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When everyone has a job and does that job right, mutual risk reduction can be accomplished.

**Chuck Cooke** reports exclusively for **ACT**

# Mutual risk reduction

**O**n the construction site, everyone must be alert to on-going crane operations. That is why we talk about “mutual risk reduction.”

At the beginning stages of a project, the general contractor must take into consideration the crane needs for the site. First, all parties involved must know what type of lifts with the weights and dimensions are to be made on the project. Second, they must determine the correct load weight and radius and inform the operator. The site supervisor should know the maximum radius, load weight and lift height of each pick before ordering the crane.

The general contractor must take into account the type and size of crane being mobilized to the site to safely make all expected lifts and provide a well prepared working area for the crane before it arrives on the job. ASME B30.5-2007 5-3.1.3, Mobile and Locomotive Cranes standards cover the various responsibilities of personnel working with cranes.

They are:

- *Crane operator:* directly controls the crane’s functions.
- *Crane owner:* has custodial control of a crane by virtue of lease or ownership.
- *Crane user:* arranges the crane’s presence on a worksite and controls its use there.
- *Lift director:* directly oversees the work being performed by a crane and the associated rigging crew.
- *Site supervisor:* exercises supervisory control over the work site on which a crane is being used and over the

work that is being performed on that site.

ASME B30.5-2007 5-3.1.3.2.1 states: The site supervisor’s responsibilities shall include the following:

- (a) Ensuring that the crane meets the requirements of ASME B30.5 2007 Chapter 5-2 prior to initial site usage.
- (b) Determining if additional regulations are applicable to crane operations.
- (c) Ensuring that a qualified person is designated as the lift director.
- (d) Ensuring that crane operations are coordinated with other jobsite activities that will be affected by or will affect lift operations.
- (e) Ensuring that the area for the crane is adequately prepared. The preparation includes, but is not limited to, the following:
  - (1) access roads for the crane and associated equipment
  - (2) sufficient room to assemble and disassemble the crane
  - (3) an operation area that is suitable for the crane with respect to levelness, surface conditions, support capability, proximity to power lines, excavations, slopes, underground utilities, subsurface construction, and obstructions to crane operations
  - (4) traffic control as necessary to restrict unauthorized access to the crane’s work area
- (f) Ensure that work involving the assembly and disassembly of a crane is supervised by a qualified person.
- (g) Ensuring that crane operators meet the

requirements of ASME B30.5-2007 paragraph 5-3.1.2.

- (h) Ensuring that conditions that may adversely affect crane operations are addressed. Such conditions include, but are not limited to, the following:
  - (1) poor soil conditions
  - (2) wind velocity or gusting winds
  - (3) heavy rain
  - (4) fog
  - (5) extreme cold
  - (6) artificial lighting
- (i) allowing crane operation near electric power lines only when the requirements of ASME B30.5-2007 paragraph 5-3.4.5 has been met.
- (j) Permitting special lifting operations only when equipment and procedures required by ASME B30.5-2007, the crane manufacturer, or a qualified person are employed. Such operations include, but are not limited to, the following:
  - (1) multiple crane lifts
  - (2) lifting personnel
  - (3) Pick and carry operations
- (k) Ensuring that work

performed by the rigging crew is supervised by a qualified person.

- (l) Ensuring that crane maintenance is performed by a designated person.

Adhering to the B30.5-2007 standards will benefit everyone involved in crane operations.

By requesting assistance of the crane rental company’s sales representative involved in the preplanning stages of the project, the general contractor will have better knowledge and understanding of what needs to be achieved on the site prior to the crane arriving and then schedule the work accordingly.

In the scheduling phases of the project, all subcontractors need to be informed of the crane-related work to be performed and how it can impact their part of the project. By preplanning crane-related work, all subcontractors know at the forefront of the project where and when crane related activities will be occurring and they can plan their work so their employees are not in the crane work area, unless those employees are the ones working with the crane. **act**



## Keys to mutual risk reduction

- Ensure that all personnel involved in the operation understand their jobs, responsibilities and absolute necessity for 100 percent safety.
- Only personnel trained in crane operations, signaling and rigging should be involved with lift operations.
- Preplanning emergency routes, evacuation muster areas, break and lunch locations, as well as sanitary toilet locations will help keep site personnel away from the crane lift operation area.
- Remember, cranes are not big toys; they are tools of the trade that enable the construction industry to achieve the goals of the project. They must be respected and not taken for granted.
- Safety is everyone’s responsibility; don’t just rely on the safety person to keep you safe.
- By following a few simple guide lines, we can achieve “mutual risk reduction” by preplanning projects and educating employees in crane operations.