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:

December 26, 2006

Accident Type:

Equipment Accident - Carbon Monoxide Poisoning

Relevant laws, rules and codes may include:

1926.21, 1926.302(C)(2), 1926.55(a), (b), 19.26.57(a), (b), (c), (d)(1)

Case:

A 43 year-old carpenter died from carbon monoxide poisoning after working inside a metal storage container where a gasoline powered generator was operating.

Accident Detail:

The victim was a finish carpenter with 15 years of experience. He was employed by a home builder / General Contractor (GC) who performed residential and commercial development. In order to store tools and materials on-site, the victim used a storage container parked in the residential complex where he was working.

A portable gasoline-powered generator was used to operate electrical power equipment when no electricity was available, such as in his storage container and, at times, in the residences under construction.

On the day after Christmas, the victim was asked by the GC to install a newel post in a house that had recently been purchased. After finishing the task, the victim went to the storage unit to put his tools and equipment away and complete some tasks. At the time of the incident, the generator was located inside the storage container and turned on, powering a light. The double doors to the storage container were partially open.

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:

The investigation indicated the generator used in the storage container in which the victim was working had a 15 horsepower engine and would have generated an estimated 167,500 mg of CO per minute. Given the size of the storage container, the concentration would have exceeded the Immediately Dangerous to Life and Health (IDLH) concentration in less than one minute.

Preventive Safety Measures Include:

- If fuel-burning generators are used, they should be placed outside of buildings and storage containers when being operated.
- Always ensure proper ventilation of the work areas when fuel burning generators are used to prevent hazardous levels of carbon monoxide.
- When possible, use carbon monoxide detectors when fuel-burning generators are running and employees are located at indoor and/or partially enclosed work sites.
- When possible, provide electricity at long term tool and equipment storage locations supplied to subcontractors so portable generators are not needed.

Attendance Roster	

Reference: This case was reported in NIOSH - Fatality Assessment and Control Evaluation (FACE) Program, 06-MA-059

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