

ELECTRICAL SAFETY ARC FLASH ELECTRICAL SAFETY [BASED ON NFPA 70E]



DURATION
2 DAYS



LIVE ONLINE TRAINING
SINGLE CLASS CAPACITY: 15



ONSITE – IN CLASS TRAINING
SINGLE CLASS CAPACITY: 15

This interactive course provides a learning experience taught by industry veterans where attendees are individually verified to have understood the safety skills they will use in the field.

The NFPA 70E® Standard for Electrical Safety in the Workplace provides the prescriptive methods for OSHA compliance for electrical safe work. NTT Training provides the interpretation of the standard through hands-on instructor demonstration and student practice for implementing the standard. Workplace exercises using real-world scenarios alongside annotated explanations of the NFPA 70E ensures they understand these requirements.

WHAT THIS COURSE COVERS

- Learning to identify the hazards of an electrical job
- Assessing what can be done to eliminate hazards
- Understanding methods of mitigating hazards
- How to use best industry practices to comply with requirements
- Achieve a safe-as-practical approach to performing electrical work

WHO SHOULD TAKE THIS

- Electricians
- Maintenance Electricians
- Linemen & Utility Workers
- Owners & Managers
- Safety Directors
- Electrical Contractors
- Perform safe electrical work practices and understand arc flash hazards and boundaries

COURSE OUTCOMES

- Understand the new Risk Assessment approach to Electrical Safety
- Apply OSHA rule 1910.331-335 training requirements and NFPA 70E® standards
- Understand the effect of maintenance on equipment and how it reduces injury
- Describe proper use of test instruments making contact with energized parts



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COURSE AGENDA

ELECTRICAL SAFETY AND YOUR ELECTRICAL SAFETY PROGRAM

- Trainees start off receiving a brief overview of electrical safety history.
- Using the NTT's illustrated and annotated explanation of the NFPA 70E Standard, trainees will identify electrical safety program requirements.
- Trainees will compare those requirements to their own company's electrical safe work program.

UNDERSTANDING ELECTRICAL HAZARDS

- Trainees participate in group exercises around risk awareness.
- Information regarding the risks of shock, arc flash, and arc blast are presented.
- Trainees review shock potentials and incident energy levels in a facility distribution system.
- They will learn to mitigate shock and arc flash hazards based on NFPA codes and technical hands-on interactions.

ELECTRICAL SAFE WORK PRACTICES AND PROCEDURES

- Safe work practices identified in NFPA 70E are laid out in steps.
- Trainees will learn these steps as they use the NTT Job Aid to develop a Job Safety Analysis (JSA).
- This JSA will be used throughout the remainder of the class for hands-on activities.

ELECTRICAL PERSONAL PROTECTIVE EQUIPMENT

- Trainees will discuss characteristics and maintenance of various types of PPE.
- The instructor will demonstrate proper donning and doffing techniques.
- Trainees will use the checklist in their text to inspect NTT or student supplied PPE.

NORMAL OPERATION OF EQUIPMENT

- Discussion of NFPA 70E's five requirements of electrical equipment to achieve Normal Operation status.
- Trainees will perform a visual inspection of the NTT electrical equipment for installation and maintenance issues.
- Examples of good and bad installations are discussed, including proper body positioning and techniques for typical switching operations.
- Trainees will use the table in the NFPA 70E Standard to determine the need for PPE.

ESTABLISHING THE ELECTRICALLY SAFE WORK CONDITION

- OSHA and 70E requirements are presented and discussed.
- Trainees perform a Lockout/Tagout procedure on electrical equipment.
- The 3-point method is used to verify that a circuit is electrically safe.

CONDUCTING AN EMERGENCY RESPONSE DRILL

- Following NFPA 70E requirements, trainees will develop an emergency response plan.
- Trainees then implement the plan following the scenario given by the instructor to simulate an electrical accident.
- Conclusion that will summarize the electrical safe work practices learned.



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HANDS-ON DEMO EQUIPMENT



CLIENT MUST PROVIDE

- **Personal protection equipment (PPE)**
 - Everyday Electrical PPE Work Clothing that is worn by the attendees: typically this is PPE Category 2 Arc-rated pants and shirt, or coveralls, hardhat, safety glasses, and leather work shoes or boots.
 - Arc-rated face shield and balaclava.
 - Voltage-rated rubber gloves, leather protectors. Class 0, or 00 are typical. Any voltage rating will be fine.
 - Arc-flash suit and hood (typically rated at 40 cal/cm2 or more), and arc-rated gloves.
 - Hearing protection: ear canal inserts
- **Equipment**
 - One insulated tool (screwdriver, side cutters, nut driver, etc.)
 - Digital Multimeter (DMM)

NTT WILL PROVIDE

- **Personal protection equipment (PPE)**
 - Coveralls - PPE Cat 2
 - Face Shield (arc rated)
 - Balaclava
 - Rubber Gloves (arc rated)
 - Leather Gloves
 - Safety Glasses (ANSI Z87 approved)
- **Equipment**
 - Insulated Screwdriver
 - Digital Multimeter (DMM)



LIVE ONLINE TRAINING EQUIPMENT



CLIENT PROVIDED COMPUTER REQUIREMENTS

- Student email address to receive access to NTT's online platform
- Internet Access through a computer (laptop or desktop)
 - 1:1 Participant minimum bandwidth requirements: 1.2 Mbps (download)
- Ability to download and view files online
- Computer with speakers, microphone and camera.
- Browser with recent updates

NTT PROVIDED STUDENT MATERIALS

- Access to NTT's online platforms:
 - Canvas for digital exercises
 - Zoom for web video conference
 - No purchase or install necessary but students will be required to test the system they will be taking the class on before the day of training.
- Hard-Copy of Texts & Industry Standards, NTT Job Aids and general consumables: notepad, pens/highlighters, tabs
- Digital-copies NTT materials including Phone Apps