Electrician Run Over By 170 Ton Truck in Wyoming

SUMMARY

A 49 year old male died from injuries suffered when the pickup in which he was sitting was rolled over by a 170 ton haulage truck that rolled from a parked position on a muddy 8% grade ramp. The victim was repairing an electrical defect to the propulsion system of the hauler, and had backed his pickup up a muddy ramp with an 8.3% grade to the rear underside of the hauler to use as a platform to enter the rear axle box housing opening. This opening is 2 feet square and sits 51" from ground level.

The operator of the hauler had applied both the dump and park brake systems, and had installed chocks behind two of the rear wheels. The hauler's brake system failed while the victim was sitting in the cab of his pickup, and the hauler rolled down the incline, overrunning and crushing the pickup and continuing on down the incline and striking the face of a highwall some 160' past the original position of the hauler.

Employers may be able to minimize the potential for occurrence of this type of incident through the following precautions:

- **Insure that employees take extra precautions when weather affects otherwise safe activities**
- **Instruct employees in the hazards of using vehicles as a platform for performing activities**
- **Review preventive maintenance procedures to determine if they are adequate for best practical safety practices.**

INTRODUCTION

On a Wednesday morning, October 12, 1993 an electrician was sitting in a parked pickup at the bottom of an 8% grade ramp while in the process of correcting a possible wiring problem in a 170 ton haulage truck that was parked on the ramp. The ramp was slick and muddy as a result of rain and snowfall over the past four days. Early in the morning, the operator of the 170 ton hauler was traveling up the ramp to the pit when he lost propulsion and stopped the hauler. As the propulsion system failed, the operator applied both the dump and park brake systems to hold the vehicle in place. The victim was then called to work on the hauler.

After making several checks in the electrical compartment, the victim found the apparent problem in the rear axle box housing (called a doghouse) between the rear wheels. He then left the area to secure parts necessary to repair the system. The operator and a supervisor placed 14" chocks behind two of the rear wheels and left with the engine running and the dump brake and the park brakes set. When the victim returned, he apparently backed his pickup under the rear of the hauler in order to use the bed as a platform from which he could enter the doghouse opening 51" above ground. For unknown reasons, the

victim was later seen sitting in his pickup several feet down the ramp from the hauler, when the hauler began moving from its parked position and rolling down the ramp.

INVESTIGATION

Through a reciprocal notification agreement with the State Mine Inspector of the Department of Employment, the WY- Wyoming FACE Project was notified several months after the occurrence. Most of the data regarding this incident was provided by the State Mine Inspector.

The victim had been a Master Electrician for 14 years, and had worked at the mine for over 19 years. The mine has more than 300 employees and works three production shifts per day, five days a week. A regular Safety and Health inspection was conducted about four months prior to the incident. The vehicle was nearly due for a Preventive Maintenance Inspection, as it had operated over 240 of the 250 hours allowed between inspections.

Tests conducted on the park brake system determined that 'arts of the system were worn and damaged to the point that the system would not hold the hauler on the ramp where it had been parked. Apparently, when the dump brake pressure bled off the system, the brakes released and the park brake failed to hold, causing the hauler to roll back down the ramp.

The 14" blocks that had been used as chocks behind two of the rear wheels were not adequate to keep the vehicle from rolling once the brakes failed. Further, the wheels had not been correctly turned toward the highwall to prevent the truck from rolling straight down the ramp. The victim was seated in his pickup some 20' below the haulage truck on the wet, 8% grade ramp.

CAUSE OF DEATH

The Medical Examiner listed the cause of death as extrusion of brain due to crush injury of head. Other significant conditions contributing to the death were identified as crush injury of chest, massive - multiple fractures.

RECOMMENDATIONS/DISCUSSION

This incident could have been prevented by the victim himself by not parking his pickup on a downslope under a 170 ton vehicle on a wet and muddy ramp. Under the circumstances that were present at the time of the incident, the vehicle could have begun rolling at any time the victim was standing on the bed of the pickup as well as occurring as it did when he was inside the cab.

While precautions were taken by the vehicle operator in setting the park and dump brakes and chocking the wheels, this does not appear adequate for the conditions at hand. Since the ramp was steep, wet, and muddy, additional precautions might have been taken to include chocking all wheels and turning the steering mechanism toward the highwall to prevent rolling.

The preventive maintenance schedule was upheld but the vehicle was nearly due for preventive maintenance in less than ten hours of work. This narrow window, combined with the inclement weather that was evident at the time, should have indicated to authorities that a hazardous potential existed.

The company was cited by the Mine Safety and Health Inspector for failure to maintain the park brake system in a safe condition, and for failure to adequately block the truck or turn the wheels toward the highwall. Additionally, it was noted that the incident could have been prevented by forbidding any employee from parking on the downhill side of any type of equipment that is parked on a slope.

FATAL ACCIDENT CIRCUMSTANCES AND EPIDEMIOLOGY (Wyoming FACE) PROJECT

The National Institute for Occupational Safety and Health (NIOSH), Division of Safety Research (DSR), performs Fatal Accident Circumstances and Epidemiology (Wyoming FACE) investigations when a participating state reports an occupational fatality and requests technical assistance. The goal of these evaluations is to prevent fatal work injuries in the future by studying the working environment, the worker, the task the worker was performing, the tools the worker was using, the energy exchange resulting in fatal injury, and the role of management in controlling how these factors interact.

States participating in this study include: Kentucky, Maryland, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, and West Virginia.

NIOSH Funded/State-based Wyoming FACE Projects providing surveillance and intervention capabilities to show a measurable reduction in workplace fatalities include: Alaska, California, Colorado, Georgia, Indiana, Iowa, Kentucky, Massachusetts, Maryland, Minnesota, Missouri, Nebraska, New Jersey, Wisconsin and Wyoming.

Additional information regarding this report is available from:

Wyoming Occupational Fatality Analysis Program
522 Hathaway Building - 2300 Capitol Avenue
Cheyenne, WY 82002
(307) 777-5439

Please use information listed on the Contact Sheet on the NIOSH FACE web site to contact In-house FACE program personnel regarding In-house FACE reports and to gain assistance when State-FACE program personnel cannot be reached.