by income eligible households in order for the entire building to qualify for weatherization assistance. In some instances buildings may pre-qualify as outlined in WPN 10-15A.

Shelters may be weatherized under the program. Below is a list of criteria that a shelter must meet before being considered as a candidate for services.

- Property is managed by non-profit organization
- Property is utilized as transitional housing
- Property is utilized as overnight shelter
- Project is approved by OHCS before proceeding with weatherization activities

2.19.2 Landlord Contribution Clause

Some large multi-family buildings with less than 66% eligible units, (but at least 50%) may be weatherized if agencies can demonstrate the investment of DOE funds would result in significant energy-efficiency improvements, **AND**

- a. Additional funds are leveraged from landlords, utilities, or other sources; **AND**
- b. Leveraged funds **must** equal at least 10 percent of the total job cost to be eligible for reduced unit eligibility percentage.

2.19.3 Flexibility within the Multifamily Weatherization Provisions

In the final rule, DOE offered flexibility by adding certain eligible types of large multi-family buildings to the list of dwellings that are exempt from the requirement that at least 66 percent of the units **must** be occupied by income-eligible persons. In these large multi-family buildings, as few as 50 percent of the units would have to be certified as eligible before weatherization services can be offered. This exception would apply only to those large multi-family buildings where an investment of DOE funds would result in significant energy-efficiency improvement because of the upgrades to equipment, energy systems, common space, or the building shell. By providing this flexibility, local agencies will be better able to select the most cost-effective investments and enhance their partnership efforts in attracting leveraged funds and/or landlord contributions. This flexibility does not apply to any other type of multi-family unit.

Note: Agencies should exercise caution when utilizing flexibility in this area. The key is the investment of DOE funds coupled with leveraged resources which result in significant energy savings. Absent this investment, lowering the eligibility to 50 percent may lead to disallowed costs. Local agencies uncertain on a given multi-family project should seek approval through OHCS Weatherization Program Manager.

2.20 Standard Weatherization Procedures

2.20.1 Labor

It is the subgrantees responsibility to ensure that employees and contractors are qualified and properly supervised.

All required certifications listed for particular job classification below must be obtained within a 1 year period of the date of promotion/hire.

(1) Workers engaged in installing building shell retrofit upgrades (attic, wall, floor, windows and doors, duct sealing and general house sealing) are not required to be certified, however, it is encouraged that they obtain the Home Energy Professional (HEP) Installer Certification or the Residential Energy Analyst (REA) Program stick built and manufactured home weatherization installer.

(2) Crew Leaders engaged in supervising the installation of building shell retrofit upgrades (attic, wall, floor, windows and doors, duct sealing and general house sealing) are not required to be certified, however, it is encouraged that they obtain the HEP Crew leader certification or REA stick built and manufactured home weatherization installer and Diagnostic Technician **or** BPI certified as heating professional and REA stick built and manufactured home weatherization installer.

(3) All Auditors, at minimum, shall be REA certified as Energy Analyst, Diagnostic Technician and REA stick built and manufactured home weatherization installer **or** BPI certified as Building Analyst Professional, Envelope Professional, Heating Professional and REA stick built and manufactured home weatherization Installer.

(4) All Inspectors, at minimum, shall be REA certified as Energy Analyst, Diagnostic Technician and REA stick built and manufactured home weatherization installer **or** BPI certified as Building Analyst Professional, Envelope Professional, Heating Professional and REA stick built and manufactured home weatherization Installer. All inspectors must be certified as HEP Quality Control Inspectors.

2.20.2 Davis-Bacon Act-Compliance

Weatherization activities under the U.S. DOE-WAP are not considered a public works projects under ORS 279C.810 and are therefore exempt from prevailing wage.

Exceptions:

- a. *Generally:* Possible future government (federal) grants or funding vehicles that may impose wage compliance and reporting of same.

2.20.3 Authorization

Prior to weatherizing residential units, the following procedures shall be followed. The owner or authorized agent shall give written permission for the weatherization assistance. Such written authorization **must** be signed by the owner (or owner's authorized agent) and **must** include:

- a. Location of dwelling (physical street address).
- b. Name of eligible tenant.
- c. A list of possible work to be completed.
- d. See 2.03.2 for additional requirements and baseload measure requirements.

2.20.4 Operation of the Program

It is the subgrantee's responsibility to identify and procure the local resources necessary to operate this program. These would include, but not be limited to local and state funds, donated materials, space, support, and any resources not provided for by U.S. DOE funds. Such resources are to be

identified by the subgrantees in their grant proposals to OHCS. Additionally, the subgrantee shall insure prior to operating the program, that the criteria are met.

Contractor Procurement: All subgrantees that employ private licensed contractors to provide weatherization, repairs, or inspections where the cumulative one year compensation is \$25,000 or more, **must** have a policy in place and use said policy to procure contractors.

2.20.5 Expansion of Manufactured home Definition

The definition of manufactured homes is expanded to include travel trailers and motor homes under the following conditions:

- a. Unit is a permanent residence; **AND**
- b. The unit has an address; **AND**
- c. The occupant has a utility bill in their name or can demonstrate an energy burden; **AND**
- d. The occupant has a legal lease or contract to live in the unit and park the unit at said location; **AND**
- e. There must be cost-effective (SIR of 1.0 or greater) weatherization improvements to be completed on the structure; **AND**
- f. Health and safety improvements are only related to weatherization and *do not* address mechanical, other than Heating, Ventilation, and Air Conditioning (HVAC).

2.20.6 Certify Work

Subgrantees and their subcontractors **must** certify all weatherization work and materials including base load measures for a period of one year from the time of completion. Certification includes the repair and replacement of defective measures resulting from improper installation or material defect.

2.21 General Accounting Practices

To insure accurate reporting, proper documentation and compliance with federal and state guidelines for fiscal procedures, all subgrantees **must** at a minimum:

2.21.1 Submit an Annual Audit

Submit an annual audit of weatherization funds, which shall be conducted by a Certified Public Accountant, using the audit standards contained in the United States General Accounting Office publication entitled: **Standards for Audit of Government Organizations, Programs, Activities,**

and Functions by the Comptroller General of the U.S.A. (1981); and the Office of Management and Budget Circular A-87, A-110, A-122; and general accounting procedures as a guide. These audits will comply with 10 CFR Subpart D, which also includes OMB Circular A-128. For audits of subgrantees, provisions of 10 CFR 600.426 will apply.

2.21.2 Inventory Control

Subgrantees will have in place a weatherization inventory control system that outlines, in writing, purchasing authority; access to inventory; quarterly inventory verifications; procedures for fall down (shake or waste); and ability to track purchases to specific jobs and materials installed back to the point of purchase. Fall down shall not exceed two (2) percent of the total materials budgeted annually. All material used in weatherization that are purchased in bulk or by piece for the weatherization program are considered inventory. Weatherization inventory does not include supplies or materials purchased with weatherization administrative funds.

2.21.3 Receive Authorization from OHCS for Purchases or Lease

Receive authorization from OHCS for purchases or lease of acquisitions in excess of **\$5,000**. All capital property and vehicle purchases **must** be forwarded to the U.S. DOE Regional Support Office for final approval.

For approval of Vehicle & Capital Equipment Purchases, the minimum information needed by OHCS is:

- a. Name of requesting local agency.
- b. Where the vehicle will be used and how it will be used – Specify, full or part time use in Weatherization Program.
- c. Statement of whether this is a replacement or an expansion for ramp-up. If this is a replacement, describe how the trade-in is being addressed.
- d. Brief description of how the procurement will be done, and confirmation that agency, state and federal procurement guidelines will be met 2 CFR 225 (former OMB Circular A-87) – Cost Principles for State, Local, and Indian Tribal Governments 2 CFR 230 (former OMB Circular A-122) – Cost Principles for Non-Profit Organizations.
- e. What the funding source(s) will be (e.g., DOE Weatherization Program Operations funds). **Subgrantee T&TA funds are not an allowable option.**
- f. Copies of bid specs (vehicle description with options requested) and bids received.

- g. Statement that lowest bid will be selected; or a sufficient justification of the “best value selection” if lowest bid is not recommended for DOE approval.

2.21.4 Travel Regulations

Each subgrantee will have in place travel regulations that include travel authorization, reimbursement, advancements, and per diem rates.

2.21.5 Financial Operations Manual

Each subgrantee has in place a financial operation manual that details accounting standards, segregation of duties, procurement procedures, program income application, and program rebates.

2.21.6 Use of Weatherization Funds for Renewable Energy Systems

10 CFR §440.18 (Allowable Expenditures) incorporates the renewable energy system provisions and specifies a ceiling of \$3000 per dwelling for labor, weatherization materials, and related matters. Approved renewable energy systems will be listed in Appendix A of Part 440, Standards for Weatherization Materials.

The expenditure of financial assistance provided under DOE WAP for labor, weatherization materials, and related matters for a renewable energy system, shall not exceed an average of \$3,000 per dwelling unit, adjusted. See, 10 CFR 440.18(b) and (c). The PY 2015 adjusted average for renewable energy measures is \$3,545. **Note: The adjusted average for renewable energy measures is not a separate average, but a part of the overall adjusted average expenditure limit of \$7,105.**

2.21.7 Prohibited Expenditures

Funds shall not be expended for the items or services other than those listed in 10 CFR part 440, Weatherization Assistance for Low Income Persons, Final Rule, 440.18 (e.). T&TA funds cannot be used to purchase equipment used in the day-to-day installation of weatherization measures. Where a need exists to purchase tools and equipment subgrantees should use program funds.

2.21.8 Discretion of Procurement

OHCS gives subgrantees discretion in the procurement of materials. All supplies, equipment, materials and services **must** be procured in accordance with applicable state law and procedures, as well as 10 CFR 600.119 and 600.436, OMB Circular A-110 and A-133.

2.21.9 EPA Compliance

Subgrantees shall comply with the Environmental Protection Agency (EPA) regulations as set forth in 40 CFR Part 248 - Guidelines for Procurement of Building Materials, which encourages the use of recyclable materials. Subgrantees shall use recyclable materials whenever possible. Compliance with EPA regulations also applies to the decommissioning of replaced baseload appliances whether subcontracted out or not.

2.22 Reporting Requirements

Each subgrantee shall submit certified and timely reports to OHCS detailing the progress made towards the program objective(s) and all administrative and program expenditures. The report **must** agree with the subgrantee's accounting records, and be certified by the subgrantee's chief executive officer. **Quarterly reports are to be reviewed by OHCS on or before the 20th working day of the month following the last day of the quarter being reported:**

- a. Reporting Format – OHCS has provided all subgrantees with online access to OPUS-Wx for the purpose of reporting weatherization activities. All weatherization subgrantees are required to use OPUS-Wx for quarterly reporting purposes (see Appendix I).
- b. OHCS will work with OECA to improve and develop a reporting method that meets the needs of the funding source, is not a burden and provides useful information to subgrantees, state and funding source.

2.22.1 Success Story Reports

Subgrantees receiving thank you letters from or about people whose homes were weatherized, should submit selected letters to OHCS. Letters will then be forwarded to DOE to bolster efforts to promote weatherization, and give a human face to people receiving weatherization assistance.

2.22.2 Petroleum Violation Escrow (PVE)

Exxon and DOE weatherization funds are to be budgeted and accounted for separately. Reports for each weatherization grant will be provided to the subgrantee by OHCS. Stripper Well funds are added to the DOE funds for the purpose of calculating administrative costs. Once "Admin" has been calculated the Stripper Well funds are replaced in total and are allocated as program funds only. Admin for Stripper Well funds has already been calculated in DOE-Admin; therefore, spending DOE and Stripper Well funds on the same job is *not* permitted.

2.22.3 Fuel Switching

In general DOE does not allow wholesale fuel switching. However, changing or converting a fuel source to another on a limited case-by-case basis with pre-approval from OHCS will be considered.

2.22.4 Cook Stoves

DOE does *not* allow cook stoves to be replaced with DOE funds. DOE does, however, allow for repair of gas cook stoves. If a subgrantee discovers a cook stove that is emitting dangerous levels of carbon monoxide (check ambient CO Levels) and repair is not possible, other funds should be used to remedy the problem. See appendix D, section XII for details.

2.22.5 Disaster Relief

Upon request and approval from DOE, WAP funds may be used for energy-related items damaged or destroyed in a disaster. Such items could include replacement of water heaters in affected homes. Any measure not currently listed in 10 CFR Part 440 Appendix A, **must** be submitted as a part of a Disaster Relief Plan for DOE approval.

- a. Energy Crisis Plan: In an “Energy Crisis” that has been declared by the state or federal government, subgrantees may use DOE funds to address the short-term or immediate relief needs and long-term energy investment in homes of low income person’s in affected areas.
- b. An Energy Crisis exists if any of the following happens:
 - b1. Release of LIHEAP emergency funds.
 - b2. Sharp increase in energy prices; energy shortages/disruption of fuel supply.
 - b3. Other related causes both natural and manmade.
- c. Households **must** meet current income guidelines.
- d. Subgrantees **must** track and report all “Energy Crisis” expenditures as a separate budget line item.
- e. Homes receiving assistance under “Energy Crisis” shall be placed on a waiting list for future weatherization after the crisis has been abated, unless previously weatherized.
- f. DOE funds used as “Energy Crisis” will not be counted as contributing towards the average unit cost of that unit/home.
- g. Homes weatherized **after** September 30, 1994, can receive additional assistance under “Energy Crisis”.
- h. Local weatherization coordinators are granted the authority to determine the best remedy to relieve the “Energy Crisis” until such time that OHCS, with input from coordinators/ agency directors, establishes guidelines for assistance.

2.22.6 Wood Stove Replacement

Replacement of wood stoves is allowed. See Appendix D section XI and Exhibit 1 for detailed protocol.

2.23 Quality Control

It shall be the responsibility of the subgrantee to establish measures to ensure the quality of work completed and address the following areas:

2.23.1 Fire Codes

Each subgrantee is responsible for contacting the fire code officials in their service delivery area to verify that work done and materials used meet local fire codes. The sole purpose for this requirement is to protect the client and limit the liability of the subgrantee.

2.23.2 Electrical Codes

Each subgrantee is responsible for assuring that all work meets local and state electrical codes. Any and all electrical work **must** be performed by a licensed electrical contractor.

2.23.3 Building Codes

Subgrantees *shall not* undertake structural modifications without first consulting the appropriate building codes and contacting local officials.

2.23.4 Materials Installed Properly

It is the subgrantee's responsibility to ensure all materials are installed to required specifications to achieve maximum benefit from the materials. **All units require post installation inspection.** Inspections of weatherized units **must** be completed by someone other than the installer(s).

2.23.5 Maximum Service – Holistic Approach

All subgrantees are responsible to ensure each household has received the maximum amount of services available within the expenditure limitations to maximize energy savings. Subgrantees are encouraged to mobilize all funding available to deliver the highest level of energy efficiency improvements in a holistic approach on each dwelling weatherized. Holistic approach refers to treating the dwelling as an integrated complex system where the shell, mechanical and occupants all interact and affect the energy usage. Holistic approach does not mean to spend as much funding from as many sources as possible on the dwelling.

APPENDICES

- Appendix A Peer Exchange Protocol
- Appendix B Performance Evaluation Tool
- Appendix C Training and Technical Assistance (T&TA) Plan
- Appendix D Health and Safety Plan
- Appendix E Quality Control Inspector Policies and Procedures
- Appendix F Native American Funding

Appendix A – Peer Exchange Protocol

The following protocol will be used by OHCS and agencies with a stable or vulnerable score rating:

I. Stable agencies can and Vulnerable agencies will participate in an annual peer exchange

- a. Agencies can visit another agency of their choice. It is encouraged that they seek an agency that has a new or interesting aspect to their program such as a new weatherization measure, technique or technical application.
- b. Agencies may not visit the same agency as prior year without OHCS permission.

II. Selecting Units to Visit

- a. At least three (3) weeks prior to the peer exchange, the host agency and visiting agency will communicate and discuss visiting agencies topics of interest.
- b. At least 10 days prior to the visit, monitoring agency will notify host agency of four (4) jobs. Jobs selected based upon a previous conversation(s) concerning visiting agency's topic of interest.
- c. Host and visiting agency will schedule a mutual and convenient time for the peer exchange.
- d. Host agency will schedule any field visits.

III. Elements of Exchange Visits

- a. Discuss new and innovative techniques and applications; administrative procedures' equipment use; applications diagnostic testing techniques; and use of testing equipment.
- b. Job site inspection (all four (4) units):
 - b1. Discuss work and make notes with host agencies representative.
 - b2. Review installation techniques; testing procedures; benefits of application; as well as related benefits to home and occupant.

IV. Discuss Observations

- a. Items of interest should be discussed at length while on site; therefore, both agencies have a clear understanding of the issue, techniques, tools used, and methods.

V. Exit Interview

- a. Staff and program coordinator to discuss visit, roundtable applications, techniques, testing protocol, ideas and improvements.

VI. Report to OHCS

- a. Visiting agency to draft summary report of visit.
- b. The report will include:
 - b1. Topics and discussion.
 - b2. A narrative letter discussing observations, ideas, what they learned, and any differences they plan to implement into their program.
- c. Visiting agency will submit a report to OHCS within 15 working days.

Appendix B – Performance Evaluation Tool



State of Oregon Weatherization Assistance Program Performance Evaluation Tool

Oregon Housing & Community Services
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Purpose Statement

The purpose of the Training and Technical Assistance (T & TA) agency performance evaluation (PE) tool is to provide compliance review, technical assistance, and information sharing to weatherization agency's to ensure that each home receives the most cost effective and comprehensive weatherization service while maximizing total agency resources available. It will be accomplished by:

- Oregon Housing and Community Services (OHCS) and subgrantees acting as partners and as a team.
- Quality, comprehensive weatherization and repair services are provided at a consistently high level of effectiveness throughout the state.
- Healthy, safe, and energy efficient housing improvements are provided to low-income households.
- Program accountability and efficiencies are in effect and verifiable.
- Innovative technological advances are promoted.

Guiding Principles

I. Planning

- Program PE is organized, systematic, regular, and scheduled in advance for mutual convenience.
- PE plans are defined with clear expectations, scope, and process.
- Individualized monitoring for every agency is dynamic to reflect historical findings, observations, and needs.
- Technical protocol, standards, and tools are kept current.

II. Constructive process

- PE and technical assistance is conducted in a professional manner with consistency, fairness, respect, and timeliness.
- OHCS fosters positive, open, and constructive working relationships.
- PE reports are consistent with, and based on, adopted program policies, procedures, standards, and protocols.
- Inspections are performed thoroughly and objectively.
- OHCS promotes improvement by providing technical assistance and resources.
- PE reinforces industry best practices to help ensure prudent decisions are made and positive results are achieved for the participants served.

III. Learning and experiences

- OHCS is knowledgeable and skilled to promote new and enhanced methods of service delivery and business practices.
- OHCS serves as a conduit for the delivery of innovative and cutting edge technologies.
- PE serves as a two-way educational experience that promotes interaction, feedback, and state and local program improvements.
- OHCS acknowledges and shares successes, innovations, good practices, experiences and challenges.
- PE, technical assistance and required follow up to findings are structured to protect program integrity and to sustain program support.

Procedures

OHCS WX PE

- File documentation
- Compliance with state & federal regulations
- Compliance with state weatherization assistance program specifications
- Completed project inspection
- Performance testing of homes
- Inventory control
- Health & Safety
- Auditing results
- Resource accountability
- Work quality
- Fiscal controls

Who to meet with:

- Agency Coordinator
- Fiscal Officer
- Crew members
- Participants

Performance Evaluation Process Outline

A basic level of core PE will occur as part of every PE visit. In addition to the core PE, the PE agency plan will be an integral aspect of each monitoring. The sequence and timelines outlined below will precede annual PE visits. If any agency is performance evaluated more than once within a calendar year, some steps may be omitted.

1. OHCS will choose a date to perform the PE visit. Six weeks prior to that date, OHCS will e-mail the selected agency requesting the acceptance of these monitoring dates. A schedule letter and a copy of the PE tool will be attached.
2. After the scheduled dates have been accepted an e-mail confirming this will be sent to the agency. Attached to this e-mail will be:
 - A confirmation letter with specific timelines for completing and returning the requested items.
 - A list of completed jobs chosen by OHCS for evaluation from a review of OPUS.
 - A pre-monitoring questionnaire and a weatherization self-assessment
3. Within one (1) week the agency will indicate if the required eight (8) jobs are scheduled for field inspection. If any of the selected jobs are not available for evaluation, the agency will notify OHCS and additional jobs will be chosen. This process should be completed within two weeks.
4. After the homes are scheduled, the agency will provide electronic copies of the REM/Design™ .blg files for all jobs selected.
5. The agency will complete and electronically return the self-assessment evaluation and the weatherization pre-monitoring questionnaire within (2) weeks before the visit.
6. The final evaluation report will be sent to the agency within 30 days of the PE visit.

PE Program Outline:

1. All correspondence will be documented on the OHCS contact sheet.
2. OHCS will send an E-mail with attached scheduling letter and copy of PE tool.
3. Agency will respond and evaluation dates confirmed.
4. OHCS will send an E-mail with attached confirmation letter/completed job selection list/pre-monitoring questionnaire/self-assessment.
5. Agency will confirm scheduling of job inspections. Agency will provide REM/Design™ electronic files for review.
6. OHCS will review pre-monitoring questionnaire/self-assessment/funding summary reports and REM/Design™ files submitted.
7. OHCS will review prior years monitoring report
8. Travel to agency.
9. Entrance interview between OHCS monitor and agency staff.
10. OHCS will review project files with agency staff.
11. Discuss agency operations and mission
12. Discuss community partners.
13. Discuss other resources
14. Perform field inspections.
15. Monitor performance testing of homes.
16. OHCS and agency representative(s) will discuss any opportunities identified during the inspection and performance testing of the home.
17. OHCS monitor will interview participants.
18. OHCS monitor will prepare exit interview comments.
19. OHCS monitor will perform an exit interview with agency staff and discuss findings.
20. Incorporate mutually agreed upon comments into the final review.
21. Discuss new techniques, approaches and protocols.
22. Discuss training needs.
23. Schedule additional follow up(s) on technical assistance needs identified.
24. Review program improvements from prior year.
25. Draft final review.
26. Agency will be scored using the Performance Evaluation WX Tool.
27. Establish time for next monitoring depending on review scores.
28. OHCS will send a copy of the performance evaluation report to the agency Executive Director within 30 days of the PE visit.
29. If required, the agency will provide responses to any concerns, findings or corrective action plans within 30 days of receipt of the PE report.
30. File original at OHCS for a minimum of three years after the grant period ends.

Diagnostic testing is performed, including blower-door tests, combustion safety tests, and duct leakage test. The test results are compared with those noted in the participant file.

Inspection of completed houses, with the accompaniment of the local agency auditor/inspector, provides an opportunity to provide on-site technical assistance. Various installation techniques, quality control issues, or test procedures may be discussed during the course of performing the inspection.

The set-up values of the REM/Design™ audit are checked to ensure they are current and accurate, that staff is proficient in the use of the REM/Design™ audit, and that it is used as directed by OHCS.

Exemplary practices, successful approaches, or creative ideas in the operation of the local program will be identified and noted.

Crew Health and Safety procedures will be checked for compliance with OHCS Health and Safety Plan as contained in the DOE State Plan.

At the conclusion of the monitor's visit, an exit conference will be conducted with the program manager and the executive director. If there are deficiencies, a recommended course of action will be agreed upon.

Every effort will be made to complete and mail a final PE report to the agency's Executive Director within 30 days of the monitoring visit. Within 30 days of receipt of the PE report, the agency will submit a written response providing assurance that identified problems are resolved and documented.

PE Reference Material

1. OAR 813-205 Weatherization program rules.
2. OAR 813-230 Monitoring.
3. The Oregon State Weatherization Assistance Program Specification and requirements.
4. US Department of Energy 10CFR Part 440 Weatherization.
5. Oregon DOE State Plan / Weatherization Assistance Program.
6. Bonneville Power Administration Weatherization rules and Regulations.
7. Site Built and Mobile Home Specifications for the State of Oregon.
8. Energy Conservation Helping Oregonians (ECHO) Guidelines.

9. Technical procedures adopted for the weatherization program, include:

- Blower Door and Air Sealing Procedures, which are used to determine a baseline goal for directing air-sealing work of the building envelope.
- Duct Pressure Test Procedures are the standards by which to measure the effectiveness of the HVAC system. The pre- and post-weatherization test information is required to be collected and recorded in each client file.
- The Combustion Safety Test Procedures establish worst-case depressurization, spillage, flue draft, carbon monoxide, as well as a visual inspection. This procedure also contains safety thresholds. These tests must be performed and recorded, at a minimum, at the time of audit and final inspection. The test report form is to be completed on all homes that contain combustion appliances and maintained in the participant file.
- Building shell pressure balancing using a digital manometer
- Air barrier pressure testing using a digital manometer
- Exhaust fan flow measurement using a flow testing device coupled with a digital manometer.

Evaluation Tools and Equipment

The following PE tools and equipment will be used by OHCS to help determine satisfactory work performance:

1. Blower door tests on a sample of completed jobs to verify the extent of air-sealing work and to assess the risk of indoor air quality problems.
2. A combustion analyzer and manometer on a sample of completed jobs that have combustion appliance to verify compliance with combustion safety test procedures.
3. A digital hand-held manometer on a sample of completed jobs to verify pressure balancing, and air barrier sealing.
4. An infrared scanner on a sampler of completed jobs to verify uniform insulation coverage in closed cavities and inaccessible areas, as well as adequate air barrier sealing work.
5. Digital cameras to take photos of houses inspected and to record extraordinary circumstances or work performance.
6. Duct Blaster™ to test effectiveness of duct sealing work.

7. An exhaust fan flow meter coupled with a hand held digital monometer to verify exhaust fan flow rates.

On-site PE will focus on field inspections looking at weatherization measure installation, diagnostic testing and health and safety since fiscal monitoring will try to satisfy most administrative review, including financial examination but OHCS will review fiscal documentation in file to make sure work completed matches the work invoiced.

A key component of on-site monitoring will be to provide on the job training and technical assistance during the course of on-site monitoring and identify the need for future training and technical assistance.

Issues identified during the PE visit will be discussed with the agency whenever possible, especially any observations or findings for specific projects. A final written monitoring report to the local agency will be issued within 30 days of any completed PE visit.

For purposes of consistency, the following definitions for agency classification criteria will be used during monitoring visits and subsequent reports:

Exemplary: Exceeds program expectations. Program is visionary, excels in all program aspects, and is highly responsive and innovative. Overall program evaluation is scored exemplary in the Performance Evaluation WX Tool.

Stable: Meets program expectations, accurate, effective, organized, sound, proficient, and proactive. Good administration systems. Files are complete, organized and accurate. Overall program delivery is effective and sound. Agency staff is proficient in diagnostic testing. Material installation consistently meets standards. Workmanship is good quality.

Vulnerable: Noncompliance issues. Sometimes meets program expectations, marginal administrative systems. File information inconsistent. Overall program delivery has gaps. Diagnostics are inadequate. Material installation sometimes meets standards. Workmanship is inconsistent.

At-Risk: Frequently does not meet program expectations. Program is inadequate, poor, substandard, incomplete, deficient documentation. Poor communications are maintained with inadequate administrative systems. Files are incomplete, inaccurate or both. Overall program delivery is substandard. There are deficiencies in performing diagnostics. Material and workmanship does not meet program standards.

Levels of Agency Performance and PE Frequency

High Performance or Exemplary Agencies

By way of monitoring review, an agency has demonstrated performance standards that meet or exceed that are commonly observed in the following areas:

1. Program operations:
 - No Health and Safety finding as identified in previous monitoring report.
 - No procedural findings related to program rules, and policies and procedures
2. Fiscal:
 - No annual program specific audit findings.
3. Technical:
 - Provide comprehensive service utilizing the latest building science and renewable technology, in a cost-effective manner in accordance with State of Oregon Weatherization Assistance Program guidelines.
4. Production:
 - In general an agency's production is high relative to funding.
 - No rollovers.
5. Qualified staff:
 - Agency will receive higher credit for exemplary status by having staff and contractors trained in the certifications listed in the USDOE state plan.
6. Peer Monitoring
 - Agency will participate annually in peer monitoring of "at-risk" agencies as requested once per year from OHCS.
7. Risk:
 - No "at-risk" elements are found in major categories for an agency.

If the above is met a final visit may be made by an OHCS weatherization coordinator for final confirmation of achievement.

Stable Agency Performance

Typically, the frequency of monitoring will be (1) visit per year by an OHCS and Fiscal Monitor. The need for a second visit with in the same year will be determined by OHCS based on such factors as past state and Peer exchange results, an agency's program funding and production level, and the completeness of the monitoring within the time available. OHCS expects every agency to meet these standards of performance:

1. Well-established systems for program administration and operations, with no more than one finding in the following areas:
 - Compliance with major program requirements, such as, lead-based paint procedures, cost allocation plan/indirect rate, required contractor information.
 - No more than one program specific finding in the annual audit.
 - No more than one fiscal specific finding in the annual audit.
 - Staff well trained in performance of specific job duties.
 - Complete and organized files.
2. Evidence of prudent decision making as to the use of program resources:
 - Complete scopes of work
 - REM/Design™ documentation is current and consistent with billing.
 - Staff proficient in its use
 - Evidence REM/Design™ is used with actual and true pre-post data.(including costs)
 - Evidence REM/Design™ is used effectively and thoughtfully in determining cost-effective measures.
3. Staff and contractors have demonstrated proficiency in technical applications, including diagnostics.
4. Agency has a minimal number, and severity, of procedural findings (as related to programs rules, policies and procedures) and health and safety findings from previous monitoring report.
5. Agency complies with OSHA/DHS/OHCS safety rules, as applicable.
6. The agency maintains a professional working relationship with OHCS.
7. Past corrections made and reported in a timely manner.
8. Participate in annual PEER exchange visits to other agencies.
9. Agency will report as outlined in the PEER exchange guidelines
10. No "at-risk" elements are found in major categories for an agency.

Vulnerable Agency Performance

Typically, the frequency of PE will be (1) visit per year by an OHCS T & TA Monitor and Fiscal Monitor. The need for a second visit within the same year will be determined by OHCS based on such factors as past state and Peer exchange results, an agency's program funding and production level, and the completeness of the PE within the time available. Agency's performance is deficient in some or all of the following levels of performance:

1. Agency has a well-established system for program administration and operations, with no more than one finding in the following areas:
 - Compliance with major program requirements, such as, lead-based paint procedures, cost allocation plan/indirect rate, required contractor information.
 - No more than one program specific finding in the annual audit.
 - No more than one fiscal specific finding in the annual audit.
 - Staff well trained in performance of specific job duties.
 - Complete and organized files.
2. No evidence of prudent decision making as to use of program resources:
 - Complete scopes of work
 - REM/Design™ documentation is current and consistent with billing.
 - Staff proficient in its use
 - Evidence REM/Design™ is used with actual and true pre-post data (including costs).
 - Evidence REM/Design™ is used effectively and thoughtfully in determining cost-effective measures.
3. Staff and contractors have not demonstrated proficiency in technical applications, including diagnostics.
4. Agency has a number of and severity of procedural findings (as related to programs rules, policies and procedures) and health and safety findings from previous monitoring report.
5. Agency does not comply with OSHA/DHS/OHCS safety rules, as applicable.
6. The agency does not maintain a professional working relationship with OHCS.
7. Past corrections were not made and reported in a timely manner.
8. Does not participate in annual PEER exchange visits to other agencies.
9. Agency does not report as outlined in the PEER exchange guidelines.
10. Several "at-risk" elements are found in major categories for an agency.

At-Risk Agency Performance

At-risk agencies may be identified as a result of a variety of factors that may include:

1. The agency's probation. i.e. new agency / program.
2. There is evidence of significant administrative or program sub-standard performance; for example, repetitive pattern of findings, failure to have copies of permits on file or lack of compliance with historical preservation rules.
3. The agency is not in compliance with program policies, procedures and specifications.
4. The agency has repeated health and safety findings.
5. Agency staff members/crew has deficient technical skills.
6. There has been a change in key staff.
7. There has been a change in key weatherization contractors.
8. The agency has deficient scopes of work (work plan is insufficient).
9. The agency has program specific audit findings.
10. The agency has fiscal specific audit findings
11. The agency files are incomplete or disorganized.
12. The agency staff is unresponsive to OHCS requests and deadlines. For example, the agency consistently fails to provide monthly reports and contract closeouts in a timely manner.
13. Agency production is low relative to funding.
14. Other OHCS programs (CSBG, LIEAP, Food, Homeless, etc.) have indicated problems with or concerns about the agency.
15. At-risk agencies will be monitored no less than twice annually. Other factors in the frequency of monitoring visits may be based upon the requirements of specific funding sources.
16. When possible, at risk agencies will be PEER monitored by an exemplary agency that delivers program in a similar fashion. Example; a crew based at risk agency will be monitored by a crew based exemplary agency.

Performance Findings Correction Process

1. Each subgrantee shall be advised within 30 days after the conclusion of the evaluation any findings with a rating below “stable” resulting from the monitoring of its program. If the agencies performance rating is deficient in any categories and that the program is out of compliance with contract provisions or that the program is out of compliance with state or federal regulations, OHCS shall issue preliminary findings which provide specific examples of each such issue, request corrective action on each deficiency rated below “stable” and offer assistance to the subgrantee in developing a corrective action plan.
2. Subgrantee’s shall respond to preliminary finding corrective action request within 30 days from receipt of the request. The response either shall include a corrective action plan which specifically addresses identified deficiencies or explain why the preliminary findings were in error.
3. OHCS shall notify the subgrantee within ten days of the Division's acceptance or rejection of all or parts of the subgrantee's response. The subgrantee shall be given an additional 20 days from the receipt of the Monitors notification to provide an acceptable corrective action plan for any remaining, unresolved deficiencies.
4. If unresolved deficiencies remain, OHCS shall transmit to the subgrantee a finding of facts detailing the specific deficiencies, required corrective actions and establishing a 30-day time period for corrective action to take place.
5. If at the end of that 30-day period, specific corrective actions have not been effected, OHCS shall inform the subgrantee of the sanctions which shall be applied due to non-compliance. Such sanctions may include but not be limited to withholding of funds, disallowance of costs, suspension of contract, or termination of contract. OHCS shall inform the subgrantee of any appeal rites and procedures to state and federal authorities in the sanction transmittal.

Performance Evaluation Production Visits

During the program year or grant cycle an additional full monitoring evaluation may not be necessary. Due to grant allocation time frames, agency production levels and OHCS production requirements it will be acceptable to perform a production visit if a full monitoring has been completed for the program year.

The basic overview is to review the project files of the selected jobs for compliance and to ensure that all of the measures funded have been properly installed in the field.

Due to the nature of this process, there are multiple items completed and reviewed in the standard evaluation, which are not required in the production visit. These include, but are not limited to; the self-assessment, pre-monitoring questionnaire, safety and lead checklists. Contractor files and outreach, inventories, equipment and diagnostics can be left out of the report. The weatherization performance evaluation tool is not used to score the agency.

The individual site inspections, client file checklist, performance evaluation report and a final cover letter are the only reports required to be completed and included in the agency file. In order to expedite the process, reports will be converted to PDF files and emailed to the agency.

If there are findings, concerns or repairs requiring a corrective action plan, within 30 days of receipt of the production report, the agency will submit a written response providing assurance that identified problems are resolved and documented.

Production Visit Process

1. All correspondence must be documented on OHCS contact sheet.
2. OHCS will send a scheduling e-mail to agency (no time frame).
3. Once the dates are confirmed, OHCS will send a confirmation email to agency and include a list of jobs to be inspected.
4. The agency will schedule inspections and e-mail OHCS a confirmation/schedule.
5. OHCS will request and review REM/Design™ .blg files.
6. OHCS will travel to the agency and perform the production visit.
7. OHCS will email a PDF copy of the production visit report to the agency Executive Director within 30 days of the production visit.
8. If required, the agency will provide responses to any concerns, findings or corrective action plans within 30 days of receipt of the PE report.
10. File original at OHCS for a minimum of three years after the grant period ends.

Appendix C – Training and Technical Assistance Plan

Overview

Oregon's low income weatherization network is made up of 19 subgrantees each with their own service area. The subgrantees are comprised of 17 community action agencies; housing authorities; local governments; area agencies on aging; senior centers; a development corporation; and two (2) tribes. Many of the weatherization subgrantees have over 20 years' experience in delivering weatherization services. Delivery methods include a combination of contractor and crew based organizations.

OHCS field representatives conduct annual monitoring visits and conduct report evaluation on an ongoing basis. One of the goals of on-site and report evaluation is to assess the need for training. Problems identified through desk reviews and field visits that can be resolved through training and technical assistance will be handled by the Field Representatives and/or other OHCS staff, outside consultants, and occasionally by staff brought in from other agencies.

All new OHCS weatherization field staff shall attend basic weatherization, combustion appliance, and blower door/duct leakage training courses including both theory and hands on curricula, at OHCS-approved weatherization training facilities. Appropriate OHCS staff will receive updated training as needed. All OHCS field representatives are required to take the appropriate training to become EPA Certified Renovators and HEP Quality Control Inspectors.

Training and Technical Assistance – Grantee

Training and Technical Assistance for Subgrantees

- Field Representatives provide both training and programmatic assistance during on-site visits and through ongoing telephone contact with the Subgrantees.
- Program Analysts provide technical assistance to staff and Subgrantees, develop training curriculum, and assess past and future training needs.
- OHCS staff or approved training providers provide follow-up tier 2 field training and technical assistance pertaining to the installation of weatherization measures, the quality and appropriateness of installed weatherization measures, infiltration reduction, and health and safety measures and develops training curriculum.
- OHCS staff provides guidance and training in the appropriate use of the computerized audit tool.

Training and Technical Assistance for OHCS Staff

- OHCS staff will attend the Energy OutWest Peer Exchange and NASCSP meetings and conferences as scheduled as approved by the OHCS director's office.
- OHCS staff is trained on an on-going basis to keep them abreast of contractual and policy changes. For monitoring purposes, all new OHCS field and technical staff receive the standard weatherization training including combustion appliance safety, blower door and duct leakage diagnostics. All OHCS field staff members are EPA Certified Renovators and Quality Control Inspectors.

Subgrantee Training Evaluation

- OHCS field Representatives make annual monitoring visits. One of the goals of on-site visit is to assess the need for training. OHCS staff will evaluate monitoring reports and if deficiencies are found, either provide training or refer the training to an approved training provider for follow-up.
- As part of the annual monitoring visit, OHCS staff will evaluate a REM/Design™ and/or TREAT audit reports and provide technical assistance as needed.
- OHCS staff will work with the Oregon Energy Coordinators Association (OECA) and the Oregon Training Institute (OTI) to determine training needs not identified through monitoring visits.

Training Development

- OHCS staff develops and provides periodic webinars to key administrative and fiscal Subgrantee staff on programmatic issues.
- OHCS technical staff provides training in various formats on various technical subjects, including but not limited to computerized audit tool use and health and safety issues.

Training and Technical Assistance – Subgrantee

Training and technical assistance funds are allocated to Subgrantees to provide required training. The department allocates a portion of LIHEAP weatherization, Bonneville Power Administration and state public purpose charge funds for training purposes to supplement DOE's contribution. The training encompasses site-built, multi-family and mobile homes. Although there are certain training requirements that apply to all field staff, certification requirements only apply to field staff of subgrantees and subcontractors who provide audit and inspection services. There are two certification paths allowed under the Oregon WAP, the Building Performance Institute (BPI) and the Residential Energy Analyst (REA) program. With the exception of the REA installer portions, the certifications are not interchangeable. Installers and crew supervisors are not required to be certified, but it is allowable and encouraged to utilize T&TA funds for this purpose.

REA Program is the certification system designed for use by the Oregon weatherization assistance network to enhance and augment the building performance skills and knowledge of staff, contractors and consultants who serve in participating agencies, businesses, utilities and organizations. It was developed in cooperation with experts and specialists from Oregon Housing and Community Services, Oregon Energy Coordinators Association, Oregon Technical Institute and Saturn Resource Management.

REA Program is designed to develop staff and increase capacity. Highly trained personnel and staff instruct and test students. The "needs-based training" approach is developed and used within the REA system. Training is based on the actual discovered needs of the participants, not based on assumptions.

Required Certifications

Job Title	REA Program Certification Path	BPI Certification Path
Energy Auditor	REA Energy Analyst REA Diagnostic Technician REA Stick Built Installer REA Mobile Home Installer	BPI Building Analyst BPI Envelope Professional BPI Heating Professional REA Stick Built Installer REA Mobile Home Installer
Inspector	REA Energy Analyst REA Diagnostic Technician REA Stick Built Installer REA Mobile Home Installer HEP Quality Control Inspector	BPI Building Analyst BPI envelope Professional BPI Heating professional REA Stick Built Installer REA Mobile Home Installer HEP Quality Control Inspector

REA Program Certification Path

Certification	Agency Staff Required	Contractor Staff Required	Frequency of Renewal	Delivery Method	CEU Requirements	Timeframe
Energy Analyst	Auditors and Inspectors	Auditors and Inspectors	5 Years	OTI	50 hours over 5 years for the first certification. No additional CEU's for added certifications.	Auditors and inspectors must obtain certifications within 1 year of promotion or hire. Until certified, work must be reviewed by certified staff.*
Diagnostic Technician	Auditors and Inspectors	Auditors and Inspectors	5 Years	OTI		
Stick built Installer	Auditors and Inspectors	Auditors and Inspectors	5 Years	OTI		
Mobile Home Installer	Auditors and Inspectors	Auditors and Inspectors	5 Years	OTI		

* Agencies with limited staff may request a waiver of work review by certified staff from OHCS.

BPI Certification Path

Certification	Agency Staff Required	Contractor Staff Required	Frequency of Renewal	Delivery Method	CEU Requirements	Timeframe
Building Analyst	Auditors and Inspectors	Auditors and Inspectors	3 Years	BPI Test Center	10 hours per year for the first certification. 30 hours for 3 years. No additional CEU's for additional certifications.	Auditors and inspectors must obtain certifications within 1 year of promotion or hire. Until certified, work must be reviewed by certified staff.*
Envelope Professional	Auditors and Inspectors	Auditors and Inspectors	3 Years	BPI Test Center		
Heating Professional	Auditors and Inspectors	Auditors and Inspectors	3 Years	BPI Test Center		
Shell Technician Stick Built	Auditors and Inspectors	Auditors and Inspectors	5 Years	OTI	50 hours over 5 years for the first certification. No additional CEU's for added certifications.	
Shell Technician Mobile Home	Auditors and Inspectors	Auditors and Inspectors	5 Years	OTI		

* Agencies with limited staff may request a waiver of work review by certified staff from OHCS.

Quality Control Inspector

Certification	Agency Staff Required	Contractor Staff Required	Frequency of Renewal	Delivery Method	CEU Requirements	Timeframe
Quality Control Inspector	All Inspectors	All Inspectors	3 Years	OTI	10 hours per year	Must be obtained before inspections may be completed.

Required Certification/Trainings

In addition to the BPI or REA and QCI certification listed above, the following trainings/certifications must be completed.

Certification/Training	Agency Staff Required	Contractor Staff Required	Frequency of Renewal	Delivery Method	CEU Requirements	Timeframe
REM/Design Certification	Auditor/Inspector who utilize REM/Design™	Audit/Inspector contractors who utilize REM/Design™	5 Years	Certification through OHCS Training through OHCS and OTI	4 Hours Annually	Must be obtained within 1 year of promotion or hire. REM models must be reviewed by a certified user before certification is obtained.*
Mold & Moisture Mitigation Training	All Auditors and Inspectors	Contract Auditors and Inspectors	One time only	OTI	None Required	Within 180 days of promotion or hiring.
Lead Renovator Certification	All Auditors and Inspectors. Crew based: At least one available Renovator.	Minimum 1 certified staff person.	5 Years	EPA Certified Trainer	None Required	Auditors/Inspectors: Within 180 days of hire or promotion or hiring. Crew staff: Renovator required disturbing or testing paint on pre 78 housing.
Lead Safe Weatherization Training	All Auditors, Inspectors, crew leaders and crew workers	All Auditors, Inspectors, crew leaders and crew workers	One time Only	EPA Certified Renovator or OTI	None Required	Auditors/Inspectors: Within 180 days of hire or promotion or hiring. Crew staff: LSW training required to disturb paint on pre 78 housing.
Future Project: Once USDOE Multi-family QCI curriculum is available, training will be required to inspect MF completions						
Multi-Family QCI Inspector Training	All QCI Inspectors who inspect projects with 5 or more units per building.	All contract QCI Inspectors who inspect projects with 5 or more units per building.	One time Only	OTI	None Required	Course must be successfully completed before Multi-family projects may be inspected.

* Agencies with limited staff may request a waiver of work review by certified staff from OHCS. Waiver will require submittal of a random sampling of computerized audit models to OHCS.

Training Verification

Training records for the required trainings and certifications are verified through a combination of reviewing certified individuals on the BPI website, accessing the OTI database and OHCS staff reviewing training records during monitoring visits. OHCS field representatives and analysts follow up with Subgrantees when the required training was not completed or other training discrepancies are found.

Technical Guides

The key to a successful and effective program is ensuring work is completed and inspected in a consistent manner and according to specifications adopted by the State of Oregon. The technical guides are available on the OHCS website and links to the technical guides are provided to agencies. Agencies are to share the links with their contractors and obtain written confirmation of receipt to be kept in the contractors file. Confirmation of receipt is confirmed during monitoring visits.

The Oregon WAP will use the following technical assistance guides to ensure consistent work and processes:

- Oregon Weatherization Assistance program Site Built Housing and Manufactured Home Weatherization Field Guide and Standards.
- Oregon Multi-family Energy Audit Protocol
- Oregon Single family/Manufactured Home Energy Audit Protocol
- REM/Design™ Technical Policies

Training Provider

The OTI is currently the primary provider of tier 1 training in the state of Oregon. The OTI is working towards obtaining IREC accreditation. OTI has submitted their application to IREC on April 10th and hopes to have full accreditation by the end of 2015. Initially, OTI will be certified in the QCI training and when IREC accreditation is completed, the Energy Auditor certification will be obtained. OTI expects to be certified for Energy Auditor training early in 2016. OTI currently uses Weatherization Assistance Program Standardized Curricula that is aligned for the USDOE JTAs in all of their Tier 1 training courses.

Oregon WAP Tier 1 Training

Tier 1 training is defined as comprehensive, occupation-specific training which follows a curriculum aligned with the job task analysis (JTA) for that occupation. To ensure quality work and consistency in the delivery and benefits of the program, Tier 1 training must be provided to Auditors and Inspectors staff on a regular basis. To maintain eligibility to perform audits and inspections in the Oregon WAP, each Program year, (July 1- June 30) on a rotating basis, one of the tier 1 trainings listed below must be successfully completed. Courses may be taken at one time or broken up into a series of modules.

Tier 1 Training Provided		
Training	Number of Days	Frequency
HEP Quality Control Inspector	3	As Needed
HEP Energy Auditor	3	As Needed

Oregon WAP Tier 2 Training

Tier 2 training is defined as single issue, short-term, training to address acute deficiencies in the field including dense packing, crawlspace, REM/Design, ASHRAE, etc. Conference trainings are included in this category. OHCS staff will evaluate monitoring reports and if deficiencies are found, either provide training or refer the training to an approved training provider for follow-up. These trainings will be provided by a combination of OHCS staff, OTI staff and attendance at weatherization related conferences. Delivery methods will include webinars, classroom and in-field trainings.

Tier 2 Training Provided		
Training	Number of Days	Frequency
Lead Safe Weatherization	1	As Needed
Introduction to REM/Design™	1	As Needed
Annual REM/Design™ Training	1	As Needed
PTCS Duct Sealing	1	As Needed
Mold & Mildew Management	1	1/Quarter
ASHRAE 62.2-2013	1	As Needed
Advanced Blower Door	1	As Needed
Duct Diagnostics & Repair	0.5	As Needed
Room Pressure Balancing	0.5	As Needed
Comprehensive CAZ Analysis	1	As Needed
Heat Rise, Static Pressure & Air Flow Measurement	1	As Needed
On Site Contractor Mentoring	Varies	As Needed

Appendix D – Health & Safety Plan

HEALTH AND SAFETY PLAN State of Oregon Low Income Weatherization Assistance Programs

I. Weatherization Program Health and Safety

Funds provided under §440.18(c) (15) are to remedy health and safety hazards, which are necessary before, or because of, the installation of weatherization materials. DOE funds may only be used to mitigate health & safety issues listed under this guidance. In the event that issues are identified that do not fall under the scope of the DOE WAP, other, more flexible, funding sources may be utilized to complete H&S measures that do not fall under the DOE WAP criteria. If neither of these options is possible, every effort must be made to refer the client to sources that may be able to mitigate the issue. If after all of these options are exhausted and documented, then deferral may be required until the problems are resolved. See section XIII deferral standards.

1. Definitions

- a. Health and Safety Measures: Those actions necessary to maintain the physical well-being of both the occupants and/or weatherization workers where:
 - Costs are reasonable and do not exceed 15% of the subgrantees total allocated program dollars; **AND**
 - The actions must be taken to effectively perform weatherization work; **OR**
 - The actions are necessary as a result of weatherization work.
- b. Weatherization Measures: Building shell and equipment measures determined to be cost-effective by DOE approved OHCS standards.
- c. Weatherization Materials: Those materials listed in Appendix A of the DOE WAP for Low Income Persons Final Rule, 10 CFR Part 440. Materials for incidental repairs do not have to be listed in Appendix A, but should be at least equal to or better than industry standard practices.
- d. Incidental Repairs: Repairs necessary for the effective performance or preservation of weatherization materials.
- e. Lead Safe Weatherization (LSW): LSW is a set of protocols to be used when disturbing surfaces that may have lead-based paint that will reduce and control the amount of lead dust and paint chips that are generated.

2. Expenditure Limits and Reporting - Health and Safety Measures:

- a. Health & Safety expenditures must be no more than 15 percent of the total program budget for DOE. These costs **must** be recorded and tracked separately in the accounts

and on the house audit/assessment form and reported as a separate line item on the Invoice Voucher.

II. Crew and/or Contractor Health and Safety

The standards included here provide only general guidelines for health and safety concerns. Detailed specifications regarding worker health and safety are found in OSHA Safety and Health Standards (29 CFR 1926\1910) published by the U.S. Department of Labor. These standards are applicable to all workers providing services using funding under the DOE WAP program.

III. Training and Monitoring

The subgrantee's Weatherization Coordinator is responsible for ensuring that the crew or contractor(s) has a health and safety program in place. Documentation of all required training, for either crew or contractor based programs, is required and must be available for inspection.

1. **Employee Training** - New employees shall not begin working in the field until training is provided. Training will include:
 - a. All **weatherization** crew leaders, crew and contractor based, are encouraged, but not required, to complete the OSHA 30 hour training course.
 - b. All **weatherization** workers, crew and contractor based, are encouraged, but not required, to complete the OSHA 10 hour training course.
 - c. Proper usage of hazardous chemicals and substances such as foams, sealants, and cleaners in the weatherization work environment.
 - d. Safety Data Sheets (SDS) provided by suppliers that describe the method to properly handle potentially hazardous materials must be readily available to employees. Inform employees where the SDS are located. Employees must be trained in how to understand their content, and how to obtain and use appropriate hazard information.
 - e. It is strongly encouraged that all field staff (auditors, inspectors, and crew) shall have current First Aid and CPR proficiency cards.
 - f. Every jobsite where paint is being disturbed must have an EPA certified renovator onsite during sign posting, work area setup site and cleanup phases of the work. The renovator must be available by phone when off-site.
 - g. All weatherization crews working on pre 1978 homes must be trained in LSW using the updated curriculum based on the DOE benchmark curriculum.
2. **Safety Meetings** - Safety meetings shall be conducted monthly. The content of meetings should focus primarily on issues of current importance, for example, OSHA requirements, new information on safety procedures, or product related information (SDS). During the

meeting, employees should be encouraged to ask questions. The main purpose will be the ability of the employee to retain and understand information covered during the meeting. Limit the amount of information covered to just one issue, when possible, such as lifting, tool maintenance, electrical equipment, or understanding of Material Safety Data Sheets. Posters relating to such matters are available and should be displayed during the month that particular issue is discussed. Minutes of each meeting (listing topics discussed and concerns) shall be recorded and kept on file. A list of employee attendance will be included.

3. On-Site Inspection

- a. Appropriate subgrantee staff shall conduct an announced, on-site inspection of each crew periodically. This inspection will include:
 - a1. Ascertaining the extent of the client's understanding of weatherization activities being performed. If health and safety issues are documented, this information shall also be included in the discussion.
 - a2. Inspecting condition of personal safety equipment and confirming that all crew members are adequately supplied. Crew members must wear prescribed equipment if warranted by the activities being conducted.
 - a3. Checking that each crew vehicle is supplied with a:
 - a3.1 Complete first aid kit designed to provide basic first aid.
 - a3.2 Adequately charged hand-operated fire extinguisher, designed for all three types of fire (electrical, wood, and liquid). Ensure service date has not expired.
 - a3.3 Binder containing list of hazardous chemicals (common and chemical name), location where they are used, usage and hazardous information (signs/symptoms of exposure and required first aid), and list of Safety Data Sheets. (Note: Copies of SDS are not required if master files are accessible by all crew members.)
- b. Inspect hand and power tools and similar equipment. Any found to be defective should be tagged and removed from service. Equipment not in use shall be properly stored. Inspect work area to ensure activities are conducted in a safe manner, including provision of adequate light, proper disposal of debris, connection of power equipment to a ground fault circuit interrupter, and resolution of health and safety issues.

IV. General Work Practices

The prevention of occupationally induced injuries and illnesses will be given precedence over production activities. To the greatest degree possible, the Weatherization Coordinator/Contractor will ensure that all equipment and facilities are in compliance. Weatherization personnel are required to exhibit caution and care during the course of the workday.

1. The Crew Leader/Foreman

The Crew Leader/Foreman is responsible for being in compliance with any instructions pertaining to health or safety as they apply to crew production activities:

- a. Contact client before performing work. Provide the opportunity for discussing crew activities that will occur and occupant safety while work is in progress. When subcontractors are used, the Program Manager will be responsible for client contact.
- b. Ensure each crew member is reasonably protected when production activities are being conducted.
- c. For pre-1978 buildings: Lead-Based Paint Hazard Control. Inform the client of the nature of the work to be done, and encourage that children be off-site while the work is taking place. Obtain and post lead hazard signs while working on the dwelling.

2. Personal Protective Equipment

The use of personal protective equipment will be strictly enforced. Hearing and ear protection are required for individuals working around high decibel equipment. Each crew person will wear a respirator, protective eyewear, and protective clothing when necessary. Respiratory protection is required for individuals working in high dust environments, including when using loose fill insulation blowing equipment, installing materials in attic and floor areas, and during prolonged use of grinding or power saw equipment. When working in an environment in which lead based paint dust will be generated, each employee within the work area may be required to wear a properly fitted National Institute of Occupational Safety and Health (NIOSH)-approved HEPA respirator and protective clothing which will be removed upon vacating the work area. (See OSHA rules, Section L.3, Other Federal Government Regulations.)

3. Hand and Power Tools

All hand and power tools and similar equipment shall be maintained in a safe condition. This equipment will be inspected daily, and any equipment found defective shall be tagged and removed from service until it has been repaired or replaced. Protective guards are to be in place and functioning properly while a power tool is in use.

All electrical equipment, tools, and extension cords shall be grounded properly. All electrical power for 120-volt or greater will be protected by a ground fault circuit interrupter (GFCI). Any

extension cords found defective (insulation worn or cut, or frayed wires) are to be removed from the job site and disposed of.

It is recommended that, when using power tools on surfaces that contain lead-based paint, a HEPA dust collection attachment be used. Tools shall be cleaned after use.

4. General Fall Protection

Portable ladders shall be placed on a substantial base at a four-to-one pitch. Extension ladders are to be extended a minimum of 36 inches above the landing (i.e., where roof access occurs), or where not practical, be provided with grab rails and be secured against movement while in use. Portable metal ladders shall not be used where they may contact electrical conductors.

The use of ladders with broken or missing rungs or steps, broken or split side rails, or with other faulty or defective construction is prohibited. When ladders with such defects are discovered, they shall immediately be withdrawn from service.

Extra precaution is required while weatherization activities are conducted on the roof area. When an individual is above 10 feet or adequate stability cannot be maintained, safety gear, such as harness or safety straps, is required.

5. Housekeeping Activities

All scrap lumber, waste material, and debris shall be removed from the immediate area as work progresses. An area outside the home should be designated for storing such material, which should be removed from the premises at the end of each workday or when the job is completed. Agency crew/Contractors are encouraged to recycle materials whenever possible.

Equipment shall be removed from the immediate work area and properly stored when no longer required or when each phase of the weatherization process is completed. Individuals shall be equipped with a tool belt or vest, in which hand tools not in use are then properly stored and readily accessible when required.

When lead-based paint dust is generated during the course of work, the area **must** be cleaned no later than the end of each workday. All materials used in the debris collection system removed in a lead-safe manner, the area is thoroughly vacuumed using a HEPA vacuum, and wash and wipe down the area with a detergent solution.

6. Attic/Crawl Space Areas

Before weatherization activities are conducted, the following is required*:

- a. Health and safety corrective action documented on the Job Order Sheet is to be completed.
- b. Specific instructions are read and understood. Further clarification may be required from the Energy Analyst.

- c. An adequate and safe means of access is provided.
- d. Each individual has accessed the area and become familiar with existing conditions.
- e. When possible, cut out holes required for venting before work is started, installing vents after weatherization activities are completed. This procedure provides both additional ventilation and light.
- f. Precaution shall be taken when working in areas with low clearance. Work in areas with less than 24-inch clearance may be waived.

7. Occupant & Worker Health and Safety

Agency crews and contractors will be aware that some individuals' health problems could be exacerbated by weatherization activities. For example, some clients can be sensitive to dust generated from the installation of cellulose insulation.

All reasonable precautions must be taken against performing work on homes that will subject workers or clients to health and safety risks. Before beginning work on the residence, the agency must take into consideration the health concerns of each occupant, the condition of the dwelling, and the possible effect of work to be performed on any particular health or medical condition of the occupants. When a person's health is fragile or the work activities would constitute a health or safety hazard, the occupants at risk will/can be required to leave the home until work is completed, or the work may be deferred until such time that the conditions or circumstances are more favorable. Costs associated with temporary relocation of at-risk occupants may be allowed on a case by case basis with OHCS approval.

Weatherization services can be provided in a manner that minimizes risk to workers and clients. Although the Weatherization Assistance Program does not provide all the solutions, awareness of potential hazards is essential to providing quality services. Other energy-related hazards should be considered on a case-by-case basis.

V. Potential Hazard Conditions

During the weatherization process, often health & safety hazards are identified. When health and safety hazards are identified, the client **must** be notified in writing and the document, signed by the client, **must** be included in the file. The document **must** include the following:

- Client name and address of the project
- Date of audit
- Date when the client was informed of the hazard(s)
- A clear description of the hazard(s)
- The responsibilities of all parties involved. (Agency, Client, Landlord etc.)
- The clients' signature indicating they have been informed of all of their rights and options. In lieu of a client's signature, the hazard notification form may be mailed via certified mail

and return receipt is requested. The file **must** contain **both** the mailing receipt and the return receipt.

Note: If the conditions will require complete deferral of the project, then a deferral form must be completed in addition to the hazard notification form. See section XIII for deferral notification requirements.

See exhibit 9 for an example Health & Safety Hazard form

1. Biological

Remediation of conditions that may lead to or promote biological concerns and unsanitary conditions is allowed. Addressing bacteria and viruses is not an allowable cost. Deferral may be necessary in cases where a known agent is present in the home that may create a serious risk to occupants or weatherization workers.

A sensory inspection is required. Clients must be informed of observed conditions. If biological hazards are identified, inform the client of observed conditions. Complete a hazard notification form and what steps are necessary to correct deferral conditions.

Agency staff must be able to recognize conditions and when to defer. Workers must be aware of safety requirements when coming in contact these conditions.

2. Combustion Appliances and Combustion Gases

Combustion appliances produce potentially hazardous carbon monoxide as a byproduct of incomplete combustion. Any appliance that burns a fuel is a combustion appliance: furnaces, water heaters, cooking ranges and ovens, fireplaces, woodstoves and pellet stoves, and some space heaters. Appropriate **combustion testing shall be performed both pre and post weatherization** of any dwelling containing a combustion appliance as detailed in the Site Built Housing and Mobile Home Weatherization Specifications for the State of Oregon Weatherization Assistance Program Appendixes:

- a. Conduct worst case depressurization testing for all vented combustion appliances (excludes ranges and ovens).
- b. Measure draft in the furnace or water heater exhaust flue in worst case conditions (Excludes sealed combustion appliances).
- c. Measure carbon monoxide levels in the combustion appliance's exhaust flue or exhaust port(s) and also measure the ambient carbon monoxide level in the house.
- d. Diagnostic testing may reveal inefficient operation of a combustion appliance or potentially unsafe operating conditions which require corrective actions such as the cleaning, repair, or replacement of equipment. See section X and XII for allowability of replacement/repair etc.

- e. Any home containing a combustion appliance shall have a carbon monoxide alarm installed on each floor of the house and have a carbon monoxide release form signed by the owner/occupant and placed in their file. Installation shall be in compliance with manufacturer's instructions. Consider installing a carbon monoxide alarm in any home with an attached garage.
- f. Proper venting to the outside for combustion appliances, including gas dryers, is required. Correction of venting is allowed when testing indicates an existing problem.
- g. Unvented combustion space heaters **must be removed** from the home before any weatherization work is initiated.

If testing indicates that a combustion appliance needs repair, the repair shall be addressed and the appliance brought into compliance with all applicable standards. Pressure balancing is an allowable H&S expense if needed to mitigate unsafe operating conditions. Agency field staff must be trained in proper combustion testing protocol. If combustion hazards are identified, provide client with combustion safety and hazards information, including the importance of using exhaust ventilation when cooking and the importance of keeping burners clean to limit the production of carbon monoxide (CO).

3. Fire Hazards

Correction of fire hazards is allowed when necessary to safely perform weatherization. Potential fire hazards **must** be identified and documented in the client file. The client **must** be informed of any potential fire hazards identified.

4. Smoke, Carbon Monoxide Alarms, and Fire Extinguishers

CO Alarms: In homes with combustion appliances, weatherization agencies **must** install CO alarms on each floor near the sleeping areas in dwelling units where these devices are nonexistent or inoperable. CO alarms must be UL listed and installed in accordance with the manufacturer's recommendations. A carbon monoxide release form **must** be signed by the owner/occupant and placed in their file

Smoke alarms: Installation of smoke alarms is allowed where alarms are nonexistent or are inoperable. Smoke alarms must be installed in accordance with the manufacturer's recommendations, listed in accordance with UL 217, comply with NFPA 72

Local agencies **must** provide the occupant(s) of the dwelling unit with verbal and written information regarding the following:

- Dangers of CO and smoke.
- How to operate and reset the CO and smoke alarms.
- How to read the CO alarm.
- How to respond when the CO alarm sounds.

- How to change the batteries of CO and smoke alarms.

Fire extinguishers: Supplying fire extinguishers is an allowable cost **only** when the client uses a solid fuel in the home. Fire extinguishers must be installed, according to the manufactures recommendations, be type ABC, UL listed, ≤ 10 lb and with a permanently affixed wall bracket to receive the extinguisher. The client **must** sign a written agreement to allow a fire extinguisher to be installed in the home within sight of the solid fuel burning heat system when standing at the unit. The agency must discuss and provide information on the use and upkeep of the extinguisher to the client.

5. Occupant Pre-existing or Potential Health Conditions

The occupants pre-existing health conditions may be worsened by installing weatherization measures. Subgrantees must have the client read, sign and date a health & safety assessment either at the time of the initial application for services or during the initial site visit. The health & safety assessment **must** be included in the project file.

See exhibit 9 for the health & safety assessment form.

6. Mold & Moisture

Limited water damage repairs that can be addressed by weatherization workers and correction of moisture and mold creating conditions are allowed when necessary in order to weatherize the home and to ensure the long term stability and durability of the measures.

Mold testing & remediation is not an allowable expense. A visual assessment is required on all projects to identify mold & moisture issues. Identification of existing or potential moisture problems shall be documented in the client file. Any moisture problems found must be pointed out and discussed with the client. The mold and mildew checklist (*see exhibit 6*) **must** be filled out at the time of the audit, signed, and dated by the client.

A copy of the pamphlet, *A Brief Guide to Mold, Moisture, and Your Home*, must be given to the client and a signed confirmation of receipt **must** be present in the file.

Acceptable H&S expenditures to address moisture issues include:

- Minor roof repairs to stop moisture intrusion.
- Repairing minor plumbing leaks.
- Venting clothes dryers to the exterior of the home.
- Venting Exhaust fans to the exterior of the home.
- Installing vapor diffusion retarders (ground cover) to cover soil crawlspaces.
- Installing additional mechanical ventilation to the home.

All agency field staff must be trained in mold & moisture management. If mold in the living space exceeds 10 sqft, then deferral may be required. Where severe Mold and Moisture issues exist anywhere in the structure and cannot be addressed, deferral is required. (*See Exhibit 6*)

7. Drainage

Drainage consists of gutters, downspouts, extensions, flashing, sump pumps, landscape, etc. Major drainage issues are beyond the scope of the program. Any drainage repair issues must be treated as an incidental repair and are not an allowable health & safety expense. If the cost of the repair exceeds the cost effective threshold, the project may be deferred. Clients should be informed of the importance of proper maintenance and cleaning of drainage systems. Agency staff should be aware of how to recognize drainage issues.

8. Code Compliance

Correction of preexisting code compliance issues is not an allowable cost other than where weatherization measures are being conducted. State and local (or jurisdiction having authority) codes must be followed while installing weatherization measures. Condemned properties and properties where “red tagged” health and safety conditions exist that *cannot* be corrected under this guidance should be deferred.

Agency staff must be aware of code compliance that will be required for weatherization measures. If any code compliance issues are identified, the client **must** be informed.

9. Pests

Pest removal is allowed only where infestation would prevent weatherization. Infestation of pests may be cause for deferral where it *cannot* be reasonably removed or poses health and safety concern for workers. Screening of windows and points of access is allowed to prevent intrusion.

If pest hazards are identified, the client **must** be informed of observed condition and associated risks.

10. Injury Prevention of Occupants and Weatherization Workers

Includes measures such as repairing stairs and replacing handrails.

Workers must take all reasonable precautions against performing work on homes that will subject workers or occupants to health and safety risks. Minor repairs and installation may be conducted only when necessary to effectively weatherize the home; otherwise these measures are not allowed. Replacement of stairs is not allowed with DOE funds. If hazards are identified, the client **must** be notified of observed hazards and associated risks.

VI. Indoor Air Quality

1. Ventilation

ASHRAE 62.2-2013 is required to be met to the fullest extent possible, when performing weatherization activity. The standard applies to spaces intended for human occupancy

within single family houses and multi family structures of three stories or fewer above grade, including modular or manufactured houses. The standard does not apply to “park model” manufactured homes under 400 square feet, travel trailers, motor homes or transient housing such as hotels, motels, nursing homes, dormitories, or jails. Implementing ASHRAE 62.2 is not required where acceptable indoor air quality already exists as defined by ASHRAE 62.2. The specifics of ASHRAE 62.2-2013 are addressed in the Oregon Site Built and Manufactured Home field Guide and Standards. All actions related to ASHRAE 62.2-2013, including ancillary requirements are acceptable health & safety expenses.

All agency field staff must be proficient in the ASHRAE 62.2-2013 requirements.

Discuss and provide information to the client on function, use, and maintenance of ventilation system and components as applicable.

2. Asbestos

General asbestos removal is *not* approved as a health and safety weatherization cost. Encapsulation by an AHERA certified professional is allowed if the 15% H&S limit is not exceeded. If major asbestos problems are encountered, the client **must** be notified of the potential hazard and the project may be deferred.

If suspected asbestos containing material (ACM) is found, it must be assumed to be asbestos unless it is tested by an AHERA approved lab to ascertain the asbestos content. The cost of testing is an allowable H&S cost.

The Oregon Department of Environmental Quality (DEQ) allows for program staff obtain a sample of suspected ACM on residential projects that are 4 units or smaller. The DEQ requires an asbestos survey be performed by an AHERA certified individual on residential buildings that are 5 units or larger **and** the project involves demolition or renovation.

Care must be taken when sampling suspected ACM to prevent disturbing the asbestos fibers. When suspected ACM are blown or troweled in place, (i.e. vermiculite or ceiling texture) it is recommended to take more than one sample.

Follow the DEQ protocol listed below when sampling suspected ACM.

1. Wet down the material with a light water mist before taking the sample. This reduces the potential release of asbestos fibers.
2. Do not disturb the material any more than is necessary to take a small sample.
3. Place the sample in a clean, “air-tight” container such as a zip-lock bag or small glass jar.
4. Seal the container tightly.
5. Use a damp paper towel to clean up any material on the outside of the container or that might have spilled onto the floor.
6. Clearly label the container, stating where and when the sample was taken.

7. Send the sample to a laboratory for analyses. Make sure to take one sample for each different type of suspect material.

Any material that tests higher than 1% asbestos by weight is considered asbestos containing material.

In addition to taking care when sampling suspected ACM, care must be taken during the work and audit to prevent friable asbestos fibers from being disturbed. Blower door and duct leakage testing should be avoided. If a blower door is required, pressurize the home when testing. If there is no friable asbestos in the home, blower door and duct leakage testing is allowable.

When vermiculite is present, unless testing determines otherwise, the measure containing the vermiculite is to be deferred. Encapsulation by an AHERA asbestos control professional is allowed. A Removal is not allowed.

With regard to pipes, furnaces and other small covered surfaces, assume asbestos is present in the covering materials unless testing shows otherwise. Encapsulation is allowed by an AHERA asbestos control professional and should be conducted prior to blower door testing.

It is allowable but not required, to remove cement/asbestos siding to install wall insulation as long as precautions are taken to prevent damage to the siding. Drilling, cutting or sanding of the siding is not allowed. Cement/asbestos siding is not considered friable. If asbestos siding is going to be removed, inform the client that suspected asbestos siding is present and how precautions will be taken. Workers removing siding must be trained in proper removal and replacement of siding.

Agency staff should be trained in recognizing asbestos hazards.

Clients **must** be informed that suspected asbestos is present and what precautions will be taken. Clients will be instructed not to disturb suspected asbestos containing material. Clients **must** be provided information on asbestos safety and steps to correct deferral conditions (where applicable). The clients are required to sign a hazard notification form (See exhibit 9) if test results are positive or asbestos is assumed.

3. Radon

Where there is a previously identified radon problem, work that would exacerbate this problem should be deferred. Radon testing or abatement is *not* an allowable activity under Oregon's weatherization program. However, costs associated with taking precautions in a dwelling known to have radon problems are allowable weatherization expenditures. These costs are allowable if an energy audit indicates that weatherization techniques would help in radon remediation.

Allowable precautions include:

- Where site conditions allow, installing a radon diffusion retarder (ground cover) over exposed soil is required in site built homes.
- Air sealing all crawlspace/conditioned space penetrations.
- Air sealing foundation cracks in homes with basements.
- Pressure balancing of the home.

If presence of radon is identified, a copy of the EPA’s informational pamphlet, “A Citizen’s Guide to Radon” **must** be provided to the client. Agency field staff must review the EPA’s informational pamphlets, “A Citizen’s Guide to Radon” and “Consumers Guide to Radon Reduction” to understand what radon is it, how it occurs and what factors may exacerbate the problem. Major radon problems should be referred to the appropriate local environmental organization or agency for mitigation or abatement. In extreme cases deferral may be an option.

4. Formaldehyde and Volatile Organic Compounds (VOCs)

Formaldehyde, tobacco smoke, thinners, solvents, cleaners, and any other substances capable of negatively impacting indoor air quality are identified through the On-site inspection process. Basic strategies such as proper storage and ventilation are used to eliminate problems. However, this is primarily an occupant responsibility. In some cases, deferral may be an option. 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.

Agency staff must be able to recognize potential hazards and when removal is necessary. Clients must be informed of observed conditions and associated risks. Where applicable, the client must be given written information and explanation on safety and proper disposal of household pollutants

Spray polyurethane foam (SPF) is an effective insulation and air sealant material; however, exposures to its key ingredient, isocyanates, and other SPF chemicals that may be found in vapors, aerosols, dust, or on surfaces during and for a period of time after installation can cause adverse health effects such as:

- Asthma, a potentially life-threatening disease
- Sensitization, which can lead to asthma attacks if exposed again
- Lung damage
- Other respiratory and breathing problems
- Skin and eye irritation

When installing SPF, follow these steps to control exposures:

- Review label and product information for ingredients, hazards, directions, safe work practices, and precautions

- Ensure safe work practices are followed to prevent eye, skin, and inhalation exposures during and after SPF installation
- When working outside the building envelope, check for pathways that will allow fumes to migrate into the conditioned space, isolate the area where foam will be applied, take precautions so that fumes will not transfer to the conditioned space. During use, perform a sensory inspection to ensure fumes do not enter the conditioned space. If fumes are detected, exhaust fumes to the outside of the home.
- When working inside the envelope, exercise caution when determining if occupancy of the dwelling is safe for unprotected occupants and workers based on the manufacturer’s recommendation. Consider relocation of clients on a case by case basis.

Notify the client of plans to use two part foam and the precautions that may be necessary. Installers must be trained in proper use of specific SPF products being used. MSDS sheets are mandatory for any foam product used and a thorough understanding of the temperature sensitivity of the product in use is required.

VII. Lead-Based Paint

1. Poisonous Lead Based Paint

- a. Lead is a poison, *most* dangerous in the form of dust and fumes. Childhood lead poisoning is linked to reduced intelligence, low attention span, reading and learning disabilities, juvenile delinquency, behavioral problems, and other adverse health effects. Nearly one million children have excessive levels of lead in their blood, making lead poisoning a leading childhood environmental disease. Lead-based paint, along with the contaminated dust and soil it generates in housing, is the major remaining source of exposure and is responsible for most cases of childhood lead poisoning today. Levels of lead dust created by typical weatherization work (specifically, windows and doors) in older housing with lead-based paint are likely to be above EPA clearance levels, and therefore pose a substantial risk to children.

2. Lead Renovation, Repair, and Painting Program

- a. In April 2008, the Environmental Protection Agency (EPA) published the “Lead Renovation, Repair, and Painting Program” Final Rule (LRRP Final Rule) which was implemented on April 22, 2010. This rule specifically cites Weatherization in several places as an activity that falls under the rule, and thus, has a direct impact on how the Weatherization Program proceeds, especially in implementing Lead Safe Weatherization (LSW).
- b. It is important to remember that the Weatherization Assistance Program legislated purpose is to install energy efficiency measures in Weatherization clients homes, in order to lessen

their energy cost burden. WAP is **not** funded to do lead-based paint abatement work, or to do lead-based paint hazard control or stabilization [1].

- c. In the process of weatherizing a home, workers sometimes encounter and have to disturb painted surfaces that are known or presumed to contain lead-based paint. When that happens:

Certified Renovator courses are generally created for renovation/remodeling contractors and do not include all aspects of Lead Safe Weatherization (LSW)-the methods and techniques that reduce the spread of dust specific to typical Weatherization activities. Because Certified Renovator courses do not cover all LSW practices, DOE requires ALL Certified Renovators be trained in LSW prior to working on pre-1978 housing. Further, since DOE requires LSW in all pre-1978 housing, all crew workers must also be trained in LSW before working in pre-1978 housing. Subgrantees must document in their files LSW was properly implemented (e.g., photos of the site, containment set up, etc.).

Note: subgrantees are reminded that all completed units must receive a final inspection to insure compliance with all regulations, which includes LSW procedures.

- c1. DOE funds may be used to minimize the potential hazard associated with the specific painted surfaces that workers are directly disturbing in the course of installing an energy efficiency measure.
 - c2. DOE funds may **not** otherwise be used for abatement, stabilization, or control of the lead-based paint hazard that is in the house.
 - c3. Work that is needed in conjunction with Weatherization activities that disturb surfaces having lead-based paint, to prevent the generation of lead-based paint dust and residues, is allowable as long as the work is associated with installing energy efficiency measures.
- d. Testing in a home for lead in a painted surface, when it is done, is limited to only those surfaces that will be disturbed. Testing for lead-based paint is **not** an allowable weatherization expense; except, when it is related to the installation of energy efficiency measures.
- e. When Weatherization crews disturb surfaces that may have lead-based paint, they **must** exercise caution to keep any dust that is generated from becoming a hazard to the clients, to themselves, or to their families.
 - e1. They do this (safeguarding people from lead-based paint hazards) through a set of safe work protocols hereafter referred to as Lead Safe Weatherization (LSW). In the course of applying the principles of LSW to the installation of energy efficiency measures, Weatherization crews may perform some of the same

procedures which are used in the control or stabilization of lead-based painted surfaces, but that will be only incidental to following LSW practices while accomplishing the weatherization of the home.

- f. Lead Safe Weatherization (LSW) is a set of protocols to be used when disturbing surfaces that may have lead-based paint, that will reduce and control the amount of lead dust and paint chips that are generated. The protocols, when designed and followed properly, address compliance with applicable regulations, including state and local regulations, and may reduce the risk of liability associated with the work.
 - f1. The protocols require training to gain an understanding of lead-based paint hazards and their harmful effects and to acquire skills in reducing the lead dust generated when painted surfaces are disturbed in the course of installing energy efficiency measures. The protocols involve setup and cleanup practices that contain the spread of the lead dust and debris (generated from the weatherization activities) when the work is finished.

3. DOE Weatherization Program Notice (WPN) Instructions

NOTE: The requirements for this section are taken from the "DOE Weatherization Program Notice 03-1"; "Program Notice 02-6."; "Weatherization Program Notice (WPN) 08-6" with Attachments 1 and 2; and "Weatherization Program Notice 09-6"

PURPOSE: To provide clarification and additional information to grantees as they implement WPN 08-6, Interim Lead-Safe Weatherization (LSW) Guidance. This guidance augments, but does not replace, WPN 08-6, and builds on the foundation provided in Weatherization Program Notice (WPN) 02-6, Weatherization Activities and Federal Lead Based Paint Regulations.

LSW must be applied to all pre-1978 housing, unless the house meets EPA's Final Rule Exemptions.

- a. **No Lead-Based Paint will be Disturbed.** LSW **must** be applied to all pre-1978 housing, unless there is existing evidence that the home has been certified as being lead-free or below the lead threshold limit (e.g., for paint containing lead below the regulated level, 1.0 mg/cm² or 0.5 percent by weight).
- b. One of the following methods must be used to determine the paint to be disturbed is not lead-based paint:
 - b1. Written determination by certified lead inspector or risk assessor; **OR**
 - b2. Proper use of EPA-recognized test kit provided agencies (documenting manufacturer and model of test kit used, description and location of components tested, and test kit results)

- (1) Tests must be performed by a Certified Renovator, per EPA final rule. Approved kits will be posted at: <http://www.epa.gov/lead/>
 - (2) A State-approved lead-based paint test protocol (e.g., XRF scans verifying absence of lead paint)
- c. Manufactured homes. Often, interiors of manufactured homes were not painted but rather, paneling was applied to the surfaces. Therefore, pre-1978 manufactured homes that were not painted by the manufacturer, occupant, landlord, or past owner of the unit before 1978, may be exempt from LSW.
- c1. Weatherization Programs **must** verify the areas receiving weatherization services have never been painted, or were painted for the first time after 1978. If this is not verifiable, then LSW protocols **must** be followed.
 - c2. Painted exterior surfaces on pre-1978 units should not be drilled, scraped, sanded, or receive any other work that disturbs the paint.

4. Minimum Standards for LSW

Safe Work Practices **must** be implemented to minimize exposure to hazards for the customer and the workers, while allowing Weatherization to occur in a cost-effective manner and to not hinder production. The effort required will be based on the hazard, the work specifications, and customer health issues.

- a. CHECK: Federal, state, and local regulations.
 - a1. OSHA has rules for worker safety.
 - a2. States and local communities may have rules for waste disposal.
- b. To meet the LSW minimum standards, crews and contractors **must** follow the general principles of working clean and working wet. Best practices for working clean and working wet are available in the benchmark LSW procedures and curriculum and should be reviewed and consistently enforced on LSW jobs.

5. Requirements

- a. Weatherization Worker Protection LSW includes these procedures and safety precautions:
 - a1. Wear personal protective gear specifically suited for the particular LSW measure. Use the National Institute for Occupational Safety and Health (NIOSH) approved respirators (at least ½ face) with HEPA filters.
 - a2. Use disposable overalls (with hood or a disposable painter's cap), gloves (cloth, plastic, or rubber as appropriate), goggles, and disposable shoe/boot covers.

- a3. Keep dust to a minimum and confine dust and paint chips to the work area.
- a4. Clean up area during and after work.
- b. Specific clean up procedures are required as outlined in the April 22, 2008, rule.
 - b1. During Weatherization, wash your hands and face frequently, particularly when leaving the work area and especially before leaving the area for the purpose of eating, drinking, or smoking.
 - b2. Before leaving a confined work area, remove your protective clothing and protective shoe/boot covers to avoid exposing others.
 - b3. Before leaving a confined work area, and before returning tools and equipment to vehicles, clean all tools to avoid exposing others and creating a lead-hazard to the next Weatherization job.
 - b4. Annual medical exams are recommended to check blood lead levels. Do non-lead-related work if your blood lead level gets too high.
 - b5. Inform your employer if you develop signs of lead poisoning.

6. Client Notification

- a. For occupied homes, the Weatherization staff, crew, or contractor **must** have an adult tenant, homeowner, or homeowner's representative sign an acknowledgement after receiving the EPA Renovate Right pamphlet.
- b. The EPA Renovate Right pamphlet can also be sent by certified mail with receipt to be placed in the client file.
- c. In multi-unit housing, the subgrantee must:
 - c1. Provide written notice to each affected unit (notice **must** describe: general nature and locations of the planned renovation activities; the expected starting and ending dates; statement of how occupant can get the EPA Renovate Right pamphlet at no charge); **OR**
 - c2. Post informational signs (signs **must** describe general nature and locations of the renovation and the anticipated completion date) and post the EPA Renovate Right pamphlet. (If pamphlet is not posted then agencies are required to provide information on how interested occupants can review a copy of the pamphlet or obtain a copy at no cost from the Weatherization Program).

- c3. Delivery to owner/occupant. Owner's and/or occupant's signature with acknowledgment or certificate of mailing. The owner/occupant **must** acknowledge receipt of the EPA Renovate Right pamphlet prior to start of renovation that contains the address of unit undergoing renovation, name and signature of owner or occupant, and the date of signature. It **must** be in same language as "contract for renovation" for an owner occupied (or the same language as the lease for occupant of non-owner occupied) target housing.
- d. If the Weatherization Program cannot get a signed acknowledgment (either the occupant is not home or refuses to sign the form), then the self-certification section of the form **must** be signed to prove delivery.
- e. The acknowledgement form **must** be filed and remain with the client file for three (3) years from date of signature.
 - d1. In addition to providing a copy of the pamphlet to owners and occupants, designated local agency staff (e.g., intake specialist, auditor, crew chief) must discuss the hazards associated with lead-based paint and lead dust, and describe how they will conduct LSW in the home.

7. General LSW Work Practice Standards

- a. Crews and contractors **must** take steps to protect occupants from lead-based paint hazards while the work is in-progress using appropriate containment strategies.
- b. Occupants, especially young children or pregnant women, **may not** enter the work site. Occupants are allowed to return only after the work is done and the home has passed a visual inspection.

Compliance with EPA's LRRP Rule Requirements

- 1. To comply with EPA's LRRP Rule requirements, specific verification inspection procedures are required as outlined in the April 22, 2008, rule.
 - a. Occupants' belongings **must** be protected from lead contamination. This can be done by removing them from the work area or covering them in protective bags and sealing it to prevent dust from getting on the items.
 - b. The work site **must** be set up to prevent the spread of leaded dust and debris.
 - c. 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.

- d. The work area **must** be contained. If containment cannot be achieved with occupants in the unit (e.g., work will take several days and involves the kitchen, bathrooms, or bedrooms that cannot be sealed off from use), occupants **must** move out of the unit or the work **must** be deferred until containment can be achieved.
- e. A Certified Renovator **must** supervise and inspect Weatherization work of any type and scale to ensure it is being done properly.
- f. Ensure containment does not interfere with occupant and worker egress in an emergency.

2. Prohibited Work Activities

The following are frequent questions related to prohibitions when working in pre-1978 homes:

- a. **NEVER** use reusable cloth or fabric, such as a painter's drop cloth, as protective containment sheeting. Polyethylene and in some cases when working on the exterior garden fabric are the only acceptable protective containment sheeting and **must** never be reused.
- b. **NEVER** use brooms and shop vacuums for cleanup. Wet cleaning and HEPA vacuums are the only acceptable methods for cleanup.
- c. **NEVER** use a conventional shop vacuum with HEPA filters – only HEPA-designed vacuums are acceptable for LSW.
- d. **NEVER** turn leaded paint into leaded dust by dry scraping or sanding (unless needed around electrical outlets) or grinding, abrasive blasting or planing.
- e. **NEVER** use an open-flame torch or heat gun (above 1100°F) to remove paint or window glazing. Open flame/high heat methods to remove paint create fumes that are dangerous for workers to breathe. Small lead particles created by burning and heating also settle on surrounding surfaces and are very hard to clean up.

Containment

Containment is anything that stops any dust or debris from spreading 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.

- 1. To comply with EPA's LRRP Rule requirements, a Certified Renovator is required at the jobsite to assess and set up the containment site.
 - a. **NEVER** - allow residents and pets access to the work area while work is underway.
 - b. **NEVER** - open windows and doors allowing lead dust to float into other parts of the building or outside.

- c. **NEVER** - allow furniture and other objects to remain in the Weatherization work area while Weatherization work is being performed unless they are covered and sealed in polyethylene sheeting or bags.
- d. Every home and every specific weatherization measure is unique; therefore the level of containment required will be based on the hazards present, the age of the home, the scope of work activities, and any customer health issues. Although weatherization jobs require individual assessments, LSW work generally falls into two (2) levels of containment and the related standards are outlined below.

2. Level 1 Containment

Level 1 Containment is required in pre-1978 homes when *less than* 6 ft² of interior painted surface per room or 20 ft² of exterior painted surface will be disturbed.

- a. 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 which **must** be kept secure. Measures that *may* fall within this guideline include:
 - a1. Installing or replacing a thermostat.
 - a2. Drilling and patching test holes.
 - a3. Replacing HEPA filters and cleaning HEPA vacuums.
 - a4. Changing Furnace Filter.
 - a5. Removing caulk or window putty (interior).
 - a6. Removing caulk or window putty (exterior).
 - a7. Removing weather-stripping.

3. Level 2 Containment

Level 2 Containment is required when weatherization activities will disturb *more than* 6 ft² of interior surface per room, **or** 20 ft² of exterior surfaces in homes built prior to 1978.

- a. Level 2 Containment consists of methods that define a work area that will not allow any dust or debris from work area to spread.
- b. 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.

- c. Measures requiring Level 2 Containment *may* include:
 - c1. Drilling holes in interior walls.
 - c2. Drilling holes in exterior walls, removing painted siding.
 - c3. Cutting attic access into ceiling or knee walls.
 - c4. Planing a door in place.
 - c5. Replacing door jambs and thresholds.
 - c6. Replacing windows or doors.
 - c7. Furnace replacements.
- d. Level 2 Containment **must ALWAYS** be used where any of the following is conducted (even if the activities will disturb less than the hazard de minimis levels within the Level 1 Category):
 - d1. Window replacement.
 - d2. Demolition of painted surface areas.
 - d3. Using any of the following:
 - (1) Open-flame burning or torching;
 - (2) Machines to remove paint through high-speed operation without HEPA exhaust control; **or**
 - (3) Operating a heat gun at temperatures at or above 1100 degrees Fahrenheit.

4. Interior Cleaning Requirements

- a. Collect all paint chips and debris, and seal in heavy duty plastic bags.
- b. Mist, remove, fold (dirty side in) and tape or seal protective sheeting.
 - b1. Dispose of sheeting as waste.
- c. Plastic sheeting between non-contaminated rooms and work areas **must** remain in place until after cleaning and removal of other sheeting.
- d. HEPA vacuum or wet wipe walls from high to low, then HEPA vacuum remaining surfaces and wipe with a damp cloth.

- e. Clean 2 feet beyond the contained work area.
- f. Use disposable wipes or change cloths frequently.
- g. For carpet or rug, use HEPA vacuum with beater bar.
- h. HEPA vacuum and wet mop uncarpeted floors - two-bucket mopping method or wet mopping system.

5. Visual Inspection Procedure

- a. Conducted by Certified Renovator.
- b. Put on disposable foot covers before entering the work area.
- c. Make sure there is adequate lighting in the work area.
- d. Turn-on all of the lights or use a bright, white-light flashlight.
- e. Systematically look for dust and debris on every horizontal surface in the work area and 2 feet beyond.
- f. Work from the farthest area from the entry to the entry.
- g. Closely examine each surface.
- h. If you find visible dust or debris, then re-clean the work area and repeat step 4.
- i. Once you have carefully looked at all of the surfaces and found no dust or debris, proceed to the cleaning verification procedure, or clearance.

6. Cleaning Verification (CV) Procedure

- a. Wipe each window sill within the work area. Use a single wet disposable cleaning cloth per window sill.
- b. Wipe uncarpeted floors and all countertops with wet disposable cleaning cloths. Wipe up to a maximum of 40 ft² per cloth.
- c. Compare each wipe to the CV card. If the cloth matches or is lighter than the CV card, the surface has passed cleaning verification and no further action is required.
- d. If the cloth is darker than the CV card, re-clean and repeat the CV process.

- e. If the second wet cloth fails, wait 1 hour or until surfaces are dry, and then wipe with an electrostatically-charged white disposable cleaning cloth designed to be used for cleaning hard surfaces. This completes the cleaning verification.

7. Clearance Examination (Dust Clearance Testing) – Optional under the RRP Rule.

- a. Dust clearance testing may be performed to check the effectiveness of the cleaning efforts.
- b. Clearance is an option under the EPA Renovation, Repair, and Painting Rule and is required by the HUD Rule in many cases.
- c. Dust clearance testing is performed to check the effectiveness of cleaning efforts.
- d. In some cases, dust clearance testing may be required as part of “clearance” (a regulation defined process to ensure that a work area is not contaminated with leaded dust after work is completed). Cleaning verification need not be performed if dust clearance testing is required at the conclusion of a renovation. In such cases, dust clearance testing may only be performed by a Certified Lead Inspector, Risk Assessor, or Dust Sampling Technician. The Certified Renovation Firm is required to re-clean the work area until dust-lead levels in the work area meet the clearance standards. Some state, local, and tribal laws may require a clearance examination following renovation and remodeling work, to levels that differ from the Federal clearance standards. The selection of a CV or a clearance examination will be based on regulatory requirements or the renovation contract.

8. Exterior Cleanup Requirements

- a. Clean all surfaces in the work area until no visible dust, debris, or residue remains.
- b. Remove all dust and debris without dispersal, and seal in heavy plastic bags.
- c. Remove protective plastic sheeting and mist before folding it dirty side inward.
- d. Check your work.
- e. Focus on areas such as window sills, bare soil, and children’s play areas.
- f. Look for dust, debris and paint chips.

9. Exterior – Check Effectiveness of Cleaning

- a. Visual inspection
- b. A Certified Renovator conducts a visual inspection after any cleaning.
- c. Determines if any visible dust and debris are present in and beyond the boundaries of the work area.

- d. If visible dust or debris are found, collect and dispose of all paint chips, dust, and debris identified during the visual inspection.
- e. After re-cleaning, the Certified Renovator conducts another visual inspection.
- f. When all areas pass, warning signs may be removed.

10. Disposal

- a. Place waste in heavy duty plastic bag.
- b. “Gooseneck seal” the bag with duct tape.
- c. Carefully dispose of waste in accordance with Federal and other regulations.
- d. HEPA vacuum the exterior of the waste bag before removing it from the work area.
- e. Store waste in a secure area.
- f. Waste may be disposed of as household waste.

11. Deferral Policy Related to Lead-Based Paint

In determining whether to defer or postpone weatherization work on a home that has tested positive for lead-based paint or is assumed to have lead-based painted surfaces, agencies should assess the following:

- a. Is the agency prepared to work with lead-based paint? Have workers received the required training in Lead Safe Weatherization protocols and, if the housing is also HUD financially assisted, Lead-based Paint Safe Work Practices? Is the necessary equipment, such as HEPA vacuum cleaners, available? Does the agency's liability insurance cover work with lead-based paint?
- b. What is the condition of the painted surfaces in the house? Is it so seriously deteriorated that a work person's presence just walking around the house is enough to stir up lead-based paint dust that is a threat to the clients and workers?
- c. What is the extent to which the specific energy efficiency measures determined by the audit will disturb painted surfaces? Will the disturbance generate dust in excess of OSHA minimums?
- d. Will the cost of doing Lead Safe Weatherization work represent a large portion of the total cost and exceed the amount allowed in the State's Health and Safety Plan?

- e. Using the above answers, the agency should conclude one of the following:
 - e1. Proceed with all the weatherization work, following Lead Safe Weatherization work practices; **or**
 - e2. Do some of the weatherization tasks and defer others; **or**
 - e3. Defer all of the weatherization work.
- f. Deferral means postponing work until the agency is prepared to work with lead-based paint, or until another agency has corrected the problem so that weatherization can be safely performed. Weatherization work should not be deferred solely because there is lead based paint in the home. Even in such a home, regular weatherization work that does not disturb painted surfaces and does not stir up lead-based paint dust can be done.

12. Funding of Lead Safe Weatherization

- a. DOE funds may be used to pay for weatherization activities that disturb lead-based painted surfaces while installing energy efficiency measures or for case-by-case testing.
- b. DOE funds shall not be used for abatement, stabilization or control of lead-based paint hazards, or routine entrance and clearance testing.
 - b1. However, U. S. Department of Housing and Urban Development (HUD) funds such as Community Development Block Grant (CDBG), lead hazard control programs and Home Repair and Rehabilitation Program funds may be used to do this work.
 - b2. Also, U. S. Department of Health and Human Services' (HHS) Low Income Home Energy Assistance Program (LIHEAP), may be used for certain expenses related to Lead Safe Weatherization.
- c. Specifically, for DOE funding, agencies should budget Lead Safe Weatherization costs under Health and Safety as a separate cost category, excluded from the calculation of average cost per home. Lead Safe Weatherization costs include labor and materials. LSW costs must be itemized separately from measure costs.

13. Liability Insurance

In "Weatherization Program Notice 02-6," DOE recommends that agencies have sufficient insurance coverage before performing weatherization work that will disturb surfaces that may contain lead-based paint. OHCS recommends Pollution Occurrence Insurance (POI) for both agencies and subcontractors.

- a. POI is purchased for the lead hazard control work associated with weatherization and rehabilitation. It is likely that POI will need to be added to an agency or subcontractors general liability insurance coverage.
- b. If agencies or their subcontractors are performing Lead-based Paint Inspections or Risk Assessments; Errors and Omissions Insurance (EOI) is required. Errors and Omissions Insurance is purchased for lead-based paint inspections, risk assessments and clearance tests.
- c. Agencies can request a grace period of 6 months from OHCS for the insurance. However, agencies are required to either refer or defer weatherization work that will disturb surfaces that may contain lead-based paint, until they have insurance that will provide coverage for Lead Safe Weatherization work (and, in some cases involving repair and rehabilitation, Lead-based Paint Hazard Control work).
- d. The cost of this insurance is an allowable DOE expense

14. Lead Safe Weatherization Training

OHCS will continue with the help of OECA to make training available for the Lead Based Paint Renovation, Repair and Painting Program (RRP).

- a. The Oregon Health Authority (OHA) and the Construction Contractors Board (CCB) are charged with operating the Renovation, Repair and Painting (RRP) program.
- b. For agencies and contractors with a CCB license, the program is a Certified Lead Based Paint Renovation (LBPR) Contractor License. CCB issues the annual license to contractors that have completed RRP training.
- c. Agencies that work on “target housing” and “child-occupied facilities” but are not required to have a CCB license should contact the Oregon Health Authority for information.
- d. **OHCS requires all subgrantees, and their subcontractors to be certified firms.** Firms must apply to the appropriate state agency for certification to perform weatherization.
 - d1. To apply, a firm must submit to either the CCB or OHA depending on the type of entity, an application, signed by an authorized agent of the firm and pay the correct amount of fees.
- e. Firms performing weatherization must ensure that:
 - e1. All individuals performing activities that disturb painted surfaces on behalf of the firm are either certified renovators or have been trained by a certified renovator.

- e2. A certified renovator is assigned to each weatherization project and performs all of the certified renovator responsibilities.
- e3. All weatherization measures completed by the firm are performed in accordance with the work practice standard of the Lead-Based Paint Renovation, Repair, and Paint Program.
- e4. Pre-weatherization education requirements of the Lead-Based Paint, Repair and Painting Program are performed.
- e5. The programs recordkeeping requirements are met.
- f. To become a certified renovator an individual must successfully complete an eight (8) hour initial renovator training course by an accredited training provider (training providers are accredited by EPA, or by an authorized state or tribal program). The course completion certificate serves as proof of certification.
- g. Certified renovators are responsible for ensuring overall compliance with the Lead-Based Paint Renovation, Repair, and Painting Program's for lead safe work practices at weatherization sites they are assigned. A certified renovator:
 - g1 **Must** use a test kit acceptable to EPA, when required by weatherization services, to determine whether components to be affected by the weatherization contain lead.
 - g2 **Must** provide on-the-job training to workers on the work practices they will be using in performing their assigned tasks.
 - g3 **Must** be physically present at the work site when warning signs are posted, while the work-area containment is being established, and while the work-area cleaning is performed.
 - g4 **Must** regularly direct work being performed by other individuals to ensure that the work practices are being followed, including maintaining the integrity of the containment barriers and ensuring that dust or debris does not spread beyond the work area.
 - g5 **Must** be available, either on-site or by telephone, at all times weatherization is being conducted.
 - g6 **Must** perform project cleaning verification.
 - g7 **Must** have with them at the work site copies of the initial course completion certificate and their most recent refresher course completion certificate.
 - g8 **Must** prepare required records.

- h. To maintain their certification, renovators and firms **must** be re-certified by the appropriate state agency as required.
 - h1. A firm **must** submit to the appropriate state agency, a completed application, signed by an authorized agent of the firm, and pay the correct amount of fees.
 - h2. Renovators **must** successfully complete a refresher training course provided by an accredited training provider.

15. Record Keeping Requirements

- a. All documents **must** be retained for three (3) years following the completion of the weatherization project.
- b. Records that **must** be retained include:
 - b1. Reports certifying that lead-based paint is not present.
 - b2. Records relating to the distribution of the lead pamphlet.
 - b3. Documentation of compliance with the requirements of the Lead-Based Paint Renovation, Repair and Painting Program.

OHCS will verify certified firm and Renovator status at each monitoring visit. In the event OHCS identifies non-compliance issues appropriate sanctions may apply. If deficiencies are identified in subgrantee program operations, including compliance with LSW and EPA LRRP requirements, OHCS will respond by working with the subgrantee to provide training and technical assistance to correct deficiencies. Sanctions may include but not be limited to withholding of funds, disallowance of costs, suspension of contract, or termination of contract. OHCS shall inform the subgrantee of any appeal rights and procedures to state and federal authorities in the sanction transmittal.

VIII. Building Structure

Building rehabilitation is beyond the scope of the Weatherization Assistance Program; however, program workers frequently encounter homes in poor structural condition. Dwellings whose structural integrity is in question should be referred to other funding sources such as HOME Investment Partnership program (HOME), Community Development Block Grant (CDBG), and U.S. Department of Agriculture, Rural Development (RD). Weatherization services may need to be delayed until the dwelling can be made safe for crews and occupants(see Section XIII. Deferral Standards).

1. Incidental Repairs

Incidental repairs necessary for the effective performance or preservation of weatherization materials are allowed. When a repair activity is a component of an energy efficiency measure that

is being installed then the installation and materials are part of the efficiency measure and are classified as incidental repair. The cost of incidental repairs must be included in the cost of the package of measures. The entire package of measures installed on a project, including incidental repair costs, must be cost justified with an SIR of 1.0 or better.

Incidental repairs must be justified in the client file with an explanation for their need and a relationship to a specific energy conservation measure (ECM).

Ancillary items necessary for proper installation of weatherization materials are not considered incidental repairs. These items include small items such as nails/screws, other fasteners, adhesive, sealant, etc. Ancillary items are items required by materials manufacturers; general construction and /or WAP field standards to achieve a finished product in a typical installation where no unusual or extensive repairs are needed. The costs of ancillary items and installation are to be included in the cost of an individual ECM when calculating the SIR for the individual ECM.

Examples of ancillary items include:

- a. **Ceilings:** Eave baffles, dams for heat producing fixtures, hatch dams and normal items needed to batt & weatherstrip accesses.
- b. **Floors:** Twine/lath, normal items needed to batt & weatherstrip interior accesses, Water pipe insulation.
- c. **Walls:** Sealing high and low openings in balloon framed homes, removing/replacing siding, Plugging, patching and priming access holes.

Examples of incidental repairs include:

- a. **Ceilings:** Adding attic vents, screening vents or openings to preserve the insulation, repairing damaged ceiling to allow for insulation to be installed, framing repairs necessary to properly weatherstrip accesses, roof membrane to protect insulation on a manufactured home or minor roof repairs on site built homes.
- b. **Floors:** Screening vents and accesses to preserve the insulation, repairing water-damaged flooring to allow for installation of floor insulation, repairing large holes in a manufactured home rodent barrier.
- c. **Walls:** Sealing large unusual openings such as voids between double ceilings or holes in walls.

2. Building Structure & Roofing

Building rehabilitation is beyond the scope of the Weatherization Assistance Program. Homes with conditions that require more than incidental repair should be deferred.

Agency staff must perform a visual inspection and ensure that access to areas necessary for weatherization is safe for entry and performance of assessment, work, and inspection. The client must be notified of any structurally compromised areas identified and steps that are necessary to correct the deficiencies.

3. Electrical Issues

- a. **Knob and Tube Wiring:** Electrical inspection by a licensed electrician is required for each building component (attic, walls, floor) containing knob-and-tube wiring for which insulation is proposed, prior to insulation being installed. Repairs, if necessary, are to be made before insulation work can proceed.
 - a1. The electrician **must** certify the knob-and-tube wiring in each component is safe for insulation by the completion of the Knob-and-tube Inspection Form.
 - a2. A Copy of the form **must** be placed in the client's file.
 - a3. The cost of electrical inspection and minor electrical repairs must be charged to the Health and Safety category. (For more information on DOE's Knob and Tube guidance, see Exhibit 2 and 3)
- b. **Minor Repair:** Minor electrical repairs are allowed where the health & safety of the occupant is at risk. Upgrades and repairs are allowed when necessary to perform specific weatherization measures.
- c. Serious electrical hazards exist when gross overloads are present. Should auditors and crews find such existing problems, they shall notify the owner. Weatherization measures that involve the installation of new equipment such as air conditioners, heat pumps, or electric water heaters can exacerbate previously marginal overload problems to hazardous levels.
 - c1. The problem shall also be noted in the client file.
 - c2. To the extent that these problems prevent adequate weatherization, the agency shall consider repairing them on a case-by-case basis.

Agency staff must be aware of how to identify basic electrical hazards.

Where applicable, discuss and provide information to the client on the hazards of overloading circuits, basic electrical safety/risks and over current protection.

4. Refrigerant Issues

- a. The replacement of air conditioners (requires a medical certificate), heat pumps and refrigerators, require agencies to reclaim refrigerant per Clean Air Act 1990, section 608, as amended by 40 CFR 82, 5/14/93.

a1. The appliance vendor, de-manufacturing center, or other entity recovering the refrigerant must possess EPA-approved section 608 Type I, or universal certification.

a2. Clients must be informed never to disturb refrigerant.

5. Windows & Doors

a. WPN 11-6 made it clear that windows and doors **cannot** be completed as a health & safety measure using DOE funds. However, the memo indicates that windows & doors can be done as an incidental repair.

b. In order to qualify for replacement as an incidental repair, the door/window must meet the following:

A window or door must be severely damaged and irreparable before it can be replaced as an incidental repair. Photo documentation **must** be included in the file showing clear evidence that **each** door and/or window being replaced could not be repaired.

A window or a door replaced as a repair **must** be attributed to a measure that replacement will be impacting such as air infiltration. There must be adequate proof (blower door test) showing excessive infiltration in the home.

If a window or door meets the above criteria, the costs associated with the window/door must be grouped in REM/*Design*TM following the incidental repair protocol. If the overall SIR is 1.0 or better, DOE funds may be used to replace the window/door.

Note: Broken glass that presents a hazard may be replaced under the H&S category.

IX. Heating & Air Conditioning

Heating system repair or replacement shall be identified and charged as either a Health and Safety (H&S) measure OR a Cost Effective measure. It cannot be both.

Before a heating system can be paid for under H&S, it shall be run through REM/*Design*TM and proven to be not cost effective.

- Any heating system replaced **must** be justified as not cost effective before it can be attributed to H&S.
- The entire heating system cost shall be attributed to **either** H&S or as a cost effective measure.

A copy of the REM/*Design*TM report deeming the heating system cost effective or not must be included in the file as documentation

Heating system repair and replacement is an allowable health & safety cost. All of Oregon is a heating climate. Oregon, as a whole, averages 5250 HDD. An operable heating system is required in all areas of the state.

It is up to the subgrantee to determine whether or not a repair to a heating system or if replacing is the best option. Factors such as overall condition of the system, age of the system and efficiency of the system should be considered in making this decision. The following factors are acceptable reasons for a H&S repair or replacement:

- Inadequate heating capacity
- Non-existent heating system
- Red tagged or inoperable heating systems
- Heating systems that are operating in an un-safe manner

A properly operating heating system is important for the overall health and well-being of the household. Therefore, furnace tune-ups and routine maintenance are allowable health & safety expenses.

Although Oregon is predominately a heating climate, there are times during the year that all areas may require air conditioning for at risk clients. Air conditioning systems are not an allowable expense *unless* the client is determined to be at risk.

To be considered at risk, a client **must** have a signed and dated statement from their physician stating that either the clients' health will be jeopardized if they are exposed to extreme heat or that the clients' health is such that they cannot be exposed to outside pollutants without risk to their health. The signed statement from the clients' physician **must** be included in the file as documentation.

Documentation of the thought process and reasoning of repair/replacement of a heating system is required in the project file.

Discuss with client and provide information on appropriate use and maintenance of heating systems.

X. Space Heaters

1. **Stand-alone Electric Space Heaters** – Replacement of electric space heaters using DOE funds is *not* allowed. OHCS will not preclude the use of other funding sources for the replacement or major repair of electric space heaters. Work on such systems may make local agencies liable for inadequate electric wiring and damages that may result. Removal is recommended whenever possible.

When electric space heaters are encountered, the agency should check circuitry to ensure an adequate power supply for existing space heaters. Clients must be informed of the hazards associated with electric space heaters and collect a signed waiver if removal is not allowed. (See exhibit 4)

2. **Un-vented Combustion Space Heaters – Removal of un-vented combustion space heaters is required.** Inform client of dangers of unvented space heaters - CO, moisture, NO₂, CO can be dangerous even if CO alarm does not sound. If clients will not allow for removal of un-vented combustion space heaters, deferral of the project is required. (See exhibit 4)
3. **Vented Combustion Space Heaters** - Vented combustion space heaters should be treated the same as furnaces. All required combustion testing listed in section V – 2 must be performed. Agency staff must be trained in proper testing protocol. (See exhibit 4)

XI. Solid Fuel Heating (woodstoves etc.)

Maintenance, repair, and replacement of primary indoor heating units is allowed where occupant health and safety is a concern. Maintenance and repair of secondary heating units is allowed. visual inspection of chimney, flue and combustion appliance zone depressurization testing is required.

Clients should be made aware of safety hazards associated with solid fuel heating including depressurization issues that can potentially cause back drafting. Agency staff must be trained in proper techniques for testing worst case depressurization and inspection.

XII. Water Heating & Appliances

Replacement of water heaters is allowed as a health & safety cost on a case by case basis. Other types of equipment such as dryers, ranges/cook stoves, etc. may only be cleaned, tuned or repaired with DOE funds. If these types of appliances require replacement, other funding sources must be utilized.

All appropriate combustion safety testing listed in section V – 2 must be performed on all combustion appliances.

Discuss and provide information as necessary on appropriate use, maintenance, and disposal of appliances/water heaters.

Agency staff must be trained in proper combustion testing techniques.

XIII. Deferral Standards

The decision to defer work on a dwelling without providing weatherization services is difficult, but necessary in some cases. Many problems encountered in low income housing are beyond the scope of the Weatherization Assistance Program. Deferring weatherization work does not mean that assistance will never be available, but that any work must be postponed until the problems can be resolved, and alternative sources of help be found as necessary.

1. Agencies (subgrantees) should develop guidelines and a standardized form. The form should include:

- a. Client's name and address.
- b. Date of the audit\assessment.
- c. Date the client was informed of deferring weatherization.
- d. A clear description of the problem, conditions under which 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.

2. Deferral Conditions May Include:

- a. The client has known health conditions that prohibit the installation of insulation and other weatherization materials.
- b. 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 in a cost-effective manner.
- c. The house has sewage or other sanitary problems that would further endanger the client and the weatherization installers if weatherization work were performed.
- d. The house has been condemned or electrical, heating, plumbing, or other equipment has been "red tagged" by local or state building official or utilities.
- e. Moisture problems are so severe they cannot be resolved under existing health and safety measures and minor repairs.
- f. Dangerous conditions exist due to high carbon monoxide levels in combustion appliances, and cannot be resolved under existing health and safety measures.
- g. The client is uncooperative, abusive, or threatening to crew, subcontractors, auditors, inspectors, or others who must work on or visit the house.
- h. The extent and condition of lead-based paint in the house would potentially create further health and safety hazards.
- i. In the judgment of the energy auditor, any condition exists which may endanger the health and/or safety of the work crew or subcontractor, the work should not proceed until the condition is corrected.

Agencies (subgrantees) are expected to actively pursue all alternative options on behalf of the client, including referrals, and use good judgment in dealing with difficult situations.

Appendix E - Oregon Quality Control Inspector Policies and Procedures

Overview

Subgrantees are required to perform a quality control inspection (QCI) at the conclusion of each single family, manufactured home, and multi-family Weatherization project. This inspection must include measures designated to be installed, including mechanical work, on completed dwelling units. The QCI inspection must occur, and be documented, before reporting the project to OHCS as a “completed unit”. This process is to ensure that all work performed meets or exceeds the minimum specifications outlined in the SWS and in accordance with WPN 15-4. All supporting documentation including inspection and monitoring certifications will be maintained in the clients file and all required data will be entered into the OHCS OPUS database.

Oregon Currently has 30 HEP QCI inspectors in the state with the expectation that another 5 will be added by program year 2015. The individuals holding the QCI certification include a combination of subgrantee staff and independent contractors. All subgrantees have a process in place to ensure that all USDOE completions receive a QCI inspection.

In the event that an agency loses access to their QCI, it is allowable to contract with another certified QCI or to make arrangements with a neighboring agency to complete inspections.

All QCIs performing inspections for the Oregon WAP must have all required certifications and trainings outlined in the Oregon Training & Technical Assistance plan. Training records for the required trainings and certifications are verified through a combination of reviewing certified individuals on the BPI website, accessing the Oregon Training Institute (OTI) database, and OHCS staff reviewing training records during monitoring visits. OHCS field representatives and analysts follow up with subgrantees when the required training was not completed or other training discrepancies are identified.

QCI Inspection Policy

OHCS will allow two options for meeting the QCI inspection requirement. Subgrantees must state in their annual work plan their intended method of inspection.

- **Independent QCI:** The QCI is an individual that has no involvement in the prior work on the home either as the auditor or as a member of the crew. If this method is utilized, OHCS will monitor a minimum of 5% of USDOE completions.
- **Independent auditor/QCI:** The auditor performs the audit, creates the work order, and performs the final quality control inspection. The auditor is not involved in any of the actual work on the home. Because this model does not allow for an independent review of the audit on every home, OHCS will increase the percentage of quality assurance reviews to ensure that audits are being performed consistently and correctly. OHCS will monitor a minimum of 10% of USDOE completions.

Multi-Family Inspections

QCI inspectors that inspect multi-family projects (≥ 5 units) must complete successful evaluation based on the NREL Multi-family Quality Control Inspector Job Task Analysis before completing inspections of USDOE funded multi-family projects.

Note: USDOE Multi-Family QCI curriculum is not yet available and training of multi-family QCIs will commence as soon as it is available. Until that time, single family QCI's may inspect multi-family projects without the multi-family QCI training.

QCI Compliance Policy

As part of the QCI program, OHCS QCI monitors will review a percentage of agency QCI inspections for compliance with program rules and field standards at minimum annually. When QCIs are found to be out of compliance, efforts will be made to discover the source of the non-compliance issue. Depending on the source of the non-compliance issue, remedial training may be required for the QCI and/or the installation contractor. Remedial training may be provided by OHCS staff at the time of the monitoring. Alternatively, OTI or OHCS staff may provide more comprehensive training at a later date. Repeated non-compliance issues after remedial training may result in the QCI being put on probation, possible disallowed costs, and an increased level of monitoring.

Appendix F – Native American Funding

Projected Native American Allocation PY-2014-15

Agency	Admin	Program	Total	Tribal Benefit
Undetermined	\$3,804	\$34,237	\$38,041	Undetermined

EXHIBITS

(On file with the State of Oregon)

- Exhibit 1** Approval to Include Wood Stoves as a Weatherization Assistance Program Measure
- Exhibit 2** Knob and Tube Wiring: Revised Policy Superseding Guidance of July 25, 1983 and July 13, 1988
- Exhibit 3** Excerpts from a June 5, 2000, Study on Insulating Homes Containing Knob and Tube Wiring
- Exhibit 4** Weatherization Assistance Program (WAP) Space Heater Policy
- Exhibit 5** Weatherization Program Notice 02-6, July 12, 2002; “Weatherization Activities and Federal Lead Based Paint Regulations
- Exhibit 6** Mold and Mildew Protocol
- Exhibit 7** Agency Weatherization Self-Assessment
- Exhibit 8** Performance Evaluation
- Exhibit 9** Health & Safety Documents

Exhibit 1 - Approval to Include Wood Stoves as a Weatherization Assistance Program Measure

State Of Oregon WAP

Wood Stoves Guidance

Under certain conditions wood stoves can be installed as an approved weatherization measure. Subgrantees need to assure the following when considering the installation of a wood stove:

- 1) Safety
- 2) Cost-Effectiveness
- 3) Technical Specifications
- 4) Environmental Factors
- 5) No wood stove is to be installed *without* first obtaining a wood stove permit from the local building official / permit office.
- 6) All wood stoves installed **must** be inspected by the appropriate authority.
- 7) A copy of the wood stove permit and approved and signed inspection form **must** be part of the job file.

Wood stoves are a unique measure. Therefore, an audit **must** be performed which addresses heating system replacements as part of the initial job audit. It is the energy audit which is the driving force for determining whether a wood stove should be replaced. Subgrantees that are considering installing a wood stove **must** comply with the following:

- 1) Ensure wood stove installations; maintenance and inspections are performed by qualified personnel only.
- 2) Ensure that only wood stoves which are certified and labeled by the National Fire Protection Association under 86M-1986 and 211-1984, the International Conference of Building Officials or other equivalent listing organization may be purchased with DOE funds and that electrical parts are certified and labeled by Underwriters Laboratory. These organizations require the manufacturer to test the heater and include detailed instructions for safe installation. After July 1990, stoves **must** be certified to meet the Environmental Protection Agency emission standards or local standards if they are stricter.
- 3) Ensure that local agencies / contractors obtain appropriate liability insurance.
- 4) Ensure that only a wood stove certified and labeled for manufactured homes may be installed in a manufactured home. The label should reference the Department of Housing and Urban Development's Manufactured home Standards and name the independent testing laboratory. Installation **must** be done in accordance with the manufacturers recommendations.

- 5) Each subgrantee performs client education for every recipient of a new stove, which outlines the safe operation, and proper maintenance of the unit.

Exhibit 2 - Knob and Tube Wiring: Revised Policy Superseding Guidance of July 25, 1983 and July 13, 1988

Department of Energy

MEMORANDUM

Date: October 21, 1988

Subject: Knob-and-Tube Wiring: Revised Policy Superseding Guidance of July 25, 1983 and July 13, 1988

To: Support Office Directors

This correspondence is a follow-up to my September 7, 1988, memorandum which requested input from the support offices on the subject of insulating in homes which contain knob-and-tube wiring (KTW). The input received has been most useful and has provided practical information that may enable State grantees to continue to safely install thermal insulation in situations where KTW exists.

In light of the responses from the Support Offices and the further review we conducted, two important points need to be emphasized: (1) the National Electrical Code (NEC) and changes to it do not apply until adopted by State and/or local electrical code authorities; and (2) these bodies incorporate NEC guidance or changes to it into their electrical codes on a highly individual basis. In practice, this means that the NEC can be adopted exactly as promulgated or modified by State and/or local electrical code authorities.

In the KTW matter, with which we are now concerned a number of states including Massachusetts, Nebraska and Washington, have looked at the issue and decided not to adopt the specific recommendations of the NEC on KTW. Instead, these states have adopted modified approaches, which permit the continued installation of thermal insulation over KTW when certain inspection and safety procedures are followed. In both the State of Washington and Massachusetts, for example, those procedures include an initial survey of the wiring system by a licensed electrician, repair as required, the use of Class I Thermal Insulation only and overcurrent protection in compliance with the ampacity tables developed by the NEC.

These examples are cited because the approach taken by these States conforms to the general WAP policy that jurisdiction in health and safety matters related to program-funded work resides with State and/or local authorities. Attached, for informational purposes, is the Washington State electrical code material dealing with KTW that was sent by the Richland Support Office (RSO). That material consists of the following: (1) the August 15, 1988, Richland response to DOE-WAP on KTW issues and (2) an August 4, 1988, letter from the Washington State Department of Community Development to the RSO which describes the recently-revised Washington State

electrical code procedures that **must** be followed in the installation of thermal insulation in structures containing KTW.

In light of the above, the revised DOE-WAP policy on installation of thermal insulation around KTW is that it is the State's responsibility to ensure that such work is in conformance with the applicable codes in the jurisdiction where the work is being performed. Therefore, the KTW guidance issued on July 25, 1983, and on July 13, 1988, is superseded by this memo. Please convey to your WAP grantees: (1) the revised DOE-WAP policy on installing thermal insulation around KTW, as stated in the previous paragraph; (2) the attached information on the 1987 National Electrical Code change related to KTW; (3) the Washington State material if you think it will be helpful in understanding how other States are handling KTW; (4) that those homes which were completed without insulation since July 13, 1988, may now be insulated under the revised policy. The prohibition against re-weatherization found in Section 440- 13(e)(2)(i) will not apply to such insulation work and those homes may not be reported as new completions.

In addition, each grantee should be advised to check with the appropriate electrical code authorities in its state to determine whether the NEC KTW change has been adopted as is, has been adopted with modifications, or has not been adopted and; therefore, whether any modification in KTW work performed under the WAP is required within the state. Thank you for your assistance in this matter. Mary E. Fowler, Chief Weatherization Assistance Programs, Branch Office of State and Local Assistance Programs Conservation and Renewable Energy.

Note - Attachments unavailable at this time

Exhibit 3 – June 5, 2000 Excerpts, Study - Insulating Homes Containing Knob and Tube Wiring

Retrofitting Insulation in Cavities with Knob-and- Tube Wiring An Investigation into Codes, Safety, and Current Practices

Submitted to:

Illinois Department of Commerce and Community Affairs

June 5, 2000

Prepared by:

Building Research Council

School of Architecture

University of Illinois at Urbana/Champaign Principal Investigator: Jeffrey R. Gordon

Model Development: William B. Rose

A. Introduction

In 1987, an amendment to the National Electric Code (NEC) prohibited the placement of insulation in contact with knob-and-tube wiring. This amendment had significant ramifications for low income weatherization programs around the country. By their nature, these programs deal with older homes where retrofitting sidewalls and attics with insulation often provide the most return in energy savings for dollars spent. In the twelve years since the amendment, weatherization agencies have adopted numerous approaches and protocols for dealing with this issue.

This report examines the code change, the safety issues that prompted the code change, and the range of actions taken by state code bodies and weatherization agencies in response to the code change. In an attempt to ease the narrative flow of the report, it was determined to place the most technical discussion in the appendix. The first two appendices are of critical importance and are referenced at several points in the main text. Appendix 1 examines the issues of voltage drop, resistance, heat generation, and circuit analysis. Appendix 2 contains spreadsheets showing the calculations of a simplified model whose results are reported in Section D.

B. Overview of Knob-and-Tube Wiring

- Knob-and-Tube wiring was the predominant wiring system through the 1920s and 1930s; some installations of knob-and-tube wiring continued in houses up until 1950. There are several distinguishing characteristics of knob-and-tube wiring in comparison to current wiring methods:
- When running perpendicular to structural components (such as floor joists), modern wiring runs directly through holes in the components. Knob and tube wiring used protective ceramic tubes placed in the holes to prevent the wire from chafing against the structure.

- Modern wiring uses staples to hold the wiring against structural components when the wire is running parallel to the component. Knob-and-tube wiring used ceramic knobs to clamp the wire to the structural member.
- Connections between modern wires are completed within enclosed electrical junction boxes. Knob-and-tube wiring had visible connections. The wires were spliced and soldered together and then wrapped with electrical tape. These connections are called pig-tail connections because one wire is wrapped several times around the other wire before the two are soldered together. Ceramic knobs were strategically placed to protect the splice ensuring that inadvertent tugging on the wire would not stress the electrical connection.
- In modern wiring, the hot wire (black) and neutral wire (white), along with a ground wire, are insulated separately and bundled in a single plastic sheathing. In knob-and-tube wiring, the hot and neutral were insulated and run through a house separately, usually several inches apart (3 inches is the minimum separation prescribed by the NEC). Knob-and-tube wiring did not include a ground wire.
- In a modern system, many branch circuits use 14 gauge conductors protected by a 15amp circuit breaker. Larger, 12 gauge conductors are required for 20 amp circuits. Knob-and-tube wiring typically consists of 12 gauge conductors.
- While the differences are considerable, there is nothing inherent in knob-and-tube wiring that makes it dangerous. Knob-and-tube wire, properly installed, is not inherently a problem. While opinions regarding the safety of knob-and-tube wiring vary widely, the concerns are not with the original wiring, but rather with what has happened after the fact.
- Older homes with knob-and-tube wiring were often supplied with 60-amp service at the main electrical panel. They were also subject to limited distribution in two forms: (1) limited number of circuits, and (2) limited number of electrical outlets per room. Both of these factors opened knob-and-tube wiring to potential abuses of the electrical system after the initial installation.
- Over the years, the demand for household electrical capacity has grown dramatically. Most knob-and-tube systems predate television, computers, and dozens of other appliances that are today taken for granted. As the need for electrical capacity grew, older wiring systems were modified for the convenience of the occupants. In some cases, these modifications put undue stress on the wiring system.
- In response to the limited number of outlets per room, additional outlets were added on to the existing circuits. In many cases, the quality of the connections was not up to the standards of the original system. For instance, a portion of an existing wire conductor would be stripped of its insulation, and new wire taped on to service a new outlet. The connection may not have been soldered, and the new wire may have been of a lighter gauge. Stress protection for the new connection was rarely considered.
- With additional outlets and increased electrical consumption, problems also arose with circuit protection. If circuits became overtaxed and 15 amp fuses were constantly blowing,

some ill-informed homeowners would put in 25 or 30 amp fuses to rid themselves of the annoyance. Allowing excessive current to flow through the conductors could lead to overheating, which, in turn, could lead to degradation and embrittlement of the wire insulation and the wire itself. The problem of over fusing can be difficult to determine. A home that has been upgraded to 100-amp service, and is currently properly fused, may have experienced a decade of past over fusing on the knob-and-tube circuitry that is still in use.

- Finally, the wiring could suffer from physical abuse over time. Rather than hugging structural components, knob-and-tube wiring was suspended (a minimum of one inch prescribed by the NEC) away from surrounding surfaces. Bumping the wiring could place stresses and cause resultant damage on a portion of the wire. This could be particularly true in accessible attics.
- The conditions outlined above can be categorized as an abuse of a home s electrical system. These abuses (improperly added connections, over fusing and wire embrittlement, physical damage) can result in point sources of high resistance. It is at these points that fire potential is greatest (See Appendix 1). Ultimately, it is wiring that has been abused that is potentially dangerous.

C. Building Code Issues History

1. National Electric Code (NFPA 70): 1987 amendment Section 324 of the NEC deals with Concealed Knob-And-Tube Wiring. Prior to 1987, article 324-4 stated:

Concealed knob-and-tube wiring shall not be used in commercial garages, theaters and similar locations, motion picture studios, hazardous (classified) locations.

In 1987 article 324-4 was amended to read (additional wording in Italics):

Concealed knob-and-tube wiring shall not be used in commercial garages, theaters and similar locations, motion picture studios, hazardous (classified) locations or in the hollow spaces of walls, ceilings and attics when such spaces are insulated by loose or rolled insulating material.

The amendment was submitted to Panel No. 7 by Jarrell B. Blair, Building Inspector from the City of Augusta, Kansas, at the May, 1986 NFPA annual meeting in Atlanta Georgia. The substantiation for the additional wording was as follows:

SUBSTANTIATION:

- a. Concealed knob-and-tube wiring is designed for the hollow spaces of walls, ceilings and attics, utilizing the free air in such spaces for the dissipation of heat.
- b. Weatherization of the hollow spaces by blown-in insulation or roll insulation prevents the dissipation of heat into the free air space; resulting in higher (dangerous) conductor heat buildup, conductor insulation breakdown resulting in a probable or possible fire situation.

Clearly, heat dissipation, overheating, and fire potential were the sole concern that prompted the amendment.

There was some public comment on the amendment at the meeting. Mr. David C. Roberts, a panel member representing the American Electric Power Service Corp., stated for the record:

The substantiation to support this proposal does not contain the necessary factual data to support this restriction on concealed knob and tube wiring. There are a large number of installations of concealed knob and tube wiring. I have neither heard of any problems with this wiring method nor have I seen any studies on actual in-service installations that will support this restriction on concealed knob and tube wiring.

Larry Seekon of the Minneapolis Electrical Inspections Department submitted a public comment (7-16):

No factual substantiation of dangerous overheating has been submitted to justify prohibiting loose or rolled insulation material in contact with concealed knob and tube wiring. I am not aware of fires due ONLY to insulation touching knob and tube wiring. However fires do occur because of over fusing and improper splicing or tapping of these circuits. These hazardous conditions are already Code violations.

In the colder regions of the United States there are many thousands of homes now existing with loose or rolled insulation in contact with concealed knob and tube wiring. Most current building codes require the insulation to be fire retardant.

To comply with such a restriction would result in a substantial increase in the cost of rewiring existing homes. New wiring would have to be fished in or surface raceway would have to be installed to replace existing knob and tube wiring. Both of these methods are very labor extensive and would substantially increase the cost of rewiring. Many people also object to the installation of surface raceway in the nicely decorated homes.

In many circumstances, it would be very difficult if not impossible without damaging the walls or ceilings, for an electrical inspector to determine if insulation material had been installed.

I am very apprehensive of what a judge would think about an inspector issuing an elderly widow on Social Security an order to eliminate all concealed knob and tube wiring in contact with loose or rolled insulation, especially when the home was reinsulated ten years ago and there have been no electrical problems.

The panel rejected this comment and informed the submitter that it was not the intent to make this change retroactive.

In response to the rejection of comment 7-16, panel member Roberts went on record:

The Panel Action to reject this comment will require that concealed knob and tube wiring installations in older homes be replaced if, in the process of insulating the home, the wiring becomes embedded in insulation. The Panel has no substantiating evidence to reject this

comment. The substantiation stated in Comment 7-16 is correct. Concealed knob and tube wiring systems in thousands of residences are now embedded in insulation and no overheating problems have been reported.

The panel approved the amendment by a vote of ten to one, with panel member Roberts the lone dissenting vote.

Thomas Guida, of Underwriters Laboratory, was a member of Panel No. 7 at the time of the 324-4 amendment, and is the only panel member who is still serving. In a telephone interview, Mr. Guida did not recall that the code change caused much controversy on the panel. He described the change as an obvious fire safety improvement. When asked about substantiating evidence, Mr. Guida recalled UL reports on the issue, but thought that these were unpublished.

During the course of this study, the amendment was discussed with Jeff Sargent of the electrical engineering section of the National Fire Protection Agency (NFPA). NFPA is the sponsoring agency of the NEC. Mr. Sargent had no knowledge of fire loss data pertaining to this amendment, and suggested that the code change may have been a preemptive move based on the original design of knob-and-tube wiring. In this view, knob-and-tube wiring was designed to function in free air, and thus encasement in an insulating material represents a practice contrary to the original design.

There is no evidence that there is any sentiment to rescind the amendment. Since the adoption of the amendment in 1987, only one minor change has been made to article 324-4 of the NEC. The recent NEC versions include a prohibition of foamed in-place insulation in addition to loose or rolled insulating materials.

2. Local/State Amendments to NEC - While the NEC is a national code, it is not administered and enforced nationally. Building codes are administered on the state, county or local level. Some states have developed statewide building codes, while in other states it is up to local jurisdictions to adopt and enforce a building code. In most cases, one of the national model codes (BOCA, CABO, UBC) forms the basis of the state or local code. Since the national model codes reference the NEC for electrical requirements, it is almost certain that the NEC applies wherever a building code is in use. For instance, in Illinois, the BOCA National Building Code is the most prevalent model code. The first article in Chapter 27 Electrical Wiring, states, installations shall conform to the provision of NFPA 70 (NEC) listed in Chapter 35.

State or local jurisdictions can amend or augment the model code they have adopted to meet specific local concerns. In the course of the investigation, two Ohio cities were identified that developed specific rewiring codes. For instance, the City of Massillon, Ohio rewiring code states:

(10) Knob and tube wiring. All original knob and tube branch circuit wiring shall be reconnected on fifteen-ampere circuits, and any tampered wire shall have its original insulation integrity replaced. (11) Fuse. If Edison-Base fuse holders are used they shall be fitted with type S fuse adapters and fuse stats.

Wadsworth City, Ohio adapted similar language. This language does not appear in the NEC. Given the potential impact of NEC 324-4 on weatherization activities, successful campaigns were initiated in several states to amend 324-4 locally, and allow for insulation around knob-and-tube wiring under certain conditions. These campaigns were possible in states that operated statewide building codes as compared to home rule states where building code administration was scattered throughout numerous local jurisdictions.

On 10/11/90, the State of Washington amended NEC 324-4 as follows:

The provision of Section 324-4 of the National Electrical Code shall not be construed to prohibit the installation of loose or rolled thermal insulating material in spaces containing existing knob-and-tube wiring provided that all the following conditions are met:

- (1) The wiring shall be surveyed by an appropriately licensed electrical contractor who shall certify that the wiring is in good condition with no evidence of improper overcurrent protection, conductor insulation failure or deterioration, and with no improper connections or splices. Repairs, alterations, or extensions of or to the electrical system shall be inspected by an electrical inspector as defined in RCW 19.28.070.
- (2) The insulation shall meet class I specifications as identified in the Uniform Building Code, with a flame spread factor of twenty-five or less as tested using ASTM E84-81a. Foam insulation shall not be used with knob-and-tube wiring.
- (3) All knob-and-tube circuits shall have overcurrent protection in compliance with the 60 degree C column of Table 310-16 of the National Electrical Code. Overcurrent protection shall be either circuit breakers or Type S fuses. The Type S fuse adapters shall not accept a fuse of an ampacity greater than that permitted in this chapter.

Following on the heels of Washington State's success, the State of Oregon amended the state code in a similar manner:

The provisions of Section 324-4 shall not be construed to prohibit the installation of loose or rolled thermal insulating material in spaces containing existing knob-and-tube wiring provided that all the following conditions are met:

- (1) The visible wiring shall be inspected by a certified electrical inspector;
- (2) All defects found during the inspection shall be repaired prior to the installation of insulation.
- (3) Repairs, alterations or extensions of or to the electrical systems shall be inspected by a certified electrical inspector.

(4) The insulation shall have a flame spread rating not to exceed 25 and a smoke density not to exceed 450 when tested in accordance with ASTM E84-87. Foamed in place insulation shall not be used with knob-and-tube wiring.

(5) Exposed splices or connections shall be protected from insulation by installing flame resistant, non-conducting, open top enclosures which provide at least 3 inches, but not more than 4 inches side clearance, and a vertical clearance of at least 4 inches above the final level of the insulation

(6) All knob-and-tube circuits shall have overcurrent protection in compliance with the 60 degree C column of Table 310-16 of NFPA 70-1990. Overcurrent protection shall be either circuit breakers or Type S fuses. The Type S fuse adapters shall not accept a fuse of an ampacity greater than that permitted in this chapter.

The States of Nebraska, Massachusetts, and California also amended state codes to allow for insulation around knob-and-tube wiring under specific protocols. With these amendments in hand, it was possible for state weatherization agencies to develop insulation programs that did not violate ruling building codes, and that provided specific documentation of safety procedures when insulating older homes. Home rule states (such as Illinois) did not have this course of action available. In these states, ensuring compliance with building codes would require amendments to all local building codes served by weatherization programs, implying dozens, if not hundreds, of local code amendment campaigns.

3. Department Of Energy Policy - Prior to the NEC code change in 1987, the U.S. Department of Energy (DOE) policy on the knob-and-tube issue was stated in a memorandum from Joseph Flynn, Director of the Weatherization Assistance Programs. The memorandum, date July 25, 1983, stated:

It is believed that insulation can be safely placed over knob-and-tube wiring provided that:

- The wiring is in good condition; and
- The circuits do not carry amperage greater than the rated current for that size wiring.

In all cases, before insulating over knob-and-tube wiring is approved, personnel authorizing work orders or contracts will conduct a thorough inspection of the areas to be insulated and ensure that:

- (1) All wiring to be covered is examined and pronounced safe and in good condition;
- (2) The electrical system has protective devices matched to the wire sizes which discontinue the flow of electrical current when the circuits are overloaded

The inspector should check to determine if there is evidence of cracked or frayed electrical insulation or exposed conductors. Installers of the insulation should be cautioned to use care not to damage the old wiring as the new insulation is applied.

Installation of type S fuses is required in fuse boxes in homes where knob-and-tube wiring systems are used. Type S fuses ensure against overloading by making it impossible to put in a larger rated

fuse. Permission **must** be obtained from the client to modify the fuse box. If the client does not consent, the insulation cannot be installed.

Subgrantee personnel who authorize work should be aware that in some cases, when older homes have been re-wired, the knob-and-tube system has been left in place. An inspector may see only the abandoned wiring and take appropriate action. Inspectors will verify that knob and tube systems are, in fact, in service before disqualifying homes.

A word of caution: Since this condition is potentially dangerous, states and their subgrantees **must** continue to exercise uncompromising caution when insulating homes with knob-and-tube wiring. The responsibility for safety and the use of good judgment rests with the person authorizing performance of the work. When in doubt, they should ask a local building inspector or fire marshal to inspect the wiring and issue a certification. Advise the subgrantees not to insulate over knob-and-tube wiring unless they are satisfied that it is safe and has met the above conditions.

While expressing clear concern and emphasizing caution, DOE gave the ultimate responsibility to the states and subgrantees for determining the safety of insulation retrofits on a case-by-case basis. Visual inspection and type S fuses were required.

In 1988, following the NEC code change, DOE went through a period of reconsideration of this policy. The policy was formally changed in a memorandum dated July 13, 1988 from Andre W. Van Rest, Chief of the Weatherization Assistance Programs Branch. Following acknowledgement of the NEC code change regarding knob-and-tube wiring (KTW), the memorandum states:

DOE has allowed installation of insulation over KTW as a weatherization measure only when precautions outlined in our attached memorandum dated July 25, 1983, are taken. These precautions included an examination of the condition of the wiring and the installation of proper electrical protective devices (typically, properly sized type S fuses). Although the application of insulation over KTW may raise the operating temperature of the wire, we are unaware of any problems with homes that contain KTW and have been insulated under the Weatherization Assistance Program.

However, we feel that the most prudent course of action is to comply with the requirements of the 1987 NEC. Therefore, effective immediately, all Support Offices should notify their States that installation of thermal insulation over KTW is no longer permitted. This action does not affect homes already weatherized.

The memorandum placed a clear ban on the installation of insulation around knob-and tube wiring. The policy, however, was short-lived. Prior to September 1988, Mary E. Fowler became the Chief of the Weatherization Assistance Programs Branch. In a memorandum of September 7, 1988, she requested input from the Support Offices regarding this question. In the responses to this request, DOE became aware of the states that were preparing building code modifications to NEC 324-4. In a memorandum of October 21, 1988, examples of these modifications were distributed. As stated in this memorandum:

These examples are cited because the approach taken by these States conforms to the general WAP policy that jurisdiction in health and safety matters related to program-funded work resides with State and/or local authorities.

The memorandum acknowledged the state and local administration of the NEC, and went on to officially change DOE policy once more:

In light of the above, the revised DOE-WAP policy on installation of thermal insulation around KTW is that it is the State's responsibility to ensure that such work be in conformance with the applicable codes in the jurisdiction where the work is being performed. Therefore, the KTW guidance issued on July 25, 1983, and on July 13, 1988, is superseded by this memo.

Please convey to your WAP grantees: (1) the revised DOE-WAP policy on installing thermal insulation around KTW, as stated in the previous paragraph; (2) the attached information on the 1987 National Electrical Code change related to KTW; (3) the Washington State material if you think it will be helpful in understanding how other States are handling KTW; (4) that those homes which were completed without insulation since July 13, 1988, may now be insulated under the revised policy. The prohibition against re-weatherization found in section 440.18 (e) (2) (i) will not apply to such insulation work and those homes may not be reported as new completions. In addition, each grantee should be advised to check with the appropriate electrical code authorities in its state to determine whether the NEC KTW change has been adopted as is, has been adopted with modifications, or has not been adopted and, therefore, whether any modification in KTW work performed under the WAP is required within the State.

According to DOEs Greg Reamy, this memorandum of October 21, 1988, remains the stated policy of DOE. Once again, responsibility is placed on the State programs rather than a DOE mandate. The state's responsibility, however, is redirected specifically toward code compliance as the assurance of safety. To reiterate, it is the state's responsibility to ensure that such work be in conformance with the applicable codes in the jurisdiction where the work is being performed. In states with local home rule building codes, this would require each subgrantee to examine the local code to identify whether NEC 324-4 has been adopted as is, has been adopted with modifications, or has not.

Exhibit 4 – Space Heater Policy

WEATHERIZATION PROGRAM NOTICE 08-4

EFFECTIVE DATE: March 3, 2008

SUBJECT: SPACE HEATER POLICY

PURPOSE: To update the policy relating to space heaters for the Low Income Weatherization Assistance Program (Weatherization). This policy supersedes the previous space heater policy issued by memoranda on March 18, 1992.

SCOPE: The provisions of this guidance apply to all grantees applying for financial assistance under the Department of Energy (DOE) Weatherization Assistance Program. This policy applies to electric and gas- and liquid-fueled space heaters only. Wood-burning stoves are addressed in separate guidance, which will be updated at a later date and will likely be expanded to include coal-burning stoves. This policy applies to electric and gas- and liquid-fueled space heaters whether the appliance is the primary or secondary heat source.

LEGAL AUTHORITY: Title IV, Energy Conservation and Production Act, as amended, authorizes the Department of Energy to administer the Low Income Weatherization Assistance Program. All grant awards made under this program shall comply with applicable law including regulations contained in 10 CFR Part 440 (most recently issued June 22, 2006), and other procedures applicable to this regulation as DOE may from time to time prescribe for the administration of financial assistance.

INTRODUCTION: An estimated three million low income households in the United States rely on space heaters as their primary method of heating their homes. An additional four million low income households use space heaters as a secondary method of heating. Potential health and safety risks associated with the use of space heaters, especially portable and unvented devices include elevated levels of carbon monoxide, fire hazards, and excessive moisture resulting in mold and rot.

The previous space heater policy was issued March 18, 1992. Since then, Weatherization providers have improved their ability to reduce air infiltration in weatherized dwellings, which can exacerbate carbon monoxide and moisture hazards. Within the past ten years, local jurisdictions in at least 48 and 44 states have adopted the International Residential Code (IRC) and International Fuel Gas Code (IFGC), respectively that include requirements related to space heaters. Most of these states have adopted the codes and enforce them statewide. The space heater policy issued by this Weatherization Program Notice (WPN 08-4) is consistent with the IRC and IFGC and clarifies how to best address eligible dwelling units containing space heaters.

INCIDENTAL REPAIRS: Incidental repairs under the Weatherization Program are not affected by the policy contained herein. Agencies may continue making incidental repairs necessary to allow weatherization work to proceed safely, including to space heaters.

SPACE HEATER POLICY: Separate guidance is provided for vented space heaters and unvented space heaters.

Vented Space Heaters: Vented gas- and liquid-fueled space heaters should be treated the same as furnaces in terms of repair and replacement, as well as combustion appliance safety testing. This policy applies to vented natural gas-fired space heaters, vented propane-fired space heaters, and oil-fired space heaters (which are always vented).

Unvented Space Heaters: Separate guidance applies to electric space heaters and unvented gas- and liquid-fueled space heaters.

Electric Space Heaters – DOE will not permit any DOE-funded weatherization work other than incidental repairs on electric space heaters. DOE will not preclude the use of other funding sources for the replacement or major repair of electric space heaters, but the Department does not encourage it because of:

- The high cost of electricity as compared to fossil fuels;
- Lower output ratings (size);
- Risk of fire hazards; and,
- Inadequate electrical systems in older homes frequently cannot safely carry the power required to operate an electric heater.

Work on such systems may make local agencies liable for inadequate electric wiring and damages that may result.

Unvented Gas- and Liquid-Fueled Space Heaters – DOE will not permit any DOE-funded weatherization work where the completed dwelling unit is heated with an unvented gas- and/or liquid-fueled space heater as the primary heat source. This policy applies to unvented natural gas-fired space heaters, unvented propane-fired space heaters, and unvented kerosene space heaters. This policy is consistent with the IRC and the IFGC.

DOE strongly encourages removal of all unvented gas- and liquid-fueled space heaters and replacement with vented, code-compliant heating systems as a prerequisite to weatherization. However, DOE will allow unvented gas- or liquid-fueled space heaters to remain as secondary heat sources in single-family houses provided they comply with the IRC and the IFGC. DOE is allowing this flexibility primarily to provide low income clients an emergency back-up source of heat in the event of electrical power outages. Therefore, preference should be given to code-compliant units that do not require electricity.

Specifically, any unvented gas- and liquid-fueled space heaters that remain in a completed single-family house after weatherization:

- Shall not have an input rating in excess of 40,000 Btu/hour;

- Shall not be located in, or obtain combustion air from sleeping rooms, bathrooms, toilet rooms, or storage closets, unless:
 - Where approved by the authority having jurisdiction, one listed wall-mounted space heater in a bathroom:
 - Has an input rating that does not exceed 6,000 Btu/hour;
 - Is equipped with an oxygen-depletion sensing safety shut-off system; and
 - The bathroom meets required volume criteria to provide adequate combustion air;
 - Where approved by the authority having jurisdiction, one listed wall-mounted space heater in a bedroom:
 - Has an input rating that does not exceed 10,000 Btu/hour;
 - Is equipped with an oxygen-depletion sensing safety shut-off system; and
 - The bedroom meets required volume criteria to provide adequate combustion air.
- Shall require the enforcement of minimum ventilation guidelines as determined by the greater of:
 - 15 cubic feet per minute (CFM) per person,
 - 15 CFM per bedroom plus one [(# of bedrooms + 1) x 15 CFM], or
 - .35 air changes per hour.

The above minimum ventilation guidelines are natural ventilation rates, not with the house depressurized to -50 Pascal with a blower door.

Alternately, the minimum ventilation guidelines in the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings, may be used if the state desires.

DOE funds may only be used to replace the primary heating source. DOE funds may **not** be used to replace unvented space heaters to be left in the weatherized dwelling unit as secondary heating sources. For example, a home has several older gas- or liquid-fueled, unvented space heaters that do not comply with the International Residential Code because they do not have oxygen-depletion sensing safety shut-off systems. The Weatherization Program can replace the primary unvented space heater with a vented unit, but cannot expend DOE funds to replace one of the existing secondary space heaters with a code-compliant unvented unit with an oxygen-depletion sensing safety shut-off system. DOE will not preclude the use of other funding sources to replace secondary space heaters with code-compliant units.

The Manufactured Home Construction and Safety Standards require all fuel-burning, heat-producing appliances in manufactured homes, except ranges and ovens, to be vented to outside. Further, all fuel-burning appliances in manufactured homes, except ranges, ovens, illuminating appliances, clothes dryers, solid fuel-burning fireplaces and solid fuel-burning fireplace 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).

Cost Effectiveness: Current regulations governing weatherization activities require that measures installed in a dwelling unit be selected on the basis of cost effectiveness, with the most cost

effective installed first. Unvented space heaters have very high efficiency ratings because they discharge their exhaust gases directly into the space being heated rather than outside, allowing the energy embodied in the hot exhaust gases to be released into the heated space. Vented space heaters exhaust combustion products and considerable amounts of energy out of the residence, and, therefore, are far less energy efficient.

The replacement of an unvented space heater with a vented one may not be cost-justified through energy savings. However, DOE strongly encourages States to combine other weatherization measures and health and safety considerations with vented space heaters as replacements for unvented space heaters. In such instances, the heat energy demanded by the structure can be lowered by energy-saving, cost-effective weatherization measures so that total energy costs are less or the same, while the indoor air quality is greatly improved through the use of a vented space heater paid for with health and safety funds.

Smoke and Carbon Monoxide Detectors: Any space heater replacement or repair procedure should include inspection to ensure that working smoke and carbon monoxide detectors are installed on the same floor as the space heater. In instances where smoke and carbon monoxide detectors are not present or are not operating properly, new detectors may be purchased and installed with DOE funds. The purchase and installation cost of the smoke and carbon monoxide detectors may be charged to the health and safety category or to program operations at the State's discretion.

Client Education: Client education, including information on the proper operation of the heating equipment and installed smoke or carbon monoxide detectors, should be provided. Of critical importance is strong client education regarding the dangers of carbon monoxide and excessive moisture levels, particularly if any unvented space heaters are left in the dwelling as a secondary heat source, or emergency back-up.

Other Health and Safety Consideration: Electrical wiring and chimneys should be checked to ensure they are in good condition and that no obvious building code violations are evident. Masonry chimneys used by vented space heaters should be properly lined in compliance with the IFGC. Safety inspection related to the space heater should include, but not be limited to, a check for adequate floor protection and code-compliant clearances to walls and other combustible materials. Even though many vented space heaters are manufactured with spill switches, it is still a requirement that a worst-case depressurization draft test be performed on all vented units.

Compliance with Local Code, Permitting, and Inspection Requirements: Installation of space heaters requires knowledge of appropriate industry standards and adherence to all aspects of the applicable building code(s) in the municipality where installation is taking place. Building permits should be secured, where required, (this is a program operations cost) for all space heater work and final inspection by competent professionals should take place before any heater is put into operation. States are reminded that even licensed heating contractors may not be aware of the stringent requirements of the Weatherization Program, so their work should be reviewed by Program staff.

IMPLEMENTATION: Grantee health and safety policy, especially as it relates to space heater repair and replacement, in compliance with the above guidance, **must** be explained in the applicable State plan or appropriate amendment in order to permit Project Management Center review and approval. Funds to address these items as part of weatherization work will be allowable costs. It is especially important to insure that adequate inspection, safety, liability, and insurance procedures exist and are followed. In all cases, an education component for clients should be a part of the space heater work. Further, testing for indoor air quality, especially carbon monoxide levels in homes with unvented space heaters should be performed. The cost to purchase the testing device and mechanical tools necessary to check for indoor air quality and to train personnel to do the testing are allowable program expenses. These charges may be made to the program operations cost category.

RELATED MATERIALS AND DOCUMENTS:

The following pamphlets and fact sheets may be useful for educating clients and training staff.

CONSUMER PRODUCT SAFETY COMMISSION PAMPHLETS (CPSC, http://www.cpsc.gov/cpscpub/pubs/pub_idx.html):

- Smoke Detectors Can Save Your Life (English and Spanish versions)
- Carbon Monoxide Detectors Can Save Lives
- Carbon Monoxide Questions and Answers (English and Spanish versions)
- The Invisible Killer (CO) (English)
- The Senseless Killer (CO) (Spanish)
- What You Should Know About Space Heaters
- Product Safety Fact Sheet - No. 98: Electric Space Heaters
- Product Safety Fact Sheet - No. 97: Kerosene Space Heaters Product Safety Fact Sheet - No. 99: Ground-Fault Circuit Interrupter (GFCI)
- Product Safety Fact Sheet - No. 566: Home Fire Safety Checklist (English and Spanish versions)

Exhibit 5 – Activities and Federal Lead-Based Paint Regulations

WEATHERIZATION PROGRAM NOTICE 09-6

EFFECTIVE DATE: January 7, 2009

SUBJECT: LEAD SAFE WEATHERIZATION (LSW) – ADDITIONAL MATERIALS AND INFORMATION

PURPOSE: To provide clarification and additional information to grantees as they implement WPN 08-6, Interim Lead-Safe Weatherization (LSW) Guidance. This guidance augments, but does not replace, WPN 08-6 and builds on the foundation provided in Weatherization Program Notice (WPN) 02-6, Weatherization Activities and Federal Lead Based Paint Regulations.

SCOPE: The provisions of this guidance apply to all grantees applying for financial assistance under the Department of Energy's (DOE) Weatherization Assistance Program.

LEGAL AUTHORITY: Title IV, Energy Conservation and Production Act, as amended, authorizes the Department of Energy to administer the Low Income Weatherization Assistance Program. All grant awards made under this Program shall comply with applicable law including regulations contained in 10 CFR Part 440 and other procedures applicable to this regulation as DOE may, from time-to-time, prescribe for the administration of financial assistance.

BACKGROUND: On September 22, 2008, DOE issued WPN 08-6, Interim Lead Safe Weatherization (LSW) Guidance to augment WPN 02-6 which provides background information on the various regulations impacting the treatment of pre-1978 homes that may have lead paint hazards when Weatherization work is being performed. Both of these pieces of guidance remain in place.

GUIDANCE: WPN 08-6 does not relieve any requirements established by 02-6, and in particular, all weatherization staff are required to continue to perform LSW accordingly. However, grantees may choose, at their option, to incorporate any or all parts of the EPA regulations going into effect April 2010, including the option to allow exemptions from LSW.

Exemptions

LSW must be applied to all pre-1978 housing unless the house meets EPA's Final Rule Exemptions.

Note: State authorities may, at their discretion, be more stringent and NOT allow certain exemptions within their state.

1. No Lead-Based Paint will be Disturbed. LSW **must** be applied to all pre-1978 housing unless there is existing evidence that the home has been certified as being lead-free or below the lead threshold limit (e.g., for paint containing lead below the regulated level, 1.0 mg/cm² or 0.5 percent by weight).

One of the following methods **must** be used to determine the paint to be disturbed is not lead-based paint:

- Written determination by certified lead inspector or risk assessor; **OR**
- Proper use of EPA-recognized test kit provided agencies (*documenting manufacturer and model of test kit used, description and location of components tested, and test kit results*).
 - *Note: Beginning in 2010, tests **must** be performed by a Certified Renovator, per EPA final rule. Test kits are currently being evaluated but none have been approved to date – updates and approved kits will be posted at <http://www.epa.gov/lead/>;* **OR**
 - A State-approved lead-based paint test protocol (e.g., XRF scans verifying absence of lead paint).

2. Manufactured homes. Often, interiors of manufactured homes were not painted but rather, paneling was applied to the surfaces. Therefore, pre-1978 manufactured homes that were not painted by the manufacturer, occupant, landlord, or past owner of the unit before 1978, may be exempt from LSW. However, Weatherization Programs **must** verify the areas receiving weatherization services have never been painted or were painted for the first time after 1978. If this is **not** verifiable, then LSW protocols **must** be followed.

Painted exterior surfaces on pre-1978 units should not be drilled, scraped, sanded, or receive any other work that disturbs the paint.

3. Exempt from training and work practice requirements if owner signs written statement that all apply:

- a. No pregnant women resides there; **and**
- b. Not a child-occupied facility (“occupied” includes being the child’s primary residence or a home that is visited regularly by the same child, under age six (6), on at least two different days within any week (Sunday through Saturday period), provided that each day’s visit lasts at least three (3) hours and the combined weekly visits last at least 6 hours, and the combined annual visits last at least 60 hours).

4. Housing for the elderly or persons with disabilities (unless any one or more children under age six (6) resides or is expected to reside in such housing for the elderly or persons with disabilities).

5. Any zero (0)-bedroom dwelling.

6. Minor Repair or Maintenance Activities: Activities that will disturb less than the following square feet of paint surfaces in 30 calendar days (counting all paint surface areas of a removed component):

- Six (6) square feet per room for interior activities; **OR**
- 20 square feet for exterior activities

But this exemption does **NOT** apply to the following:

- Window Replacement.
- Demolition of painted surface areas.

- Using any of the following:
 - Open flame burning or torching;
 - Machines to remove paint through high-speed operation without HEPA exhaust control; **OR**
 - Operating a heat gun at temperatures at or above 1100 degrees Fahrenheit.

6. **Do-It-Yourself:** Work performed by owners themselves in their residence.

THE EPA LRRP RULE DOES NOT PREEMPT MORE PROTECTIVE REQUIREMENTS AND GRANTEES SHOULD KEEP ABREAST OF ANY OTHER RULES AND REGULATIONS GOVERNING AN AGENCY’S ACTIVITIES SUCH AS THOSE BY HUD, STATES OR COMMUNITIES.

Implementing Levels of Containment

WPN 08-6 Attachment 1, Minimum Standards for LSW, articulates the specific standards and provides levels of containment – giving agencies options for how to perform LSW depending on the measure being performed. This differentiation of containment levels can be implemented immediately upon notification to their respective PMC Project Officers. Grantees may also choose to wait until PY 09 after training on the specific containment levels identified in the Minimum Standards. The revised LSW benchmark training curriculum is included on the DVD and CD as Attachment 2 of this guidance. Because of file size due to pictures and video clips, downloading additional copies from a website is prohibitive. Instead, grantees are strongly encouraged to make additional copies from the enclosed discs for local agencies and training staff within their service territory. For grantees that wish to purchase additional copies, the DVD/CD set is available for a nominal charge (cost of reproduction and shipping) from Montana State University (mvogel@montana.edu).

This benchmark training adheres to the standards of WPN 08-6 and helps prepare the network for the requirements that will be in effect in PY 2010.

Please note: The curriculum on disc is designed to support the classroom and hands on curriculum, as required by DOE. It is expected that each LSW training will include a hands-on training component to augment the curriculum.

Pollution Occurrence Insurance

Beginning in PY09, DOE no longer requires Pollution Occurrence Insurance (POI) but still strongly recommends POI. The costs of POI can be charged to the grant as part of the Liability Insurance. However, if a state or local agency chooses to NOT hold POI coverage and damage occurs because of not following all aspects of Lead Safe Weatherization or there is disturbance to any other environmental pollutants, the cost to do remediation, clean up, relocation, medical expenses or any other resulting costs may not be charged to the contract and **must** be covered by another funding mechanism. POI is discussed further in Weatherization Program Notice 02-6. Additional information about POI coverage can also be found on the WAPTAC website.

Client Notification

As of December 22, 2008, all agencies **must** begin using the lead notification publication, "Renovate Right – Important Lead Hazard Information for Families, Child Care Providers and Schools." This publication replaces "Protect Your Child from Lead in Your Home." Agencies are advised, EPA does not have mass quantities available for purchase but instead, has provided the material on their website for agencies to duplicate.

The following link is the link for the “Renovate Right” publication:

<http://www.epa.gov/lead/pubs/renovaterightbrochure.pdf>

CONCLUSION: DOE acknowledges the complexity of LSW issues, as well as unknown requirements for years beyond 2009, and recognizes there may be elements that will require still further clarification. Requirements, as mentioned in WPN 08-6 will be addressed in future notice related to Weatherization Program Notice 08-6 below.

WEATHERIZATION PROGRAM NOTICE 08-6

EFFECTIVE DATE: September 22, 2008

SUBJECT: INTERIM LEAD-SAFE WEATHERIZATION (LSW) GUIDANCE

PURPOSE: To provide additional guidance for an LSW component of a Health and Safety Plan. This guidance builds on the foundation provided in Weatherization Program Notice (WPN) 02-6, Weatherization Activities and Federal Lead Based Paint Regulations.

SCOPE: The provisions of this guidance apply to all grantees applying for financial assistance under the Department of Energy's (DOE) Weatherization Assistance Program.

LEGAL AUTHORITY: Title IV, Energy Conservation and Production Act, as amended, authorizes the Department of Energy to administer the Low Income Weatherization Assistance Program. All grant awards made under this Program shall comply with applicable law including regulations contained in 10 CFR Part 440 and other procedures applicable to this regulation as DOE may, from time-to-time, prescribe for the administration of financial assistance.

BACKGROUND: On July 12, 2002, DOE issued WPN 02-6, Weatherization Activities and Federal Lead Based Paint Regulations. WPN 02-6 provides background information on the various regulations impacting the treatment of pre-1978 homes that may have lead paint hazards when weatherization work is being performed. This guidance remains in place. To assist grantees with implementation of the WPN 02-6, DOE, in partnership with Montana State University (MSU), developed Lead Safe Weatherization (LSW) procedures and curriculum for agencies to follow when doing work in pre-1978 homes. DOE has not required grantees to use these tools, but has accepted the procedures and curriculum as the benchmark for LSW and has set the expectation that all weatherization work performed in pre-1978 housing be done in a lead safe manner as prescribed by these materials. Over the ensuing few years the network continued to train and build experience in addressing lead issues.

In 2007, DOE commissioned a study conducted by the National Center for Healthy Housing (NCHH) performed a study, *"Analysis of Lead-Safe Weatherization Practices and the Presence of Lead in Weatherized Homes."* The results of the study indicated that levels of lead paint were sometimes higher than acceptable Environmental Protection Agency (EPA) standards following the completion of certain Weatherization measures, specifically, when work was done on doors and windows. In response, the DOE Weatherization Health and Safety Committee drafted recommendations to address the concerns raised by the study.

DOE was poised to implement these recommendations when the EPA published a new Final Rule in April 2008: the "Lead; Renovation, Repair, and Painting Program" Final Rule (LRRP Final Rule), to be fully implemented by April, 2010. This rule specifically cites weatherization in several places as an activity that falls under the rule, and thus, the rule has a direct impact on how the Program proceeds, especially in implementing Lead Safe Weatherization. For a full version of the EPA Rule see: www.EPA.gov/fedrgstr/epa-tox/2008/April/Day-22/t8141.pdf.

While the EPA Rule is not scheduled to be fully implemented until 2010, DOE is providing guidance and recommendations for WAP Grantees to undertake during the remainder of 2008, and during 2009. Guidance is also provided for 2010, and that guidance is indicated in boxes in this WPN. Additional Guidance will be provided by DOE regarding the implementation of the LRRP Rule as more becomes available from EPA.

In 2008, DOE, again in partnership with MSU and in coordination with the DOE Health and Safety Committee, revised the LSW procedures and curriculum to strengthen the current practices, **establishing minimum standards for LSW**. These changes position the Program to address the concerns from the 2007 NCHH study and also ensure the Program is poised to implement EPA requirements that go into effect April 2010. The revised procedures and curriculum that meets DOE's 2009 minimum requirements will be available October 2008 from Montana State University.

For 2010, to comply with EPA's LRRP Rule requirements, DOE will release a revised benchmark curriculum (anticipated delivery Fall 2009) which will fully address all the new requirements effective April 2010. This curriculum will meet the EPA requirements and can be used by the grantees to develop their own EPA submissions. Grantees are advised, any state mandates and state requirements are the responsibility of the grantee to research and incorporate into the procedures and curriculum.

LSW COST ASSIGNMENT: The cost of LSW is a health and safety cost. While DOE does not require grantees to include LSW costs in the Health and Safety budget category, it encourages grantees to do so because all labor, material, and related costs are not subject to the average cost per home limitation when included in this category. Grantees are reminded "clearance testing" to meet Housing and Urban Development (HUD) or EPA lead dust standards is NOT an allowable cost. Also, purchasing XRF devices is NOT an allowable expense with the DOE Weatherization Assistance Program funds.

REQUIREMENTS FOR PY 2009: The following requirements are for implementation in PY 2009 only. The 2009 requirements do **NOT** address compliance dealing with training, work practice, and cleaning verification of the EPA LRRP Final Rule which will commence on April 22, 2010. During PY2009, DOE will provide additional guidance to assist grantees in complying with EPA's training and certification requirements for PY 2010.

DOE is confident that **by following Minimum Standards for LSW (Attachment 1 of this guidance)**, we can ensure protection of weatherization clients and workers, while continuing to focus on the Weatherization Program's primary mission: energy efficiency, and making energy more affordable for low income households.

1. State Health and Safety Plans for 2009

As part of each grantee's Health and Safety Plan, beginning in PY 2009, grantees will be required to submit a more comprehensive Health and Safety Plan which **must** include an LSW component detailing how the grantee will:

- Conduct LSW training using either the DOE benchmark LSW Curriculum or an equivalent curriculum (*Available beginning October 2008 from Montana State University*)

- Verify compliance with the Minimum Standards for LSW (Attachment 1); and,
- Handle agencies that are found not to be in compliance with WPN 08-6 and the Minimum Standards for LSW (Attachment 1).

For 2010, to comply with EPA’s LRRPRule requirements, grantees **must** submit their curriculum to EPA or the EPA designated authority within their state for accreditation. Grantees are also reminded that compliance with any other state/local requirements is the grantees’ responsibility to research and to include in their curriculum. When the EPA LRRP is in full effect, DOE will require as part of its LSW Minimum Standards all additional requirements as outlined in the EPA LLRRP April 22, 2008, published rule.

2. Weatherization Worker Protection

DOE requires grantees to follow the specified EPA requirements. By adopting basic safety precautions and LSW, Weatherization Programs can protect workers and the occupants of the homes they weatherize from lead exposure. DOE requires grantees to follow the specified EPA and Occupational Safety and Health Administration (OSHA) standards for Worker Safety as well as any state or local requirements.

By ensuring all Weatherization workers are knowledgeable of LSW Minimum Standards (as revised in the 2008 benchmark procedures and curriculum), grantees increase the assurance LSW is being followed properly and risks to the workers and/or occupants are minimized.

3. Client Notification Requirements

DOE requires all states to follow the EPA requirements related to notification. **For homes weatherized before December 22, 2008**, owners and occupants of a dwelling built before 1978 **must** receive the pamphlet *“Protect Your Family from Lead in Your Home.”* **For homes weatherized after December 22, 2008**, EPA’s new publication *“Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools”* **must** then be used. Please ensure the subgrantees and contractors are meeting the timelines and retaining copies of the notification, as specified above, and in the DOE LSW Minimum Standards.

4. Client Health and Safety

LSW requires residents and pets NOT having access to the work area while work is underway. Agency staff is required to make every effort to contain the work area and eliminate tracking any dust or materials throughout the house (or exposing residents and pets to any contaminants).

If containment cannot be achieved and there is risk of traffic through the work area (e.g., work will take several days involving kitchens, bathrooms, or bedrooms) agencies are advised to defer the work until other resources can be secured to offset relocation expense for the residents and pets.

5. Documentation of LSW

States must document in their files LSW was properly implemented (e.g., photos of the site, containment set up, etc.). Note: Grantees are reminded that all completed units must receive a final inspection to insure that compliance with all regulations have been met, which includes LSW procedures.

For 2010, to comply with EPA's LRRP Rule requirements, Renovations must be performed by Certified Renovation firms. To become Certified Renovation firms must submit an application to EPA and pay a fee (yet to be determined).

Certified Renovators will be a required position for pre-1978 job sites. The Certified Renovators **must** be trained and receive their credential at an EPA-accredited training facility and be onsite at all LSW sites to perform the mandated functions of the Certified Renovator. The Certified Renovator will verify the job site was "secure." Verification documents **must** be placed in the client files, attesting that all LSW standards were properly followed and the containment area was set up properly and was not compromised during work. The results of the Cleaning Verification that is required beginning April 2010 **must** also be documented in the customer file.

In 2010, subgrantees will be required to provide documentation of the Certified Renovator credentials, ensuring they are qualified to perform the specific functions of the Certified Renovator.

CONCLUSION: DOE would like to thank the DOE Health and Safety Committee and the Weatherization network for their contributions in providing input on the issues surrounding the lead based paint hazard. Additional recommendations for strengthening the LSW approach are provided (Attachment 2).

Because of the complexity of these issues, as well as unknown requirements for years beyond 2009, there may be elements that will require still further clarification. DOE will continue to provide additional updates to grantees and has provided a glossary of terms (Attachment 3) to assist in clarifying terms.

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Office of Weatherization & Intergovernmental Program
Energy Efficiency and Renewable Energy
Attachment 1: Minimum Standards for LSW
Attachment 2: Recommendations for Strengthening LSW for PY 2008 and 2009
Attachment 3: LSW Glossary of Terms

Weatherization Program Notice 02-6

Effective Date - July 12, 2002

SUBJECT: WEATHERIZATION ACTIVITIES AND FEDERAL LEAD-BASED PAINT REGULATIONS (Replaces WPN 01-10 Issued 5/10/01)

PURPOSE: The primary purpose is to provide guidance to Regional Offices and States relative to weatherization health and safety matters associated with lead based paint in homes. The secondary purpose is to provide information about other federal lead-based paint rules that apply to weatherization work.

SCOPE: The provisions of this guidance apply to all grantees applying for financial assistance under the Department of Energy's Weatherization Assistance Program.

PLEASE NOTE: Some of this guidance DOES NOT apply when weatherization work is done in HUD program housing or when HUD funds are used. The requirements are somewhat different under the HUD's Lead Paint Rule, and agencies who do work in HUD program housing **must** become familiar with the differences, and follow the HUD Rule when weatherizing under those circumstances. See **Attachment A** for a discussion about the HUD Rule.

BACKGROUND: This Program Notice replaces Weatherization Program Notice 01-10, Weatherization Activities and Federal Lead-based Paint Regulations of May 10, 2001.

Childhood lead poisoning is linked to reduced intelligence, low attention span, reading and learning disabilities, juvenile delinquency, behavioral problems, and other adverse health effects. Over the past 20 years, the removal of lead from gasoline, food canning, and other sources have been successful in reducing population blood lead levels by more than 80 percent.

However, nearly one million children have excessive levels of lead in their blood, making lead poisoning a leading childhood environmental disease. Lead-based paint, along with the contaminated dust and soil it generates in housing, is the major remaining source of exposure and is responsible for most cases of childhood lead poisoning today.

Congress and federal agencies responsible for the environment and disease control have become increasingly aware of the lead-based paint hazard. In 1992, Congress passed, and President Bush signed, into law the Housing and Community Development Act, which included Title X, the "Residential Lead-Based Paint Hazard Reduction Act of 1992. Title X authorized EPA, HUD, and OSHA to develop lead-based paint regulations. This Act is the basis for the EPA, HUD, and OSHA regulations discussed in this Program Notice.

The Department of Energy (DOE) is a member of two relevant interagency task forces: the President's Task Force on Environmental Health Risks and Safety Risks to Children, and the Federal Interagency Lead-Based Paint Task Force.

POLICY: Lead-based paint dust and other residues are hazards that weatherization workers are likely to encounter in older homes. HUD estimates that within the national housing inventory,

twenty-six million homes have significant lead-based paint hazards (estimates of the National Survey of Lead and Allergens in Housing at: www.hud.gov/lea/HUD_NSLAH_Vol1.pdf). Furthermore, weatherization work may directly disturb lead-based paint, possibly creating hazardous conditions. While the authorizing legislation for DOE's Weatherization Assistance Program (WAP) does not specifically address lead-based paint hazard reduction, DOE's policy is that Weatherization workers **must** be aware of the hazard and conduct weatherization activities in a safe manner to avoid contaminating homes with lead-based paint dust and debris, and to avoid exposing the clients, themselves, and their families to this hazard.

It is important to remember that the WAP's legislated purpose is to install energy efficiency measures in Weatherization clients' homes, in order to lessen their energy cost burden. WAP is not funded to do lead based paint abatement work, or to do lead-based paint hazard control or stabilization [1]. In the process of weatherizing a home, workers sometimes encounter and have to disturb painted surfaces that are known or presumed to contain lead-based paint. When that happens, DOE funds may be used to minimize the potential hazard associated with the specific painted surfaces that workers are directly disturbing in the course of installing an energy efficiency measure, but DOE funds may not otherwise be used for abatement, stabilization, or control of the lead-based paint hazard that is in the house.

Weatherization agencies are encouraged to apply for HUD Lead Hazard Control Grants and become certified to do lead-based paint hazard control work. Some agencies are doing this work now as an additional business line, and in at least one state some local agencies are performing Weatherization work and HUD's lead-based paint hazard control work at the same time.

[1] HUD is funded for the general control or stabilization of lead-painted surfaces in low income homes, and HUD has programs that provide funding for lead hazard control in many communities

Weatherization is an energy efficiency program, not a renovation or remodeling or rehabilitation program, and thus may not be subject to other agencies' rules governing renovation, remodeling, or rehabilitation work. However, there are certain instances in which particular Federal rules relating to lead-based paint hazard do apply to weatherization work. **Attachment A** is a summary discussion, for your reference, of the other Federal agency regulations that pertain to lead-based paint hazards and the circumstances under which we believe these regulations apply to weatherization work. **Attachment B** is a Flow Chart to assist with determination of the appropriate actions, described below, and applicability of the various federal rules.

DOE GRANT GUIDANCE: Processes known as "lead-based paint abatement," "lead-based paint hazard control," or "lead-based paint stabilization" are not allowable activities using 000weatherization program funds. However, work that is needed in conjunction with weatherization activities that disturb surfaces having lead-based paint, to prevent the generation of lead-based paint dust and residues, is allowable as long as the work is associated with installing energy efficiency measures.

When Weatherization crews disturb surfaces that may have lead-based paint, they **must** exercise caution to keep any dust that is generated from becoming a hazard to the clients, to themselves or

to their families. They do this (safeguarding people from lead-based paint hazards) through a set of safe work protocols hereafter referred to as Lead Safe Weatherization (LSW). In the course of applying the principles of LSW to the installation of energy efficiency measures, weatherization crews may perform some of the same procedures which are used in the control or stabilization of lead-based painted surfaces, but that will be only incidental to following LSW practices while accomplishing the weatherization of the home.

1. **State Application.** The WAP's Program Year 2002 Annual Grant Guidance, Weatherization Program Notice 02-1, October 29, 2001, requires states to identify and implement Lead Safe Weatherization. As a part of their health and safety plan, States **must** identify the procedures for local agencies to follow to address lead-based paint issues. These procedures, at a minimum, were specified to include the following:

- A description of the LSW practices to be followed by Weatherization crews;
- The timetable for completing any necessary lead-based paint training for local agency Weatherization crews - see paragraph 8 below, for deadlines in getting all LSW training completed;
- The proper disposal of all materials containing lead-based paint; and
- The description of a "deferral policy" for dwellings where DOE funding or crew training/readiness is insufficient to perform the appropriate LSW practices.

2. **What is LSW?** Lead Safe Weatherization (LSW) is a set of protocols to be used when disturbing surfaces that may have lead-based paint, that will reduce and control the amount of lead dust and paint chips that are generated. The protocols, when designed and followed properly, address compliance with applicable regulations, including state and local regulations, and may reduce the risk of liability associated with the work. The protocols require training to gain an understanding of lead-based paint hazards and their harmful effects and to acquire skills in reducing the lead dust generated when painted surfaces are disturbed in the course of installing energy efficiency measures. The protocols involve setup and cleanup practices that contain the spread of the lead dust and debris (generated from the weatherization activities) when the work is finished. Lead Safe Weatherization (LSW) is a set of protocols to be used when disturbing surfaces that may have lead-based paint, that will reduce and control the amount of lead dust and paint chips that are generated. The protocols, when designed and followed properly, address compliance with applicable regulations, including state and local regulations, and may reduce the risk of liability associated with the work. The protocols require training to gain an understanding of lead-based paint hazards and their harmful effects and to acquire skills in reducing the lead dust generated when painted surfaces are disturbed in the course of installing energy efficiency measures. The protocols involve setup and cleanup practices that contain the spread of the lead dust and debris (generated from the weatherization activities) when the work is finished.

LSW practices/protocols are described in two documents, either of which could be adapted by a state as a model in developing their own set of LSW protocols. These documents are the Montana State University developed LSW curriculum and the State of California WAP booklet titled "Lead-Safe Weatherization." Both the curriculum and the booklet are available for review on the WAPTAC website www.waptac.org.

3. **When is LSW Necessary?** In order to be as compatible as possible with pertinent requirements imposed by other agencies' regulations, DOE recommends that States include in their health and safety plan the following set of criteria for determining when LSW would be performed by local Weatherization agencies:

- The dwelling was constructed pre-1978, and
- The dwelling has not been determined to be lead-based paint free, and
- Either, the amount of disturbed lead-based painted surface exceeds two square feet per room of interior surface, twenty square feet of exterior surface, or 10 percent of a small component type, e.g., window; or the amount of lead-based paint dust that will be generated by the Weatherization work exceeds the OSHA-defined airborne levels for lead

4. **Testing for Lead-Based Paint and Lead-Based Paint Residues.** Testing for lead-based paint is not an allowable weatherization expense; except, when it is related to the installation of energy efficiency measures. These expenditures must be within the limits set by the state in its Weatherization health and safety plan. In pre-1978 houses where the presence or absence of lead-based paint has not been determined, testing for lead-based paint could be worthwhile as an economy step. If the anticipated weatherization/energy efficiency work involves disturbing more than a small amount of painted surfaces, then ruling out the presence of lead in the paint would save extra time and costs associated with doing LSW practices. Testing in a home for lead in a painted surface, when it is done, is limited to only those surfaces that will be disturbed.

Testing can be expensive and may take time. To have any standing in liability suits, testing requires the employment of a person who is a certified Lead Paint Inspector or Risk Assessor and has been trained and is knowledgeable in sampling techniques. The fastest test results are with a XRF (X-RAY Fluorescence) diagnostic tool. It gives an almost instantaneous result, but it is expensive and requires that the operator be certified. Purchases, the cost of training and certification, and maintenance of XRF machines must be funded from other sources, as they are NOT allowable expenditures of DOE Weatherization funds.

Low cost spot-test kits are available that provide a colorimetric (color change) indication of the presence or absence of lead. HUD and EPA are reviewing the efficacy of the commercial kits available, but have not yet completed their findings. Preliminary results indicate that these kits may be useful as a negative screen (an indication that no lead is present); however, agencies should exercise caution since not all spot-test kits are useful as a negative screen.

The following considerations are offered as a guide to determining whether testing is worth the time and money on a case-by-case basis:

- Houses built from 1978 on may be assumed to be free of lead-based paint, without testing.
- In houses built prior to 1930 [2], it is logical to simply assume the presence of lead-based paint and save the cost of testing.

- In homes built between 1930 and 1978, testing may not be warranted if the amount of paint to be disturbed is small, since it may be cheaper to perform LSW for a small area than to incur the expense of testing. However, where the amount of paint to be disturbed is relatively large, it may be worth the cost of testing, since a negative result would mean that the crews could dispense with having to perform the LSW protocols.

Routine testing of every house for lead paint levels before the start of work (testing of painted surfaces to be disturbed and/or risk assessment) and at the end (clearance testing) is a standard practice associated with lead paint hazard control or abatement work [3] and is not an allowable use of DOE Weatherization funds, except as required when weatherization work is being done on HUD homes or with HUD funds. If a state establishes a regimen of routine risk assessment and clearance testing for all cases where the presence of lead paint is a possibility, the state **must** use other sources of funding to implement such a policy.

[2] Although WAP Notice 01-10 suggested that 1940 was the cut-off year for prevalence of lead-based paint in housing, newer surveys (see reference to the national Survey of Lead and Allergens in Housing) suggest 1930. One reason for this was the apparent lack of housing construction during the Depression. By the time WWII arrived, metals like lead were diverted for the war effort and when the building boom of the late 1940s hit, lead was already being removed from paint. Generally, it is more likely to find lead in trim and door and window paint, than in wall paint.

[3] Please note that routine clearance testing is not only used for hazard control, but is required in HUD regulations for maintenance and rehabilitation activities in assisted housing.

NOTE: HUD’s guidance to its properties has been to test all properties for the presence of lead-based paint, so, the HUD program housing in your area may already have been tested for lead-based paint.

About Clearance Testing - Clearance testing (as required by the HUD Rule) is not a requirement for Weatherization work per se. As such, clearance testing is not an allowable expenditure of DOE funds. However, under some circumstances clearance testing may be required if you are doing Weatherization work in HUD program housing or you are using HUD funds. In these instances, your first course of action should be to ask the HUD program to fund the additional cost for LSW and clearance testing. If no HUD funds are available, DOE funds may be used for clearance testing since it is a requirement in this instance.

5. **Deferrals.** States should develop a lead-based paint “deferral policy” to provide guidance to their subgrantees as to when it is prudent to defer certain Weatherization work in homes that have either tested positive or are assumed to have lead-based painted surfaces. The following steps are recommended:

- First, the subgrantee should assess the following factors:

- 1) Is the agency prepared to work with lead-based paint? (i.e., have workers received training in LSW work practices - PLEASE NOTE THE TRAINING REQUIREMENT IN PARAGRAPH 8, BELOW; is the necessary equipment, such as HEPA vacuum cleaners, available; and does the agency's liability insurance cover work with lead-based paint);
 - 2) What is the condition of the painted surfaces in the house? (i.e., are they seriously deteriorated);
 - 3) What is the extent to which the specific energy efficiency measures determined by the audit will disturb painted surfaces? (i.e., will the disturbance likely generate dust in excess of OSHA minimums); and,
 - 4) Will the cost of doing LSW work represent a large portion of the total cost, such as to exceed the amount allowed by the state's health and safety plan (which could be the case if large amounts of lead-based paint surfaces will be disturbed)?
- Second, the grantee should determine, based on consideration of the above factors, whether to:
 - 1) Proceed with all the weatherization work, following LSW work practices, or
 - 2) Do some of the weatherization tasks, defer others, or
 - 3) Defer all of the weatherization work.

Deferral would mean postponing the work either until the Weatherization agency is prepared to work with lead-based paint, or until another agency has corrected the problem such that weatherization can be safely performed. In cases where extensive LSW would be necessary, agencies are encouraged to arrange with other organizations, which are funded to do lead-based paint hazard control, to perform some of the more costly activities, such as risk assessment or clearance testing. In areas where there are no organizations performing such work, Weatherization agencies may choose to develop their capabilities for lead-based paint hazard control work, but they may not use DOE Weatherization funds for this purpose. The state's lead-based paint deferral policy should not call for deferring the Weatherization work solely because there is lead-based paint in the home. In such a home, regular Weatherization work that does not disturb painted surfaces can be done.

6. **Funding of Lead Safe Weatherization.** While the WAP Final Rule of 2000 (Federal Register, December 8, 2000) does not mandate a separate cost category for health and safety, it does allow states to budget health and safety costs as a separate category and, thereby, to exclude such costs from the calculation of average cost per home. States are reminded that, if they continue to budget and report health and safety costs under the program operations category, these costs would be included in the calculation of the average cost per home.

States should carefully consider the approach to be taken when they draft their health and safety accounting procedures. While ease of accounting is an important consideration, states should keep in mind that activities assigned to the health and safety budget category do not have to be cost-justified by the energy audit. When the same items are assigned to incidental repair, weatherization material, or installation cost categories, they **must** be cost-justified.

Some Weatherization agencies have successfully applied for funding from programs such as HUD's Lead Hazard Control and Healthy Homes to augment their Weatherization efforts when working in homes with lead paint. In some states, the Legislatures have appropriated separate funding to cover the additional costs to train and certify workers for work in homes with lead paint. Another potential source of funding, subject to each State's approval, is the HHS Low Income Home Energy Assistance Program (LIHEAP). For your reference, **Attachment C** is LIHEAP Information Memorandum #2001-15, February 1, 2001, advising States that they may allow expenditure of LIHEAP funds, allocated for Weatherization of homes, to be appropriately used for certain expenses related to LSW.

7. **Liability Issues.** Unless an agency has specifically purchased additional insurance to cover pollution occurrences, they probably do not have sufficient insurance for their work as required by the WAP's Program Year 2002 Annual Guidance, **Weatherization Program Notice 02-1.** It is likely that their general liability insurance has a pollution occurrence exclusion. The WAP Annual Guidance requires that agencies have sufficient insurance coverage. When there is a gap in the coverage due to exclusion, the agency has insufficient insurance. Therefore, WAP subgrantees are recommended to acquire Pollution Occurrence Insurance (POI).

DOE strongly advises agencies to either refer or defer Weatherization work that will disturb surfaces that may contain lead-based paint, until they have insurance that will provide coverage for LSW work situations involving lead-based paint.

The cost of such insurance is an allowable DOE expense, and we urge agencies to seek ways to obtain the coverage at reasonable rates.

For insurance shopping: there are features about Weatherization work that state and local agencies should use in making the case for the lower risk associated with the nature of Weatherization work, especially when compared to lead-based paint abatement and lead hazard control work.

Weatherization is different from lead hazard control work and involves lesser levels of work associated with painted surfaces. In fact, the disturbance of painted surfaces, by comparison, is minimal and when it happens, is incidental to the purpose of the work - the installation of energy conserving measures. In addition, not all weatherization work involves disturbing painted surfaces and some homes are lead free, and so the risk basis for insurance rates, unlike insurance for lead hazard control work, should not be based on one hundred percent operations in a lead paint environment for every home weatherized.

DOE is involved with EPA and HUD in continuing discussions with the insurance industry about ways to qualify Weatherization agencies for more favorable rates. We also welcome suggestions from state and local agencies with experience in obtaining reasonable rates for this kind of work, which we will share with the network.

8. **Training.** WE CANNOT EMPHASIZE TOO MUCH: LSW training for Weatherization workers, both in-house and contractor, is critical to the protection of Weatherization clients and the workers themselves. Also, it may be helpful or even necessary in getting reasonable Pollution Occurrence Insurance (liability insurance for emissions from lead-based paint and other sources).

DOE requires that when the disturbance of painted surfaces is significant (more than the de minimis levels stipulated in the EPA rule or exceeds the emissions levels under the OSHA Rule), Weatherization workers be trained in LSW. If workers have not had sufficient training, states **must** provide training for them before they work on homes with lead paint where painted surfaces will be disturbed in the course of doing the weatherization measures.

To help states who didn't have a lead paint training program, DOE developed a LSW training course that became available in October, 2001. The course has an easily exportable reference tool illustrating LSW practices. This is not the only training curriculum that is available to states. There are several courses offered by EPA and HUD that would serve as sufficient training for Weatherization workers to enable them to do LSW. Although the EPA and HUD lead paint training courses acquaint trainees with the proper work protocols, the DOE LSW training addresses work practices for specific weatherization measures. For workers who will have or have had the HUD or EPA training, states may want to augment that training with DOE's LSW reference tool.

The WAPTAC website has information about the above training courses and can be either downloaded or linked to a site where the course can be accessed. All are available to the states for use in crafting a training program. Any of these courses will provide sufficient orientation regarding the lead paint hazard to allow agencies to safely do Weatherization work that disturbs painted surfaces, providing that the agencies follow the state's protocols for LSW activities.

In order to be an allowable use of DOE grant funds, training in the mitigation of lead paint hazards when disturbing painted surfaces must be related to the installation of energy efficiency measures and LSW work practices. Establishing a routine requirement for every Weatherization worker to be an EPA (or the state equivalent) certified lead paint worker is a practice used in lead paint abatement work and is not an allowable use of DOE Weatherization funds. If a state chooses to implement a training policy requiring Weatherization workers to have EPA training and be certified, they must use alternate sources of funding.

An important deadline and training requirement for States:

Within 60 days of the date of this Program Notice revision, all states **must** have submitted a LSW Training Plan that is a part of the WAP State Plan's Annual File. This plan **must** have a schedule for the completion of LSW training for direct hire and contractor weatherization workers who work on homes with lead paint where painted surfaces will be disturbed in the course of doing the weatherization measures. This training **must** be completed as soon as possible, but within nine months of the date of this program notice. States not able to complete this training within the time frame **must** submit a justification to the Regional Office explaining why. If the request is reasonable, the Regional Offices will grant an extension to the state.

SUMMARY: We appreciate the continued constructive input of many people in attempting to define and resolve issues surrounding the lead-based paint hazard. We understand that many state and local Weatherization agencies find the incorporation of this guidance into their operations difficult and challenging.

Because of the complexity of these issues, there may be elements that will require still further clarification. The WAPTAC website will soon have a compilation of frequently encountered questions and answers for them. Please let us know your questions and issues, so we can work together on dealing with this important health and safety matter.

Exhibit 6 – Mold & Mildew Protocol

The Oregon Low Income Weatherization Assistance Program does not encompass mold remediation. DOE funds are not to be used to test, abate, remediate, purchase insurance or alleviate existing mold conditions identified during the assessment, the work performance period or the quality control inspection. Where multiple funding sources are used, the performance of any of the aforementioned activities **must** be expensed to a non-DOE funding source. However, DOE funds may be used to correct energy-related conditions and/or to assure the immediate health of workers and clients.

Weatherization of a home and air-sealing in particular could potentially increase the risk of moisture and mold in a home, thereby causing structural damage and/or health risk to the inhabitants. As well, existing mold could pose a health risk to both the inhabitants and the weatherization crew.

I. Moisture Protocols

Moisture Assessment

All homes should be checked for previous or existing moisture problems.

- A. Mold in homes arises from conditions of excess moisture. During initial inspection, field coordinators are to assess the homes with special attention to the following signs:
 1. Evidence of condensation on windows and walls indicated by stains or mold;
 2. Standing water, open sumps, open wells, dirt floors, water stains, etc. in basements. Also, check to see if firewood is stored in the basement and whether laundry is hung there to dry during the winter months;
 3. Leaking supply or waste pipes;
 4. Attic roof sheathing shows signs of mold or mildew.
- B. Identification of existing or potential moisture problems shall be documented in the client file. Any moisture problems found **must** be pointed out and discussed with the client. The mold and mildew checklist **must** be filled out at the time of the audit, signed, and dated by the client.
- C. A copy of the pamphlet, *A Brief Guide to Mold, Moisture, and Your Home*, **must** be given to the client and a signed confirmation of receipt **must** be present in the file.
- D. If existing moisture problems are found, no air sealing should be done unless the source of the moisture can be substantially reduced or effective mechanical ventilation can be added to cost-effectively remove the moisture. In some cases, air sealing **must** be done in order to reduce the source of the moisture (i.e. sealing off crawlspace from the house, or sealing attic leakage to eliminate condensation on the roof deck).
- E. Because air tightening may cause an increase in relative humidity, client education should include information about moisture problems and possible solutions.
- F. In the course of weatherization, any low-cost measures that help reduce the humidity levels in the house should be installed. Examples of these activities are venting dryers,

venting existing bath or kitchen exhaust fans or installing moisture barriers on dirt floors.

Repair or Elimination of Moisture Problems

Repair of moisture problems that might A) result in health problems for the client B) damage the structure over the short- or long-term, or C) diminish the effectiveness of the weatherization measures, **must** be done before the weatherization job is completed.

- A. Moisture problems can be reduced or eliminated by controlling the source of the moisture. This can involve:
 - 1. Installing a plastic ground cover on a crawlspace floor;
 - 2. Venting dryers to the outside of the building;
 - 3. Sealing the foundation;
 - 4. Providing positive drainage away from foundation;
 - 5. Repairing the roof, flashing, gutter, and downspout
 - 6. Education the client about the sources of moisture that they are able to control.
- B. Moisture problems can be reduced or eliminate by ventilating areas where excessive moisture is produced, such as bathrooms and kitchens. This should include installation of a high quality exhaust fan in the subject area and informing the client of the related moisture issues and the proper operation and use of the fan.

C. Dryer Vents

- 1. All dryers must be vented to the outdoors and terminated with an operable dryer vent hood. Outdoors does not include unconditioned spaces such as attics and crawlspaces that are ventilated with the outdoors. (SWS 6.6005.1a)
- 2. The operable dryer vent hood must include a backdraft damper. The outlet must be sealed to prevent water and air intrusion. (SWS 6.6005.3c)
- 3. Dryer vent ductwork must be smooth surfaced, rigid sheet metal, supported at each connection in the crawlspace and vented to daylight utilizing the shortest run possible. Use of elbows should be limited to the least possible number to ensure unobstructed venting. Plastic venting is not allowed. (SWS 6.6005.1a)
- 4. All joints must be sealed using UL – 181 tape (metal tape). (SWS 6.0005.1a)
- 5. Connections to the dryer and the dryer vent hood must be secured with a clamp as well as sealed with UL 181 tape. (SWS 6.6005.1a)
- 6. Flexible metal vent pipe may be used between the dryer and the hard pipe connection if it does not exceed three feet in length. The connection between the flexible metal and rigid metal vent pipe must be secured with a clamp as well as sealed with UL 181 tape. (SWS 6.0005.1a)
- 7. Dryer vent pipe must not be installed with sheet metal screws or other intrusive f fasteners that will collect lint. (SWS 6.6005.1a)
- 8. Whenever possible, the dryer vent must be installed with a downward slope to the outside to allow for condensation drainage.

9. Any dryer ducting located in unconditioned spaces must be insulated to a minimum of an R-8. (SWS 6.6005.1a)
10. Dryer vents exceeding 35 foot in duct length must have a dryer booster fan installed. (SWS 6.6005.1a)
11. Occupant must be instructed to keep lint filter and termination fitting clean. If applicable, occupant must be instructed to keep dryer booster fan clean, if present. (SWS 6.6005.1e)

II. Mold Protocols

Mold Assessment/Clean-up

All homes should be checked for mold during the initial inspection. If a mold condition is discovered during the initial inspection of the home that cannot be adequately addressed by the weatherization crew, then the dwelling unit should be referred to the appropriate public or non-profit agency for remedial action. As well, clients **must** be notified and informed of the presence of mold in their homes. The client **must** sign and date the mold and mildew checklist as documentation. A copy of the pamphlet, *A Brief Guide to Mold, Moisture, and Your Home*, **must** be given to the client. A confirmation of receipt of pamphlet, signed by the client **must** be included in the file.

Note: If the moisture pamphlet is given at the same time as the mold and mildew inspection, One document can be used to confirm both. If given at separate times, there **must** be two separate documents of confirmation.

- A. If the moldy area is less than 10 square feet (about 3 ft. by 3 ft). then the job can most likely be handled by the weatherization crew.
 1. Professional should be contacted when:
 - a. The mold covers more than 10 square feet.
 - b. There is evidence of extensive water damage;
 - c. It is suspected that the heating/ventilation/air conditioning (HVAC) system may be contaminated, i.e. there is mold near the intake of the system. The HVAC is not to be run, as it could spread mold throughout the house;
 - d. The water and/or mold damage was caused by sewage or other contaminated water;
 - e. There is a health concern.
 2. For instances when the moldy area is less than 10 square feet, the following steps may be taken:
 - a. Eliminate or repair all moisture problems using the aforementioned moisture protocols;
 - b. Scrub mold off hard surfaces with detergent and water and dry completely;
 - c. Absorbent materials, such as ceiling tiles and carpet, may have to be thrown away when they become moldy. Mold can grow on or fill in the empty spaces and crevices of porous materials, so the mold may be difficult or impossible to remove completely;

- d. Avoid exposing yourself or others to mold;
- e. Do not paint or caulk moldy surfaces. Clean up the mold and dry the surfaces before painting. Paint applied to the moldy surfaces is likely to peel;
- f. When unsure about how to clean an item, or if the item is expensive or of sentimental value, a specialist should be consulted;
- g. Avoid breathing in mold or mold spores. In order to limit your exposure to airborne mold, N-95 respirators are recommended when working in moldy areas;
- h. Wear gloves. Long gloves that extend to the middle of the forearm are recommended;
- i. Wear goggles. Goggles that do not have ventilation holes are recommended;
- j. Revisit the site(s) shortly after clean-up to make sure that it shows signs of water damage or mold growth.

Exhibit 7 – Agency Weatherization Self-Assessment

Agency Weatherization Self-Assessment				
How do you rate your agency's performance/knowledge in the following categories:				
	Poor/ Fair	Good	Excellent	Additional Comments
Technical				
Blower Door Diagnostics				
Lead				
Combustion Safety				
Documentation				
Job costs				
Eligibility				
Pre-condition of home				
File Organization				
Pre Work Audit				
Job Costing/Bidding				
Other				
Inspections				
Quality				
Need for call-back				
Outreach				
Client Satisfaction/Relationship				
T/A & Training Requests				

In light of your above self-assessment, please identify what kind of assistance OHCS can provide through your field representative at his/her next onsite visit or by some other means.

Agency:	Person filling out form:
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Exhibit 8 – Performance Evaluation

 Oregon Housing and Community Services Agency Performance Evaluation			
General Program			
	Rating	Comments:	Recommendations
General Administration			
Procurement	Exemplary		
Contractor Outreach	Exemplary		
Contractor Insurance	Exemplary		
Funding Leveraging	Stable		
Financial Management	Stable		
CRD	Exemplary		
Client Services	Exemplary		
MSDS	Stable		
Monthly safety Meetings	Stable		
Fiscal	Stable		
Client Files			
Complete and Accurate	At-Risk		
Organization	Stable		
Scopes of Work	At-Risk		
Job Costing	Exemplary		
Overhead cost	Stable		
Client Eligibility	At-Risk		
Mold	Stable		
Lead	Stable		
Inspections	At-Risk		
REM/rate	Stable		
Minimum Ventilation Ratio	Stable		
Program Delivery			
Production	Stable		
Cost-Effective Practices	Stable		
Change in Subs	Stable		
Change in Staff	Stable		
Material Inventory	Stable		
Training	Stable		
PEER Exchange	Stable		
Client Education	Stable		
Client Satisfaction	Stable		
Work Quality			
	Rating	Comments:	Recommendations
Field Performance Testing / Health and Safety			
Moisture	Stable		
Air leakage	Stable		
Indoor Air Quality	Stable		
Blower Door	Stable		
Insulation Blower	Stable		
Combustion Testing	Stable		
CAZ Testing	N/A		
CO Testing	Stable		
Heating Systems	Stable		
Diagnostic Tool Calibration	Stable		
Material Installation and General Workmanship			
Attic Insulation	Stable		
Wall Insulation	Stable		
Floor Insulation	Vulnerable		
Window Installation	Stable		
Weather-stripping	Stable		
Duct Sealing	Stable		
Misc. Measures Installed	At-Risk		
General Base load	At-Risk		
Health and Safety	Stable		
Refrigerators	Stable		

Exhibit 9 Health & Safety Documents

Sample Release of Liability Release of Liability and Waiver of Claims

Health and Safety Assessment

In addition to the energy audit we will complete on your home, we will also complete a limited health and safety assessment of the home. The health and safety assessment will consist of a visual inspection for potential health and safety issues. You will be notified of any health and safety issues that are identified, including mold. However, the evaluator is not a qualified mold professional. Mold may be present in areas not accessible or observed during the visual inspection or during the actual work on your home. Work on your home will be performed in a manner to prevent future mold growth. However, if there are existing conditions that are unseen or if, after the work is completed, situations within your home result in mold growth, we shall not be held responsible or liable.

Weatherization Activities

Notice: During weatherization activities, particularly when insulation is being blown into wall cavities and attics, insulation dust, other types of dust, and other particles may become airborne. Additionally, unforeseen circumstances may result in some insulation leaking through cracks into the home's living space. In these circumstances where insulation leaks into the living space, we will be responsible for clean-up (repairing damage and cleaning up the living area). Minor construction dust is inevitable at the end of any remodeling work. Construction dust clean-up will be the responsibility of the homeowner/occupant.

Recommendation: It is recommended that people with the following health conditions be out of the house when insulation is being blown into the house: Asthma, emphysema, allergies and other respiratory conditions, pregnancy and any other serious health conditions such as decreased immune functions which might be aggravated by dust and other dust-like particles in the air. Furthermore, it is also recommended that infants less than 12 months old should be out of the house when insulation is being blown. Persons who leave the house during the insulation process should remain away from the house until at least 30 minutes after completion of insulation activities.

Release and Waiver of Claims: I acknowledge by my signature below receipt of the information and recommendations set out above. Additionally, I agree on behalf of myself and any minor children or others for whom I am responsible, to hold the agency and its agents harmless from any claims, medical problems or personal injuries that may occur, develop or worsen in response to the weatherization activities. This waiver is for all damages, direct or indirect, that may relate to weatherization activities, including money lost by not being able to work, healthcare costs and pain or suffering.

I am aware the weatherization process may cause airborne particles, including dust, to be released in my home and that such airborne particles can aggravate health conditions in

some people. I have chosen to go forward with the weatherization process, accepting any and all risks of injury or damages.

I have carefully read this release and waiver and fully understand its contents. I am aware that this is a release of liability and I have signed it of my own free will.

Client Name: _____

Phone: _____

Address: _____

City, Zip: _____

File Number: _____

Client Signature: _____ Date: _____

Agency Name: _____

Phone: _____

Agency Representative Signature: _____ Date: _____

Sample Health & Safety Hazard Notification

Client Name: _____ Project ID Number: _____

Project Address: _____ City: _____ Audit Date: _____

Based on information obtained during the energy audit, the following health & safety hazards have been identified: _____

The project will have to be deferred until needed repairs are completed. Once the following Repairs are completed, the project can proceed: _____

Agency staff check one of the following:

_____ It is the client's responsibility to repair the following health & safety hazards and notify this agency for weatherization to proceed. _____

_____ It is landlords responsibility to repair the following health & safety hazards and notify This agency for weatherization to proceed. _____

_____ (Agency) takes responsibility for repair of the following health & safety hazards. _____

Based on our initial review of this building, (Agency) has identified the above potential health or safety problems. This is a limited visual inspection. These are the existing conditions as of the date below. By signing below, I acknowledge that I have been informed of the conditions and may have to address some of the items prior to any weatherization work.

Clients Signature _____

Printed Name: _____

Date: _____