

Arc Flash Services



OSHA recognizes NFPA 70E as the leading national consensus standard for electrical safety compliance.

What is an Arc Flash?

An arc flash is current flowing through the air that flashes from one exposed live conductor to another conductor or to ground. When an arc flash happens, the temperatures can reach up to 35,000 degrees Fahrenheit. This is four times the temperature on the surface of the sun. An arc flash occurs when electrical clearances are reduced by deteriorating insulation or human error. The arc flash follows a conductive path between two energized wires or ground.

Compliance

OSHA Part 1910.132(d)(1) – “The employer shall assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE). ...”

OSHA Part 1910.132(d)(1)(I) – “Select, and have each affected employee use, the types of PPE that will protect the affected employee from the hazards identified in the hazard assessment;...”

OSHA Part 1910.132(d)(2) – “The employer shall verify that the workplace hazard assessment has been performed through a written certification that: identifies the workplace evaluated; the person certifying that the evaluation has been performed; the date(s) of the hazard assessment; and which identified the document as a certification or hazard assessment.”

OSHA Part 1910.335(1)(I) – “Employees working in areas where there are potential electrical hazards shall be provided with, and shall use, electrical protective equipment that is appropriate.”

NFPA 70E-2004, Part II 2-1.3.3 states that a flash hazard analysis must be performed in order to determine the level of hazard and appropriate PPE for given tasks.

Arc Flash Labels

The 2005 NEC states in Section 110.16 that “Switchboards, panel boards, industrial control panels, and motor control centers that are in other than dwelling occupancies are likely to require examination, adjustment, servicing or maintenance while energized shall be field marked to warn qualified person of potential electrical arc flash hazards. The marking shall be located so as to be clearly visible to qualified persons before examination, adjustment, servicing or maintenance of the equipment.”

 WARNING	
Arc Flash and Shock Hazard Appropriate PPE Required	
3' - 4" 4.9 #2	Flash Hazard Boundary cal/cm ² Flash Hazard at 18 Inches PPE Level Cotton underwear plus FR shirt and FR pants
0.48 3' - 6" 1' - 0" 0' - 1"	kV Shock Hazard when cover is removed Limited Approach Restricted Approach - Class 00 Voltage Gloves Prohibited Approach - Class 00 Voltage Gloves
Equipment Name SWG-2A	
IEEE 1584 Hazards; Project 1289A -- Safety Procedure #A6D24 -- EasyPower File: "Plant-A6.dez" -- Date: September 9, 2003	

The arc flash label identifies the approach boundaries and PPE required when performing work on the equipment.

Arc Flash Study

Are your employees safe?



Is your facility and training programs NFPA 70E compliant?

When is This Required?

The 2007 National Electrical Safety Code's (NEC) new rule 410A3 states, "Effective January 1, 2009, the employer shall ensure that an assessment is performed to determine potential exposure to an electric arc for employees who work on or near energized part or equipment."

The 2009 edition of NFPA 70E places direct compliance responsibility on the "host facility." It is no longer acceptable to assume hiring an outside contractor relieves the owner's responsibility with respect to electrical safety programs.

Common Arc Flash Mistakes

The most common Arc Flash mistakes made include:

Waiting for an incident to happen before implementing NFPA-70E

The false belief that labeling alone will satisfy Arc Flash requirements.

Purchasing personal protective equipment without proper knowledge or training.

The belief that a short circuit study and coordination study is not necessary.

Arc Flash Study

An appropriate arc flash study consists of the following:

- An accurate an up-to-date one-line electrical drawing.
- A short circuit analysis.
- A coordination study.
- Arc Flash labeling.
- Arc Flash training.

Why choose our instructors?

We understand your electrical systems inside and out with a combined 50 years experience in electrical installations.

We use the leading analysis software programs to discover the hidden and real danger within your electrical distribution system.

Our trainers are authorized OSHA outreach providers who specialize in electrical safety.



**National Fire
Protection Association**

The authority on fire, electrical, and building safety