



# BIE SAFETY ADVISOR

## Advancing the Construction

**Industry** - The Center for Construction Research and Training (CPWR) offers a number of resources to the construction community. CPWR is dedicated to reducing occupational injuries, illnesses and fatalities in the construction industry. Through their research, training, and service programs, they serve the industry in cooperation with key federal and construction industry partners nationwide. Their mission is four fold:

- To encourage the elimination or reduction of conditions constituting hazards to the safety or health of U.S. construction workers, and to promote the maintenance and improvement of safe and healthy working conditions for workers in the construction industry;
- To publicize the results of research findings, and to make them widely available to construction industry owners/users, employers, associations, unions, workers, academia, government, and others with an interest in construction industry safety and health;
- To provide training resources and technical services to apply research findings at the work site and to direct research in defining and addressing issues of importance to workers.
- To conduct research concerning the quality of working conditions; the social, economic, and psychological factors influencing work organization; the impacts on workers and working conditions of new technologies and industry change; and analyses of corporate and government policies and consensus standards that affect the worksite.

CPWR has a number of free resources available to the construction industry including: **Webinars**- CPWR hosts regular webinars on a variety of topics including current research, new efforts and trends in occupational safety & health, and training programs. Visit [www.cpwr.com/news-events](http://www.cpwr.com/news-events) to get a list of upcoming and past webinar that may be applicable to your companies specific needs.

**Publications**- A number of publications such as research findings and articles, hazard alerts, health and safety videos and *Tool Box Talks* in both English and Spanish can be found at

[www.cpwr.com/publications/publications](http://www.cpwr.com/publications/publications)



## OSHA to Offer A Free Webinar on Silica Exposure, Available March 5-9, 2018

OSHA and OSHA Education Centers in Louisiana, Oklahoma, and Texas, are offering a free WebEx presentation on silica hazards from March 5 to 9. The one-hour webinar will focus on compliance with the OSHA standard for silica in the construction and general industries, and best practices for prevention. Registration information can be found at

<http://info.midsouthoti.org/vpppa-region-6-video-0-0>



# Monthly Toolbox Talk

## Basic Electrical Safety Awareness

One of the most significant advances in the history of mankind has to be the harnessing of electricity for power. But electricity is not without its drawbacks; unintentional contact with electrical current can cause severe injuries or death, as can the arc flash created by an electrical short.

Avoiding electrical shocks both at home and at work requires awareness of the hazards and a respect for this "Silent Killer." The human body has a low resistance to electricity, making it a good conductor, like most metals. Unlike metals however, the human body does *not* respond well when electricity passes through it. Physical results include thermal burns, disruption of normal heart activity, severe muscle contractions, and even death.

The most common and serious electrical injuries occur when electrical current flows between the hands and feet. This happens when a person touches an energized line. The electrical energy is looking for the shortest path to the ground, and it will pass through the body to the feet to reach it. When this occurs, a person's heart and lungs are frequently damaged by the electrical energy.

Some electrical areas and hazards to be alert to on the job site include:

### Power Lines

Overhead and buried power lines are especially hazardous because they carry extremely high voltage. Fatal electrocution is the main risk, but burns and falls are also hazards.

- Look for overhead power lines and buried power line indicators.
- Stay at least 10 feet away from overhead power lines and assume they are energized.
- De-energize and ground lines when working near them.
- Use non-conductive wood or fiberglass ladders when working near power lines.

### Extension Cords

Normal wear on cords can loosen or expose wires. Cords that are not 3-wire type, not designed for hard usage, or that have been modified, increase your risk of contacting electrical current.

- Use only equipment that is approved to meet OSHA standards.
- Do not modify cords or use them incorrectly.
- Use factory-assembled cord sets and only extension cords that are 3-wire type.
- Use only cords, connection devices, and fittings that are equipped with strain relief.
- Remove cords from receptacles by pulling on the plugs, not the cords.

### Equipment

Due to the dynamic, rugged nature of construction work, normal use of electrical equipment causes wear and tear that results in insulation breaks, short-circuits, and exposed wires. If there is no ground-fault protection, it can cause a ground fault that sends current through the worker's body.

- Use ground-fault circuit interrupters (GFCIs) on all 120-volt, single-phase, 15- and 20-ampere receptacles, or have an assured equipment grounding conductor program (AEGCP).
- Use double-insulated tools and equipment, distinctively marked.
- Visually inspect all electrical equipment before use. Remove from service any equipment with frayed cords, missing ground prongs, cracked tool casings, etc.

### Electrical Incidents

If the power supply to the electrical equipment is not grounded or the path has been broken, fault current may travel through a worker's body, causing electrical burns or death. Even when the power system is properly grounded, electrical equipment can instantly change from safe to hazardous because of extreme conditions and rough treatment.

- Visually inspect electrical equipment before use. Take any defective equipment out of service.
- Ground all power supply systems, electrical circuits, and electrical equipment.



- Frequently inspect electrical systems to insure that the path to ground is continuous.
- Do not remove ground prongs from cord- and plug-connected equipment or extension cords.
- Use double-insulated tools and ground all exposed metal parts of equipment.
- Avoid standing in wet areas when using portable electrical power tools

### **Generators**

One of the common tools utilized following the loss of power are portable generators. Most generators are gasoline powered and use internal combustion engines to produce electricity. Carbon monoxide is a colorless and odorless gas produced during the operation of gasoline-powered generators. When inhaled, the gas reduces your ability to utilize oxygen. Symptoms of carbon monoxide poisoning include headache, nausea and tiredness that can lead to unconsciousness and ultimately prove fatal.

- DO NOT bring a generator indoors. Be sure it is located outdoors in a location where the exhaust gases cannot enter a home or building. Good ventilation is the key.
- Be sure that the main circuit breaker is OFF and locked out prior to starting any generator. This will prevent inadvertent energization of power lines from back feed electrical energy from generators and help protect utility line workers from possible electrocution.
- Turn off generators and let them cool prior to refueling.

