

Training For Technicians...By Technicians

“Electronically Interactive Course”



Arc Flash Electrical Safety NFPA 70E®

The course is designed to help companies fulfill their legal requirements relative to OSHA 29 CFR Part 1910, Subpart S Electrical, and NFPA 70E® “Standard for Electrical Safety in the Workplace”.

It is a comprehensive overview of electrical safety in the workplace. Both OSHA regulations and the NFPA 70E® 2015 standards are covered to provide a clear overview of proper electrical safety procedures. The information provided helps learners understand how to reduce risk and avoid electrical hazards in the workplace while still being productive, which makes these classes a valuable training tool for trainers, contractors, safety officials, and electricians in the field.

Participants will receive a college level textbook.

Check our online schedule for classes near you

This seminar can also be presented at your location

Who Should take this course:

This course is for anyone who works on or around any electrically energized equipment at industrial plants, utilities or commercial and private building facilities.

Course Topics and Objectives

Electrical Hazards and Basic Electrical Safety Concepts

- Identify the differences between OSHA regulations and NFPA 70E standards.
- Define Public Inputs (Pis) and discuss the meetings and actions involved in the NFPA consensus process.
- Explain the effects of electrical-related injuries.
- Describe the recognized hazards associated with the use of electricity.
- Explain the importance of arc-rated clothing.
- Define incident energy.

Multi-Employer Worksites and Electrical Safety Programs

- Explain the multi-employer worksite policy.
- List the four types of controlling employers.
- Explain the responsibilities of the host employer and the contract employer.
- Describe the purpose of an electrical safety program (ESP).
- Identify the items in an ESP.
- List the standards that address ESPs.

Training of Qualified and Unqualified Workers

- List the requirements a qualified person must meet.
- List the requirements a qualified electrical worker must meet.
- Explain the new requirements and Informational Notes in NFPA 70E 130.

Approach Boundaries for Shock and Arc Flash Hazards

- Explain OSHA clearance distances.
- List the approach boundaries for shock hazards per NFPA 70E.
- Define Arc Flash Boundary and explain how to calculate boundaries for arc flashes.
- Explain the requirements of an energized electrical work permit (EEWP).

Performing a Hazard/Risk Analysis

- Define risk assessment.
- Identify the recognized electrical hazards.
- Define the type of hazards OSHA refers to in Section 5(a), General Duty Clause.
- List the items OSHA directs a company to identify as part of a risk assessment.
- Describe the importance of maintaining overcurrent protective devices.
- List the items that should be considered when assessing the risk involved in a particular task.

Establishing an Electrically Safe Work Condition

- Identify the OSHA regulations that cover electrical lockout/tagout.
- Explain the difference between induced voltage and backfed voltage.
- Explain how to perform absence-of-voltage testing.
- List the three types of test instruments that are commonly used to verify the absence of voltage.
- Explain simple and complex lockout/tagout procedures.
- Identify the NFPA 70E standards for training.
- List the equipment needed for proper lockout/tagout.
- List the items that must be addressed and the steps that must be taken while planning a lockout/tagout procedure.
- Explain the elements of control that should be included in a lockout/tagout procedure.
- Explain the standards concerning temporary protective grounding equipment per NFPA 70E 120.3.
- List the safety precautions that must be followed when using temporary protective grounding equipment.

Working on Energized Conductors and Circuit Parts

- Explain the importance of identifying when a task is considered energized work.
- List the conditions that may make energized electrical work appropriate.
- Describe the significance of an energized electrical work permit (EEWP).
- Explain the requirements for unqualified personnel working within or near the Limited Approach Boundary.
- Explain the requirements of an arc flash risk assessment.
- List precautions that are important for personal safety.
- List protective equipment that is not considered PPE.
- Determine the minimum approach distance between unqualified personnel and energized overhead lines.
- Explain the difference between touch potential and step potential.
- Describe the purpose of an equipotential zone.
- Explain employee training and job briefs.
- Explain how to properly service live-line tools.
- Describe how to safely apply temporary protective grounds.
- List the safety checks required by OSHA 1910.269(o) for high-voltage and high-power testing.
- Describe the hazard of open-circuiting a secondary winding

Arc Flash Electrical Safety

Course Topics and Objectives

Portable Electric Tools and Flexible Cords

- Explain the advantages and disadvantages of flexible cords.
- List the guidelines for flexible cords that OSHA lists in 1910.334.
- Explain the requirements for headlamps, receptacles, cord connectors, attachment plugs, and portable and vehicle-mounted generators.
- Identify the NFPA 70E standards for handling and inspecting portable electric equipment.
- Identify the various types of GFCIs.
- Explain the regulations concerning overcurrent protection modification.

Choosing and Inspecting Personal Protective Equipment

- Define arc thermal performance value (ATPV).
- Define arc flash protective clothing.
- Explain the meaning of the words “use of” and “appropriate” as stated in OSHA 1910.
- Explain the methods used to determine PPE per NFPA 70E.
- Explain the importance of head protection.
- Describe the inspection and storage process for rubber insulating gloves.
- Explain how the tables from NFPA 70E 130.7(C) are permitted to be used to determine personal protective equipment (PPE).
- Define leather protectors.
- List factors to consider when selecting protective clothing.

Guidelines for Common Electrical Tasks

- Explain risk assessment for common electrical tasks.
- Describe the task of removing and inserting low- or medium-voltage drawout-type circuit breakers.
- Describe the unique challenges involved when troubleshooting AC drives.
- Identify the hazards involved with operating medium-voltage air-break switches.
- Identify the risks involved with operating equipment rated 240 V and less and equipment rated 240 V to 600 V.
- Explain the hazards involved with removing covers and
- Explain the task of inserting and removing motor control center buckets, panels from electrical enclosures.
- Describe the risks involved with replacing light ballasts.
- List the recommended PPE for troubleshooting circuits rated 120 V and less.
- Explain the task of replacing low-voltage motors.

SEMINAR AGENDA

7:30 am Registration
8:00 am Class Begins
12:00 -1:00 pm Lunch (on your own)
4:30 pm Class Ends

SEMINAR FEE

\$1100 2 Day Option
\$1650 3 Day Option



Class Options:

2 Day class -

- Electrical Arc Flash Safety

3 Day class - ArcSafe Certification

- Electrical Arc Flash Safety - 2 Days
 - Meter Safety - NOT A STAND-ALONE CLASS USED
- ARCSAFE CERTIFICATION CLASS ONLY- 1 Day

Notes:

1. Electrical Arc Flash Safety is a STAND-ALONE CLASS - NO CERTIFICATION - CERTIFICATE OF ATTENDANCE ONLY
2. Meter Safety - NOT A STAND-ALONE CLASS
ARCSAFE CERTIFICATION CLASS ONLY
3. ArcSafe Certification is Electrical Arc Flash Safety and Meter Safety combined to form the 3 Day class.

ONSITE TRAINING

TTC offers onsite training at your facility.

We can provide the same courses as we offer in public seminars. We can even design courses especially to meet your needs.

Advantages of On-Site Training

1. Modify the content to your specific needs
2. Protect company privacy
3. Workers remain on site in case of an emergency
4. Saves time and travel costs
5. Instructors can discuss your specific equipment
6. Problems can be openly discussed
7. Flexible scheduling
8. Increased price savings as the groups get larger
9. Promote teamwork & camaraderie among workers
10. More comfortable learning environment