# NFPA 70E Electrical Safety in the Workplace Training Course



14 - 18 Dec 2026

Cape town

4600 € (Per Person)

Ref: #ERE1940_273900

## Course Introduction / Overview:

This course provides a comprehensive examination of the NFPA 70E standard, the cornerstone of electrical safety in the workplace. In an environment where electrical hazards pose significant risks, understanding and applying these guidelines is not just a matter of compliance but of life preservation. This program, offered by BIG BEN Training Center, is meticulously designed to move beyond simple recitation of rules to instill a deep-seated culture of safety. We will explore the intricate relationship between NFPA 70E, OSHA regulations, and the National Electrical Code (NEC), creating a holistic understanding of the electrical safety ecosystem. The curriculum delves into critical concepts such as arc flash and shock hazards, drawing upon principles outlined in seminal works like the "IEEE 1584 Guide for Performing Arc-Flash Hazard Calculations". Participants will learn to identify, assess, and mitigate electrical risks through proven methodologies. As emphasized by electrical safety expert H. Landis Floyd II, a proactive approach is paramount. This training course equips professionals with the knowledge and practical skills to establish electrically safe work conditions, correctly select Personal Protective Equipment (PPE), and implement robust safety programs, ultimately protecting personnel and preventing catastrophic incidents.

## Target Audience / This training course is suitable for:

- Electrical engineers and technicians.
- Maintenance and instrumentation professionals.
- Health, Safety, and Environment (HSE) managers and officers.
- Project managers and supervisors.
- Facility and plant managers.
- Electricians and electrical contractors.
- Non-electrical personnel who work near energized equipment.

## Target Sectors and Industries:

- Manufacturing and industrial production.
- Oil, gas, and petrochemicals.
- Construction and engineering.
- Power generation and utilities.
- Data centers and information technology.
- Healthcare and hospital facilities.
- Government agencies and public works.
- Commercial and residential property management.

## Target Organizations Departments:

- Maintenance and Reliability.
- Engineering and Design.
- Health, Safety, and Environment (HSE/EHS).
- Operations and Production.
- Facilities Management.
- Project Management.
- Compliance and Risk Management.

## Course Offerings:

By the end of this course, the participants will have able to:

- Interpret the requirements of the NFPA 70E standard for electrical safety.
- Identify and differentiate between various electrical hazards, including shock, arc flash, and arc blast.
- Perform comprehensive shock and arc flash risk assessments.
- Determine and establish appropriate approach boundaries for shock and arc flash protection.
- Implement effective lockout/tagout (LOTO) procedures to achieve an electrically safe work condition.
- Select the correct Personal Protective Equipment (PPE) based on incident energy analysis.
- Develop and implement a compliant and effective Electrical Safety Program (ESP).
- Understand the requirements for energized electrical work permits.
- Recognize the importance of proper maintenance of electrical equipment for safety.

## Course Methodology:

The training methodology at BIG BEN Training Center is centered on active, adult learning principles to ensure maximum knowledge retention and practical application. This course moves beyond traditional lectures to create a dynamic and interactive environment. We utilize a blend of expert-led instruction, detailed case studies of real-world electrical incidents, and collaborative group workshops where participants can analyze hazard scenarios. Interactive sessions will focus on practical exercises such as performing a simulated arc flash risk assessment and developing a lockout/tagout procedure. High-quality video presentations will be used to demonstrate the devastating effects of arc flash and the correct procedures for establishing an electrically safe work condition. Ample time is allocated for Q&A sessions, allowing participants to engage directly with our experienced instructors and discuss challenges specific to their own workplaces. This hands-on, problem-solving approach ensures that participants leave not only with a thorough understanding of NFPA 70E but also with the confidence to apply these critical safety principles effectively on the job.

## Course Agenda (Course Units):

### Unit One: Introduction to NFPA 70E and Electrical Hazards

- Understanding the purpose and scope of NFPA 70E.
- The relationship between NFPA 70E, OSHA, and the NEC.
- Key definitions and terminology in the standard.
- Defining qualified and unqualified persons.
- Recognizing the primary electrical hazards: shock, arc flash, and arc blast.
- Understanding the physics and potential severity of an arc flash event.
- Reviewing statistics on electrical incidents and injuries.

### Unit Two: Hazard Identification and Risk Assessment

- The principles of risk assessment and the hierarchy of risk controls.
- Performing a shock risk assessment.
- Understanding the shock protection boundaries (Limited and Restricted Approach).
- Conducting an arc flash risk assessment.
- Methods for determining the arc flash boundary.
- Incident energy analysis and its role in safety.
- Understanding and using equipment labels for hazard identification.

### Unit three: Establishing an Electrically Safe Work Condition

- The definition and importance of an electrically safe work condition.
- Detailed principles of lockout/tagout (LOTO) as per NFPA 70E.
- Step-by-step procedures for de-energizing equipment.
- The critical process of verifying a de-energized state.
- Understanding simple, complex, and group lockout/tagout procedures.
- Temporary protective grounding equipment requirements.
- Responsibilities of personnel during LOTO procedures.

## Unit Four: Safe Work Practices and Personal Protective Equipment (PPE)

- Requirements for working on or near energized conductors.
- The Energized Electrical Work Permit (EEWP).
- Selection and use of appropriate tools and test equipment.
- Understanding Arc-Rated (AR) and Flame-Resistant (FR) clothing.
- Determining PPE categories based on risk assessment.
- Proper inspection, care, and maintenance of PPE.
- Other protective equipment: insulated tools, barriers, and insulating blankets.

## Unit Five: Electrical Safety Programs and Equipment Maintenance

- Developing, implementing, and auditing an Electrical Safety Program (ESP).
- Employer and employee responsibilities within the ESP.
- Training and retraining requirements for qualified and unqualified persons.
- Emergency response procedures for electrical incidents.
- The importance of electrical equipment maintenance for safety.
- Requirements for maintaining protective devices like circuit breakers and fuses.
- Investigating electrical incidents and learning from them.

# FAQ:

### Qualifications required for registering to this course?

There are no requirements.

### How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

## Something to think about:

Considering the pressures of production deadlines, how can an organization cultivate a safety culture where establishing an electrically safe work condition is non-negotiable, rather than seen as an impediment?

## What unique qualities does this course offer compared to other courses?

This course distinguishes itself by focusing on the practical implementation and cultural integration of electrical safety, rather than merely reciting the NFPA 70E standard. While many programs cover the "what" of the regulations, we emphasize the "how" and "why" through a curriculum rich with real-world case studies and interactive risk assessment workshops. Our approach is designed to develop critical thinking skills, enabling participants to analyze complex electrical systems and make sound safety judgments under pressure. The curriculum provides a holistic perspective, seamlessly integrating the requirements of NFPA 70E with OSHA regulations and the principles of the National Electrical Code (NEC). This ensures a comprehensive understanding of the entire compliance landscape. Furthermore, our instructors are seasoned industry professionals who bring decades of hands-on experience, offering invaluable insights that go beyond textbook knowledge. The course fosters a deep understanding of creating a sustainable safety culture, empowering participants to become true safety leaders who can champion change and protect lives within their organizations.