

NFPA 70E, OSHA and You: Insight for Implementation



*Specialized Electrical Safety Training For
Public Works Electricians
Electrical Inspectors
Building Inspectors
Fire Inspectors
Supervisors*

October 25 and 26, 2017

Presented By
Emery & Associates, Inc.

and

Hosted By
Abbott

NFPA 70E, OSHA and You: Insight for Implementation

Course Description: This course examines the NFPA 70E and OSHA electrical safety work practice standards required for the safety of all employees while working on or near electrical equipment. The course is pragmatically based upon the hazards of electricity and explores the relationship of the standards requirements to specific electrical hazards.

Engineering controls (including Lockout Tagout), personal protective equipment (PPE) for electrocution and arc flash/arc blast protection are applied relating directly to the safety control hierarchy. The instructor, who trains the OSHA inspectors nationwide, will explain what OSHA looks for.

Instructional Methodology: Each student receives an interactive workbook which is used throughout the course. Each student will also receive a copy of NFPA 70E 2018 edition as soon as it is released. The interactive workbook contains a copy of OSHA's Electrical Safety Related Work Practices Standard 1910.331-.335. The OSHA Electrical Safety Related Work Practices Standard also has a unique and specially designed cross-reference for each OSHA paragraph to the equivalent NFPA 70E code reference. The use of the interactive workbook and specific reference standards engages the students, encourages active class participation and reinforces the standard requirements.

The course content is not just for *qualified* electrical workers, but will tremendously benefit persons who supervise and manage qualified electrical workers. Safety professionals will learn to comfortably navigate these highly technical standards and gain valuable insight to the work qualified workers perform.

The course addresses the application of the NFPA 70E tables for both shock and arc flash/arc blast protection along with the selection of appropriate PPE. The judicious use of video clips and stills of actual OSHA accident and fatality cases with detailed explanations of causal factors revealed by the OSHA investigation and resulting citations explained in class. The instructor in his official OSHA capacity investigated many of these accidents.

Additionally, actual equipment including tools and PPE will be available for student examination. Students/attendees are encouraged to bring their electrical PPE, meters and insulated hand tools to class to perform the required inspections on the equipment. The extensive use of oral questioning techniques as well as reinforcement techniques are employed for a sound and effective didactic approach.

Most of all, the approach to training is that students should have fun learning ... What a concept!

This seminar will be taught by John “Grizzy” Grzywacz.

Grizzy, as he likes to be called, has been recognized by OSHA's National Office in Washington D.C. as both a **National Electrical Code (NEC®) historian** as well as “**the best electrical safety trainer in the country!**”

A complete bio on the instructor is listed on the last page of this brochure.

Hazards of Electricity

Objectives:

1. Students will examine accident and fatality scenarios relative to the various hazards.
2. Examine the hazards of electricity, the resulting injuries, and degree of injury with respect to the hazard(s) exposures.
3. Examine the typical interview approach and some possible questions OSHA typically can ask in an interview.

At the conclusion of the lesson students will be able to:

- List the fundamental hazards of electricity, as required by the standards.
- State which hazard is responsible for the majority of accidents and fatalities among *unqualified* persons.
- State which hazard is responsible for the majority of accidents and fatalities among *qualified* persons.
- List at least three different electricity *levels* and their respective physiological effect on the adult human body including electrocution *level*.
- State the first and foremost requirement required by the electrical standards that eliminates all the hazards, as well as the hierarchy of controls.
- Distinguish between *qualified* versus *unqualified* persons according to OSHA and the standards.

Standards Overview

Objectives:

1. Students will examine the various OSHA as well as consensus organization standards, their origin, history and evolution and applicability to installations, equipment and maintenance.
2. Distinguish between the electrical safety-related work practices of OSHA's power generation transmission and distribution standard as compared to the 70E safety related work practices (as well as OSHA's electrical safety related work practice standards) and how they are applied.
3. Review the "risk analysis" approach as described in NFPA 70E and examine why this approach would be in violation of OSHA requirements.

At the conclusion of the lesson students will be able to:

- List the main categories of electrical standards.
- State the main standard documents which apply to installation specifications and which standards apply to electrical safety related work practices.
- Describe how NFPA 70E and OSHA's Electrical Safety Related Work practice Standards work together.
- Examine the Purpose, Scope and arrangement of 70E including the standard arrangement and list of annexes.
- Examine the "Standard Arrangement" and NFPA Standard format as dictated by NFPA Style Guide requirements.

NFPA 70E – Application Of Safety Related Work Practices – General Requirements

Objectives:

1. Examine the Application requirements of 70 to determine the responsibilities of both the employer as well as employees as mandated by the standard.
2. Examine the training requirements for both qualified as well as unqualified employees. Review the electrical safety program requirements and the job briefing requirements including the respective annexes.

At the conclusion of the lesson students will be able to:

- List both the employer responsibilities as well as employee responsibilities mandated by the standards.

- Locate the multi-employer responsibilities for host and contract employer.
- State the training requirements and emergency procedure requirements including
- CPR and AED requirements including required documentation.
- List the general training requirements for qualified and unqualified workers.
- Locate the equipment requirements and state the inspection requirements for portable cord and plug equipment.
- Conduct a shock/electrocution hazard analysis and correctly determine the minimum approach distances (MAD's) for given voltages using table 130.4(D(a) in 70E.
- Locate the safety program elements and job briefing elements in 70E.

Establishing an Electrically Safe Work Condition -Work Involving Electrical Hazards

Objectives:

1. Students will examine the Justification for live electrical work along with the two very narrow exceptions for working energized.
2. Examine the 6 steps required by 70E for achieving and electrically safe work condition.
3. Examine meter inspection requirement criteria.
4. Examine some accidents where alleged infeasibility and lack of LOTO resulted in catastrophic results.
5. Locate and examine the Energized Electrical Work Permit requirements.

At the conclusion of the lesson students will be able to:

- Locate the 6 steps for achieving an electrically safe work conditions in NFPA 70E.
- State the two standard exceptions for working energized. Identify the requirements of an adequately rated instrument to verify deenergization.
- State the test procedure for verification.
- Recognize when and energized electrical work permit is required.
- State what type of energy isolating device is not permitted to be used by any LOTO Standards.

PPE, Tools and Other Protective Equipment

Objectives:

1. Review the key NFPA 70E and OSHA, PPE requirements when working within the approach boundaries.
2. Students will examine various classes of insulating gloves, protectors, insulated blankets and insulated sheeting including the required markings on the equipment.
3. Review the daily inspection requirements for insulated gloves according to the OSHA and ASTM standards.
4. Students will examine various insulated tools required by the standard for energized work.
5. Review the OSHA case studies showing the results of incorrect use or lack of PPE and tools.

At the conclusion of the lesson students will be able to:

- Select the appropriate class of insulating equipment for the work being performed.
- Locate the daily inspection requirements.
- State the purpose of the daily inflation test.
- State the proof testing interval requirements for gloves.
- Examine and Identify approved insulated tools.

Arc Flash / Arc Blast Hazard Analysis and Protective Clothing

Objectives:

1. Students will examine various levels of clothing designations for burn protection.
2. Students will examine the arc flash hazard PPE categories table & PPE table to determine the appropriate level of protection required working at various equipment.
3. Review the OSHA case studies showing the results of lack of PPE or incorrect protection level of clothing.
4. Examine key requirements for care and use of protective clothing including laundry requirements.

REGISTRATION INFORMATION

DATES:

October 25 and 26, 2017

TIME:

8:00 AM until 5:00 PM each day

LOCATION:

**Abbott Fire Protection and Libertyville Fire Station #3
13415 Atkinson Road
Lake Bluff, IL 60064**

Please park on the west side of the building and use the Abbott entrance on the west side.

FEE:

\$485 per person (Each student receives an interactive seminar workbook and the 2018 edition of NFPA 70E)

Online registration:

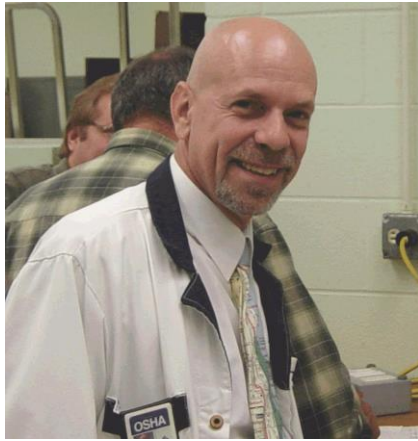
www.emerysafety.com

Payment by check or credit card. If you select the Pay By Check option an invoice will automatically be generated for you to download, print and submit to your Accounts Payable Department. All registrations must be paid in full 7 days in advance of the class.

This training is aimed at employees who perform electrical work and supervisors who are responsible for these employees.

It is ideally suited for public works employees, electrical inspectors, building inspectors and fire inspectors.

QUESTIONS? Call 847-680-0799



John “Grizzy” Grzywacz Professor Emeritus
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“**Grizzy**”, as he likes to be called has been recognized by OSHA’s National Office in Washington D.C. as both a National Electrical Code (NEC®) historian as well as “the best electrical safety trainer in the country!” Certainly at the very least Grizzy has been OSHA’s electrical safety “go-to guy” and has been instrumental in shaping and interpreting OSHA policy and regulations for several decades.

Grizzy has trained OSHA compliance officers, appeared as OSHA’s electrical expert, and guided literally hundreds and hundreds of electrical fatality investigations. Grizzy continues to train OSHA compliance officers and personnel coast to coast, as well as still providing investigative assistance to the Agency on fatality investigations and significant cases. His electrical expertise has not only shaped OSHA policy but also the OSHA Electrical Standard’s. Grizzy is currently a **member of the ASTM F-18 Committee** which writes the “**Electrical Protective Equipment for Workers**” standards.

Licensed by the Department of Education, and prior to his OSHA career, Grizzy had been both an **educator and administrator** for various public and private schools and held the position of Electronic Department Chairman and subsequently Deputy Director of Education at a New York City proprietary school.

In addition to being a **nationally recognized seminar leader with over 40,000 hours of platform experience**, Grizzy has lectured at Purdue University, University of Southern California at San Diego, Texas A & M University, Northern Illinois University, Rochester Institute of Technology, and the New York State University System to name a few. Grizzy has numerous published works in video and print which have assisted safety professionals and helped workers for decades.

Recognized nationally as preeminent in regulatory electrical safety training, private corporations and agencies outside of OSHA are now obtaining the same training that the OSHA inspectors obtain from Grizzy, as well as insight into navigating the complex regulatory requirements.

Recently Grizzy has been presenting and lecturing on various aspects of some of the rare and unique electrical artifacts and apparatus which he has been collecting for decades, some of which date back to the turn of the 20th Century.