



U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy

Weatherization Monitoring

“Technical”

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Learning Objectives

By attending this session, participants will be able to:

- Understand the Federal regulations that drive WAP policy.
- Know how to find and reference Regulations and DOE policies
- Summarize the technical monitoring requirements of the Grantee.
- Identify the key technical monitoring elements to include in the State Plan.

Importance of Monitoring

Monitoring helps ensure:

- Weatherization Assistance Program (WAP) operates according to Federal regulations and program guidance.
- Transparency & accountability.
- High quality work.
- Quality Assurance and controls.



Weatherization Policy Flowdown



US Department of Energy:

Interprets Federal Regulations through Weatherization Program Notices



Grantees:

Create policies and procedures to adhere to WPNs



Subgrantees:

Develop agency systems, policies and procedures to adhere to Grantee policies



Low-Income Clients:

Receive high quality work and save energy

Regulations

- 10 CFR 440
- Appendix A
- www.ecfr.gov

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Related Resources

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[A2]

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[Title 10 → Chapter II → Subchapter D → Part 440](#)

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Title 10: Energy

PART 440—WEATHERIZATION ASSISTANCE FOR LOW-INCOME PERSONS

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- §440.1 Purpose and scope.
- §440.2 Administration of grants.
- §440.3 Definitions.
- §440.10 Allocation of funds.
- §440.11 Native Americans.
- §440.12 State application.
- §440.13 Local applications.
- §440.14 State plans.
- §440.15 Subgrantees.
- §440.16 Minimum program requirements.
- §440.17 Policy Advisory Council.
- §440.18 Allowable expenditures.
- §440.19 Labor.
- §440.20 Low-cost/no-cost weatherization activities.
- §440.21 Weatherization materials standards and energy audit procedures.
- §440.22 Eligible dwelling units.
- §440.23 Oversight, training, and technical assistance.
- §440.24 Recordkeeping.
- §440.25 Reports.
- §440.26-440.29 [Reserved]
- §440.30 Administrative review.

[Appendix A to Part 440—Standards for Weatherization Materials](#)

AUTHORITY: 42 U.S.C. 6861 *et seq.*; 42 U.S.C. 7101 *et seq.*

SOURCE: 49 FR 3629, Jan. 27, 1984, unless otherwise noted.

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§440.1 Purpose and scope.

This part implements a weatherization assistance program to increase the energy efficiency of dwellings owned or occupied by low-income persons or to provide such persons renewable energy systems or technologies, reduce their total residential expenditures, and improve their health and safety, especially low-income persons who are particularly vulnerable such as the elderly, persons with disabilities, families with children, high residential energy users, and households with high energy burden.

[65 FR 77217, Dec. 8, 2000, as amended at 71 FR 35778, June 22, 2006]

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§440.2 Administration of grants.

10 CFR 440 Sections

§440.1 Purpose and scope.

§440.2 Administration of grants.

§440.3 Definitions.

§440.10 Allocation of funds.

§440.11 Native Americans.

§440.12 State application.

§440.13 Local applications.

§440.14 State plans.

§440.15 Subgrantees.

§440.16 Minimum program requirements.

§440.17 Policy Advisory Council.

§440.18 Allowable expenditures.

§440.19 Labor.

§440.20 Low-cost/no-cost weatherization activities.

§440.21 Weatherization materials standards and energy audit procedures.

§440.22 Eligible dwelling units.

§440.23 Oversight, training, and technical assistance.

§440.24 Recordkeeping.

§440.25 Reports.

Program Resources

- Weatherization Program Notices (WPN)
 - Formal DOE interpretations of Federal regulations
- Weatherization Program Memos
 - Informational announcements, reminders and updates

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Home » Weatherization Assistance Program » Weatherization Program Guidance

WEATHERIZATION PROGRAM GUIDANCE

The U.S. Department of Energy's (DOE) Weatherization Assistance Program (WAP) is governed by various federal regulations designed to help manage and account for the resources provided by DOE. Each year, Congress passes a Weatherization Assistance Program Appropriation. Find active and archived weatherization program notices and memorandums in the table below, which establish the framework for administering WAP funds.

Search:

TYPE

- ☐ Active Memorandums
- ☐ Active Program Notices
- ☐ Archived Program Notices

TOPIC

- ☐ Administrative Costs
- ☐ Clients
- ☐ Defining Income
- ☐ Disaster Relief
- ☐ Electric Baseload
- ☐ Eligibility Levels
- ☐ Eligible Dwelling Units
- ☐ Energy Audit Criteria
- ☐ Fuel Switching
- ☐ Funding
- ☐ Grant Application
- ☐ Health & Safety
- ☐ Historic Preservation
- ☐ Incidental Repairs
- ☐ Material Procurement
- ☐ Monitoring
- ☐ Multifamily
- ☐ Policy Advisory Council
- ☐ Priority Service
- ☐ Renewable Energy Systems

Showing 1 to 10 of 187 entries

DESCRIPTION	EFFECTIVE DATE	TOPIC	TYPE
WAP Memorandum 024: The Use of Solar PV in the WAP To help facilitate the integration of solar PV across the WAP network, the Department of Energy (DOE) will provide communication and technical assistance that clarifies the process for approval of the use of WAP funding for solar photovoltaics (PV) and outlines the regulatory requirements that must be met when incorporating the technology or other renewable systems.	1/17/2017	Renewable Energy Systems	Active Memorandums
WAP Memorandum 023: American Customer Satisfaction Index (ACSI) – Subgrantee Survey The U.S. Department of Energy (DOE) Weatherization and Intergovernmental Program Office, (WIP) through the Weatherization Assistance Program (WAP), is requesting feedback from Subgrantees that will help improve the administration of the Program. WAP has chosen to use the American Customer Satisfaction Index (ACSI) for the survey. The tool and survey provides Subgrantees the opportunity to give DOE WAP constructive feedback.	1/9/2017	Unclassified	Active Memorandums
WAP Memorandum 022: Allowable Use of Training Funds for Network Conferences Grantees often budget to participate in DOE's training conference and/or similar training conferences in their State Plan. This year, Grantees and Subgrantees are encouraged to utilize those funds to attend the 2017 National Association for State Community Service Programs (NASCCSP) Spring Training Conference and/or the 2017 HPC National Home Performance Conference and Trade Show. Given the proximity in dates of these two conferences, please review each conference agenda to determine the best fit for WAP staff.	1/8/2017	Unclassified	Active Memorandums
WAP Memorandum 021: DOE Sponsorship of the 2017 HPC National Home Performance Conference and Trade Show The U.S. Department of Energy (DOE) Office of Weatherization and Intergovernmental Program is pleased to announce its sponsorship of the 2017 HPC National Home Performance Conference and Trade Show – the home performance industry's leading educational event. DOE is sponsoring this event in lieu of hosting a National Weatherization Training Conference. The national conference, featuring the nation's top experts in home performance and weatherization will take place March 19-22, 2017, in Nashville, Tennessee.	12/6/2016	Unclassified	Active Memorandums
WAP Memorandum 020: Clarification on DOE Evaluation Studies vs. Independent Studies The U.S. Department of Energy has advised some grantees and subgrantees are receiving calls from individuals identifying themselves as researchers working on a project related to the Weatherization Assistance Program (WAP).	12/8/2016	Unclassified	Active Memorandums

WPN's related to Technical Monitoring

- 11-6 Health and Safety and 11-6 A
- 15-4 Quality Work Plan
- 16-8 Energy Audit Approvals
- 16-7 Approved Weatherization Materials
- 12-9 Incidental Repairs

Key Regulation Sections - Monitoring

- **10 CFR Part 440.12(b)(6)** requires the Grantee to monitor the Subgrantees' program activities.
 - Technical
 - Programmatic & Management
- **2 CFR 200** requires the Grantee to monitor the Subgrantees' fiscal activities.
 - Fiscal monitoring occurs at the Subgrantee offices.

Monitoring WPN

- **WPN 16-4** is the latest release of the monitoring guidance.
 - Programmatic & Management Checklist
 - Subgrantee Checklist
- As a resource, each checklist provides the corresponding regulation section(s) that governs the topic.

SECTION 4: ENERGY AUDITS

- 11. Subgrantee will be asked to produce the most recent DOE-approved energy audit and/or priority list and demonstrate/describe how it updates and maintains the audit inputs, especially when dealing with atypical housing stock (updating fuel, labor, and material costs, etc.).**

How does the Subgrantee's demonstration/description of their audit/priority list (including updates and treatment of atypical housing) align with the information in Section 6, Energy Audits (questions 22-24) of the Grantee P&M checklist.

Source Documentation:

10 CFR 440.14: State Plan

10 CFR 440.19: Labor

10 CFR 440.21 (c), (d), (e): Energy audits

10 CFR 440.23: Oversight, Training & Technical Assistance

10 CFR 440.24: Recordkeeping

WPN 13-5: Revised Energy Audit Approval Procedures and Other Related Audit Issues

Material Review:

Grantee Approved State Plan

Audit Input Update Submittals

Audit System/Priority List

GRANTEES PERFORM
MONITORING



QUALITY ASSURANCE

SUBGRANTEES PERFORM
INSPECTIONS



QUALITY CONTROL

WHAT DO YOU NEED TO REVIEW DURING MONITORING?

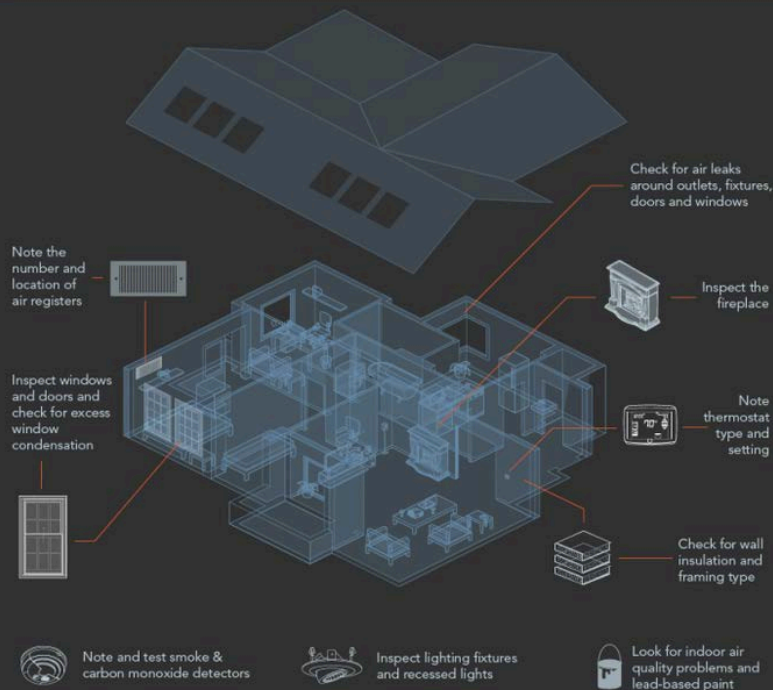
What to Review - Technical

Technical Materials

- Field Guide
- Policies and Procedures Manual
- Energy Audit(s) and/or Priority List
- Audit Input Update Submittals
- QCI unit reports
- Client Files
 - Contractor Invoices
 - Materials Invoices

Audit Usage

Home Energy Audit: What to Look For



The Home Energy Audit Checklist

Certified home energy auditors should go through the following steps in a home energy audit.

- 1 Analyze past year's fuel bills to determine base energy consumption
- 2 Interview the homeowner to learn about problems and how the home operates
- 3 Explain the audit process
- 4 Conduct exterior inspection
- 5 Health and safety inspection
- 6 Interior visual inspection
- 7 Assess electrical system for safety concerns
- 8 Combustion appliance inspection
- 9 Blower door test
- 10 Analyze findings & create a comprehensive home energy report

SWS- Field Guides and Inspection Checklists



STANDARD WORK SPECIFICATIONS

3.1003.6 B-C CAPPING SOFFITS

Prepare work area.

1 PREPARE



Install support material (e.g., 2X) for spans wider than 24 inches.

2 INSTALL SUPPORT



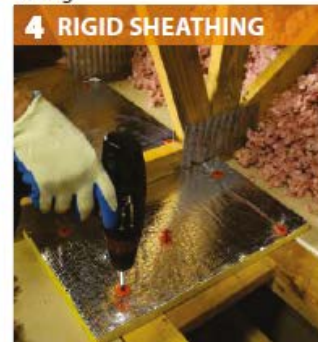
NOTICE: If air sealant is a foam plastic, it must be covered with an approved thermal barrier (e.g. rockwool, slag wool).

3 FIRE RATING



Install and fasten rigid sheathing over soffit/dropped ceiling.

4 RIGID SHEATHING



Seal all cracks, seams, and holes of rigid material with an appropriate material based on hole size.

5 SEAL SHEATHING



Seal all cracks, seams, and holes of adjacent framing with an appropriate material based on hole size.

6 SEAL FRAMING



Notes:

Health and Safety

- Daily CAZ Checkout
- Lead Safe
- MSDS
- Incidental Repair vs. Health and Safety

Training Priorities

Tier 1

- **Infrared camera**
To help determine air leakage and insulation
- **Combustion analyzer**
Tool designed to sample flue gases in vented combustion appliances and measure flue gas temperature, leaks and carbon monoxide
- **Blower door**
A large fan that depressurizes the home by sucking air out. This test simulates the effect of a 20-mile-per-hour wind to allow the auditor to find air leaks
- **Manometer**
A gauge that measures the differences in pressure in a home to pinpoint air leakage and test exhaust devices for proper operation
- **Smoke generating device**
Produces a thin stream of smoke or non-toxic fog to help find air leakage and duct leakage
- **Watt meter**
Measures the electrical energy used by various devices throughout the home

Tier 2



Completed Units

INDEPENDENT QUALITY CONTROL INSPECTORS

Grantees must perform
quality assurance
reviews of at least

5%

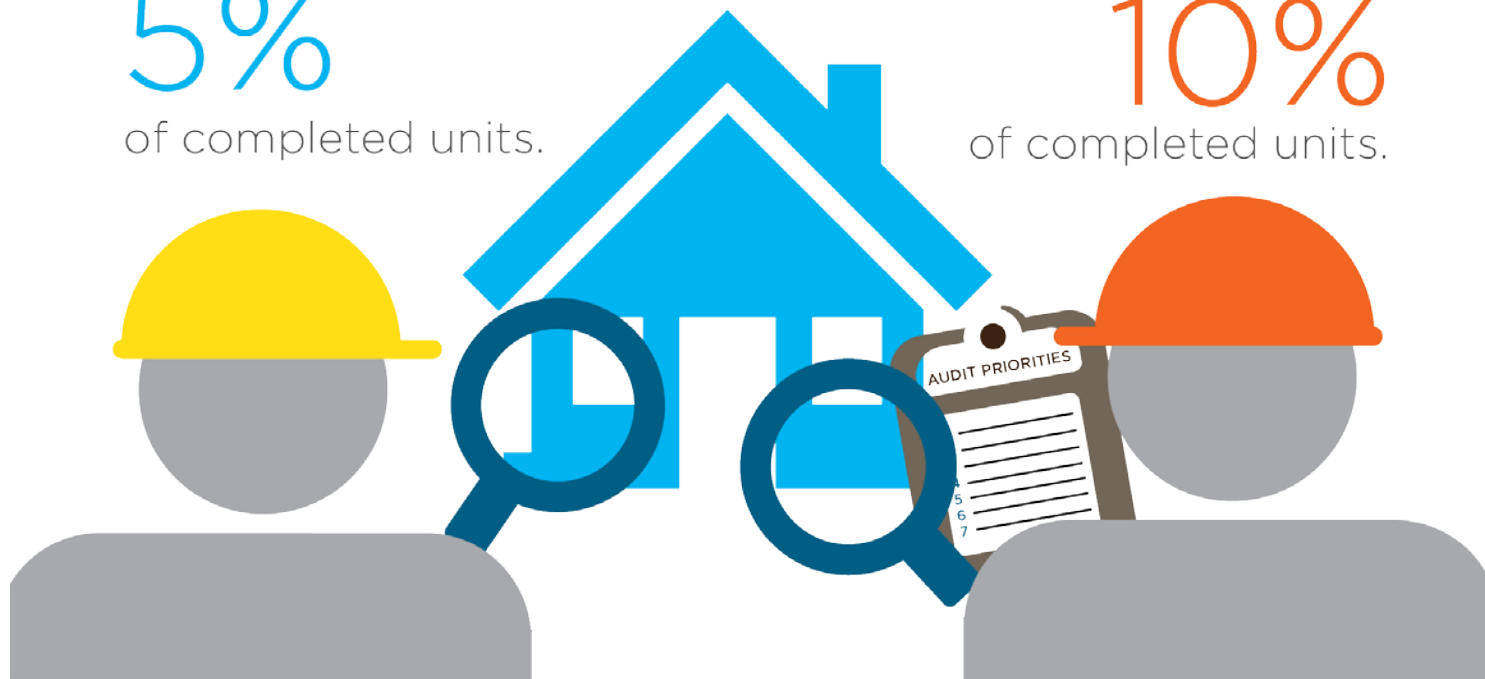
of completed units.

INDEPENDENT AUDITOR/ QUALITY CONTROL INSPECTORS

Grantee must perform
quality assurance reviews
of at least

10%

of completed units.



Summary

- Effective program monitoring ensures WAP will operate smoothly and efficiently.
- Consistent monitoring of the Technical requirements of the WAP ensures that:
 - Clients receive high quality, safe work
 - Callbacks are reduced
 - The WAP workforce is well trained and able to perform its job
 - The agencies are well positioned to integrate other energy programs into their operation