Colorado Fatality Assessment and Control Evaluation (FACE) Program

SUBJECT:

Colorado FACE Investigation 95CO032

Colorado Equipment Maintenance Laborer Dies When Crushed in Small Skid Steer Loader

SUMMARY:

On May 31, 1995, a 26-year-old male equipment maintenance laborer died from injuries sustained when he was crushed by the bucket of a small skid steer loader. The victim was standing in front of the machine below the raised bucket while pressure-washing the engine of the equipment. He had started the engine and raised the bucket to gain better access to the engine cavity. He left the engine running while he used a high-pressure sprayer to clean the equipment in preparation for painting. When the engine ignition system got wet, the loader engine stalled and the equipment lost hydraulic pressure. The bucket lowered, crushing the employee between it and the front frame of the machine.

This skid steer loader was equipped with a roll-over protection system (ROPS) that had safety pins incorporated into the frame to prevent the bucket from lowering during maintenance. The employee had neglected to extend these pins prior to starting the cleaning process.

The Colorado Department of Public Health and Environment (CDPHE) investigator concluded that to prevent future similar occurrences, employers should:

- Ensure that employees fully understand and comply with the proper use of machinery safety mechanisms

- Conduct a work-site survey to assess the potential safety hazards. Once an assessment has been completed, written safety rules and procedures should be developed, implemented, and enforced.

INVESTIGATIVE AUTHORITY:

CDPHE performs investigations of occupational fatalities under the

authority of the Colorado Revised Statutes and Board of Health Regulations. CDPHE is authorized to establish and operate a program to monitor and investigate those conditions which affect public health and are preventable. The goal of the workplace investigation is to prevent work-related injuries in the future by study of the working environment, the worker, the task the worker was performing, the tools the worker was using, and the role of management in controlling how these factors interact.

This report is generated and distributed to fulfill the Department's duty to provide relevant education to the community on methods to prevent severe occupational injuries.

INVESTIGATION:

The investigation of this work-related fatality was prompted by a report from the local Occupational Safety and Health Administration. The investigation included interviews with the employer, and coworkers present at the time of the incident. The incident site was photographed.

The company has been in business for eighteen years and employs 16 people. Safety officer responsibilities are an additional duty of the manager and he estimated that he spends 40% of his time on safety-related issues. The company conducts safety training but does not have a written safety program.

CAUSE OF DEATH:

The cause of death as determined by autopsy and listed on the death certificate was hemopericardium with pericardial tamponade, rupture of the left ventricle of heart as a consequence of blunt trauma to the chest.

RECOMMENDATIONS/DISCUSSION:

Recommendation #1Ensure that employees fully understand and comply with the proper use of machinery safety mechanisms

Discussion: Although the victim was reportedly familiar with the operation of the skid steer loader it is apparent that he failed to engage the safety pins on the ROPS frame or was not aware of their existence. If he was unaware of the existing safety device, he should have used another method to block the bucket in the raised position before proceeding with the cleaning operation.

Recommendation #2:The employer should conduct a work-site survey to assess the potential safety hazards. Once an assessment has been completed, written safety rules and procedures should be developed, implemented, and enforced.

Discussion: According to the General Duty Clause of the Occupational Safety and Health Act (Section 5 (a) 1), employers are required to provide a safe and healthy workplace for employees. To do so,

employers must regularly survey the workplace to identify hazards. All identified hazards must be adequately addressed through engineering control measures or changes in workpractices. Employers should instruct each employee in the recognition and avoidance of unsafe conditions. In this and similar situations, the employer may need to provide additional training to ensure that employees understand the hazard and how to properly use equipment.

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Lyle E. McKenzie
Chief Investigator/Industrial Hygienist
Environmental Epidemiology Division
Occupational Epidemiology Program

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Jane B. McCammon, M.S., CIH
Manager
Occupational Epidemiology Program

_____
Richard E. Hoffman, M.D., MPH
State Epidemiologist
Colorado Department of Health

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