

ELECTRICAL SAFETY

Supplement to Standard Training Module

TRAINING REQUIREMENTS OVERVIEW

This standard Vivid training module provides a general overview of the Electrical Safety-Related Work Practices. Although no particular training regimen is required by the OSHA standard, employees **should** receive information and training appropriate to the level of risk to the employee. Training may be a combination of classroom or on-the-job formats.

In addition to this general overview, employees **must** receive facility-specific information. This additional training **must** cover:

1. **Qualified employees** (those who have training in avoiding the electrical hazards of working on or near exposed energized parts) - **must** receive facility-specific information in addition to the general overview. The additional training **must** cover:
 - Electrical safety-related work practices appropriate to their job and tasks performed
 - Skills and techniques necessary to distinguish live parts from other parts of electric equipment
 - Skills and techniques necessary to determine the nominal voltage of exposed live parts
 - Clearance distance required and corresponding voltages to which they will be exposed
 - Personal protective equipment appropriate to tasks performed
2. **Unqualified employees** (those who have little or no training in avoiding the electrical hazards of working on or near exposed energized parts) - **must** receive facility-specific information in addition to the general overview. The additional training **must** cover:
 - Electrical safety-related work practices appropriate to their job and tasks performed
 - The operation of electrical power and lighting circuits

Frequency: Training **must** be provided at the time of initial employment or when the employee's risk to electric shock changes due to assigned responsibilities and tasks.

GENERAL OVERVIEW OF THE STANDARD

Electrical Safety-Related Work Practices – 29 CFR 1910.331 - 335

PURPOSE: To establish safety-related work practices to protect employees from electrical injuries that work on or near exposed energized circuit parts.

1. **SCOPE:**
 - Applies to work by both Qualified (those who have training in avoiding the electrical hazards of working on or near exposed energized parts) and Unqualified persons (those with little or no such training).
 - Applies to all of the following installations:
 - Premises wiring
 - Installations that connect to the supply of electricity
 - Installations of outside conductors on the premises
 - Optical fiber cable
 - The following work is NOT covered:
 - Generation, transmission, and distribution installations
 - Communications installations
 - Installation in vehicles
 - Railway installations

2. **TRAINING:** Training is required for employees who face the risk of electric shock. The standard specifies requirements for:
 - Unqualified persons
 - Safety related work practices outlined in 29 CFR 1910.331-335
 - Safety related work practices not outlined in 29 CFR 1910.331-335, but which are necessary for their job

 - Qualified persons
 - Safety related work practices outlined in 29 CFR 1910.331-335
 - Skills and techniques necessary to distinguish live parts from other parts of electric equipment
 - Skills and techniques necessary to determine the nominal voltage of exposed live parts
 - Clearance distance required and corresponding voltages to which they will be exposed
 - Personal protective equipment appropriate to tasks performed

3. **SELECTION AND USE OF WORK PRACTICES:** Safety-related work practices shall be employed to prevent electric shock or other injuries

resulting from either direct or indirect electrical contacts, when work is performed on or near equipment or circuits which are or may be energized. Additional requirements are stated in the standard for:

- Working on or near exposed de-energized parts, including requirements for:
 - Lockout procedures
- Working on or near exposed energized parts, including requirements for:
 - Work on energized equipment
 - Work on overhead lines
 - Illumination
 - Work in confined or enclosed workspaces
 - Conductive materials and equipment
 - Construction of portable ladders
 - Restrictions on wearing conductive apparel
 - Housekeeping duties
 - Defeat of interlocks

4. USE OF EQUIPMENT: Requirements are stated for:

- Portable electric equipment – applies to the use of cord and plug connected equipment, including extension cords. Subtopics include requirements for:
 - Handling
 - Visual inspection
 - Grounding-type equipment
 - Conductive work locations
 - Connecting attachment plugs
- Electrical power and lighting circuits – Subtopics include requirements for:
 - Routine opening and closing of circuits
 - Reclosing circuits after protective device operation
 - Overcurrent protection modification
- Test instruments and equipment - Subtopics include requirements for:
 - Use
 - Visual Inspection
 - Rating of equipment

- Occasional use of flammable or ignitable materials – where flammable materials are present only occasionally, electrical equipment capable of igniting them shall not be used, unless measures are taken to prevent hazardous conditions from developing.
5. SAFEGUARDS FOR PERSONAL PROTECTION: Specifies requirements for employees to be provided:
- Personal protective equipment electrical protective equipment that is appropriate for the specific parts of the body to be protected and for the work to be performed.
 - General protective equipment and insulated tools or handling equipment when they might make contact with electrical conductors or parts.
 - Alerting techniques to warn and protect employees from hazards which could cause injury due to electric shock, burns, or failure of electrical equipment.

REFERENCE MATERIALS

Publications

Controlling Electrical Hazards

Publication # 3057

Can be downloaded at: <http://www.osha.gov/Publications/Osha3057.pdf>

Website

OSHA website:

<http://www.osha.gov/SLTC/electrical/index.html>