

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:

August 2009

Accident Type:

Fire Protection Accident - Improper Safety Can

Relevant laws, rules and codes may include:

29CFR 1926.20(a)(1), 1926.21(b)(2), 1926.151(c)(6), 1926.152(a)(1), 1926.152(g)(10), 1926.155(l)

Case:

A 31 year-old construction worker suffered serious burns from an explosion caused by escaping fuel vapors.

Accident Detail:

The worker was employed by a concrete contractor, who at the time of the incident, was assigned to pre-fabricate wooden concrete forms for an upcoming concrete pour.

The worker was working in a makeshift shed where he had wooden benches and supports on which he cut and fabricated the forms. He was using a portable gas powered generator to power the tools -- saws, drills and lights -- for the job.

When the incident occurred, the worker had just checked the fuel level in the generator and found it needed to be refueled. He had grabbed a plastic fuel can of gasoline, which was stored next to the shed. As he began to open the container, the vapors burst out violently onto the worker and the generator's hot engine, causing an explosion. The worker was severely burned on his hands, arms and face.

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:

The investigation revealed that the plastic container used to store the generator fuel was stored outside of the shed, in direct sunlight. Due to the day’s heat, the container had pressurized. The container used was also not an approved safety can and as a result, it could not automatically vent fuel vapors which had built up as the container was heated by the sun. There was no portable fire extinguisher located in or around the generator/fuel in the event of a fire.

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.
- Employers ensure that workers are trained in fire prevention procedures to include location of approved fire extinguishers, how to use a fire extinguisher, proper storage of flammable liquids and procedures for refueling equipment.
- Ensure an appropriate portable fire extinguisher or other approved means of fire extinguishing equipment is readily available where fueling operations will take place.
- Ensure only approved safety cans are used to store and transport flammable liquids and avoid storing fuel containers in direct sunlight.

Attendance Roster

Reference: This case is fictitious, and any resemblance to any persons, living or dead, is entirely coincidental. However, the type of accident described in this case summary happens all too often on construction sites.

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