

O&M: Operations and Maintenance of PV Systems 2024

PREREQUISITE

Completion of NCCETC's FSPV course or a comparable fundamentals course or working knowledge of solar PV (i.e. currently working in the solar industry) is highly recommended before registering for this course.

COURSE DESCRIPTION

This 16-hour course focuses on the operation and maintenance of photovoltaic systems. The first part of this course is taught in a classroom format and covers evaluating the performance of systems, including specific data collection and evaluation, as well as protocols for collection; arc flash requirements; finding ground faults; thermal imaging; IV curve tracing, and fuse servicing. The second part of the course involves various hands-on activities in which participants are able to practice and utilize the skills they have learned throughout the course.

WHO SHOULD ATTEND THIS COURSE

- Residential and Industrial Solar System Installers and Designers
- Electricians
- Professional Engineers
- Energy Professionals
- Code Officials
- Emergency Service Providers
- Facility Energy Managers
- Architects and Building Designers

CONTINUING EDUCATION INFORMATION FOR 2024

- 13 PDHs are approved by the NC Board of Examiners for Professional Engineers and Land Surveyors (NCBELS)
- 16 LU|HSW are approved by the American Institute of Architects (AIA), course code O&M2024
- 16.0 CEs are approved by the North Carolina Board of Examiners for Electrical Contractors (NCBEEC)
- This course is approved by the North American Board of Certified Energy Practitioners (NABCEP) for initial exam application JTA credits and recertification credits. For more information about approved credits, visit the [course listing](#).

COURSE OUTLINE

Day 1	<p>PV Performance</p> <ul style="list-style-type: none"> • IV curves and environmental conditions (heat and irradiance) • Performance evaluation • IV curves and partial shading <p>Taking Measurements for Performance Evaluation•</p> <ul style="list-style-type: none"> • Evaluating Test Results • MPPT and power clipping- Inverters and IV curve • Evaluate reported test results of a 75 kW system 12 <p>Arc Flash Requirements— NFPA 70E</p> <ul style="list-style-type: none"> • Understanding and minimizing the risk • Class and PPE • Write out a safety plan to minimize the risk of arc flash <p>Ground Faults and Detection</p> <ul style="list-style-type: none"> • Insulation resistance testing and PV • Tools and techniques – IRT and DMM • Draft protocols to proactively detect ground faults
Day 2	<p>Thermal Imaging for O&M</p> <ul style="list-style-type: none"> • Terminations – NFPA 70B • PV array/string/module/cell <p>Curve Tracing</p> <ul style="list-style-type: none"> • Methods and interpretations <p>Fuse Servicing</p> <ul style="list-style-type: none"> • Code required disconnects NFPA 70 <p>Review of Tools and Field Sites</p> <ul style="list-style-type: none"> • Apply field activities on a 75kW system