The National Institute for Occupational Safety and Health (NIOSH)

Promoting productive workplaces through safety and health research

Truck Driver Crushed Between Trailer and Loading Dock-West Virginia

FACE 9311

SUMMARY

On December 16, 1992 a 30-year-old male truck driver (the victim) was caught between a loading dock and the rear of a moving tractor-trailer, while attempting to alert the driver that he was backing into an unused dock of a freight distribution terminal. Co-workers saw the victim exit the distribution terminal building through the door of the No. 2 south loading dock, after he told them that he was going to flag down the driver of the truck. Moments later, the co-workers heard a scream, exited the building, and found the victim caught between the rear of the trailer and the No. 1 south loading dock. The victim had either fallen into the path of the backing vehicle from the No. 2 south loading dock, or had attempted to cross behind the vehicle. He was removed from the site by the local emergency medical service, and air-transported to the local medical center where he died during surgery.

NIOSH investigators concluded that, to prevent similar incidents, employers should ensure that:

- **procedures for directing incoming delivery vehicles to the proper work areas for loading and unloading are established and implemented**
- **pedestrian traffic is properly routed through suitable exits separated from the maneuvering area of vehicles**
- **work areas or facilities such as loading docks, which are no longer in service, are clearly posted with readily visible signs indicating that the area is not in use.**

Additionally, employers should consider:

- **installing additional mirrors or other devices which would assist the driver in detecting the presence of pedestrians within the blind spot of backing vehicles.**

INTRODUCTION

On December 16, 1992, a 30-year-old male truck driver (the victim) died of injuries received when he was caught between a loading dock and a tractor-trailer at a motor freight distribution terminal. On December 17, 1992, the Division of Safety Research learned of the incident through a newspaper article and offered technical assistance to the employer. On December 18, 1992, a DSR safety engineer traveled to the incident site and conducted an investigation. The investigator interviewed the terminal manager, took measurements of the incident site area, and photographed the site. The medical examiner's report was also requested.

The employer in this incident was a multi-state motor freight company that employed 450 workers. The incident occurred at a company distribution terminal that had been in operation since 1987. Nine workers (7 truck drivers and 2 dock workers) were employed at the distribution terminal. The victim had worked at the site since June 1990, and had been associated with the motor freight industry for over 10 years. The company had a written safety policy and job procedures for each job task. Training was both formal and on-the-job. The company safety department conducted seminars for its employees on a yearly basis and frequent job site safety talks were conducted by the terminal manager. At the time of the incident, it had been 4 years since the company had experienced a fatality.

INVESTIGATION

On the day of the incident, the victim and his co-workers started work at 7 a.m., loading trailers parked at the several loading docks of the distribution terminal. There were six loading docks along the side of the terminal building, which included the No. 2 south dock where a tractor-trailer was parked, and the No. 1 south dock which was not currently in use. This dock was blocked inside of the terminal by stored material (Figure), so it would not have been available for loading operations. The victim followed his normal work routine of assisting the dock workers and other truck drivers in loading trucks for the daily deliveries. This activity, typical for the truck drivers employed at the facility, proceeded normally until approximately 8:30 a.m., when the victim observed the driver of a tractor-trailer backing into the No. 1 south loading dock. The driver had delivered freight infrequently to the facility and was not aware that the dock was not in use.

The victim told co-workers that he intended to signal the driver to stop and redirect the truck to another loading dock. He was observed by co-workers exiting the terminal building through the 16-inch clearance between the No. 2 south loading dock door and the back of the parked tractor-trailer being loaded (Figure). There were no eye-witnesses to the incident; however, moments after the victim was seen exiting the terminal building, the co-workers heard a scream. They exited the building and went to the No. 1 south loading dock where they found the victim pinned between the loading dock plate and the rear of the tractor-trailer. The vehicle was moved forward, freeing the victim. The co-workers covered the victim with coats and attempted no first aid as they thought he may have suffered a fractured spine, and feared further injury if they moved him. One of the co-workers went inside the building and called the local emergency medical service (EMS). The EMS responded in 10 to 15 minutes. The victim was transported by helicopter to a local hospital where he later died during surgery. It is not known whether the victim slipped and fell into the path of the backing vehicle or was attempting to cross behind it; however, his route of exit was not designed for pedestrian travel and could have posed a fall hazard to persons choosing to exit the building by the No. 2 south loading dock door. The opening had limited clearance, a 46-inch difference in elevation from the dock to ground level, and was not equipped with a staircase or railings. Further, persons exiting via the No. 2 south loading dock are very near to the maneuvering area for trucks entering the loading docks (Figure).

CAUSE OF DEATH

The medical examiner determined the cause of death to be blunt force crushing traumatic injuries to the pelvis and abdomen.

RECOMMENDATIONS/DISCUSSION

Recommendation #1. Employers should ensure that procedures for directing incoming delivery vehicles to the proper work areas for loading and unloading are established and implemented.

Discussion: Vehicles arriving at this facility were not routinely required to check-in with the terminal workers for directions about which loading dock to use. The driver of the vehicle in this incident had previously delivered to the facility on an infrequent basis and was unaware that the No. 1 south loading dock was not in use. An established procedure for routing incoming vehicles to the proper loading areas and directing them into the docks would ensure that pedestrian exposure to vehicle backup hazards would be minimized. This could be implemented by simply requiring the driver to check with the terminal manager or his designee for directions to the proper loading dock and for assistance in backing up to the dock.

Recommendation #2: Employers should ensure that pedestrian traffic is properly routed through suitable exits and separated from the maneuvering area of vehicles.

Discussion: The victim exited the building through the 16-inch opening between the No. 2 south loading dock door and a tractor-trailer which was parked against the dock for loading (Figure). There was a pedestrian exit on the side of the terminal building located within 20 feet of the No. 2 south loading dock door.

This exit accessed a staircase to ground level and opened to an area outside of truck movement. Use of this exit however, was blocked by stored material inside the terminal building behind the No. 1 south loading dock door. Although it is not known whether the victim would have used this exit, maintaining accessible pedestrian exits and guarding or barricading openings between parked trailers and loading dock doors ensure that proper and safe routes for pedestrian travel are available.

Recommendation #3: Employers should ensure that work areas of facilities such as loading docks which are no longer in service are clearly posted with readily visible signs indicating that the area is not in use.

Discussion: In this incident, the No. 1 south loading dock was blocked on the inside by stored material; however the outside appearance of the loading dock gave no indication of being out of service. The No. 1 south dock was located at the end of the building, closest to the terminal access road. This may have prompted the driver to back into that area. When facilities or areas are no longer used, signs should be posted and barricades erected to advise workers of the dock status.

Recommendation #4: Employers should consider installing additional mirrors or other devices which would assist the driver in detecting the presence of pedestrians within the blind spot of backing vehicles.

Discussion: The driver in this incident was unaware that a pedestrian, the victim, had entered the area behind his backing vehicle. The installation of devices such as parabolic mirrors on the terminal building at locations where they are visible to drivers of backing vehicles, can assist truck drivers in identifying pedestrians that may have entered into the area behind a truck. Closed-circuit television cameras mounted on the rear of trailers and monitored inside the truck cab could also be used to alert drivers to the presence of pedestrians.

Return to In-house FACE reports

Last Reviewed: November 18, 2015