North Carolina Weatherization Assistance Program Training Plan

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NC Department of Environmental Quality State Energy Office NC Weatherization Assistance Program

Introduction

The goal of this training plan is to give Subgrantees clear guidance as to what training is required for weatherization personnel, timeline that training is required, and sources of training.

Due to the technical and changing nature of the Weatherization Assistance Program (WAP), a high priority is placed on the Training and Technical Assistance (TTA) aspect of the program. Introductory training courses are offered every year for new Subgrantee hires or contractors. Other courses are offered depending on Subgrantee needs and DOE or State requirements. These needs shall be determined through both Subgrantee self-assessment and NC WAP monitoring. When deficiencies in monitoring are found, required additional training may be mandated as a part of a Subgrantee's corrective action.

Weatherization Training has two categories: 1) Tier 1 Training—Comprehensive, occupationspecific training that follows a curriculum aligned with the Job Task Analysis (JTA) for that position and is re-certified every three years. Tier 1 training must be administered by, or in cooperation with, a training program that is accredited by a DOE-approved accreditation organization for the JTA; and 2) Tier 2 Training—Single-issue, short-term, training to address acute deficiencies in the field such as training conferences, monitor training, peerto-peer training, and others.

This Training Plan includes Tier 1 Training and ensures that all Weatherization field staff receive ongoing training over a defined period of time, which can span multiple Program Years. Tier 2 training will be provided on an as-needed basis annually.

This Training Plan follows WPN 22-4 Quality Work Plan Updates Glossary of Resources on the last page of this document.

Home Energy Professionals

The U.S. Department of Energy (DOE) Guidelines for Home Energy Professionals (HEP) project helps establish a national residential energy upgrade industry and a skilled and credentialed workforce. The project creates standard work specifications, advanced professional certifications for workers, and accredited training programs.

Per DOE WPN 22-4, beginning December 13, 2021, the Quality Work Plan (QWP) includes the requirements provided in this guidance that support and verify quality work in the Department of Energy's (DOE) Weatherization Assistance Program (WAP). It defines what constitutes a quality installation of weatherization measures, outlines how those measures are inspected and validated, and prescribes acceptable training and credentialing of workers. WPN 22-4 supersedes WPN 15-4.

The Building Performance Institute (BPI) approves HEP candidates, issues HEP certifications and tracks HEP continuing education. All HEP certifications require candidates to submit an application. This application documents a candidate's education, training and work experience and must be approved by BPI **before** a candidate can take a HEP examination. The application should be submitted at least 60 days before a candidate would like to take an exam. Candidates cannot take an exam for the same HEP classification more than 3 times in a 12 month period. Applications and prerequisite criteria can be found at the following website: http://www.bpi.org/professionals_advanced.aspx.

Subgrantees must ensure that any individual holding a staff position that requires certification must meet certification requirements by the deadline in this plan. If the individual fails to become certified when required, NC WAP will review and decide on a case- by-case basis, to recommend to the Subgrantee that the individual either be allowed to remain in their position while pursuing their certification or be assigned to another position.

Background

The Weatherization Assistance Program's mission is to enhance the wellbeing of low-income residents, particularly the elderly, the handicapped, and children, through the installation of energy efficiency and energy-related health and safety measures. The clients who are most vulnerable benefit most from reduced energy bills, enhanced comfort, and the mitigation of energy-related health risks. The Heating and Air Repair and Replacement Program's purpose is to repair and/or replace non-functioning heating and air systems in homes.

Weatherization, as defined by the Weatherization Assistance Program (WAP), differs in many ways from what is commonly called "weatherization." The latter involves low-cost energy efficiency improvements, mainly through the use of a computerized electronic audit to save energy. These measures made up the primary services that WAP provided in its early years but now only comprise a small part of the program.

Today, WAP's weatherization services consist of cost-effective energy efficiency measures for existing residential and multifamily housing with low-income residents. Under this definition, it includes a wide variety of energy efficiency measures that encompass the building envelope, its heating and cooling systems, its electrical system, and some electricity consuming appliances. The benefits of weatherization begin with reducing the energy bills of recipients for a long period of time. Some measures, such as insulating attics, walls or roofs, for example, can provide savings for the lifetime of a house. Other measures, such as replacing the refrigerator, will provide savings for 10–15 years.

WAP serves low-income families free of charge and limits the average amount of money that can be spent on any single residence as determined by federal rules and state spending. Only the most cost-effective measures are included in the upgrade of a particular home.

Another distinguishing feature of weatherization is attention to an all-around health and safety check. Many dwellings receiving attention are old and in need of repair. Weatherization service providers check major energy systems to ensure occupant safety.

Weatherization service providers look at the house as a system under the concept of "wholehouse weatherization." Weatherization providers combine resources from other programs to address other needs of their clients.

Weatherization today comprises a comprehensive series of energy efficiency measures that are based on sophisticated analyses of individual homes. These analyses take the whole-house approach, which maximizes energy and dollar savings. Because of this rigorous approach and the analyses backing it up, weatherization has become a leader in advancing home energy science and helping spawn a new industry providing home energy efficiency services to the wider public.

The Weatherization Process

The **Subgrantee Weatherization Program Manager** and/or **Intake Staff** do community outreach to find potential clients. Potential clients apply and income received is verified by the **Intake Staff** for eligibility. Within 30 days of receiving a completed application, a notification letter (approval or denied) is sent. If eligible, the client is placed on the waiting list by priority score, with higher scores served first. If the applicant is not eligible for weatherization, then the applicant must be given the reason(s) why and provided the appeal process.

An energy audit is scheduled. The **Energy Auditor** assesses the home and interviews the clients to get an understanding of how they use their home, lifestyle patterns, energy/comfort problems. He or she performs health & safety checks on combustion appliances, if applicable. The "thermal envelope" or shell of the home is assessed. A blower door test is performed to determine the air leakage rate of the building. An infrared scan is done to determine voids in wall insulation. A thorough inspection is done to determine attic insulation levels and to pinpoint major air leakage problems. If the repairs needed are beyond the scope of weatherization, the home is deferred until either the owner addresses the issues or another program can address the issues.

A licensed HVAC subcontractor evaluates, cleans, and tunes the primary heating/cooling system in the home. If a repair or replacement is needed and the client is eligible, the Heating and Air Repair and Replacement Program is used to address the issue.

For standard homes, data collected onsite (building sq. ft., air leakage rate, insulation levels, etc.) along with estimated costs are used in conjunction with the computerized electronic audit or Priority List of Measures to develop a detailed work order which will save the maximum amount of energy for any given investment. Work orders generated specify health & safety work, heating and distribution system efficiency improvements, air sealing and insulation work.

The shell work is completed by either agency staffed crew or agency hired subcontractors. A work order is given to the **Crew Leader and/or Subcontractor,** and trained retrofit installers are dispatched to the home to install energy efficiency measures.

Upon completion of all work, a **Quality Control Inspector** performs a final inspection using the initial energy audit, work orders, and all invoices submitted. This inspection is done to ensure workmanship of the highest quality, and to ensure the program is charged for work that was completed. The client and the inspector sign off that the work has been done.

Once the home is inspected, the invoices are paid and the job is closed. **The Weatherization Program Manager** routinely monitors local staff and subcontractor work to ensure proper administrative oversight.

Training and Technical Assistance Policy & Procedures

Base Annual Appropriations

Subgrantees receive a portion of their budget which varies yearly for T&TA to maintain a qualified work force capable of providing the highest quality of weatherization services. Subgrantees must follow the policies and procedures for allowable costs outlined in Section 1.05 of the FY24-25 *"State of North Carolina Weatherization Assistance Plan"*.

5-Year Bipartisan Infrastructure Law (BIL) Appropriations

Subgrantees selected for participation under BIL must follow the policies and procedures for allowable costs outlined in Section 1.06 of the *"State of North Carolina, Weatherization Assistance Program, Five Year Plan Under the Bipartisan Infrastructure Law".*

Any Subgrantees may choose to do HEP training at any regional IREC accredited training center that offers cost competitive options. A partial list of accredited training centers can be found in Appendix I.

Certain training, including Lead Repair, Remodel, and Painting Certifications, Asbestos Class 3 Operations and Maintenance and the OSHA Construction Industry Awareness, are offered by multiple training outlets in North Carolina. Special attention should be paid to the North Carolina Department of Labor (DOL) training. In addition to offering OSHA 10 hour and 30 hour Construction Industry Awareness training free of charge, DOL also offers safety webinars that can be used as documentation for monthly safety meetings. A list of training providers can be found in Appendix II. While many of these training providers offer mold remediation, lead abatement, and asbestos abatement training, these trainings **cannot be** attended using weatherization T&TA funds.

Training and Technical Assistance for Subcontractors

Subgrantees may use T&TA funds to pay for subcontractor training. Subgrantees may pay for lodging, meals, and transportation for subcontractors to attend WAP training. Training expenses are only allowable for subcontractors that have a fully executed Subcontractor Agreement with Subgrantees. Courses that are required for subcontractors to renew/maintain trade licenses are not allowable.

- 1) Allowable Trainings for Subcontractors
 - a) North Carolina State sponsored/approved training
 - b) Weatherization Regional or national training
 - c) Building Performance Institute (BPI) training
 - d) Asbestos Operations and Maintenance training
- 2) Non-Allowable Trainings for Subcontractors
 - a) Lead Renovate Right training

- b) Lead Abatement Training
- c) Asbestos remediation/air monitoring training
- d) General contractor continuing education credits
- e) Electrical contractor continuing education credits
- f) Plumbing contractor continuing education credits
- g) Failed/incomplete courses

If a Subgrantee is unsure if a particular training for a subcontractor is allowable, please contact the NC WAP before funds are committed.

Annual subgrantees (*i.e., those exclusively participating in the annual program*) are required to use state per diem rates based on the provisions of Section 1.05 of the FY24-25 *"State of North Carolina Weatherization Assistance Plan"*. Subgrantees selected for participation under the 5-Year BIL program are required to use the state per diem rates based on the provisions of 1.06 of the *"State of North Carolina Bipartisan Infrastructure Law Weatherization Assistance Plan"*.

When claiming meals for travel, Subgrantees shall use the following guidelines in order to determine meal claim eligibility:

- 1) Breakfast departure time must be prior to 6:00 a.m. and the time must be noted on the invoice or its associated supporting documentation.
- 2) Lunch shall only be eligible for claim if Subgrantee is spending the night and returning after 2:00 p.m. on a following day, or if the Subgrantee is departing prior to 12:00 p.m. en route to an overnight trip. Arrival and return times must be noted on the invoice or its associated supporting documentation.
- 3) Dinner Depart duty station prior to 5:00 p.m. (day of departure) or return to duty station after 8:00 p.m. (day of return). The time must be noted on the invoice or its associated supporting documentation.

Travel costs, including reimbursement for personal vehicles based on the State's per-diem milage rates (updated annually, if agency policy dictates) and rental vehicles, are allowable. Rental vehicles must be economy, subcompact, compact, or standard class. Vans shall be allowable when transporting more than four people.

Subcontractors must submit an invoice for the training indicating the persons in attendance, certificates of successful completion (if applicable), dates of travel, departure and arrival times, and daily breakdown of expenses. Subcontractors cannot receive per diem for meals that are already included in the cost of training. All expenses must be supported by receipts, except for meal per diem.

Single-Family Retrofit Installer Technician

The Single Family Retrofit Installer Technician (also known as crew member, housing technician, and carpenter) is the job that is primarily responsible for installing energy efficiency measures (air sealing, duct sealing, insulation installation, etc.). This position is a Subgrantee staff and/or Subcontractor staff. A full summary of the Retrofit Installer Technician Job Task Analysis (JTA)can be found at:

https://www1.eere.energy.gov/wip/pdfs/retrofit installer jta 04112012.pdf

Below is a list of the required training and timeline for completion. In some cases, On the Job Training (OTJ) is required before a formal class. OTJ must be documented in the On the Job Training Form found at the end of this plan. OJT can be offered by the Grantee or the Subgrantee. For existing staff at the date of this publication, the timeline starts from the date of this publication.

Single Family Retrofit Installer			
Classes	Timeline	Course Method	Duration
Weatherization for Absolute Beginners	Any time after hiring. Only	In	2 days
	specified for employees unfamiliar with WX	person	
Fundamentals of Building Science	1 month after hiring	In person	4.5 days
CAZ and Combustion Appliances	4 months after hiring	In person	3 days
NC SWS Specific Crew Best Practices	2 months after hiring	In person	4.5 days
Manufactured Housing Weatherization	2 months after hiring	In person	4.5 days
Audit and Work Scope Utilization and Protocol	6 months after hiring	In person	3 days
ASHRAE 62.2	6 months after hiring	In person	3 days
BPI Infiltration and Duct Leakage	7 months after hiring	In person	3.5 days
BPI Building Analyst Technical	1 year after hiring	In person	4.5 days
IR Basics and Field Applications	2 months after hiring	In person	2 days
Single Family Retrofit Installer			
Weatherization for Absolute Beginners	Any time after hiring. Only specified for employees unfamiliar with WX	In person	2 days
Fundamentals of Building Science	1 month after hiring	In person	4.5 days
CAZ and Combustion Appliances	4 months after hiring	In person	3 days
NC SWS Specific Crew Best Practices	2 months after hiring	In person	4.5 days
Respirator Fit Testing	1 month after hiring	N/A	1 Hour
Adult CPR/First Aid/AED	6 months after hiring, Refresher every two years	Class/Lab	5 Hours
Asbestos Class 3 Operations and Maintenance	3 months after hiring	Class/Lab	2 Days

Lead Renovator – Initial Course	3 months after hiring	Class/Lab	1 Day
Lead Renovator – Refresher Course	3 months after hiring	Class/Lab	1 Day

Other

Respirator Fit Testing	1 month after hiring	N/A	1 Hour
Adult CPR/First Aid/AED	6 months after hiring, Refresher every two years	Class/Lab	5 Hours
Asbestos Class 3 Operations and Maintenance	3 months after hiring	Class/Lab	2 Days
Lead Renovator – Initial Course	3 months after hiring	Class/Lab	1 Day
Lead Renovator – Refresher Course	3 months after hiring	Class/Lab	1 Day

Single-Family Crew Leader

The Single-Family Crew Leader (also known as foreman) is the job that is primarily responsible for overseeing the installing of energy efficiency measures (air sealing, duct sealing, insulation installation, etc.) This position is a Subgrantee staff and/or Subcontractor staff. A full summary of the Single-Family Crew Leader Job Task Analysis (JTA)can be found at:

https://www.nrel.gov/docs/fy19osti/73578.pdf

Below is a list of the required training and timeline for completion. In some cases, OTJ is required before a formal class. OTJ must be documented on the On the Job Training Form found at the back of this plan. OJT can be offered by the Grantee or the Subgrantee. For existing staff at the date of this publication, the timeline starts from the date of this publication. Please note that "hiring" shall include moving from a different weatherization position.

Single Family Crew Leader			
Classes	Timeline	Course Method	Duration
HVAC And Mechanical Systems	2 months after hiring	ln person	3 days
Fundamentals of Building Science	1 month after hiring	In person	4.5 days
CAZ and Combustion Appliances	4 months after hiring	ln person	3 days
NC SWS Specific Crew Best Practices	2 months after hiring	ln person	4.5 days
Manufactured Housing Weatherization	2 months after hiring	ln person	4.5 days
Single Family Crew Leader (cont.)			
Audit and Work Scope Utilization and Protocol	6 months after hiring	In person	3 days
ASHRAE 62.2	6 months after hiring	In person	3 days
Building Science Math	2 Months after hiring	In person	3.5 days
Advanced CAZ and Combustion	1 year after hiring	In person	3 days
Modifiable Zonal Testing	1 year after hiring	In person	4 days
The Metrics of Moisture	4 months after hiring	In person	2 days
BPI Infiltration and Duct Leakage	7 months after hiring	In person	3.5 days
BPI Building Analyst Technical	1 year after hiring	In person	4.5 days
IR Basics and Field Applications	2 months after hiring	In person	2 days
Single Family Crew Leader			
Classes	Timeline	Course Method	Duration
HVAC And Mechanical Systems	2 months after hiring	In person	3 days
Fundamentals of Building Science	1 month after hiring	In person	4.5 days
CAZ and Combustion Appliances	4 months after hiring	In person	3 days

Other			
Respirator Fit Testing	1 month after hiring	N/A	2 Days
Adult CPR/First Aid/AED	6 months after hiring, Refresher every two years	Class/Lab	1 Day
Occupational Safety and Health Administration – Construction Industry Awareness Course	6 months after hiring	Classroom	1 Hour
Asbestos Class 3 Operations and Maintenance	3 months after hiring, Refresher course every year	Class/Lab	2 Days
Renovator – Initial Course (English)	3 months after hiring	Classroom	8 Hours
Renovator – Refresher Course (English)	3 months after hiring	Class/Lab	8 Hours
OSHA 30 – Construction	3 months after hiring	Class/Lab	30 Hours

Single-Family Energy Auditor

The Single Family Energy Auditor (also known as auditor) is the job that is primarily responsible for assessing the needs of a single family dwelling. This position is typically found at the Subgrantee level, but may be subcontracted out. A full summary of the Single-Family Energy Auditor Job Task Analysis (JTA)can be found at:

https://www.nrel.gov/docs/fy18osti/70985.pdf

Below is a list of the required training and timeline for completion. In some cases, OTJ is required before a formal class. OTJ must be documented in the On the Job Training Form found at the back of this plan. OJT can be offered by the Grantee or the Subgrantee. For existing staff at the date of this publication, the timeline starts from the date of this publication. Please note that "hiring" shall include moving from a different weatherization position.

Single Family Energy Auditor			
Classes	Timeline	Course Method	Duration
Weatherization for Absolute Beginners	Any time after hiring. Only specified for employees unfamiliar with WX	In person	2 days
Fundamentals of Building Science	1 month after hiring	In person	4.5 days
CAZ and Combustion Appliances	1 month after hiring	In person	3 days
Best Practices for Audit and Work Scope Development	2 months after hiring	In person	4.5 days
NEAT and MHEA	3 months after hiring	In person	4.5 days
Building Science Math	2 months after hiring	In person	3.5 days
Manufactured Housing Weatherization	4 months after hiring	In person	4.5 days
Single Family Energy Auditor (cont.)			
The Metrics of Moisture	4 months after hiring	In person	2 days
ASHRAE 62.2	6 months after hiring	In person	3 days
BPI Infiltration and Duct Leakage	7 months after hiring	In person	3.5 days
BPI Building Analyst Technical	1 year after hiring	In person	4.5 days
BPI Building Analyst Professional	1 year after hiring	In person	3 days
Modifiable Zonal Testing	6 months after hiring	In person	4 days
IR Basics and Field Applications	2 months after hiring	In person	2 days
Energy Auditor Review and Testing	Based on experience	In person	4 days
Quality Control Inspector Review and Testing	Based on experience	In person	2 days
Single Family Energy Auditor			
Weatherization for Absolute Beginners	Any time after hiring. Only specified for employees unfamiliar with WX	In person	2 days
Fundamentals of Building Science	1 month after hiring	In person	4.5 days
CAZ and Combustion Appliances	1 month after hiring	In person	3 days
Best Practices for Audit and Work Scope Development	2 months after hiring	In person	4.5 days

Single-Family Energy Auditor			
Infrared Camera Basics	OJT, 12 months after hiring	Class/Lab	2 Days
CAZ Field Mentoring	As required by NC WAP	In-Field	Varies
Energy Auditor Field Mentoring	As required by NC WAP	In-Field	Varies

Other Courses

Asbestos Class 3 Operations and Maintenance	3 months after hiring, Refresher	Class/Lab	2 Days
	course every year		
Respirator Fit Testing	1 month after hiring	N/A	1 Hour
Adult CPR/First Aid/AED	6 months after hiring, Refresher	Class/Lab	5 Hours
	every two years		
Weatherization Assistant	12 months after hiring	Classroom	4 Days
Lead Renovator – Initial Course (English)	3 months after hiring	Class/Lab	8 Hours
Lead Renovator – Refresher (English)	3 months after hiring	Class/Lab	4 Hours
OSHA 10 – Construction	Optional	N/A	N/A

Multifamily Energy Auditor:

https://www.energy.gov/eere/wap/weatherization-standardized-curricula/energy-auditor-multifamily

Single-Family Quality Control Inspector

The Single Family Quality Control Inspector (also known as final inspector) is the job that is primarily responsible for ensuring that program standards and quality have been met in weatherized single family dwellings. This position is typically found at the Subgrantee level, but may be subcontracted out. A full summary of the Single-Family Quality Control Inspector can be found at:

https://www.nrel.gov/docs/fy18osti/70977.pdf

Below is a list of the required training and timeline for completion. In some cases, On-the-Job Training (OTJ) is required before a formal class. OTJ must be documented in the OTJT Form found at the end of this plan. OJT can be offered by the Grantee or the Subgrantee. For existing staff at the date of this publication, the timeline starts from the date of this publication. Please note that "hiring" shall include moving from a different weatherization position.

Single Family State Monitor Quality			
Control Inspector			
Classes	Timeline	Course Method	Duration
Weatherization for Absolute Beginners	Any time after hiring. Only specified for employees unfamiliar with WX	In person	2 days
Fundamentals of Building Science	1 month after hiring	In person	4.5 days
CAZ and Combustion Appliances	1 month after hiring	In person	3 days
Best Practices for Audit and Work Scope Development	2 months after hiring	In person	4.5 days
NEAT and MHEA	3 months after hiring	In person	4.5 days
Building Science Math	2 months after hiring	In person	3.5 days
Manufactured Housing Weatherization	4 months after hiring	In person	4.5 days
The Metrics of Moisture	4 months after hiring	In person	2 days
Single Family State Monitor Quality Control Inspector			
ASHRAE 62.2	6 months after hiring	In person	3 days
BPI Infiltration and Duct Leakage	7 months after hiring	In person	3.5 days
BPI Building Analyst Technical	1 year after hiring	In person	4.5 days
BPI Building Analyst Professional	1 year after hiring	In person	3 days
Modifiable Zonal Testing	6 months after hiring	In person	4 days
IR Basics and Field Applications	2 months after hiring	In person	2 days
Energy Auditor Review and Testing	Based on experience	In person	4 days
Quality Control Inspector Review and Testing	Based on experience	In person	2 days
Single Family State Monitor Quality Control Inspector			
Weatherization for Absolute Beginners	Any time after hiring. Only specified for employees unfamiliar with WX	In person	2 days
Fundamentals of Building Science	1 month after hiring	In person	4.5 days

Single-Family Quality Control Inspector

Level 1 Infrared Thermography	Optional/Continuing Education	Class/Lab	2 Days
BPI Infiltration & Duct Leakage Prep Course	Optional/Continuing Education	Class/Lab	1 Day
BPI Infiltration & Duct Leakage Field Exam	Optional/Continuing Education	Class/Lab	1 Hour
CAZ Field Mentoring	As required by NC WAP	On-site	Varies
Quality Control Inspector Field Mentoring	As required by NC WAP	On-site	Varies

Other Courses

Asbestos Class 3 Operations and Maintenance	3 months after hiring, Refresher course every year	Class/Lab	2 Days
Respirator Fit Testing	1 month after hiring	N/A	1 Hour
Adult CPR/First Aid/AED	6 months after hiring, Refresher every two years	Class/Lab	5 Hours
Lead Renovator – Initial Course	3 months after hiring	N/A	8 Hours
Lead Renovator – Refresher (English)	3 months after hiring	Class/Lab	4 Hours
OSHA 10 – Construction	Optional	N/A	N/A

Multifamily Quality Control Inspector

The Multifamily Quality Control Inspector is the job that is primarily responsible for ensuring that program standards and quality have been met in weatherized multifamily dwellings. This position is typically found at the Subgrantee level, but may be subcontracted out. A full summary of the- Multifamily Quality Control Inspector position can be found at:

https://www.nrel.gov/docs/fy14osti/60537.pdf

Below is a list of the required training and timeline for completion. In some cases, OTJ is required before a formal class. OTJ must be documented in the On the Job Training Form found at the end of this plan. OJT can be offered by the Grantee or the Subgrantee. For existing staff at the date of this publication, the timeline starts from the date of this publication. Please note that "hiring" shall include moving from a different weatherization position.

		Course	
Course	Timeline	Method	Duration
Lead Safe Weatherization	OJT, 3 months after hiring	Online	4 Hours
Envelope and Duct Leakage Testing	OJT, 3 months after hiring	Online	2 Hours
Client Education	OJT, 3 months after hiring	Online	2 Hours
HVAC Fundamentals	OJT, 3 months after hiring	Online	2 Hours
Manufactured Housing Fundamentals	OJT, 3 months after hiring	Online	2 Hours
Quality Control Inspector	OJT, 6 months after hiring	Online	3 Hours
Envelope and Duct Leakage Testing	OJT, 6 months after hiring	Class/Lab	1 Day
Manufactured Housing Fundamentals	OJT, 6 months after hiring	Class/Lab	5 Days
Quality Control Inspector	OJT, 6 months after hiring	Class/Lab	2 Days
Manual J and Manual S Overview	Optional/Continuing Education	Class/Lab	1 Day
ASHRAE 62.2	Optional/Continuing Education	Class/Lab	1 Day
HVAC/Duct Sizing	Optional/Continuing Education	Class/Lab	1 Day
BPI HPE Quality Control Inspector Review for Written Exam	OJT, 6 months after hiring	Class/Lab	1 Day
BPI HPE Quality Control Inspector Written Exam	OJT, 6 months after hiring	Class/Lab	2.5 Hours
BPI HPE Quality Control Inspector Review for Field Exam	OJT, 6 months after hiring	Class/Lab	1 Days
BPI HPE Quality Control Inspector Field Exam	OJT, 6 months after hiring	Class/Lab	3.5 Hours
Level 1 Infrared Thermography	Optional/Continuing Education	Class/Lab	2 Days
CAZ Field Mentoring	As required by NC WAP	On-site	Varies
Quality Control Inspector Field Mentoring	As required by NC WAP	On-site	Varies

Multifamily Quality Control Inspector

Adult CPR/First Aid/AED	6 months after hiring, Refresher	Class/Lab	5 Hours
	every two years		

Other Courses

Asbestos Class 3 Operations and Maintenance	3 months after hiring, Refresher	Class/Lab	2 Days
	course every year		
Respirator Fit Testing	1 month after hiring	N/A	1 Hour
Lead Renovator – Initial Course	3 months after hiring	N/A	8 Hours
Lead Renovator – Refresher (English)	3 months after hiring	Class/Lab	4 Hours
OSHA 10 – Construction	Optional	N/A	N/A

Weatherization Program Manager

The Weatherization Program Manager (also known as Weatherization Director or Energy Director) is the job that is primarily responsible for overall program goals. This position is only found at the Subgrantee level and cannot be subcontracted out. A full summary of the Weatherization Program Manager position can be found at:

https://www.energy.gov/eere/wap/downloads/wap-memorandum-015-weatherizationfinancial-toolkit-2-cfr-200-regulations-and

https://www.energy.gov/eere/wap/weatherization-management-resources/weatherizationtraining-resources/weatherization-0

Below is a list of the required training and timeline for completion. In some cases, OTJ is required before a formal class. OTJ must be documented on the On the Job Training Form found at the back of this plan. OJT can be offered by the Grantee or the Subgrantee. For existing staff at the date of this publication, the timeline starts from the date of this publication. Please note that "hiring" shall include moving from a different weatherization position.

		Course	
Training Course	Timeline	Method	Duration
Energy Auditor	OJT, 3 months after hiring	Online	4 hours
Lead Safe Weatherization	OJT, 3 months after hiring	Online	4 Hours
Retrofit Installer Technician	OJT, 3 months after hiring	Online	2 Hours
Client Education	OJT, 3 months after hiring	Online	2 Hours
Quality Control Inspector	OJT, 3 months after hiring	Online	3 Hours
Weatherization Management	OJT, 3 months after hiring	Online	4 Hours

Other Courses

NCWAP Program Managers' Training	As Scheduled	Online	2 Hours
Financial Management Training Kit*	Optional/Continuing Education	Classroom	1 Day
Procurement Training Kit*	Optional/Continuing Education	Classroom	1 Day
Occupational Safety and Health Administration – Construction Industry Awareness Course	6 months after hiring	Classroom	10 Hours

Administrative/Intake Staff/Client Educators

The Weatherization Administrative/Intake Staff/Client Educator (also known as a case manager) is the job that is primarily responsible for outreach and client approvals. This position is typically found at the Subgrantee level. A full summary of the Energy Efficiency & Renewable Energy (EERE)* Core Competencies for this position are found at:

https://www.energy.gov/eere/wap/weatherization-management-resources/weatherizationtraining-resources

Below is a list of the required training and timeline for completion. In some cases, OTJ is required before a formal class. OTJ must be documented on the On the Job Training Form found at the back of this plan. OJT can be offered by the Grantee or the Subgrantee. For existing staff at the date of this publication, the timeline starts from the date of this publication. Please note that "hiring" shall include moving from a different weatherization position.

		Course	
Training Courses	Timeline	Method	Duration
Retrofit Installer Technician	Optional for new hire, Remedial	Online	2 Hours
Client Education	OJT, 3 months after hiring	Online	2 Hours
NCWAP Program Manager's Training	As Scheduled by State WAP	Online	2 hours
WAP Administrative Professional Training*	OJT, 3 months after hiring	Online	1 day

Fiscal Directors

The Weatherization Finance Director is the job that is primarily responsible for fiscal management of program expenses. This position is found at the Subgrantee level. A full summary of the Energy Efficiency & Renewable Energy (EERE)* Core Competencies for this position can be found at:

https://www.energy.gov/eere/wap/downloads/wap-memorandum-015-weatherizationfinancial-toolkit-2-cfr-200-regulations-and

Below is a list of the required training and timeline for completion. OTJ must be documented on the On the Job Training Form found at the back of this plan. OJT can be offered by the Grantee or the Subgrantee. For existing staff at the date of this publication, the timeline starts from the date of this publication. Please note that "hiring" shall include moving from a different weatherization position.

		Course	
Training Courses	Timeline	Method	Duration
Fiscal Management Training	OJT, 3 months after hiring	Online	2 Days
Procurement Training	OJT, 3 months after hiring	Online	2 Days

State Monitor Quality Control Inspector

The State Monitor Quality Control Inspector (also known as Technical Monitor) is primarily responsible for overall Weatherization Subgrantee technical program management. This position is only found at the State NCWAP level.

Course	Timeline	Course Method	Duration
Energy Auditor	OJT, 3 months after hiring	Online	4 hours
OSHA Confined Spaces Overview	OJT, 3 months after hiring	Online	2 hours
Lead Safe Weatherization	OJT, 3 months after hiring	Online	4 Hours
Envelope and Duct Leakage Testing	OJT, 3 months after hiring	Online	2 Hours
Client Education	OJT, 3 months after hiring	Online	2 Hours
HVAC Fundamentals	OJT, 6 months after hiring	Online	2 Hours
Manufactured Housing Fundamentals	OJT, 6 months after hiring	Online	2 Hours
Quality Control Inspector	OJT, 6 months after hiring	Online	4 Hours
Envelope and Duct Leakage Testing	OJT, 6 months after hiring	Class/Lab	1 Day
Manufactured Housing Fundamentals	OJT, 6 months after hiring	Class/Lab	5 Days
ASHRAE 62.2	Optional	Class/Lab	1 Day
HVAC/Duct Sizing	Optional/Continuing Education	Class/Lab	1 Day
NEAT/MHEA Energy Audit Software	OJT, 6 months after hiring	Class/Lab	4 Days
CAZ Field Mentoring	As required by NC WAP	On-site	Varies
Quality Control Inspector Field Mentoring	As Required by NC WAP	On-site	Varies
Energy Auditor (CHP) - class training/field test	OJT, 6 months after hiring	Class/Lab	10 Days
BPI HEP Energy Auditor Exam Review	OJT, 6 months after hiring	Class	1 day
BPI HEP Energy Auditor Exam	OJT, 6 months after hiring	Exam	2.5 hours
BPI HEP Energy Auditor Field Review	OJT, 6 months after hiring	Class	1 day
BPI HEP Energy Auditor Field Test	OJT, 6 months after hiring	On-site	4 hours
BPI HEP Quality Control Inspector Exam Review	OJT, 6 months after hiring	Class/Lab	1 Day
BPI HEP Quality Control Inspector Exam	OJT, 6 months after hiring	Class/Lab	2.5 hours

Other Courses

Asbestos Class 3 Operations and Maintenance	3 months after hiring, Refresher course every year	Class/Lab	2 Days
Respirator Fit Testing	1 month after hiring	N/A	1 Hour
Lead Renovator – Initial Course	3 months after hiring	N/A	8 Hours
Lead Renovator – Refresher	3 months after hiring	Class/Lab	4 Hours
OSHA 10 – Construction	Optional	N/A	N/A

Regional IREC Accredited Training providers that offer all four certifications. The list is current as of the publication date.

Key

Retrofit Installer Technician RIT Crew Leader CL Energy Auditor EA Quality Control Inspector QCI

CHP Energy Solutions, LLC 550 Industrial Drive Christiansburg, VA 24073 <u>chptrainingcenter.org</u> QCI CL EA RIT

Everblue Training Institute

8720 Camberly Road Huntersville, NC 28078 everbluetraining.com QCI EA

Indiana Community Action Association Training Facility (INCAA)

1845 W. 18th Street Indianapolis, IN 46202 www.intelligentweatherization.org QCI CL EA RIT

Michigan Training & Education Center

235 S. Grand Ave., Suite 1105 Lansing, MI 48933 <u>www.michigantec.org</u> QCI CL EA RIT

Piedmont Triad Regional Council

1398 Carrollton Crossing Drive Kernersville, NC 27284 (336) 904-0300 https://www.ptrc.org/

PTRC offers the following Weatherization courses:

- Building Analyst Professional
- Manufactured Housing Professional
- Envelope Professional
- Infiltration and Duct Leakage (IDL)
- Building Science Fundamentals
- ASHRAE Calculations and Utilization
- WX Applications for Residential Energy Dynamics (RED)
- The Metrics of Moisture
- Advanced Combustion Analysis and CAZ Testing
- Add a Hole Modifiable Zonal Testing

Below are accredited training providers. When scheduling Asbestos O&M Course, ensure that the instructor tailors training for Weatherization. The list is current as of the publication date.

 Key

 Lead RRP LRRP
 Asbestos Class 3 O&M AOM
 OSHA Construction Industry OSHA
 CPR/First Aid CPR

American Heart Association 7272 Greenville Ave. Dallas, TX 75231 Phone: (800) 242-8721 <u>http://ahainstructornetwork.americanheart</u> .org/AHAECC/classConnector.jsp?pid=ahaec c.classconnector.home CPR

American Red Cross 100 N Peartree Lane Raleigh, NC 27610 Phone: 1-833-733-7763 <u>https://www.redcross.org/take-a-class</u> CPR

AAA Environmental 2036 Chesnee Highway Spartanburg, SC 29303 Phone: 888-296-3803 https://www.aaaenvironmental.com/ LRRP AOM

Brunswick Community College 50 College Road, NE Bolivia, NC 28422 Phone: 910-755-7300 https://www.brunswickcc.edu/coned/initial-lead- safety-removal-osh-3003/ LRRP

Coastal Carolina Community College 444 Western Boulevard Jacksonville, NC 28546 Phone: 910-938-6751 https://www.coastalcarolina.edu/ LRRP OSHA

Craven Community College, Cont. Ed. 800 College Court New Bern, NC 28562 Phone: 252-638-3919 https://cravennc.edu LRRP OSHA

Edgecombe Community College 2009 West Wilson Street Tarboro, NC 27886 Phone: 252-823-5166 https://www.collegesimply.com/colleges/north- carolina/edgecombe-community-college/ LRRP Fayetteville Technical Community College 2201 Hull Road Fayetteville, NC 28300 Phone: (910) 678-8493 http://www.faytechcc.edu/ OSHA

The El Group, Inc. 2101 Gateway Centre Boulevard, Suite 200 Morrisville, NC 27560 Phone: (919) 657-7500 https://ei1.com/contact-us/ <u>http://www.gvltec.edu</u> LRRP AOM

Froehling & Robertson, Inc.310 Hubert StreetRaleigh, NC 27603Phone: (919) 828-3441(Also, Fayetteville & Charlotte locations) www.fandr.comLRRPGreenville Technical College 216 S. Pleasantburg Drive Greenville SC 29607Phone: (864) 250-8155http://www.gvltec.eduLRRP AOM

North American Contractors Association

P.O. Box 10116 Greensboro, NC 27404 Phone: (336) 540-0149 <u>http://infonaca.com/n-c-asbestos-classes/</u> AOM

North Carolina Department of Labor 1101 Mail Service Center Raleigh, NC 29699-1101 Phone: (800) 625-2267 https://www.labor.nc.gov/safety-and-health/training OSHA

PEACH 800 N. Mangum St. Mailbox #6 Durham, NC 27701 Phone: 919-682-1300 http://peachdurham.wordpress.com/ LRRP Johnston Community College 245 College Road Smithfield, NC 27577 CALL Phone: (919) 934-3051 ??? http://www.johnstoncc.edu/ LRRP

Pitt Community College 1986 Pitt Tech Road Winterville, NC 28590 Phone: 252-493-7200 <u>http://www.pittcc.edu/</u> LRRP Rowan-Cabarrus Community College 1333 Jake Alexander Blvd. South, Salisbury, NC 28146 Phone: (704) 216 7222 <u>https://www.rccc.edu/</u> LRRP OSHA

Safety and Health Council of NC Raleigh: Cumberland Building, Suite 125 Raleigh, NC 27612 Phone: 919-719-9800 Charlotte: 2709 Water Ridge Parkway, Suite 120 Charlotte, NC 28217 <u>https://www.safetync.org/</u> Phone: 704-644-4201 OSHA

The Case Institute P.O. Box 8776 Spartanburg, SC 29305 Phone: 864-582-1222 http://www.tciinstitute.org https://www.aaaenvironmental.com/ LRRP AOM

The El Group 2101 Gateway Centre BoulevardMorrisville, NC 27560 Phone: (919) 657-7500 http://www.ei1.com/ LRRP AOM

University of North Carolina, NC OSHERC

P.O. Box 16248 Chapel Hill, NC 27516-6248 Phone: (919) 962-2101 http://osherc.sph.unc.edu/continuing-education/courses/ LRRP AOM

North Carolina Weatherization Assistance Program

ON THE JOB TRAINING FORM – RETROFIT INSTALLER TECHNICIAN- Example

Job Description: A Retrofit Installer Technician installs energy-efficiency measures to single family or 2-4 unithomes using a variety of building science best practices to improve, safety, comfort, durability, indoor air quality, and energy efficiency. The following items are key abilities that shall be covered in on the job training (OJT). Select training topics from the list below.

Subgrantee			Da	te of Training:			
Se	lect Topic(s):						
	Hook up to fall protection		Review scope of work	_	Identify duct leaks		Remove roofing system
<u>X</u>	Put on PPE		Report items not on scope	_	Seal ducts leaks		Flash new penetrations
	Lock out/tag out protocol		Control dust and debris	_	Confirm ducts support		Inventory tools used
X	Set up ladder/scaffolding	X	Identify leaks and bypasses	_	Confirm duct insulation		Inventory materials used
	Inspect jobsite for hazards	X	Seal air leaks	_	Install wind baffles		Clean jobsite
	Follow LSW practices		Identify for code violations	_	Install blocking	<u>X</u>	Prep attic for insulation
	Install moisture barrier Report bulk moisture	_	Verify flashing Install flashing	-	Install vertical insulation Install horizontal insulation	<u>X</u>	Interact with client Other:

Select how each Topic(s) was covered below (observation, demonstration, quiz, etc.)

- Showed WxTV video on Attic Prep & Insulation
- Presented Sections 1 & 4 of Installer/Technician Fundaments 2.0 from www.WAPTAC.org
- Reviewed relevant air sealing, duct sealing, and air sealing sections of the NC Installation Standards
- Demonstrated capping a chase, sealing balloon framing, flagging junction boxes, and placing depth markers
- Observed trainee capping a chase, sealing balloon framing, flagging junction boxes, and placing depth markers

Describe any planned follow-up and target date

- Will cover ducts and flashing at W001-15 on March 13, 2023
- Trainee will do Lead Safe Work Practices Training the week of March 24, 2023.

Instructor's Information:	Trainee's Information:
Name:	Name:
Position:	Position:
Signature:	Signature:
Date:	Date:

North Carolina Weatherization Assistance Program ON THE JOB TRAINING FORM – RETROFIT INSTALLER TECHNICIAN

Job Description: A Retrofit Installer Technician installs energy-efficiency measures to single family or 2-4 unithomes using a variety of building science best practices to improve, safety, comfort, durability, indoor air quality, and energy efficiency. The following items are key abilities that shall be covered in on the job training (OJT). Select training topics from the list below.

ubgrantee	Date of Training	
elect Topic(s) Hook up to fall protection Review scope of v Put on PPE Report items not Lock out/tag out protocol Control dust and o Set up ladder/scaffolding Identify leaks and Inspect jobsite for hazards Seal air leaks Follow LSW practices Identify for code v Install moisture barrier Verify flashing Report bulk moisture Install flashing	rork Identify duct leaks Remove roofing syst on scope Seal ducts leaks Flash new penetratic lebris Confirm ducts support Inventory tools used bypasses Confirm duct insulation Inventory materials of	em ns used

Select how each Topic(s) was covered below (observation, demonstration, quiz, etc.)

•		

Describe any planned follow-up and target date

•

Instructor's Information:	Trainee's Information:
Name:	Name:
Position:	Position:
Signature:	Signature:
Date:	Date:

North Carolina Weatherization Assistance Program ON THE JOB TRAINING FORM – CREW LEADER

Job Description: A Crew Leader is responsible for supervising the retrofitting activities specified in the scope of work. He or she is responsible for interacting with the client plus managing personnel and materials on the job site in a safe and effective manner. The Crew Leader is responsible for quality control, testing procedures, documentation, and conducting a final walk through to ensure that all work is completed in a satisfactory manner.

Subgrantee Date of Training Select Topic(s) Identify required paperwork Visually inspect job Revise work order if needed Document material usage Document man hours Develop work schedule Confirm prerequisite work Monitor safety practices Evaluate energy audit Develop site safety plan Monitor resources Document lead renovator Evaluate work order Review job with client Verify material usage Document job photo Identify materials needed Answer client questions Verify end of day clean up Document change orders Identify staff needed Verify completed work Protect interior of home Lead crew debrief Identify PPE needed Test in/interim readings Test out Submit all documentation Set client expectations Execute work order Complete clean up Other:

Select how each Topic(s) was covered below (observation, demonstration, quiz, etc.)

•	

Describe any planned follow-up and target date

•

Instructor's Information:	Trainee's Information:
Name:	Name:
Position:	Position:
Signature:	Signature:
Date:	Date:

North Carolina Weatherization Assistance Program ON THE JOB TRAINING FORM – ENERGY AUDITOR

Job Description: An Energy Auditor is a building scientist who evaluates the energy efficiency and health & safety of a building and identifies areas for savings by gathering empirical data, conducting tests and using energy modeling software, in order to reduce the energy consumption, improve the safety, and increase the lifespan of a building; while improving the quality of life and comfort for building occupants.

Date of Training Subgrantee Select Topic(s) Establish client relations Get building measurements Collect door data **Evaluate H&S** Collect foundation data Represent the organization Collect appliance data Evaluate structural integrity Maintain professionalism Collect H&S data Collect roof data Scan walls with IR camera Collect building information Collect ventilation data Perform blower door test Determine if SHPO needed Review energy consumption Identify building insulation Perform duct test Select measures to be done Document building history Generate work order Collect attic data **Evaluate appliances** Visual inspection building Collect window data **Evaluate HVAC system** Discuss job in Crew Leader Collect base load data Collect wall data Other: Perform combustion tests

Select how each Topic(s) was covered below (observation, demonstration, quiz, etc.)

•		

Describe any planned follow-up and target date

•

Instructor's Information:	Trainee's Information:
Name:	Name:
Position:	Position:
Signature:	Signature:
Date:	Date:

North Carolina Weatherization Assistance Program ON THE JOB TRAINING FORM – QUALITY CONTROL INSPECTOR

Job Description: A Quality Control Inspector is an evaluator who verifies the work performed against the work plan, specifications and standards, performs building diagnostics, records/reports findings and concerns, and specifies corrective actions; by conducting a methodological audit/inspection of the building, performing safety and diagnostic tests, and by observing the retrofit work; in order to ensure the completion, appropriateness and quality of the work providing for the safety, comfort, and energy savings of the building occupants.

Subgrantee	Date of Training			antee Date of Training	
Select Topic(s) Maintain professionalism Review client file Review scope of work Review energy audit	 Review all invoices Review lead renovator Review SHPO Verify account coding 	Determine pass/fail of work Determine work complete Verify no missed measures Document deficiencies	Document work w/ photos Have client sign off on job Sign off on job Other:		

Select how **each** Topic(s) was covered below (observation, demonstration, quiz, etc.)

Describe any planned follow-up and target date

•

•

Instructor's Information:	Trainee's Information:
Name:	Name:
Position:	Position:
Signature:	Signature:
Date:	Date:

North Carolina Weatherization Assistance Program PEER-TO-PEER TRAINING FORM (Optional)

Name of Agency:	Date:
Contact:	_Phone:
Email:	
Describe training need:	
Who will provide the training?	
Where will the training be provided?	
Describe why this person was selected:	
When would you like the training?	
Who will receive the training? (Provide names and titles)	
Are the people listed above assigned only to the weatheriza	ntion program? Yes No
If no, how much will be contributed by other programs?\$ Who will travel? (Check one) Trainer Trainee	

(See Costs next page)

Costs		
	Trainer	Trainee
Salary:		
Fringe:		
Travel:		
Lodging:		
Per Diem:		
Other:	·	
Total:		
Documentation	n# of Nights?	
Describe:		
ls a written, sig	ned agreement attached?	Yes No

If not, when will it be available?

WPN 22-4 Quality Work Plan Updates Glossary of Resources	Introduction/Background	Section 1: SWS	Section 2: Inspections	Section 3: Workforce Training
10 CFR 440 [complete]	Χ			
Guidelines for Home Energy Professionals Project	Х			
WAP Grantee Manager's Training Toolkit	Х	Х	Х	Χ
WAP Training and Technical Assistance Clearinghouse	Х	Х	Х	Х
Field Guide Review Process [Video]		Х		
<u>SWS</u>		Х		
SWS Field Guide Photos [Flickr pool]		Χ		
SWS Variance Request Form		Х		
SWS Variance Request Review Process [Video]		Х		
WAP T&TA Planning & Reporting Template		Х		
BPI Certified Professionals Search			Х	
BPI HEP Quality Control Inspector Certification Overview			Х	
BPI HEP Energy Auditor Certification Overview			Х	
Guidelines for Home Energy Professionals (HEP) Certifications			Х	
Weatherization Monitoring [Videos, Resources]			Х	
WPN 20-4: Weatherization Assistance Program Monitoring Procedures			Х	
Accreditation - Why an Accredited Training Program? [Video]			Х	Х
Accreditation - Flexibility with Accredited Training [Video]			Х	Х
IREC-Accredited Training Providers Registry			Х	Х
JTA - Crew Leader - Single Family			Х	Х
JTA - Energy Auditor - Single Family			Х	Х
JTA - Energy Auditor - Multifamily			Х	Х
JTA - Quality Control Inspector - Single Family			Х	Х
JTA - Quality Control Inspector - Multifamily			Х	Х
Competency Model - Energy Auditor and Quality Control Inspector [U.S. Department of Labor]				Х
Competency Model - Installer and Crew Leader [U.S. Department of Labor]				Х
Contractor Training and Technical Assistance Retention Agreement Template				Х
Green Buildings Career Map				Х
Installer Badges Toolkit for On the Job Training				Х
Installer Badges Toolkit for On the Job Training [Video]				Х
Installer Badges Toolkit Fact Sheet				Х
IREC Accreditation - Key Documents for Candidates				Х
IREC Credentials and How to Apply				Х
IREC Credentials - FAQ				Х
O*NET Summary Report for Weatherization Installers and Technicians [U.S. Department of Labor]				Х
WAP Request for Proposals Toolkit for Training & Technical Assistance Services				Х
Weatherization Training Resources				Х