



TRAIN THE TRAINER

## Certification and Competency Testing

WEATHERIZATION ASSISTANCE PROGRAM STANDARDIZED CURRICULUM – August 2010

# Learning Objectives

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CERTIFICATION AND COMPETENCY TESTING

**By attending this session, participants will learn about:**

- Certification in the Weatherization Assistance Program.
- Certification options currently available.
- Guidelines for conducting competency testing for weatherization staff.

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By attending this session, participants will gain an understanding of:

- Certification in the weatherization program.
- Certification options currently available.
- Guidelines for conducting competency testing for weatherization staff.

Defining Certification

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**“Certification” means different things to different people. Sometimes “Certification”...**

- Implies formal training and knowledge/skills check.
- Refers to basic attendance at a course or lecture series.

In weatherization, certification means that a worker has been trained by an accredited trainer and has demonstrated proficiency through testing.

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- **Certification** means different things to different people.
  - Sometimes it means the person attended a course or lecture series, or it can indicate the person had formal training and passed an exam.

According to *Webster's Dictionary*, to “certify” means:

- To attest as being true or as represented or as meeting a standard.
- To recognize as having met special qualifications (as of a governmental agency or professional board) within a field.

In weatherization, certification means that a worker has been trained by an accredited trainer and has demonstrated proficiency through testing.

## Certification and the WAP

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### CERTIFICATION AND COMPETENCY TESTING

- No national uniform certification is currently required as part of the DOE Weatherization Assistance Program (WAP).
- A variety of certification options exist in the residential energy sector, and some weatherization programs have already incorporated them into their programs.

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- The U.S. Department of Energy's (DOE) Weatherization Assistance Program (WAP) does not have uniform national certification. WAP field workers have extensive training in various disciplines, but are not required to complete a standardized certification program. Training is for new hires and experienced field workers alike.
- There are a variety of certification options in the residential energy sector. As of June 2010, some State weatherization programs, including those in NY, OH, PA, and WA, have already incorporated certification for some WAP field positions. Other States, including IL, KS, MT, and OR, are considering developing State certification.

Certification Options

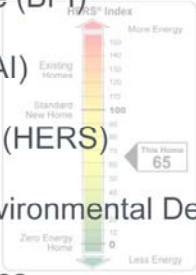
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- The Association of Energy Engineers (AEE)
- Building Performance Institute (BPI)
- The Energy Audit Institute (EAI)
- Home Energy Rating System (HERS)
- Leadership in Energy and Environmental Design (LEED)
- A plethora of private companies
- State level certification programs

CERTIFIED  
PROFESSIONAL



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With the lack of weatherization-specific certification in all but a few states, weatherization workers must choose among other options if certification is a goal:

- Association of Energy Engineers (AEE)** – Certified Energy Auditors have completed an auditing seminar and passed a four-hour written exam with a score of 70% or better. [www.aeecenter.org](http://www.aeecenter.org)
- Building Performance Institute (BPI)** – BPI is a leader in field worker certification programs for the residential building sector. [www.bpi.org](http://www.bpi.org)
- Energy Audit Institute (EAI)** – EAI offers online energy audit training and certification. <http://energyauditinstitute.com>
- Home Energy Rating System (HERS)** – HERS helps identify a building's energy performance and make recommendations for cost-effective upgrades. Becoming a HERS Rater requires certification under RESNET; to obtain certification, an individual must pass the HERS Rater exam. [www.natresnet.org](http://www.natresnet.org)
- Leadership in Energy and Environmental Design (LEED)** – LEED has a certification process for new construction, as well as a certification process for existing buildings called LEED-EB. [www.usgbc.org](http://www.usgbc.org)
- A plethora of other private sector companies – Refer to the Certification Programs Appendix. *Home Energy* magazine's "2009 Training Guide" also details companies offering weatherization training, as well as BPI certification options.

State-level certification programs – Refer to the certification programs handout. State-level certifications, such as those offered by the PA Weatherization Training Center, are targeted to weatherization directly. For example, Pennsylvania weatherization workers are required to possess PA Department of Labor and Industry (L&I) certifications before performing retrofit activities on homes in the Commonwealth of PA. Certifications are earned through successful completion of a series of L&I-approved courses specific to each job designation, such as installer, crew chief, and auditor.

BPI Certifications

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- BPI offers both residential and multifamily certification options.
- BPI requires re-certification every 3 years.

**Certifications relating to residential 1-4 unit buildings:**

- Building Analyst Professional (Evaluation Designations).
- Envelope Professional (Envelope Designations).
- Manufactured Housing Professional (Envelope Designations).
- Heating Professional (Mechanical Designations).
- A/C or Heat Pump Professional (Mechanical Designations).

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- BPI offers both residential and multifamily certification options.
- BPI requires re-certification every 3 years. Most certification programs require re-certification after a specified period of time.

BPI certifications for residential buildings with 1-4 units include:

- Building Analyst Professional (Evaluation Designations).
- Envelope Professional (Envelope Designations).
- Manufactured Housing Professional (Envelope Designations).
- Heating Professional (Mechanical Designations).
- A/C or Heat Pump Professional (Mechanical Designations).

BPI certifications for multifamily buildings (5+ units) include:

- Multifamily Building Analyst Professional (Multifamily Building Designations).
- Energy-Efficient Multifamily Building Operations Specialist (Multifamily Building Designations).
- Multifamily Hydronic Heating System Design Professional (Multifamily Building Designations).
- Multifamily Advanced Heating Plant Technician (Multifamily Building Designations).

- BPI's current structure does not allow for one "complete" certification for weatherization field staff.
- BPI notes in its *Policy & Procedures Manual* that their certifications "are not intended to take the place of trade certifications that focus on service and installation skills."
- For weatherization, certifications must match with the variety of personnel positions employed in the WAP (i.e. Installer, Crew Chief, Auditor, Monitor, etc.).

- BPI does not offer a complete certification for weatherization field staff.
- BPI notes in its *Policy & Procedures Manual* that its certifications are not intended to take the place of trade certifications that focus on service and installation skills.
- For weatherization, certifications must match the job functions in the WAP (i.e., installer, crew chief, auditor, monitor).

- Classroom and field testing is required.



Photo courtesy of COAD

A combination of  
hands-on and paper  
testing accommodates  
most learning styles.



- BPI requires both ***classroom and field testing*** for auditors and all other certification classifications. Incorporating both testing methods requires candidates to show competence in theoretical understanding and practical application.

HERS Certification

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**To obtain a HERS certification, an individual must:**

- Pass a test administered by a RESNET-accredited training entity.
- Complete 2 ratings, including software operations.
- RESNET National Rater Test covers key building science categories.
- Private companies offer courses to prepare for exams.
- RESNET offers a test study guide outline.

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- To be a HERS Rater or Rater Field Inspector, an individual must:
  - Pass a test administered by a RESNET-accredited training entity. Test is open book and online.
  - Complete two HERS ratings, including software operations, within 12 months of passing the exam.
    - This is a great example of requiring a full-fledged field test from beginning to end. Such testing confirms a HERS Rater's ability to function in the field.
- The RESNET National Rater Test covers the key categories of building science and home energy ratings. See [www.resnet.us/rater/national\\_rater\\_test](http://www.resnet.us/rater/national_rater_test) for a list of topics.
- Training classes are offered by private entities.
- RESNET offers a study guide outline.

State-Level Certifications: Example


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### Example: North Dakota

- Requires some level of certification for weatherization field staff.
- Notes in their weatherization State Plan that auditors, foremen, and inspectors must complete certification training.

Certification requirements are often listed in the grantee's State Plan in the Training & Technical Assistance section.



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Example: North Dakota:

- Requires certification for weatherization field staff.
- Notes in its weatherization ***State Plan*** that auditors, foremen, and inspectors must complete certification training.

State certification requirements are often in a grantee's State Plan in the ***training and technical assistance (T&TA)*** section.

State-Level Certifications

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**Advantages of State-level Certifications:**

- Locally developed for the State's climate and housing stock.
- Greater control over the content and testing methods.

**Disadvantages of State-level Certifications:**

- If workers travel or move, their certifications may not be recognized in new locale.
- Certification requirements may be less stringent than other States' or national certifications.

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- Advantages of State-level certifications:
  - Developed for the State's climate and housing stock (i.e., hot climate States have different technical field requirements than cold climate States).
  - A State that creates its own certification program has greater control over the content and testing methods.
- Disadvantages of State-level certifications:
  - If workers travel or move, their certifications may not be recognized in the new locale.
  - Some States' certification requirements are less stringent than other States' or national certification requirements.
    - Building and energy codes vary among states, just like certifications. It's always better to be more stringent than national codes and standards.

# Core Competencies

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**Define “competency” as:** the possession of a minimum level of knowledge and proficiency required to collect appropriate information, make informed decisions, and physically take the needed actions to deliver the high-quality weatherization service in question.

**How to test for competency?**

- Paper/on-line testing confirms an individual’s working knowledge of subject matter
- Hands-on testing evaluates an individual’s ability to perform a procedure or technique.

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**Competency** as defined in WAP’s Core Competencies (available at [www.waptac.org](http://www.waptac.org)) means the possession of a minimum level of knowledge and proficiency required to collect appropriate information, make informed decisions, and physically take the needed actions to deliver the high-quality weatherization service in question.

- Paper/on-line testing confirms an individual’s working knowledge of the subject matter:
  - The properties and appropriate application of different insulation materials.
  - Principles of air movement and how they relate to building heat loss.
- Hands-on testing evaluates an individual’s ability to perform a procedure or technique:
  - Installing blown and batt attic insulation.
  - Preparing a building for a blower door test.
  - Setting up a blower door, taking the blower door reading, and interpreting results.

As outlined in WAP’s Core Competencies, all weatherization workers must possess the following basic competencies:

- Ability to read and write legibly.
- Verbal and written communication skills.
- Construction knowledge.
- Math skills (see “Adult Education Concepts” section of this curriculum for a sample test to verify basic math skills).

# Goals of Testing



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## Goals of Testing:

- To measure knowledge and skills.
- To highlight skills and identify areas for targeted training.



*Evaluating students on hands-on application of new skills may be more productive, and less stressful, than paper exams.*

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- Goals of testing:
  - To measure knowledge and skills.
  - To identify areas for targeted training.
- Trainers should be aware that traditional classroom testing creates anxiety in many students, particularly weatherization workers that do not have high levels of education. Therefore, their abilities may not always be reflected in the test results.

### Consider the following options to make testing less stressful for students:

- Use a combination of paper/on-line exams and hands-on technical testing.
- Keep exams as brief as possible, and limit total number of questions (i.e. less than 100 questions).
- Allow for open book exams.
- Allow enough time to complete exams.



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- Use a combination of paper/on-line exams and hands-on technical testing.
- Keep exams as brief as possible and keep the number of questions to less than 100.
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# Designing the Tests

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## Questions should be designed to evaluate the students:

- Understanding of technical weatherization concepts – especially House as a System.
- Ability to perform basic energy calculations.
- Knowledge of health & safety issues.



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Questions should be designed to evaluate the students’:

- Understanding of technical weatherization concepts, particularly “house as a system.” This is arguably the most important and often most difficult concept in weatherization. A trainer must be effective at teaching how a house operates as a system and equally effective at testing to make sure the concepts are understood.
- Ability to perform basic energy calculations. Testing should ensure that trainees can perform basic math calculations and energy-related conversions.
- Knowledge of **health and safety (H&S)** issues. H&S questions should focus on safety for the client and the worker.

## WAP Training Centers

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### CERTIFICATION AND COMPETENCY TESTING

- When conducting a training, trainers should look at linking with one of the many weatherization training centers around the country.
- Weatherization training centers often have demo props that simulate field situations and allow hands-on testing.



*New River Center for Energy Research and Training's (NCERT) opened its new training facility building in March 2010.*

- Working with a training center may create a better training course/program as well as allow for a better testing process.

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- The more resources available for a trainer, the better the training will be. Trainers should link training to one of the weatherization **training centers** around the country if possible. Learn about what each training center offers and contact them to see if a training could be held there.
- Weatherization training centers often have demo props that simulate field situations and allow hands-on testing.
- Working with a training center may create a better training course/program as well as allow for a better testing process.

*Refer to the Certification and Competency Appendix, which lists weatherization training centers.*

## Summary

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- Certification can mean anything from attending a training to passing a rigorous skills and knowledge test, depending on the certifying body.
- There are national certification options for weatherization staff at all levels, but few are targeted directly to meet WAP requirements.
- Currently, there is no national certification requirement for weatherization workers or trainers.
- A few States have training centers that provide training targeted directly to WAP.
- Evaluation should include written and hands-on testing.

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- Certification can mean anything from attending a training to passing a rigorous skills and knowledge test, depending on the certifying body.
- There are national certification options for weatherization staff at all levels, but few are targeted directly to meet WAP requirements.
- Currently, there is no national certification requirement for weatherization workers or trainers.
- A few States have training centers that provide training targeted directly to WAP. Trainers that are developing their own programs should link to a nearby State program if possible.
- Evaluation should include written and hands-on testing. Competency testing should be included as part of training curricula and should include both written exams and hands-on knowledge and skills evaluation.