



## **ELECTRICAL SAFETY IN THE WORKPLACE**

OSHA ELECTRICAL SAFETY REGULATION

Course: 4 Hours Instruction

Hours: Class Room

Hours: Field Instruction

Regulation 29 CFR 1910.301-399, Subpart S

Prerequisites:

Fee:

CE Credits:

The aim of this program is to provide comprehensive on-site training to high-risk workers (i.e. skilled trades and maintenance workers) and management on the requirements of Sub Part S, and the prevention of serious injuries from electrical hazards at their worksites. Participants will develop an understanding of the requirements of OSHA Sub Part "S" and NFPA, 70E and will be able to identify / reduce / eliminate electrical safety hazards in their workplace.

Covered in this course: Electrical Safe Work Practices, Electrical Safety Principles, Guidelines For Qualification Of Personnel, Job Planning Requirements And Management and Personal Responsibility.

### **Introduction to Electrical Safety**

- Statistics associated with poor electrical safety in the workplace
- Key electrical terms
- Define and differentiate between Qualified and Unqualified persons
- Describe the intent of an Electrical Safety Program and list the essential elements of an effective program.
- Use a "Status Check" survey to assess the facility's electrical safety program and where necessary develop strategies for improvement.

### **Identifying the Hazards**

- List types of electrical hazards to personnel and describe the nature of the hazards related to:
  - Electric shocks, arcs and blasts
  - Fault current and potential difference
  - Electrical safety in industrial plants
- List the characteristics of an arc flash hazard
- List the characteristics of an arc blast hazard
- Explain how other injury hazards are related to shock, flash, and blast

### **OSHA Requirements**

- Determine training for workers in accordance with OSHA Sub Part S requirements.
- Recall Safe Installation Practices including: Guarding - Identification - Flexible cords and cables - System grounding - Location of overcurrent protection devices - Workspace clearance requirements
- Assess an electrical installation for compliance with OSHA regulations.
- Explain the reasons for doing a site assessment to determine arc flash hazard potential for equipment and electrical enclosure.

### **Safety Related Work Practices**

- Identify requirements for electrical safe work practices
- Define and list specific steps to ensure an "Electrically Safe Work Condition"
- Explain how the creation of an electrically safe work condition can involve hazards and the methods to protect against them.
- Describe the facility's lockout / tagout (LO/TO) procedure including requirements and activities in the procedure and identify the persons responsible for each activity.
- Determine the LO/TO procedure applicable to a given facility, operation, equipment or activity.
- Describe other safety related work practices to protect from electrical hazards including:
  - Selection and use of work practices
  - De-energized work practices
  - Energized work practices
  - Approach boundaries and approach distances

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P: 715.254.0638  
F: 715.254.0630



826 Bloom Rd  
Eagle River, WI 54521

- Requirements for use of test instruments and equipment
- Requirements for insulated tools
- Other equipment such as ladders, barricades, signs

## **Working On or Near Live Parts**

- Identify persons who may be exposed to a source of electrical energy directly or indirectly
- List the conditions under which “hot work” is allowed
- Describe the purposes of an energized electrical work permit
- Recall three types of approach boundaries and define the dimensions of each approach boundary, given all necessary information
- Describe the essential parts of a Flash Hazard Analysis and list the data required analysis
- List the information, including Hazard Risk Category, provided to a worker by a Flash Hazard Analysis and describe its use

## **Personal Protective Equipment (PPE)**

- List the basic types of personal protective equipment (PPE) for tasks involving electrical hazards
- Describe how each type protects against hazards and identify the limitations of PPE
- Explain the need for flame resistant (FR) clothing and layering of clothing for protection and list clothing prohibited where electrical hazards are present
- Select PPE for a given Hazard Risk Category including gloves, eye, head, face protection and (FR) clothing
- Describe the requirements for use, care, maintenance and storage of PPE

## **United Safety Solutions Course Covers:**

- Elements of OSHA Electrical Safety Regulation (29 CFR 1910.301-399, Subpart S)
- Key terms and concepts of electrical safety
- The importance of electrical safety-related work practices
- How to identify employees' appropriate training and protection requirements
- Various types of electrical injuries
- Protecting employees who work on or near to electrical conductors and equipment

## **Certification:**

Successful completion requires 80% on both classroom and practical skills.

Upon successful completion, participants receive a wallet card, documentation to satisfy OSHA.

Syllabus - ELECTRICAL SAFETY IN THE WORKPLACE - 10/28/2015