

CSI Country Wide Case Study Safety Strategy Discussion

Construction Safety Investigator



Instructions

The objective of this tool is to provide field supervisors with information to proactively engage workers and discuss safety related concerns that they may encounter. Safety discussions should not be limited to the subject above and should pertain to the activities that workers will be involved in that may have the potential for safety related exposures.

Case Day:

March 15, 2008

Accident Type:

Tower Crane Accident - Rigging

Relevant laws, rules and codes may include:

1926.251 (a)(6), 1926.550 (a)(1), 5(a)1 General Duty Clause

Case:

A tower crane being used to construct a 46-story residential condominium project in New York City collapsed. Seven people died, six of which were construction workers, and 24 were injured as a result of the accident.

Accident Detail:

A construction rigging crew was jumping a 205 ft. tall tower crane and was in the process of hoisting the bracing collar used to secure the mast of the tower crane to the building structure. The bracing collar allegedly was rigged utilizing nylon slings.

The rigging crew apparently lost control of a six-ton bracing collar being hoisted to the 18th floor of the building under construction. Allegedly, the bracing collar broke free and cascaded down the crane tower, knocking out the 9th and 3rd floor bracing collars previously installed and secured to the building.

Substantial damaged occurred to surrounding buildings as a result of the tower section breaking away and slamming into the existing occupied building.

Reconstructive Safety Evaluation:

- What are some of the possible causes of the accident being discussed?
- What actions could have been taken that might have prevented this accident from occurring?

Accident Scene Conclusion:

According to OSHA, workers allegedly used four come-alongs mated to polyester slings to secure the cranes six-ton bracing collar. The OSHA investigation concluded that workers used half as many slings as the crane manufacturer required. In addition, above the collar, workers chocked the slings around the tower's 12-inch thick I-beam legs without using protection and one of the slings already had prior damage. OSHA concluded the slings failed, allowing the collar to fall and causing the tower crane to collapse.

Preventive Safety Measures Include:

- Engineering and/or manufacturer's instructions must be established and followed to ensure the task at hand can be performed safely for all rigging and tower crane erection, jumping and dismantling operations as well as any crane related alterations.
- Proper selection and utilization of rigging equipment to perform the task at hand must be available.
- Rigging equipment must be inspected by a competent person on a daily basis.
- Workers qualified in rigging operations must be utilized for any rigging/hoisting activity.
- Prior to the start of the operation, a safety meeting needs to be held with the work crew to review the means and methods and safety aspects associated with the activity.

Attendance Roster

Reference: This case was reported in Engineering News Record.

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