

## **Safety: Electrical Part 2 - Hazardous Location, Clearances & Safety Practice (RV-10744)**

### **Course Description**

This 2-hour online course is the second of a two-part series which introduces you to many workplace situations that require you to work safely with electricity. You'll learn how and why electricity can be dangerous. You'll also learn about various methods used for protection. Safety begins with the careful installation of electrical components by means of approved wiring methods. You should use safety procedures and practices that insulate you from electricity's power anytime you work with or near electrical equipment or components. Specifically, Part 2 looks at:

- Hazardous locations
- Safe working clearances
- Safety practices

### **Course Outline**

#### **Introduction – 5 minutes**

Electricity helps people in many ways: It provides light and powers appliances and tools, both at work and at home. It makes tasks easier to perform, often with a more efficient result.

Electricity does its work safely—when it's kept under control.

- Course Overview
- Learning Objectives

#### **Hazards – 10 minutes**

Hazardous locations are areas where flammable, gases, flammable and combustible vapors, combustible dusts, or ignitable flyings exist in sufficient quantities and mixtures to produce an explosion or fire. In these locations, specially designed electrical equipment and special installation techniques are used to isolate possible ignition sources.

- Hazardous Locations
- Description of Classes
- Equipment for Use in Hazardous Locations
- Equipment Design

#### **Clearances – 10 minutes**

Electrical equipment should have sufficient access and working space provided and maintained at all times. The reason is to permit ready and safe operation and maintenance of the equipment.

- Safe Working Clearances
- Front Space Clearance
- Clearance for Entrance and Access

#### **Safety – 25 minutes**

Poor lighting is a common, but little recognized, hazard on many job sites. Adequate lighting should always be provided for all work spaces around electrical equipment. Switchboards, panelboards, and motor-control centers installed indoors should have ample lighting when you perform maintenance.

- Lighting for Work Spaces
- Guarding of Electrical Parts
- Designated Clear Spaces
- Ladders and Stairways
- Confined or Enclosed Work Spaces

- Safety Practices

### **Training – 10 minutes**

The degree of that training is based on how much risk your tasks and work environment present to you. For example, training levels differ if you're a qualified worker or an unqualified worker. When you work with electricity, your tasks will normally involve working on or near electrical circuits and equipment. There are two classes of electrical workers: qualified workers and unqualified workers.

- Qualified Electrical Workers
- Unqualified Workers

### **Lockout and Tagout – 30 minutes**

Under normal conditions, when work is to be performed on exposed electrical equipment and conductors, the equipment and all conductors are de-energized for the safety of workers in and around the work area. This precaution is called placing the equipment in an electrically safe working condition.

- Electrically Safe Working Conditions
- Training for Lockout/Tagout
- De-energized Parts
- Application of Controls and Lockout/Tagout Devices
- Removal of Locks and Tags
- Production Servicing or Maintenance Operations
- Energized Parts
- Energy-Isolating Devices
- Physical Requirements for Lockout/Tagout Devices

### **Personal Protection – 25 minutes**

Always wear the right clothes for the job. The clothing and uniforms you wear on the job should be both comfortable and practical. Don't wear clothes that are so tight they limit your freedom of movement, or so loose they might get caught in equipment or snagged on something in an emergency

- Clothing
- Personal Protective Equipment
- Tools and Equipment
- Electrical Tools
- Safety Switches
- Alerting Techniques
- Housekeeping

### **Conclusion – 5 minutes**

In this course, we showed you situations that require you to work safely with electricity. You learned how and why electricity can be dangerous. You also learned about various methods used for protection when working with electricity.

- Summary & Implications

### **Course Objectives**

At the end of this course, you will be able to:

1. Select the type of electrical equipment to use in a hazardous location
2. List the safety practices required in an electrical work area
3. Talk about the importance of a clear working space around electrical equipment
4. Elevate your own level of safety training to be sure it matches the electrical work you're performing