

Solar Tech 1

Certification Overview

The ACP Workforce Certifications Program is an industry-developed certification framework developed in collaboration with industry leaders to establish aligned, portable, and competency-based certifications for clean energy technicians. ACP currently offers certifications for Wind Tech 1, Solar Tech 1, and Battery Energy Storage System (BESS) Tech 1.

Core Competencies

The Solar Tech 1 Certification tests competency in:

- Basic safety
- Basic system theory and operation
- Electrical, mechanical, and hydraulic fundamentals
- Visual inspection and maintenance
- Proper care and usage of personal protective equipment (PPE) and technical tooling
- Record keeping and documentation

Scenarios

Competency is determined via three, hands-on scenarios. General equipment needed to perform this assessment includes PPE, general tools (e.g., torque wrench, screwdriver and hand tools), cleaning supplies, electrical testing equipment, multimeter, IR thermal camera, connector and crimping tools, meteorological equipment, and documentation materials.

Scenario 1: Solar Site Inspection

Pre-Work Preparations

1. Demonstrate Pre-Work Tasks

Inspections

2. Perform Site Walk-Through
3. Inspect Array Racks, Modules, and Wiring
4. Inspect Electrical Enclosures
5. Inspect Meteorological Equipment
6. Demonstrate Understanding of System Power Flow
7. Demonstrated Understanding of System Tracking

Post-Work Review

8. Communicate Work Completion

Scenario 2: Solar DC Field Work

Pre-Work Preparation

1. Demonstrate Pre-Work Tasks

DC Health Checks

2. Check DC Health Using Clamp-On Ammeter
3. Check Open-Circuit Voltage of a String

PV Array Replacements

4. Replace a Damaged Module
5. Replace PV Module Connectors

Post-Work Review

6. Communicate Work Completion

Scenario 3: Combiner Box Inspection & Maintenance

Pre-Work Preparation

1. Demonstrate Pre-Work Tasks

Inspection & Cleaning

2. Inspect Internal, External, Ground, and Connection Point Components
3. Perform Thermal Scan

Post-Work Review

4. Communicate Work Completion

About the ACP Institute of Safety, Workforce, and Operational Performance

The American Clean Power Association (ACP) is the leading voice of today's multi-tech clean energy industry, representing companies across wind, solar, battery energy storage (BESS), and other large-scale clean energy technologies. The Institute of Safety, Workforce, and Operational Performance (ISWOP) integrates standards development and certification operation into a unified function that supports workforce competency, safety, and operational excellence across the sector.

Learn more, visit CleanPower.org/workforce-training-and-education.