# 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, occupation-specific 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, peer-to-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 15-4 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 "whole-house 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. Please note that T&TA **cannot** be used to purchase equipment. Subgrantees may also use earned program income funds for T&TA activities.

The activities listed below shall be considered eligible T&TA costs:

- 1) Conferences registration, travel, and lodging costs for conferences, seminars, workshops, and onsite training
- 2) Staff Training costs incurred in order to provide training for Subgrantee staff
- 3) Weatherization Equipment Use weatherization equipment training
- 4) Membership and Subscriptions membership fees for weatherization-related organizations and subscriptions to trade papers and magazines
- 5) Computer/Electronic Media Use cost of training Subgrantee staff to operate computer/electronic media equipment
- 6) Client Education development and distribution of client education materials or other forms of client education such as meetings, workshops, presentations, videotapes, etc.

#### 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.

Subgrantees are required to use state per diem rates when reimbursing subcontractors. The rates are as follows:

	In-State Travel	Out-of-State Travel
Breakfast	\$ 9.00	\$ 9.00
Lunch	\$11.80	\$11.80
Dinner	\$20.50	\$23.30
Hotel	Up to \$78.90*	Up to \$93.20*

<sup>\*</sup>Hotel costs in excess of per diem are allowable for state, regional or national- sponsored trainings and are updated annually. The total hotel cost shall exclude taxes and fees.

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.
- 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.
- 3) Dinner arrival time must be after 8:00 p.m. and the time must be noted on the invoice.

Travel costs, including reimbursement for personal vehicles up to 56 cents per mile (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 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
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	Class/Lab	5 Hours
	every two years		
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	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
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
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			
PTRC Classes	Timeline	Course Method	Duratio n
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			
PTRC 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:**

 $\underline{https://www.energy.gov/eere/wap/weatherization-standardized-curricula/energy-auditor-multifamily}$ 

#### **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-weatherization-financial-toolkit-2-cfr-200-regulations-and

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

Training Courses	Timeline	Course 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-weatherization-financial-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.

Training Courses	Timeline	Course 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
<a href="mailto:chptrainingcenter.org">chptrainingcenter.org</a>
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 www.michigantec.org

#### **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

http://ahainstructornetwork.americanheart

.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

https://www.redcross.org/take-a-class

**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/ http://www.gvltec.edu LRRP AOM

#### Froehling & Robertson, Inc.

310 Hubert Street Raleigh, NC 27603 Phone: (919) 828-3441

(Also, Fayetteville & Charlotte locations) www.fandr.com

**LRRP** 

#### Greenville Technical College 216 S. Pleasantburg Drive Greenville SC 29607

Phone: (864) 250-8155 http://www.gvltec.edu

**LRRP AOM** 

#### **North American Contractors Association**

P.O. Box 10116

Greensboro, NC 27404 Phone: (336) 540-0149

http://infonaca.com/n-c-asbestos-classes/

**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 http://www.pittcc.edu/

**LRRP** 

Rowan-Cabarrus Community College 1333 Jake Alexander Blvd. South, Salisbury, NC 28146

Phone: (704) 216 7222 https://www.rccc.edu/

**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

https://www.safetync.org/ 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 unit-homes 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		Date of Training:	
Select Topic(s):			
Hook up to fall protection  X Put on PPE  Lock out/tag out protocol  X Set up ladder/scaffolding Inspect jobsite for hazards Follow LSW practices Install moisture barrier Report bulk moisture	Review scope of work Report items not on scope Control dust and debris X Identify leaks and bypasses X Seal air leaks Identify for code violations Verify flashing Install flashing	<ul> <li>Identify duct leaks</li> <li>Seal ducts leaks</li> <li>Confirm ducts suppo</li> <li>Confirm duct insulation</li> <li>Install wind baffles</li> <li>Install blocking</li> <li>Install vertical insulationstall horizontal install</li> </ul>	ion Inventory materials used Clean jobsite X Prep attic for insulation Interact with client
Showed WxTV video on Ar Presented Sections 1 & 4 c Reviewed relevant air seal Demonstrated capping a c Observed trainee capping  Describe any planned fol Will cover ducts and flashing	of Installer/Technician Fundamer ing, duct sealing, and air sealing s hase, sealing balloon framing, fla a chase, sealing balloon framing	its 2.0 from www.WAPTA sections of the NC Installa gging junction boxes, and flagging junction boxes.	C.org Ition Standards placing depth markers
	red the topics indicated above ir ncy. As the Trainee, I certify that	· · · · · · · · · · · · · · · · · · ·	
Instructor's Information:		Trainee's Informatio	n:
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 unit-homes 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		Date of Training	
Select Topic(s)  Hook up to fall protection Put on PPE Lock out/tag out protocol Set up ladder/scaffolding Inspect jobsite for hazards Follow LSW practices Install moisture barrier Report bulk moisture	Review scope of work Report items not on scop Control dust and debris Identify leaks and bypass Seal air leaks Identify for code violatio Verify flashing Install flashing	Confirm ducts support ses Confirm duct insulation Install wind baffles	Remove roofing system Flash new penetrations Inventory tools used Inventory materials used Clean jobsite Participate in debrief Interact with client Other:
•	ollow-up and target date	servation, demonstration, qu	uiz, etc.)
	ency. As the Trainee, I certify	ve in the manner specified and the that I have received training on the 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 _ Develop work schedule _ Evaluate energy audit _ Evaluate work order _ Identify materials needed _ Identify staff needed _ Identify PPE needed _ Set client expectations	Visually inspect job Confirm prerequisite work Develop site safety plan Review job with client Answer client questions Protect interior of home Test in/interim readings Execute work order	Revise work order if needed Monitor safety practices Monitor resources Verify material usage Verify end of day clean up Verify completed work Test out Complete clean up	Document material usage Document man hours Document lead renovator Document job photo Document change orders Lead crew debrief Submit all documentation Other:
Select how <b>each</b> Topic(s) w	as covered below (observ	vation, demonstration, quiz,	etc.)
Describe any planned follo	w-up and target date		
-	•	the manner specified and the trail have received training on the top	
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.

Subgrantee	Date of Training		
Select Topic(s)  _ Establish client relations _ Represent the organization _ Maintain professionalism _ Collect building information _ Review energy consumption _ Document building history _ Visual inspection building _ Collect base load data	Get building measurements Collect appliance data Collect H&S data Collect ventilation data Identify building insulation Collect attic data Collect window data Collect wall data	Collect door data Collect foundation data Collect roof data Perform blower door test Perform duct test Evaluate appliances Evaluate HVAC system Perform combustion tests	Evaluate H&S Evaluate structural integrity Scan walls with IR camera Determine if SHPO needed Select measures to be done Generate work order Discuss job in Crew Leader Other:
Select how each Topic(s) wa	as covered below (observ	ation, demonstration, quiz	, etc.)
Describe any planned follow  •	v-up and target date		
As the Instructor, I have covered demonstrated basic competency	-	-	
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		
Select Topic(s)				
Maintain professionalism	Review all invoices	Determine pass/fail of work	Document work w/ photos	
Review client file	Review lead renovator	Determine work complete	Have client sign off on job	
Review scope of work	Review SHPO	Verify no missed measures	– Sign off on job	
Review energy audit	Verify account coding	Document deficiencies	Other:	
Select how <b>each</b> Topic(s	) was covered below (obs	ervation, demonstration, quiz,	etc.)	
•				
Describe any planned fo	llow-up and target date			
•				
As the Instructor, I have cove	red the topics indicated above	in the manner specified and the tra	inee has	
-	•	at I have received training on the top		
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)

ne:
orogram? Yes No

(See Costs next page)

# 

Describe:\_\_\_\_\_

Is a written, signed 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]	Х			
Guidelines for Home Energy Professionals Project				
WAP Grantee Manager's Training Toolkit	Х	Χ	Х	X
WAP Training and Technical Assistance Clearinghouse	Х	Χ	Х	X
Field Guide Review Process [Video]		Χ		
<u>SWS</u>		X		
SWS Field Guide Photos [Flickr pool]		X		
SWS Variance Request Form		Χ		
SWS Variance Request Review Process [Video]		Χ		
WAP T&TA Planning & Reporting Template		Χ		
BPI Certified Professionals Search			Х	
BPI HEP Quality Control Inspector Certification Overview			X	
BPI HEP Energy Auditor Certification Overview			Х	
Guidelines for Home Energy Professionals (HEP) Certifications			X	
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	Χ
JTA - Quality Control Inspector - Multifamily			Х	X
Competency Model - Energy Auditor and Quality Control Inspector [U.S. Department of Labor]				X
Competency Model - Installer and Crew Leader [U.S. Department of Labor]				X
Contractor Training and Technical Assistance Retention Agreement Template				X
Green Buildings Career Map				X
Installer Badges Toolkit for On the Job Training				X
Installer Badges Toolkit for On the Job Training [Video]				Х
Installer Badges Toolkit Fact Sheet				X
IREC Accreditation - Key Documents for Candidates				X
IREC Credentials and How to Apply				X
IREC Credentials - FAQ				X
O*NET Summary Report for Weatherization Installers and Technicians [U.S. Department of Labor]				X
WAP Request for Proposals Toolkit for Training & Technical Assistance Services				X
Weatherization Training Resources				X