Foreman Dies When Struck by Front End Loader at a Massachusetts Scrap Metal Recycling Plant

Investigation: #95MA-026-01

Release Date: November 7, 1996

SUMMARY

On July 28, 1995, a 31 year old male recycling plant foreman died when he was run over and crushed by a front end loader. In the yard outside the plant at the time of the incident, the victim was struck by the loader when its brakes failed as it backed down an incline after depositing cans into a hopper for processing. Having seen the victim behind the loader moments earlier, the operator of the loader exited the cab to be sure the victim was unharmed. Finding the victim lying between the left front and rear wheels of the loader, the operator ran into the plant and called for help. The victim was pronounced dead on the scene by the medical examiner and transported by a funeral home to the regional medical examining facility. The MA FACE Program Field Investigator concluded that to prevent similar future occurrences, employers should:

- **ensure that all defective vehicles be removed from service until repaired.**
- **ensure that only trained employees operate all vehicles.**
- **design, develop and implement a comprehensive safety program that includes, but is not limited to analysis and control of vehicle related hazards through use of a daily checklist.**

INTRODUCTION

On the afternoon of July 28, 1995, the MA FACE Program was notified by the Massachusetts Department of Labor and Industries that a recycling plant worker had been killed earlier in the day. An investigation was immediately initiated. Following a brief OSHA requested delay, the MA FACE Program Field Investigator traveled to the

incident scene on August 18, 1995. Company representatives were unavailable for comment. This report of the incident is based on a number of other sources including interviews with witnesses, OSHA compliance officers and responding municipal police department representatives. In addition, the police report, death certificate, and multiple photographs were obtained during the course of the investigation.

The employer would not cooperate with this FACE Program investigation, therefore the company information in this report is based on information obtained in the course of a prior fatality investigation of this company by the FACE Program in 1994. The employer was a scrap metal processing and wholesale business employing nearly 100 people in four locations. There were 60 persons employed at the incident site. The company had been in business for over 40 years. The employer had a full-time safety director/environmental health specialist responsible for overseeing safety and environmental health issues at all four company locations.

The victim was a 31 year old male plant foreman who was related to the owner of the plant. The employer would not disclose how long the victim had worked at the facility not what his duties had been.

INVESTIGATION

On the morning of July 28, 1995, business at a Massachusetts scrap metal/recycling company was underway. The wash plant foreman had reported to work on the morning of the incident at approximately 5:00 a.m. to start up the materials wash operation. Noticing that the hopper in the yard lacked material to begin the recycling process, the wash foreman used the front end loader to retrieve material. The wash plant foreman was the operator of the loader on the morning of the incident because the usual operator had been reassigned to another job. A replacement operator had not been assigned to the front end loader on the morning of the incident. After filling the bucket of the loader with material, he drove across the yard towards the hopper at the top of a graveled ramp.

As he approached the ramp, he witnessed another foreman speaking with a truck operator, who was making a delivery. He then deposited the load of materials into the hopper at the top of the ramp. To this point, the loader, a Caterpillar 950 weighing 15 tons, had operated as expected.

After putting the front end loader into reverse, the operator looked over his left shoulder and saw no one. As he began to back down the ramp, he again looked over his left shoulder and witnessed the victim standing in the vicinity of the loader's path. As the loader picked up speed, the operator applied the brakes. The brakes were inoperable. He applied the brakes a second time, and they failed again. The momentum of the loader drove the machine across the driveway striking a configuration of large concrete blocks which formed the retaining walls of materials storage bays. The machine struck with such force that two of the retaining wall blocks were dislodged from their positions.

Leaving the cab to be sure that the victim was unharmed, the operator found the victim lying unconscious between the left front and rear wheels of the front end loader. He then ran into the plant and summoned help. Emergency responders soon arrived at the site and decided that the victim had died instantly. They covered the victim and arranged for transport of the victim to a nearby state medical examiner's facility.

The investigation revealed that the Caterpillar 950 Front End Loader was in need of repair prior to the incident. Although there were reports that the brakes worked prior to, and following the incident, the master cylinder fluid well was dry and a rag stuffed in its opening. A root beer bottle containing brake fluid was discovered lodged behind the operator's cab. Carrying brake fluid on the loader indicates that repeatedly filling the brake fluid well had been the solution to the problem of losing fluid as opposed to the permanent solution of repairing the leak.. The front end loader's back up lighting and audible alarm were also inoperable.

CAUSE OF DEATH

The medical examiner listed the cause of death as multiple injuries.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Employers should ensure that all defective vehicles be removed from service until repaired.

Discussion: OSHA regulations require that employers provide their employees a workplace free of recognized hazards. Vehicles that are seriously defective should be removed from service until they are repaired. It is poor practice to expect employees to compensate for a severe deficiency in the equipment. In this case, the regular loader operator had been periodically refilling the brake fluid rather than having the leak properly repaired. Allowing the defective vehicle to remain in service enabled an unknowing person to operate the equipment without compensating for the deficiency. Had the defective vehicle been taken out of service, the incident may not have occurred.

Recommendation #2: Employers should ensure that only trained employees operate all vehicles.

Discussion: Operators of industrial and construction vehicles should be specifically trained in their safe operation. Since the regular operator may not always be available, other employees should be thoroughly trained in advance as back-ups. Operators should be trained not only to operate the vehicle, but also to identify mechanical problems affecting the safe operation of the vehicle.

Recommendation #3: Employers should design, develop and implement a comprehensive safety program that includes, but is not limited to analysis and control of vehicle related hazards through use of a daily checklist.

Discussion: In order to provide a workplace free from recognized hazards, employers should develop a safety program that involves all employees in the recognition and reporting of all hazardous conditions. Beyond reporting these conditions, employers must institute systems for correcting hazards as they are identified. Preventive maintenance should be considered as integral to a comprehensive safety program.

Employers should ensure that all vehicles in use be checked at the beginning of each shift to assure that components that affect safe operation are in proper operating condition. A vehicle defect checklist should be developed by a qualified person. Operators should be trained to understand the checklist and use it before each shift. This checklist should include all components which affect the safe operation of the vehicle, including, but not limited to, brakes, mirrors, seat belts, steps and rails, hydraulics, back-up alarms, horns, tires and connecting hoses for propane-driven equipment. Equipment manufacturers can provide guidance in this area. In this case, if the operator had checked the vehicle before using, this incident may not have occurred.

REFERENCES

Occupational Safety and Health Act of 1970 Section 5 (a): General Duty Clause

American National Standards Institute, Powered Industrial Trucks - safety requirements, ANSI B56.1-1988