CSI Country-Wide Case Study Safety Strategy Discussion

Construction Safety Investigator

CHUBB

Instructions:

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 typically pertain to all activities that workers will be involved in that may have the potential for safety related exposures. This case study is based on facts and materials developed and first published by the agency/organization identified in the section below entitled Source of Case Study Investigative Information.

Case Day:

Fall 2018

Accident Type:

Construction Co. Owner Falls from 8ft. Step Ladder

Relevant Laws, Rules, and Codes May Include:

29CFR 1926.20(a)(1); 29 CFR 1926.20(b)(2); 1926.20(f)(2); 1926.21; 29CFR 1926.501, 502 and 503; 29CFR.1053, 29CFR 1926.1060, 29CFR 1926.100.

- MIOSHA Construction Safety Standard, Part 1: General Rules
- MIOSHA Construction Safety Standard Part 6: Personal Protective Equipment
- MIOSHA Construction Safety Standard Part 11: Fixed and Portable Ladders
- MIOSHA Construction Safety Standard, Fall Protection: Part 45
- MIOSHA Administrative Standard Part 11: Recording and Reporting of Occupational Injuries and Illnesses

Case:

A construction firm owner died when he fell to a concrete floor

Accident Detail:

A building owner hired a general contractor to demolish/renovate a warehouse. The general contractor hired the decedent to perform part of the demolition work. The hired firm provided both commercial and residential services consisting mostly of steel stud- and drywall-related work in commercial construction and had performed demolition activities at several mall/big box type stores.

The decedent hired his son, who owned his own company to assist him as a subcontractor for this demolition job. The son had received ladder training in high school. This was his first day on the job and his firm did not provide any tools at the jobsite.

The decedent was using a compressor-powered saw, cutting foam panels and a wood platform/overhead truss system. The incident was unwitnessed.

His son, who was working outside, heard a “crash” and ran inside of the building to find the source of the noise. When his son arrived, he saw a ladder had tipped over. The decedent had landed on his head and was face down on the concrete floor.

The coworker called for emergency response. The decedent was on his hands and knees, rocking back and forth when emergency response arrived. The decedent was transported to a nearby hospital where he succumbed to injury complications several days later.

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?

Agency's Accident Scene Conclusion:

- The incident scene was inside of a warehouse undergoing demolition/renovation.

The son working on the site and the decedent discussed how to take down trusses that spanned the room because the trusses/floor joists were to be saved. Exploring several options, they decided to use to use a Bobcat to lift them up and twist them away from their attachment points, and then use the Bobcat to move them outdoors

- They could not use the Bobcat to remove the last truss because they did not want to damage the cement block wall. The decedent removed the stairs that provided access to the foam insulation-covered plywood platform
- He placed an 8-foot step ladder "inside" the two trusses/floor joists supporting the platform. He removed several sections of the plywood platform
- The decedent was working from either an 8-foot step ladder positioned on a level concrete floor or from an elevated platform. If working from the ladder, based on his height, he most likely was standing on the third rung from the top
- The decedent was using a compressor-powered saw to cut away foam-covered plywood platform positioned between two trusses/floor joists
- Because the incident was unwitnessed, the investigation proposed several incident scenarios:
  - While working from the ladder, the decedent lost consciousness and fell to his right side
  - The piece he was cutting fell unexpectedly, striking him and causing him to fall
  - He had almost completed the cut, lost his balance (perhaps by overreaching or overexerting), and the force he exerted trying to regain his balance caused the board to break and the decedent to fall
  - He was on top of the platform cutting the plywood/foam and potentially leaned on the piece being cut; when the cut was nearly complete or complete, the piece and the decedent fell to the ground, also striking the ladder causing it to tip to the side
- The decedent did not have a written accident prevention program (health and safety program). His sons indicated that he had just completed the necessary classes and had just received his building license for Michigan (MIFACE could not find a building license on the State of Michigan website)

The following hazards were identified as key contributing factors in this incident:

- Working from ladder rather than an appropriate work platform
- Improper ladder use and selection
- Appropriate personal protective equipment not utilized
- Did not perform a job hazard analysis

Preventive Safety Measures Identified by the Investigating Agency Include:

- Employers should try to minimize the use of ladders as a work platform. Working from ladders can pose a fall hazard; therefore, ladders should be used for accessing higher and lower levels. If the task to be performed requires the worker to push, pull, or pry, then the use of scaffolding or aerial work platforms rather than a ladder is strongly recommended
- Safe ladder use requires a worker to maintain a three-point connection (two hands/one foot or two feet/one hand) and his/her shoulders within the side rails
- Ensure proper ladder selection and safe ladder use. Not only ladder material, type of ladder, length/size of ladder, and the environment in which the ladder will be used, but also its duty rating. The duty rating is an indication of the maximum weight capacity the ladder can safely carry.

- The ladder user should determine the total amount of weight the ladder will be supporting, including the user's weight, weight of clothing and any protective equipment, weight of the tools and supplies, and the weight of any items stored on the ladder
- Always use appropriate personal protective equipment. The decedent was at an elevation, either from a ladder placed on a concrete floor or on top of the platform above the concrete floor. If he was working from the elevated platform, fall protection should have been utilized because he was working above a 6-foot height. If he was working from the ladder, due to the nature of the work, a hard hat would provide necessary head protection. If he had been wearing a hard hat, the hard hat might have taken much of the impact when he fell. Although he sustained other injuries, they were not life threatening; the head injuries were life threatening
- Construction employers should develop and implement an accident prevention program

Additional Commentary on Preventive Safety Measures from Chubb Include:

- Complete a Job Safety Task Analysis that includes scope of work, anticipated exposures, and safety equipment and/or procedures needed to ensure the task is completed successfully and safely
- Conduct a pre-work meeting to review the JSTA and ensure workers understand the task to be completed, any safe working procedures and have the necessary safety equipment
- Employees should have adequate training on job-specific tasks. Proper training must extend to all workers, including day laborers. Language barriers and communication should also be considered during training

Attendance Roster

Source of Case Study Investigative Information:

This case study is based on facts and materials developed and first published by the following agencies during their investigation of the applicable incident:

- U.S. Centers for Disease Control and Prevention (CDC) and National Institute for Occupational Safety and Health Office of the Director (NIOSH)

The source material is otherwise available on the agency website for no charge. Chubb's use of information sourced from these or any other governmental agency does not constitute endorsement or recommendation of Chubb by these governmental agencies.

Source and Links to Relevant Material:

Michigan State FACE Program Case Report #18MI105;
https://www.cdc.gov/niosh/face/stateface/mi/18MI105.html

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