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:

Unknown

Accident Type:

Rigging Accident -Nylon Sling Failure

Relevant laws, rules and codes may include:

1926.21(b)(2), 1926.251(a)(1)-(6), (e), 1926.753

Case:

A 24 year-old construction worker died after the nylon slings that were carrying steel beams failed.

Accident Detail:

Two workers were unloading a delivery truck that contained approximately 42,000 pounds of structural steel. A 450-ton crane on site was assisting with the unloading process.

The lifting procedure was discussed with the workers' senior supervisor on-site. The first and second lifts were done without incident. The senior supervisor then left the job site to perform other responsibilities.

Then, the construction workers rigged the rest of the steel and picked it up as one load, instead of the three separate loads as planned. The first and second loads weighed approximately 8,700 pounds apiece. The third load was approximately 24,000 pounds. The lift was near its maximum radius when the nylon slings failed, dropping its load on top of the decedent.

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?

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Accident Scene Conclusion:

Investigation revealed that the last load far exceeded the rated capacity of the nylon slings being used. The construction workers rigged the rest of the steel and picked it up as one load, instead of the three separate loads as planned.

No consideration was given to the rated capacity of the slings, devices to protect the nylon slings from the sharp edges of the steel, or a tag line to guide the steel being lifted.

The decedent waited under the load to control its movement by hand during its descent. He was then crushed when the slings failed.

Preventive Safety Measures Include:

- All operations are preplanned using a Job Safety Task Analysis (JSTA) to ensure potential safety hazards associated with an operation are identified and appropriate steps are taken to eliminate or control them.
- Make sure that workers responsible for rigging are properly trained.
- Ensure proper lifting equipment is used for rigging and that nylon or other slings, rigging devices and hardware
 are not overloaded.
- To protect slings from sharp edges, softening devices/materials should be used.
- Ensure that all elevated loads are controlled with tag lines so that those involved in the hoisting operation are not
 working under the load.

Attendance Roster	

Reference: This case was reported in the NIOSH Fatality Assessment and Control Evaluation (FACE) Program, Report #00CA001

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