MARYLAND DIVISION OF LABOR AND INDUSTRY

MARYLAND FACE PROGRAM
CASE: 94MD009
DATE:

TO: Project Officer, State FACE Project, Division of Safety Research, NIOSH, CDC

FROM: Maryland FACE Program, Division Labor & Industry

SUBJECT: Garbage collector run over by trash truck at a county landfill while signalling the driver in backing maneuver.

SUMMARY

On March 17, 1994 a 59-year-old male garbage collector (the victim) was crushed to death by a collection vehicle at a local landfill. The victim and two co-workers (a driver and another collector) had finished a collection run and arrived at the landfill to deposit the refuse. According to multiple sources familiar with the case the victim exited the cab of the truck on the passenger side and was walking behind and to the side of the truck after signalling the driver to begin backing. The collector, walking behind the truck, stumbled, fell, and was unable to get out of the path of the truck before it ran over him. The truck rolled over the right side of the victim and stopped when his body was below the truck cab. The co-workers were unaware that the victim had been run over until a witness told them what had happened. Paramedics treated the victim at the scene before transporting him to the hospital where he died eighty minutes later.

The FACE field investigators recommend that to prevent similar incidents in the future:

***employers should develop, implement, and enforce a safety and health program that includes training on specific policies and safe work procedures for hazardous activities;**

***landfill operators should develop safe work procedures that minimize risk for all workers who may be exposed to maneuvering vehicles and other hazards associated with the operation of a landfill;**

***municipalities and employers should consider equipping vehicles with devices which will eliminate the blind spot behind trash collection vehicles by either providing the driver with a view of the rear of the vehicle or by sensing the presence of objects behind the vehicle.**

INTRODUCTION

On March 17, 1994 a 59-year-old male garbage collector died after he was run over by a refuse collection truck that he was signalling during a backing maneuver at a county landfill. The Maryland FACE investigator was notified of the event in the late afternoon of March 17, 1994 by the Maryland Occupational Safety and Health (MOSH) Operations Division. The FACE investigator contacted the Division of Safety Research (DSR), NIOSH about conducting a joint investigation. On May 3, 1994 the employer was interviewed by the Maryland FACE investigator and a safety engineer from DSR/NIOSH Photographs and drawings were made of the vehicle involved in the fatality. The incident was reviewed with the MOSH Occupational Safety and Health Inspector, the Director of Public Works, and the County Risk Manager. Reports from the Medical Examiner's office, the state police and emergency medical services personnel, and newspaper accounts were reviewed during the investigation.

The employer in this incident was a garbage collection company serving residential, commercial, and industrial customers year around and had been in business for twenty-one years. Some of the collection routes traveled through developed areas where collectors made 150 stops in an hour, while other routes required only 150 stops in four hours. The company employed 23 persons: eight collectors; nine drivers; three owner/operators; and three support staff.

The employer had no formal written safety program and no safety director. Drivers are subject to the regulations of the Department of Transportation and the requirements of the Commercial Driver's License. Employees are asked to submit to a drug screening prior to being accepted for employment and drivers are subject to random drug testing. Safety meetings were not regularly scheduled, but were organized when an incident or mishap occurred and a discussion could be used to inform employees about specific hazards.

New hires were oriented to the job by one of the owner/operators or by experienced co-workers with the same job duties. Training was performed on-the-job. The victim had been employed by the company for eight months and worked as a collector during this entire period. The victim had always performed the task of signalling the driver in backing the vehicle in the same fashion as on the day of his death. The company had experienced no previous fatalities.

INVESTIGATION

On the day of the incident, the collection truck arrived at the county landfill and stopped just before the unloading area to wait while another truck completed unloading. When the dumping area was clear the driver began backing the truck toward the working face of the landfill to empty the contents. Because the driver could not see the location of the compactor which was operating at the landfill, he asked one of the two collectors riding with him to exit the cab of the truck and guide him while he backed up to the working face, approximately twenty feet. Because of the proximity of the compactor work area to the dumping area, it was necessary to establish communication with the compactor operator to assure safe maneuvering room for the truck. No personal protective equipment was in use by the collectors.

The victim exited the passenger side door of the cab and walked beside the

truck so the driver could observe him in the passenger side rear-view mirror. The victim was signalled by the operator of the compactor to proceed. The victim signalled to the driver to begin backing the vehicle and then began walking in the same direction the truck was travelling. The path of the victim led to him walking directly in the path of the moving vehicle. The driver looked from the passenger side rear-view mirror to the driver side rear-view mirror. When he looked back to the passenger side rear-view mirror he told the co-worker riding in the cab that he could not see the victim.

According to witnesses, when the moving truck was several feet behind the victim, he turned and observed the vehicle approaching him. As he turned to continue walking, he fell to the ground, face down. The co-workers were unaware that he had fallen and continued backing as the victim struggled to get up. The outer right rear wheel of the truck ran over the right side of the victim. When the truck was stopped, the victim was below the cab portion of the truck, just behind the right front wheel. The driver and the collector who had been riding in the cab of the truck exited the vehicle and began unlatching the tailgate to dump the load. The operator of the compactor came to them and told them that the victim had been run over.

The compactor operator radioed the landfill office about the incident and requested that someone call 911. Another employee responded to the scene after hearing the call and turned the victim's head so he would not be face down in the refuse. The paramedics arrived five minutes after receiving the call, and initiated CPR because the victim was in cardiac arrest. Treatment was provided at the scene prior to transport to the hospital, where he was pronounced dead eighty minutes after the injury occurred.

CAUSE OF DEATH

The death certificate prepared by the Office of the Chief Medical Examiner listed the cause of death as multiple injuries.

RECOMMENDATIONS/DISCUSSION

Recommendation #1:Employers should develop, implement, and enforce a safety and health program that includes training on specific policies and safe work procedures for hazardous activities.

Discussion: The backing of commercial vehicles, specifically refuse collection vehicles, is a known hazard to both personnel and property. NIOSH Publication No. 82-113, Residential Waste Collection: Hazard Recognition & Prevention , recommends that safe work procedures for maneuvering and dumping refuse collection vehicles should include:

oproviding and requiring the wearing of high visibility clothing, such as traffic vests, for workers on foot near moving vehicles

oproviding workers whose duties include spotting and directing vehicles with gas powered handheld horns (or similar devices) which could be used to sound an audible warning to vehicle operators of dangerous situations or potential collisions

orequiring collectors on foot to remain visible to the vehicle drivers at all times during backing and out of the path of the vehicle

orequiring vehicle movement to cease immediately when visibility of workers on foot is lost until the location of the worker is verified visually

Additionally, when passengers are in the truck cab they could assist the driver in maintaining visual contact with workers on foot

Recommendation #2:Landfill operators should develop safe work procedures that minimize the risk for all workers who may be exposed to maneuvering vehicles and other hazards associated with the operation of a landfill.

Discussion: A system could be developed for signaling incoming collection trucks that minimizes the exposure of workers to moving vehicles by keeping them inside of, or at a safe distance from, moving vehicles. Workers of the landfill could be stationed at safe vantage points from which a visual contact with the truck drivers and the compactor operators could be made to insure safe maneuvering at or around the working face of the landfill. The inability of the truck driver to see the compactor led to the victim exiting the truck to assure safe maneuvering. Depending on the size and operating cycle of the landfill, compactors could be operated away from active dumping areas until dumping is completed.

Recommendation #3: Municipalities and employers should consider equipping vehicles with devices which will eliminate the blind spot behind trash collection vehicles by either providing the driver with a view of the rear of the vehicle or by sensing the presence of objects behind the vehicle.

Discussion: The visibility behind the truck involved in this incident was reduced to the extent that objects immediately behind the vehicle could not be seen by the driver. A device such as a parabolic mirror could provide an image of the rear of the vehicle, but may be vulnerable to damage or physical stress if mounted on the compactor body. A system utilizing an electronic sensing device with an alarm in the cab may be able to provide a warning to the driver of obstacles in the path of the vehicle. Or, closed circuit television systems are available which might be adapted to refuse collection vehicles to provide a view to the rear.

REFERENCES

DHHS (NIOSH) Publication No. 82-113 Residential Waste Collection: Hazard Recognition & Prevention, March 1982.

ANSI Z245.1-1992 Mobile Refuse Collection and Compaction Equipment-Safety Requirements, January 1992.

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Fatality Assessment and Control Evaluation

The Maryland Division of Labor and Industry administers the Fatality Assessment and Control Evaluation (FACE) Program under a cooperative agreement with the National Institute for Occupational Safety and Health, Division of Safety Research (NIOSH/DSR). The Maryland FACE Program performs investigations of selected occupational fatalities, prepares summary reports, and engages in prevention activities. The goal of our program is to prevent fatal work injuries in the future by studying the working environment, the worker, the task being performed, the tools employed, the energy exchange resulting in fatal injury, and the role of management in controlling how these factors interact.

NIOSH/DSR developed the FACE research protocol in the early 1980s and continues to perform FACE investigations. To increase the research and prevention activities of NIOSH/DSR, states across the nation have been invited to participate in the State FACE Project. Maryland and the fourteen states listed below currently participate in the State Based FACE Project: Alaska, California, Colorado, Georgia, Iowa, Indiana, Kentucky, Massachusetts, Minnesota, Missouri, Nebraska, New Jersey, Wisconsin, and Wyoming.

Additional information regarding this report or the Maryland Face Program is available from:

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