



Energy Auditor and Quality Control Inspector Certification Updates

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Cory Chovanec
National Renewable Energy Laboratory (NREL)

Learning Objectives

- ✓ Summarize upcoming certification updates in support of the U.S. Department of Energy (DOE) Weatherization Assistance Program (WAP).
- ✓ Review certification maintenance cycle steps.
- ✓ Discuss attendee experiences and ideas on how DOE's workforce credentials can best support industry stakeholders.

Weatherization at NREL

- NREL has supported WAP since 2009.
- For recent years, WAP has been about a \$300-350 million formula grant program.
- The Bipartisan Infrastructure Law added \$3.5 billion to WAP. NREL's support for the program has grown to support program expansion.



William Stewart with Veterans Green Jobs blows cellulose insulation in the interior walls of this Lakewood, Colorado, home. Photo by Dennis Schroeder, NREL 17964

NREL Weatherization Support



Technical

- Standard Work Specifications
- Energy auditor (EA) and quality control inspector (QCI) credentials
- Visualization tools
- Research and analysis
- Impact assessment.

- **NREL provides technical assistance and research to support high-quality work and highly qualified workers in the weatherization and home performance industry.**



Programmatic

- Continuous Improvement Workshops
- Online programmatic trainings
- Workforce development
- Technical assistance.

Background: History and Evolution of Credentials in WAP

Scope/Job Description

An EA is an experienced professional who **evaluates the potential health and safety issues, durability, comfort, and energy use** of a residential building. An EA conducts advanced diagnostic tests, gathers and analyzes data, and creates energy models to draw conclusions and make recommendations for improvements.

A QCI is a residential energy efficiency expert who **reviews, inspects, and verifies the appropriateness, quality, and completion of energy retrofit work** by conducting site visits, performing diagnostic testing, and evaluating work practices and documentation to improve the indoor environment, safety, durability, comfort, and energy efficiency of the building for the client.

Overview of WAP EA and QCI Requirements

Weatherization Program Notice 22-4: Quality Work Plan Requirement Update outlines how measures are inspected and credentialing requirements.

- ***All units completed by subgrantees must receive a final inspection.***
- Inspections must be led by a certified QCI.

Individuals approving subgrantee final inspections and grantee technical monitoring ***must have an active QCI certification*** or participate in a ***QCI mentorship model***. To earn the QCI certification an individual must first hold an active EA certification.

Island grantees are exempt from the QCI certification requirement.

QCI Mentorship model

QCI mentorship model

- A mentorship model is allowed to support recruitment, efficient onboarding, and career advancement at the grantee and subgrantee levels.
- Grantees may elect to allow a mentorship model for individuals (mentees) working toward QCI certification under the mentorship of a certified QCI.
- Mentees may perform work aligned with the QCI Job Task Analysis (JTA), including final inspections, monitoring, and collection of field site data or energy model reviews.
 - **If a grantee chooses to develop a mentorship program, the policy must be submitted to their respective DOE project officer for approval.**
 - All work must be reviewed and approved by a certified QCI.

Benefits of Certification

Workers and Employers

- Demonstrates workers have sufficient knowledge, skills, and abilities.
- Job description and expectations are clearly defined.

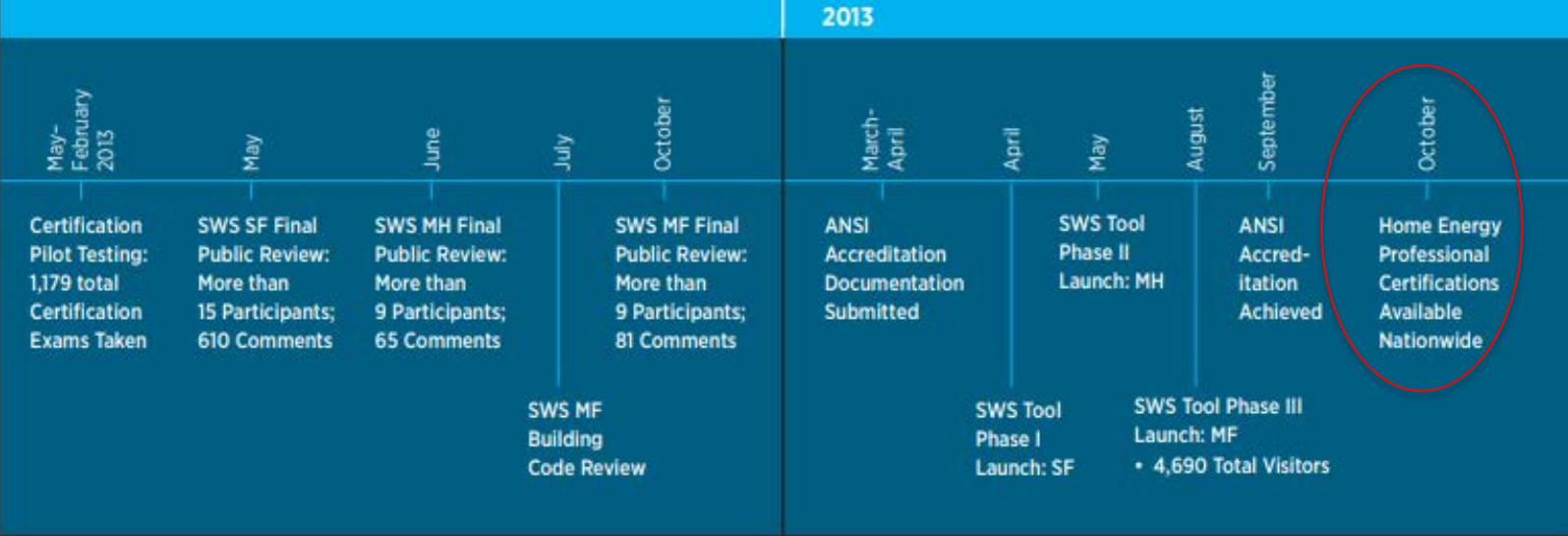
Consumer and Public

- Gives confidence in worker competency.

Government

- Quality assurance.
- Promotes consistency and equivalent assessment of individuals.
- Accountability reduces liability concerns.

Evolution of Credentials



In 2013, the first iteration of four advanced home energy professional credentials were introduced:

- Retrofit installer technician
- Crew leader
- EA
- QCI.

Certification schemes are maintained approximately every five to seven years.

Evolution of Credentials

Home energy professional certifications:

1. Retrofit installer technician
2. Crew leader
3. EA
4. QCI.



- In 2018, DOE, along with the crew leader scheme committee, determined the retrofit installer technician JTA could be eliminated and its tasks inserted in the crew leader JTA.
- The retrofit installer technician tasks became the basis of the [Installer Badges Toolkit](#), a flexible, customizable, and voluntary approach to training and skills recognition.

- Since 2019, EA remains a “full scope” certification accredited by the American National Standards Institute (ANSI) National Accreditation Board to the ISO/IEC 17024 standard.
- QCI certification is no longer accredited. Instead, it is a microcredential only obtained after a candidate earns EA certification.

Since 2013, major changes have been implemented to reduce overlap.

Roles and Responsibilities

DOE

- Ensures WAP has robust workforce credentials like EA and QCI to encourage quality work in the program.
- Provides funding to establish a permanent, sustainable infrastructure for a vibrant home retrofit market.

NREL

- Certification scheme owner.
 - Develops and maintains each scheme (JTA, prerequisites, scope statement, etc.).
 - Selects and engages with the scheme committee members.
 - Licenses certification schemes to qualified certification bodies.

Roles and Responsibilities

ANSI National Accreditation Board

- Accreditation body.
- Ensures personnel certification programs are ISO/IEC 17024 standard-compliant.

Certification bodies

- Through a license agreement with NREL:
 - Administer exams in alignment with the Home Energy Professional EA and QCI certification schemes.
 - Are responsible for certification of personnel.
 - Develop and maintain written (EA/QCI) and EA field exams.

Maintenance Cycle Overview

- Maintained every five-to-seven-year cycle.
- Volunteer expert committees play a vital role.
- Major steps:
 1. Review and update JTAs, prerequisites, conflicts of interest, recertification requirements, etc.
 2. Industry validation of JTAs.
 3. ANSI National Accreditation Board approval of EA scheme.
 4. Certification body updates exams and implements pilots.
 5. National rollout of new exams.

Acknowledgments

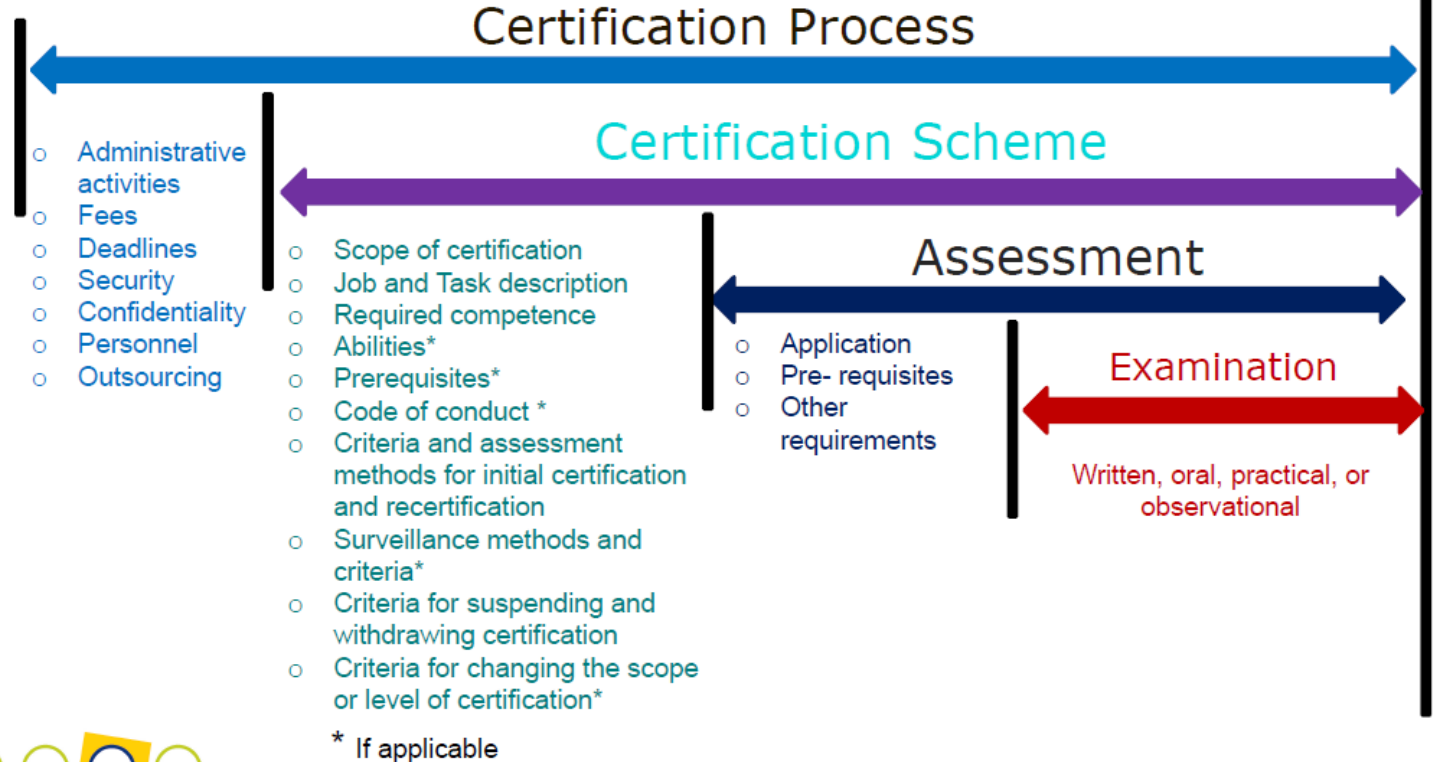
The work described in this document is funded by the U.S. Department of Energy's (DOE) Weatherization Assistance Program (WAP) under the Guidelines for Home Energy Professionals project. The authors thank WAP, Professional Testing, Inc., and the home performance industry professionals who participated on the scheme committee and volunteered many hours of their time and expertise to validate and update the Energy Auditor (EA) credential and Quality Control Inspector (QCI) microcredential.

EA-QCI Scheme Committee Members (2022–2026):

- Amy Vieira
- Thomas McIvor
- Peter Martin
- Fain Perrin
- Pamela Palmer
- Lance Gast
- Aubrey Myers
- Michael Swafford
- Chris Clay
- Kevin Grothe
- Charles Childers
- Andrew Woodruff
- Lara O'Brady
- Matt Turner
- Robert Parkhurst
- Bill Nickerson.

Source: NREL's [EA JTA](#) and [QCI JTA](#).

Examination, Assessment, Scheme and Process



Recent Updates and Certification Improvements

Memorandum 126: EA and QCI Certification Scheme Updates

Memorandum 133: EA and QCI Certification Body Update

ISO/IEC 17024 Required Scheme Elements

- Each certification program requires a scheme which includes:
 - Scope of certification
 - Job and task description
 - Required competence (e.g., knowledge, skills, and abilities)
 - Needed abilities
 - Prerequisites and recertification requirements
 - Code of conduct.

Definition of a JTA: A JTA is a procedure for analyzing the tasks performed by individuals in an occupation, as well as the knowledge, skills, and abilities required to perform those tasks.

Certification Body Update

- Since 2013, one certification body, the Building Performance Institute, has been the sole certification body for WAP EA and QCI certifications.
- The Building Performance Institute will continue to support the network and offer certification exams.
 - Existing exam questions are currently being improved/updated.
 - Detailed review and revisions by subject matter experts.
 - Exam questions will be translated into one language other than English.

Certification Body Update

- DOE announced the Association of Energy Engineers as a new certification body.
- The Association of Energy Engineers will support the credentialing needs of WAP and the broader home performance industry.
- Written exams (EA/QCI) and a simulated EA field exam will be developed by the Association of Energy Engineers.
 - A national rollout of new exams is expected in early 2026.



Weatherization Assistance Program » Weatherization Memorandum 133: EA and QCI Certification Body Update

The U.S. Department of Energy is pleased to announce the Association of Energy Engineers (AEE) has entered into a license agreement with the National Renewable Energy Laboratory for the HEP, EA, and QCI certification schemes.

AEE will support the credentialing needs of a growing network of home energy professionals.

[Weatherization Memorandum 133: EA and QCI Certification Body Update](#)

Screenshot from DOE

Certification Barriers We Have Heard

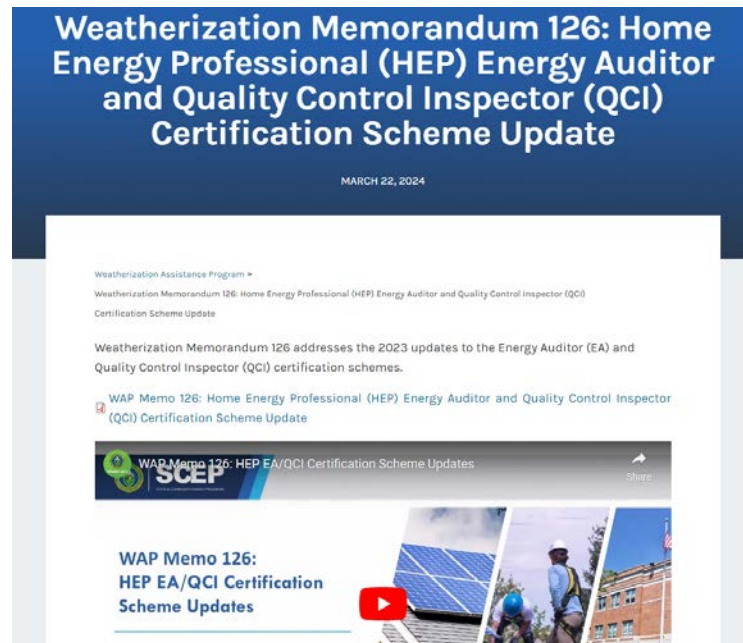
- Burdensome prerequisites.
- Limited access to training.
- Cost/time for certification.
- Field exam challenges.
- Written exam challenges (including language barriers).
- Recertification/maintenance.
- Continuing education units.
- Challenges with multifamily.
- No reciprocity with other similar certifications (EA).



Photo from Microsoft stock images

Improvements in the Works

- Certification cycle extended from three years to five years.
- Allowance of field exam simulation.
- Continuing education units streamlined, one hour = one continuing education unit.
- Prerequisites modified to be more inclusive of experience.
- Exam questions improved (existing certification body).
 - Exam questions will be translated into one language other than English.



Screenshot from DOE

Current Maintenance Cycle Major Milestones



2022

Subject matter experts reviewed and updated EA/QCI schemes (complete)



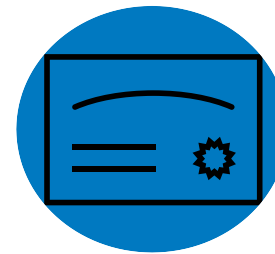
2023

EA scheme compliant with the ANSI National Accreditation Board and EA and QCI JTAs published online (complete)



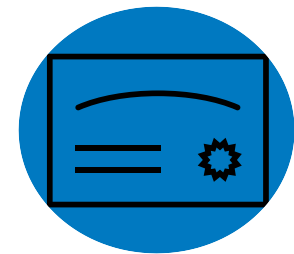
2024

Certification bodies planning for exam updates (Building Performance Institute) and exam development (Association of Energy Engineers) (in progress)



2025

Building Performance Institute national rollout goal



2026

Association of Energy Engineers national rollout goal

Resource Overview

JTA Reports

2018/2023 EA and QCI Redline Changes

Recent EA/QCI Resources

- 2023 EA and QCI JTAs
 - [EA JTA Report](#)
 - [QCI JTA Report](#).
- 2018/2023 EA and QCI redline changes
 - [View the EA JTA redline document](#)
 - [View the QCI JTA redline document](#).
- Weatherization Memorandum 126 (EA/QCI certification scheme updates)
 - [Read Weatherization Memorandum 126](#).
- Weatherization Memorandum 133 (certification body update).
 - [Read Weatherization Memorandum 133](#).

Access the JTAs and redline changes on the Standard Work Specifications website:



Resource Overview: JTA Report

- Available at no cost and used by a variety of audiences:
 - Program implementers
 - Training organizations
 - Certification bodies
 - Field staff.
- Contents:
 - Job scope and description
 - Domain, task, abilities, and knowledge areas
 - Exam blueprint.

5.1 DOMAIN I: Collection of Visual, Material, Dimensional, and Appliance Information About the Building for an Energy Audit

5.1.1 D1-Task 1: Document energy consumption

Ability to:

- Obtain 12 months of metered building utility bills
- Obtain unmetered annual fuel use information (e.g., oil, propane, solid fuel, etc.).

Knowledge of:

- How to access utility information
- Utility bill and client-stated usage.

Domain and Tasks	Final Percentages (Written)	Field
DOMAIN 1: Collection of Visual, Material, Dimensional, and Appliance Information About the Building for an Energy Audit	44%	
Task 1: Document energy consumption	2%	N/A

Source: NREL

QCI JTA Report Example

Table 1. QCI Exam Domain/Task Percentages

Domain and Tasks	Final Percentages (Written Exam)
DOMAIN I: In-Process Evaluation	20%
Task 1: Verify worker compliance with safety regulations	10%
Task 2: Evaluate in-process work quality	10%
DOMAIN II: Postwork Evaluation	68%
Task 1: Compare work completed in relation to the initial assessment and work scope (Evaluate the work of the EA)	34%
Task 2: Evaluate installed measures for compliance with standards and targets (Evaluate the work of the contractor[s] and/or crews[s])	34%
DOMAIN III: Project Compliance and Completion	12.0%
Task 1: Confirm whether policy requirements have been satisfied	12.0%
	100.00%

5.1 DOMAIN I: In-Process Evaluation

5.1.1 D1-Task 1: Verify worker compliance with safety regulations

Ability to:

- Evaluate that the work practices protect the health and safety of workers and building occupants (e.g., appropriate personal protective equipment being worn, monitoring air quality in workspaces, dust control, etc.)
- Evaluate the job site for compliance with safety regulations (e.g., proper lighting, safety and control in enclosed spaces, Safety Data Sheet, installation specifications)
- Document compliant, innovative, or deficient work practices
- Verify that crew members are using equipment to manufacturer's specifications and recommendations (e.g., safety switches are functional, ladder specifications, etc.).

Knowledge of:

- Energy retrofit techniques, terminology, materials
- Interpretation of manufacturer's specifications and recommendations
- Applicable codes and standards
- Safety regulations (e.g., Occupational Safety and Health Administration, U.S. Environmental Protection Agency)
- Information contained in a Safety Data Sheet.

5.1.2 D1-Task 2: Evaluate in-process work quality

Ability to:

- Compare the work performed to the work scope (e.g., appropriate R-value, square footage)
- Determine if correct materials and equipment are being installed (e.g., fire-rated used where needed, correct insulation type)
- Verify the condition and capacity of the tools and equipment (e.g., calibration dates, blowing machine pressure)
- Document compliant, innovative, or deficient installation practices (e.g., improper materials, good workmanship, poorly functioning tools and equipment)
- Determine if appropriate diagnostic testing is being performed, based on dwelling
- Document potential missed opportunities
- Evaluate job site management and scheduling (e.g., sequencing, material and equipment staging).

5.1.1 D1-Task 1: Document energy consumption.

Ability to:

- Obtain 12 months of ~~client~~metered building utility bills
- Obtain unmetered annual fuel ~~delivery~~use information (e.g., oil, propane, solid fuel, etc.).

Knowledge of:

- How to access utility information
- Utility bill ~~components~~and client-stated usage.

Source: NREL

Illustrates changes between the 2018 and 2023 EA and QCI JTAs.

- Black strikethrough = deleted text
- Black underlined text = added text.

Developed to support training organizations or active certification holders interested in changes.

5.2 DOMAIN II: Postwork Evaluation

5.2.1 ~~D2-Task 1: Verify installed measures and~~ Compare work completed in relation to the initial assessment details and work scope (Evaluate the work of the EA)

Ability to:

- ~~Determine which if appropriate diagnostic tests are needed~~ testing was performed (e.g., health, and safety, air leakage)
- ~~Visually inspect installed measures~~
- Confirm housing characteristics used for initial assessment (e.g., insulation levels, heating equipment, square footage), etc.)
- Identify potential missed opportunities:
- Compare inspection results to work plan projections.

Knowledge of:

- Building science:
- ~~Codes and standards adopted by the authority having jurisdiction~~
- ~~Standards and specifications~~
 - Heat transfer mechanisms (e.g., convection, conduction, radiation)
 - Moisture transfer mechanisms (e.g., water vapor, bulk moisture)
 - Air transfer mechanisms (e.g., stack effect, pressure differentials, etc.).
- Applicable codes, standards, and program requirements (e.g., ICC, NFPA, ASHRAE 62.2, SWS, etc.)
- Typically installed measures and missed opportunities
- Appropriate/required measures for each situation
- Appropriate testing protocols for the situation.

Upcoming Workforce Credential Efforts

- Multifamily EA and QCI JTA updates:
 - Industry validation underway.
 - Publication expected later this year.
- Crew leader JTA updates.

Q&A

- Tell us about your EA or QCI certification experiences.
- What are your thoughts about recent scheme updates?
- Do you have any feedback on future improvements to EA/QCI certification?

Feedback Form: Energy Auditor
and Quality Control Inspector
Certification Updates



<https://forms.office.com/g/gJh2f3nmw3>

Thank You!

www.nrel.gov

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