



# DOSH Hazard Alert

Helping employers prevent workplace injuries

July 2012

## Deadly Power-Line Contact with Cranes

**Attention:** Crane Operators, Crane Users, Lift Directors, and Site Superintendents in Washington State

### DANGER – HIGH VOLTAGE!

Nationwide, electrocutions caused by a crane, rigging, load, or load line contacting an overhead power line have resulted in numerous injuries and fatalities. In Washington State alone, six power line contacts by cranes have occurred statewide in the past six months.

The most recent power-line contact killed a residential construction framer who was rigging a bundle of OSB sheathing when the crane hoist line contacted a 7,200 volt power line.

In each of the six power line contacts, the workers were aware

that power lines were present. Following the safety rules for operating cranes near power lines would likely have prevented contact.

Remember – electricity will always seek a path to ground! The dynamics of electrical energy determine the path electricity will take and any conductive material is a likely path.

Many factors such as voltage, amperage, resistance, and duration will affect the path, but the bottom line is the human body is conductive enough for electricity to go through while seeking ground.

### Could the crane get closer than 20 feet to a power line?

Keeping a safe distance from a power line is the key to preventing power line accidents. The first step you must take when planning to operate a crane on a site where power lines are present is to identify the crane’s work zone and use that **work zone** to determine how close it *could* get to that power line.

It’s important to establish the boundaries of your **work zone** 



### How can I prevent power-line contact on my work sites?

- Keeping a safe distance from a power line is the key to preventing power line accidents.
- Always assume power lines are energized!
- When planning to operate a crane on a site where power lines are present you must identify the crane’s **work zone** and use that work zone to determine how close it could get to that power line.



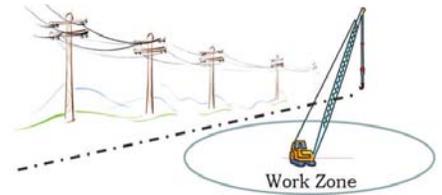
---

using flags or a range control warning device or range limit device and prohibit the operator from working outside those boundaries. If you do NOT establish boundaries, then the **work zone** is not limited to where you intend to work but where the crane, load, or load line **can** reach!

**Note:** If the voltage is over 350,000 volt, then a 50-foot minimum clearance must be maintained.

If you determine the equipment **will** operate within reach of the **minimum clearance distance**, then

you must take steps to prevent contact with power lines by using encroachment/electrocution prevention methods outlined in WAC 296-155-53408(2)(b).



If your work zone is inside the minimum approach distance, there are additional precautions that must be taken. You must have the power-line owner/operator determine the absolute minimum clearance.

---

## Know the safety rules to prevent overhead contact with power lines

Many construction activities use cranes to move materials to various locations, and in most cases, there are electrical power lines in the vicinity. To prevent power-line accidents, Washington State's new construction crane rules contain detailed systematic procedures

that employers must follow when operating cranes near power lines.

These procedures are designed to prevent equipment from making electrical contact with power lines and protect workers in the event that such contact occurs.

For more information, please see the Construction Crane link on the L&I website: [www.Lni.wa.gov/Safety/Topics/AtoZ/Cranes](http://www.Lni.wa.gov/Safety/Topics/AtoZ/Cranes).

---

## Other resources you can access

To find an **electronic** copy of this Hazard Alert with active links to the following resources, go to [www.Lni.wa.gov/Safety/Basics/HazAlerts](http://www.Lni.wa.gov/Safety/Basics/HazAlerts).

### Rules:

Rules that address Accident Prevention Programs, housekeeping, hazard communication, and other requirements for construction can be found in WAC 296-155.

L&I Construction Crane Web page:  
[www.Lni.wa.gov/TradesLicensing/LicensingReq/ConstructionCranes/](http://www.Lni.wa.gov/TradesLicensing/LicensingReq/ConstructionCranes/)

For other related rules, contact your local L&I office or visit the Safety Rules webpage.

### How can I get help from Labor & Industries?

The Department of Labor & Industries provides consultations, training, and technical assistance at no cost to employers. Call today to schedule a free confidential consultation or go to [www.SafetyConsultants.Lni.wa.gov](http://www.SafetyConsultants.Lni.wa.gov) for more information. You may also call 1-800-423-7233 or visit a local L&I office and ask for the Consultation Manager.

---

*This alert was developed by L&I's Division of Occupational Safety and Health (DOSHS) to alert employers, labor groups, and employees to potential hazards associated with work activities. **This is not a rule and creates no new legal obligations.** The information provided includes suggested guidance on how to avoid workplace hazards and describes relevant mandatory safety and health rules. DOSHS recommends you also check the related rules for additional requirements.*