

***Sample Lesson Plan***  
***Construction Industry Training Program***  
**Controlling Electrical Hazards**

***Introduction***

**How Electricity Works**

- Defined as the flow of energy from one place to another
- Requires a source of power
- Current (flow of electrons) travels through a conductor
- Travels in a closed circuit

***Instructor's Activities***

- PowerPoint presentation
- Discuss the requirements in Subpart K of the OSHA regulations
- Participant feedback

***Learning Objectives and Outcomes***

**I. Injuries from electrical hazards**

- A. Electrocution or death due to electrical shock
- B. Electrical shock
- C. Burns
- D. Falls

**II. Warning signs an electrical hazard exists**

- A. GFCI that shuts off a circuit
- B. Tripped circuit breakers or blown fuses
- C. Warm tools, wires, cords or connection boxes
- D. Worn or frayed insulation around a wire or connector
- E. Water or dampness near electrical circuits, wires, outlets or power tools

**III. Electrical hazards**

- A. Inadequate wiring
- B. Exposed electrical parts
- C. Wires with bad insulation
- D. Ungrounded electrical systems or tools
- E. Overloaded circuits
- F. Damaged power tools and equipment
- G. Using wrong PPE or tools
- H. Overhead power lines
- I. Wet conditions

**IV. Methods of protection from electrical hazards**

- A. Use proper grounding
- B. Use proper sized circuit breakers and GFCI's
- C. Guard live electrical parts
- D. Lockout/tagout
- E. Proper use of flexible cords
- F. Close electrical panels
- G. De-energize overhead power lines

**V. Training**

- A. Deenergize electric equipment before inspecting or repairing

- B. Use cords, cables and electric tools that are in good repair
- C. Lockout/tagout recognition and procedures
- D. Use appropriate protective equipment

### *References*

#### **OSHA Standard**

##### **29 CFR 1926 Subpart K - Electrical**

[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=STANDARDS&p\\_id=10701](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10701)

#### **OSHA Publication**

<http://www.osha.gov/pls/publications/pubindex.list>

##### **3075 Controlling Electrical Hazards**

##### **3007 Ground-Fault Protection on Construction Sites**

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