Crane Safety – Safety Precautions for Working Near Overhead Power Lines Meeting Kit

A crane is one of the most versatile and important pieces of equipment usually found on a construction job. It can be used to accomplish a lot of otherwise heavy lifting tasks. It is often one of the largest pieces of equipment on a work site with many different operating functions.

DANGERS/HAZARDS

Before beginning work near power lines, power line owners should be notified of the date, time, and type of work involved and their permission should be requested to de-energize and ground power lines or provide insulated barriers.

There are few experiences that are as frightening as when a crane becomes unbalanced while a load is being lifted or when the crane collapses under the weight of an excessive load. An unbalanced load or crane collapse can cause death to the operator, other construction workers, can cause damage to property or equipment.

A crane operator’s view of the full crane is often limited, putting them at risk of coming too close to people, property or power lines.

Other dangers include the crane’s boom, cable, or load contacting power lines and causing electrocution, or arcing if the crane is too close the power lines.

SITE SPECIFIC HAZARDS – POWER LINES

Before assembling or disassembling do the following:

- Notify owner/utility company – and consider it to be energized until utility company confirms power line has been de-energized and visibly grounded at the work-site.
- Ensure that no part of the equipment, load line or load (including rigging and lifting accessories), gets closer than 20 feet to the power line.
- Determine the line voltage and the minimum clearance distance permitted.

BEST SAFE CRANE WORK RECOMMENDATIONS TO PROTECT WORKERS NEAR OVERHEAD POWER LINES

- Participate in all crane safety programs offered.
- Know the location and voltage of all overhead power lines at the job site.
- Evaluate the job site before beginning work to decide the size and type of machinery to use and the safest areas for machinery operation and material storage.
- Before work begins, de-energize power lines, erect insulated barriers to prevent physical contact with the energized lines, and establish safe clearance between the energized lines and boomed equipment.
- Post warnings on cranes cautioning operators to maintain safe clearances between energized power lines and their equipment.
- Mark safe routes where cranes can travel beneath power lines.
- Assume all power lines are energized and maintain Cal/OSHA crane clearances.
- Operate cranes only if trained in safe operating procedures and Cal/OSHA regulations.
- Operate cranes at a slower-than-normal rate in power line areas.
- Use caution when moving over uneven ground that could cause the crane to weave or bob into power lines.
- Use caution near long spans of overhead power lines, since wind can cause the power lines to sway back and forth and reduce the clearance between the crane and the power line.
- Limit the use of cage-type boom guards, insulated lines, ground rods, nonconductive links, and proximity warning devices. Do not use these as a substitute for de-energizing and grounding lines or maintaining safe clearances.
- Where it is difficult for the crane operator to see the power lines or see the clearance during crane movement, a signal person should be assigned to watch and give immediate warning when the crane comes close to the limits of safe clearance.
- No one should touch the crane or its load until the signal person says its safe.
- Cage-type boom guards, insulating links, and proximity warning devices should be limited and not used as a substitute for de-energizing and grounding lines or maintaining safe clearance.
- All workers should stay well away from the crane when it’s close to power lines.

More Best Crane Safety Practices

If contact is made between a crane and an energized line, the crane operator should stay inside the cab and try to remove the crane from contact by moving it in the reverse direction from that which caused the contact. If the crane cannot be moved away from contact, the operator should stay inside the cab until the lines have been de-energized. Everyone else should keep away from the crane, ropes, and load, since the ground around the machine might be energized. Workers should have a quick way of calling for or getting help when an emergency occurs, and all workers should be trained in cardiopulmonary resuscitation (CPR).

CRANE SAFETY OVERVIEW

The first step is to choose operators and competent persons who are trained and qualified to do their jobs.

Maintain and inspect each crane daily before use and as otherwise directed by the crane manufacturer and according to regulatory requirements – i.e., monthly, after a crane hasn’t been used for six months, annual certification. Inspection and maintenance include all slings, wire ropes, hoists and other rigging equipment.

FINAL WORD

The importance of the crane operations dominates constructions scenes. This large piece of equipment is also front and center in illuminating the stark dangers and hazards in its operations.