



ARC FLASH ELECTRICAL SAFETY [based on NFPA 70E]: 2 DAY HANDS ON ELECTRICAL SAFETY IN THE WORKPLACE



Live Online Training
Single Class Capacity: 15



Onsite – In Class Training
Single Class Capacity: 12

This course combines the discussion of content and application of material in an in-class interactive format. It provides a “hands-on” experience where attendees perform the same safety skills they must demonstrate in the field. This is what NTT Electrical Safety Training is all about. 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, hands-on instructor demonstration and student practice for implementing the standard. Tabletop and hands-on exercises will have students work with their own copy of NTT’s Illustrated and annotated explanation of the NFPA 70E, helping to ensure they understand these requirements.

Now available both as a hands-on Classroom and Live Online with digital simulations.

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

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
- Perform safe electrical work practices and understand arc flash hazards and boundaries



Every NTT course is eligible for CEUs (or Continuing Education Units) with your governing board approval or your states approval.



ARC FLASH ELECTRICAL SAFETY [based on NFPA 70E]: 2 DAY HANDS ON ELECTRICAL SAFETY IN THE WORKPLACE



Live Online Training
Single Class Capacity: 15



Onsite – In Class Training
Single Class Capacity: 12

COURSE AGENDA



Hands-on Labs

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.



Hands-on use of an infrared camera through an infrared window, an ultrasonic detector, and the setup and use a remote indicating multimeter; reducing exposure to hazards.



ARC FLASH ELECTRICAL SAFETY [based on NFPA 70E]: 2 DAY HANDS ON ELECTRICAL SAFETY IN THE WORKPLACE



Live Online Training
Single Class Capacity: 15



Onsite – In Class Training
Single Class Capacity: 12

COURSE AGENDA (CONT)

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.

HANDS-ON DEMO EQUIPMENT

PERSONAL PROTECTION EQUIPMENT (PPE)

- Fluke 381 Amp Clamp
- Coveralls - PPE Cat 2
- 40 cal hood with drawstring protector (Salisbury)
- 40 cal suit coat and bibs (Salisbury)
- 40 cal gloves
- Arc rated Safety Vest
- Cat 2 Face Shield (Salisbury)
- Balaclava
- Gloves Arc rated 27 calories
- G99 Glove inflator with adapter
- Class 0 Glove Kit (includes storage bag)
- Class 1 Glove Kit (includes storage bag)
- Ear plugs
- Safety Glasses (ANSI Z87 approved)
- Safety Goggles
- Glove Dust (Salisbury)
- Cotton Glove Liners
- Arc flash boundary tape

EQUIPMENT

- 30 amp disconnect
- Fluke CV300 IR Window
- Flir C2 IR Camera
- Bar Clamp
- Split Digital Clamp Meter, 1/2" Jaw Capacity, CAT IV 600V, CAT III 1000V
- Fluke 233
- LOTO Lock, Hasps & Tags
- Electrical Glove Kit, Size 10, Red (Salisbury)
- Fuses: 30A, 600VAC/300VDC (Bussmann)
- Ultrasonic Detector
- Fluke proving Unit
- Fluke 233 Digital Multimeter
- Fluke IR Thermometer

TOOL BAG:

- 6in. Channel Locks
- Multi-tip Screwdriver
- Phillip's 1000v Insulated Screwdriver
- Flat Head 1000v Insulated Screwdriver
- Kline 10-1 multi-tip screwdriver
- Fluke Proving Unit
- Work Gloves
- Fuse Puller



ARC FLASH ELECTRICAL SAFETY [based on NFPA 70E]: 2 DAY HANDS ON ELECTRICAL SAFETY IN THE WORKPLACE



Live Online Training
Single Class Capacity: 15



Onsite – In Class Training
Single Class Capacity: 12

EQUIPMENT & MATERIALS

NTT TO PROVIDE

- Two days (16 contact hours) of on-site instruction
- Textbook Options: Digital (PDF) only, or Digital and hardcopy
 - NTT's "Electrical Safety Based on the 2018 NFPA 70E® Standard" with full NFPA 70E explanation
 - **Optional:** "NFPA 70E Standard for Electrical Safety in the Workplace®, 2018 Edition"
- NTT Electrical Safety Job Aid
- Classroom consumables
- Completion certificates
- Shipping and instructor travel logistics

EQUIPMENT SHIPPING

- 2 Pelican Cases- 32" x 24" x 18" at 75lbs

CLIENT TO PROVIDE

- Classroom of 900 square feet or greater
- Projection screen

