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Produced by:
Robert Bertera, ARM, CSP
General Casualty Insurance
608-825-5684

*If you would like to subscribe to this
newsletter send a request to:
Robert.Bertera@us.qbe.com*

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Safety Discussion – Crane Safety



This quarter's safety discussion focuses on crane safety. Crane accidents are one of the most deadly and expensive accidents on construction sites. Surprisingly, accidents involving both mobile and stationary cranes are not uncommon. Who gets hurt when a crane tips over or accidentally drops its load? You may be surprised to learn it is not just the crane operator. Anyone in the vicinity of a crane when it tips may be struck by the falling boom or load and killed. This could

be the riggers, electricians, plumbers, carpenters, or anyone else on the job site. Cranes have a long reach when they tip!

The number one cause of crane accidents is operator error. If you are working around a crane, or hiring a crane and operator to perform a lift, ask the operator if he is licensed or certified through a crane operator certification organization such as the NCCCO (www.nccco.org). Verify that the crane operator is experienced with the type of crane and lift he is performing, and that the crane has had its required yearly inspection. Don't assume that the operator or the crane is safe. In many states, crane operators are not required to be licensed. It is possible that the operator may not even be able to read a load chart. If a load is accidentally dropped a worker may be killed. It only takes 2 seconds for a load falling from 60 feet to reach the ground. It takes your brain about 1 second to realize it is falling. That leaves very little time to get out of the way. The OSHA crane standards can be found online at www.osha.gov

Large Loss Review – Crane Fatality

Barry Anderson was employed as a laborer for Upright Forms in Indianapolis, IN. Barry and his coworkers were working on the foundation of a large hospital project where their task was to erect concrete forms, pour the concrete, and then strip the forms. It was work they had performed numerous times over the years. In order to get the large concrete forms down into the deep excavation, Upright Forms used a rough terrain crane which was operated by their own operator. The operator placed the crane on the bank of the sloped excavation about 2 feet from the edge. In an attempt to better support the crane, the operator partially extended the outriggers, placing them directly on the earth without blocking or cribbing beneath. While lifting a particularly large and heavy gang form, the crane's outriggers sank into the soil causing the entire crane to tip and roll into the excavation where Barry and his coworkers were working. Barry was crushed and killed when the crane landed on him. Two of his coworkers were severely injured. What went wrong? The surface the crane was placed on was not capable of supporting the weight of the crane and the load. No blocking or cribbing was placed under the outrigger floats to spread the weight of the load, and the crane was positioned too close to the excavation wall. Barry was 26 years old and left behind a wife and young daughter.

Tool Box Meeting – Crane Safety On The Job Site

Two other major causes of crane accidents are boom failure and inadequate supporting surfaces. Booms may fail from being overloaded, striking another object, or due to poor maintenance. Cranes tip over when they are not adequately supported from below or are overloaded. When making stationary lifts, crane outriggers should be fully extended and adequately cribbed. When lifting, cranes must be perfectly level. If they are out of level by as little as 5 degrees, the load capacity could be reduced by up to 50%. Specifics for lifting capacity and outrigger use can be found in the crane's load chart. Ask your crew the following questions to review their awareness of crane hazards (answers are on the last page).



1. The decision whether or not to use outriggers is up to the crane operator. True or false?
2. When a crane makes contact with an overhead power line the operator is safe from electrical shock as long as he stays on the equipment. True or false?
3. An anti-two blocking device is required on all cranes when they are used to elevate workers in a man basket. True or false?
4. Modern hydraulic cranes are more likely to fail structurally than tip over when operated outside the manufacturer's operating specifications. True or false?
5. Blocking and cribbing under a crane's outriggers is only required when the ground is soft. True or false?
6. The crane's load chart must be available to the operator whenever hoisting is taking place. True or false?
7. By allowing the crane's rubber tires to contact the ground at the same time the outriggers are being used, the operator is increasing the capacity and range of the crane. True or false?
8. All crane operators are required to be licensed. True or false?
9. Using a crane to drag a load across the ground or pull a load free that is stuck in the mud is OK to do. True or false?
10. Cranes are required under federal law to be inspected yearly by a competent person. True or false?

Looking for some free safety meeting topics?

www.toolboxtopics.com/

OSHA Speak – First Competent, Then Qualified, now Authorized?

In the 1st Quarter 2010 Newsletter we reviewed OSHA's definition of Competent Person. If you don't remember it, here it is again. OSHA defines a Competent Person as "...one who is capable of identifying existing and predictable conditions in the surroundings and work areas which are unsanitary, hazardous, or dangerous and who has authorization to take prompt corrective action"

In the 2nd Quarter Newsletter we learned that a Qualified Person is "...someone who, by possession of a recognized degree, certificate or professional standing, or who by extensive knowledge, training and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project." Typically this is someone with a college degree or other advanced training.

And there is one more term that OSHA likes to use – "Authorized Person". So what makes this person so special? According to OSHA, "a person approved or assigned by the employer to perform a specific type of duty" is considered to be an Authorized Person. This is a broad term that could cover a lot of workers involved in different tasks using different tools and equipment. "Authorization" often requires some level of training.

Safety Products – Crane Operations

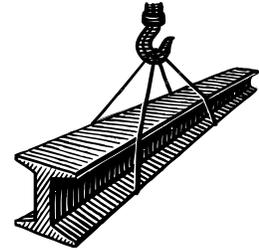
Don't get injured working on or around cranes. There are products to help protect you from some of the hazards associated with working around cranes.

Insulating links: <http://hjhirtzer.com/>

Cribbing and Blocking: <http://outriggerpads.com/>

Anti-two blocking: http://liftek.com/product_page.htm

Rigging: <http://americanriggingandsupply.com/>



The To Do List

Throughout the year we often have great ideas about how to get organized, how to work more safely, or how to reduce our exposure to loss. We might write a note to ourselves and put it in our in-box or on a Post-It note on our computer monitor. Here are some loss reduction suggestions for your in-box that will help you manage your exposures.

July 2010

- Summer is here and the temperature is rising fast. Heat related illness such as heat exhaustion and heat stroke are not uncommon and can be deadly. Keeping workers hydrated is one of the ways to help prevent these illnesses. Make sure your crews have a clean source of cool drinking water during the summer months and that they are aware of the symptoms of heat exhaustion and heat stroke.
- Looked close at your hard hat lately? Most hard hat manufacturers recommend replacement every 5 years for the shell, and every 1 year for the suspension, as long as there is no visible damage. Also be sure to check the Type and Class of hard hat you are wearing. A Type I only protects from impact from above, while a Type II provides protection from both above and the sides. Be sure the Class of hard hat is appropriate for your electrical exposure. A Class E provides protection up to 20,000 volts, Class G protects up to 2,200 volts, and a Class C is conductive. For the best overall protection go with a Type II, Class E hard hat.



August 2010

- Pick one day during this month to do formal ladder inspections. Use a ladder inspection form and be sure to include ladders on trucks, at the job site, and in the shop. Defective ladders should be taken out of service immediately and repaired or destroyed.
- Scaffold systems need to be inspected when they are erected and before each use. One of the most common problems found during inspections is missing components. For example, a typical frame scaffold system is comprised of frames, braces, scaffold planks, uplift pins, railings, screw jacks, base plates, access ladder, and mud sills. If any of these components are missing the scaffold could be unsafe to use. Take a day to review the scaffold systems you use and make sure you have all the components that are required by the scaffold manufacturer.

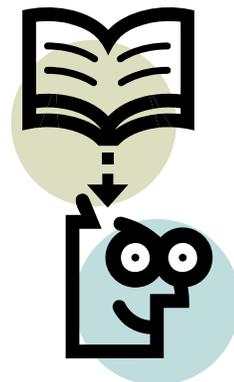
September 2010

- Take a walk through your property or job site and evaluate the stairs. Stairs should be kept free of obstacles, have proper handrails, and adequate landings. Nothing should be stored on stairs or landings. Metal pan stairs on job sites should not be used unless the pans are filled with temporary blocking or concrete.
- Now is the time to start planning for your yearly construction safety and health training. Think about accidents that have occurred over the past few months. Were they caused by lack of employee training? Did you hire any new workers over the summer that need awareness level training, such as the OSHA 10 Hour Course? Did you take on any new projects that expose your workers to hazards they are not familiar with? When winter rolls around and the work slows down have your training topics selected. Contact your General Casualty loss control consultant and get your training sessions scheduled.

Let's get all these in the out-box before next quarter!

Construction Safety and Health Training Resources

Many standards promulgated by the Occupational Safety and Health Administration (OSHA) explicitly require the employer to train employees in the safety and health aspects of their jobs. Other OSHA standards make it the employer's responsibility to limit certain job assignments to employees who are "certified," "competent," or "qualified"-meaning that they have had special previous training, in or out of the workplace. The term "designated" personnel means selected or assigned by the employer or the employer's representative as being qualified to perform specific duties. These requirements reflect OSHA's belief that training is an essential part of every employer's safety and health program for protecting workers from injuries and illnesses. Listed below are a few national construction safety resources that may be able to assist with your training needs.



Associated General Contractors (AGC) www.agc.org
Associated Builders and Contractors (ABC) www.abc.org
The Construction Safety Council www.buildsafe.org
National Safety Council www.nsc.org
Occupational Safety and Health Administration www.osha.gov
Mine Safety and Health Administration www.msha.gov
National Utility Contractors Association www.nuca.com
American Society of Safety Engineers www.asse.org
Center for Protection of Workers Rights www.cpwr.com
American Trainco www.americantrainco.com
Safeway Scaffolds www.safeway.com
The Crane Institute of America www.craneinstitute.com
American Work Platform Training www.awpt.org
The National Work Zone Safety Clearinghouse www.workzonesafety.org
Federal Department of Transportation MUTCD www.mutcd.fhwa.dot.gov
General Casualty Insurance www.generalcasualty.com

Tool Box Meeting (answers) – Crane Safety On The Job Site

Answers for tool box meeting on page 2.

1. True. The operator has the final say on all crane operation decisions, however he must consult the crane's operating manual and load charts and follow all rules and regulations.
2. True. As long as the operator stays in the equipment he is isolated from ground. He should never make contact with the energized crane and ground at the same time. This could result in electrocution.
3. True. Anti-two blocking devices are required when hoisting personnel in an approved man basket.
4. True. Older cranes built of steel were designed with a large safety factor. Modern cranes built from alloys are engineered closer, with less of a safety factor. Following the manufacturer's guidelines is critical to crane safety.
5. False. Blocking and cribbing will distribute and transmit the load on the outriggers and should always be used. Soil capacities are difficult to estimate, and harder surfaces may also be too weak to support the load without blocking and cribbing.
6. True. The load chart must always be available to the operator.
7. False. By allowing the wheels to touch the ground the capacity and stability may actually be decreased due to the smaller footprint the crane has on the ground.
8. False. Operator licensing is currently only required in a few states and some major cities. Crane operator certification is currently being addressed by OSHA and may be required when the new crane standard becomes law.
9. False. This would side load the boom and could cause it to fail.
10. True. Cranes must be inspected yearly and records should be kept.

It is not our intention that this newsletter cover the requirements of the Federal Occupational Safety and Health Act or any other Safety or Health Act, or to infer or imply that there are no hazards and exposures in existence. The maintenance of safe premises, operation and equipment, and the avoidance of unsafe conditions and practices, and compliance with all statutes and laws are the sole legal responsibility of the insured. We assume no liability for the service provided. To the extent any referrals to service providers are included with this newsletter, please note that such referrals should not be construed as recommendations as we cannot provide any representation or warranties regarding work done by others. Further, we are not requiring that you use a listed service provider, you are free to choose from our referral list or another vendor to meet your needs.