Electrical Safety – Construction



Key Takeaways:

– Learning how electricity works with hazards on the job
– Understanding basic safety controls and practices at work
– Learning how to identify and respond to electrical emergencies

Course Description

This lesson will provide an overview to prepare workers for working safely with and around electricity. However, this lesson will not address arc-flash hazards and controls, lock-out/tag-out procedures, or high voltage (220V or 440V) electrical safety.

Annually, there are approximately 230 electrical related fatalities. The National Institute for Occupation Safety & Health (NIOSH) discovered that “61% of electrocutions occur in two occupation divisions: 46% among craftsmen and 15% among laborers. These two groups also had the highest rates of electrocution death: 1.4 per 100,000 workers each.”

As well, NIOSH stated that “Electricity is the flow of an atom’s electrons through a conductor. Electrons, the outer particles of an atom, contain a negative charge. If electrons collect on an object, that object is negatively charged. If the electrons flow from an object through a conductor, the flow is called electric current. Voltage is the fundamental force or pressure that causes electricity to flow through a conductor and is measured in volts.”

Typically, fatal electrical accidents occur in the high-risk workforce when an aerial lift or boom, or scaffolding set up, unexpectedly connection with a power line, creating a circuit.

Since electrical hazards can cause burns, shocks, and electrocution (death), follow these guidelines to increase your safety:
– Always sssume overhead wires are energized at lethal voltages. Do not assume that a wire is safe to touch even if it is down or appears to be insulated.
– Do not touch a fallen overhead power line. Instead, call the electric utility company to report fallen electrical lines and let them deal with it.
– Keep 10 feet or 3 meters of distance away from overhead wires during cleanup and other activities. When working at heights or handling long objects, survey

the area for the presence of overhead wires prior to working.
– In the case that an overhead wire falls across your vehicle while you are driving, stay inside the vehicle and continue to drive away from the line. If your engine stalls, then do not leave your vehicle. Make sure to warn others not to touch the vehicle or the wire, then call or ask someone to call the local electric utility company and emergency services.
– Do not operate electrical equipment when you are standing in water.
– Do not repair electrical cords or equipment unless qualified and authorized.
– Always get a qualified electrician to inspect electrical equipment that has gotten wet before energizing it.
– Whenever you are working in damp locations, always inspect electric cords and equipment to ensure that they are in good condition and free of defects, and use a ground-fault circuit interrupter (GFCI).
– Be cautious always when working near electricity.