



# STATE OF NEW YORK DEPARTMENT OF HEALTH

## FATALITY ASSESSMENT AND CONTROL EVALUATION

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### Truck Driver Dies during Payloader Crushing Incident Case Report: 03NY036

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#### SUMMARY

On June 12<sup>th</sup>, 2003, a 41-year-old truck driver was delivering cardboard sludge to a recycling plant that manufactures bedding for dairy cows when he was fatally crushed between the tailgate of his truck and the rear of a payloader. He had completed dumping the cardboard waste product onto an outdoor unloading pad, and pulled a short distance away to secure the tailgate of his truck. As he was securing the tailgate, a payloader backed out of the adjacent storage building, making a 90-degree turn in order to move the waste material from the unloading pad into the building. The operator of the payloader was unaware of the dump truck and backed into the truck, crushing the truck driver between the two vehicles. The operator of the payloader immediately went for help, notifying a co-worker who called 911 and notified the owner of the plant of the incident. An emergency squad responded within minutes. The truck driver was pronounced dead upon arrival at the hospital.

New York State Fatality Assessment and Control Evaluation (NY FACE) investigators concluded that to help prevent similar incidents from occurring in the future:

- *Facilities should be properly designed and unloading procedures modified to promote safety;*
- *Payloader operators should survey the surrounding area prior to backing;*
- *Safety devices should be checked at each shift change to ensure proper operation. Additional safety devices should be installed in areas of high traffic;*
- *Truck drivers should pull dump trucks a safe distance away from the unloading area prior to securing the tailgate. Companies should consider instituting policies that specify this distance.*

#### INTRODUCTION

On June 12<sup>th</sup>, 2003 at approximately 7:00 a.m., a 41-year old truck driver (the victim) was delivering cardboard sludge to a plant that manufactures bedding for dairy cows when he was fatally crushed between the tailgate of his truck and the rear of a payloader. NY FACE staff learned of the incident on June 13<sup>th</sup>, 2003 through news media reports.

A FACE investigation was conducted on July 17<sup>th</sup>, 2003. A NY FACE investigator visited the site and met with the business manager of the facility where the incident had occurred and with the

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OSHA investigator who investigated the incident. The police report, medical examiner's report, and death certificate were also reviewed.

The recycling facility where the incident occurred uses cardboard sludge, a by-product of the manufacturing of cardboard boxes and containers, to manufacture bedding material used on larger dairy farms. The recycling facility had been at its current location for approximately one year and had eight employees including four loader operators. Existing health and safety programs consisted of hazard communication, worker training, and operating procedures for specific work tasks such as payloader operation, movement of sludge within the facility, and ingredient mixing guidelines. This was the recycling facility's first fatality.

The victim was a licensed commercial truck driver employed by a trucking company that delivered cardboard sludge to the plant. The company employed 350 individuals throughout the state, including two drivers that did this type of transport.

## INVESTIGATION

On June 12<sup>th</sup>, 2003, the victim was transporting cardboard sludge to the recycling facility. Although the worker had done this job for approximately five years, he had not been working for the previous 2-½ months due to an illness. He had returned to work two days prior to the day of the incident.

The victim's daily routine involved transferring two to four loads of the cardboard sludge from the cardboard plant to the recycling facility in the morning and then transporting other waste products in the afternoon. The victim used a 6-wheel 1994 Mac dump Maxidyne truck with a roll-off bed



style back. This is similar to the style of trucks used with large dumpsters which are rolled off of the ground and onto the back of a truck for transportation. The cardboard sludge containers were self-contained units measuring 24 feet long (Figure 1) that were placed inside the cardboard manufacturing plant. When the units were full, they were pulled onto the back of the truck. At the

recycling facility, the back gate of the truck is opened and the truck bed raised at an angle until the cardboard sludge falls out of the container; the container is not disengaged from the dumping truck. After dumping, the bed is lowered and the truck is closed for its return to the cardboard plant where the container is re-used.

On the morning of the incident, the victim brought his first load of sludge to the recycling facility and emptied it onto the 30' x 60' cement pad. In order to get to this pad, the victim had to back his truck up a 90-foot loading ramp. The ramp was made of crushed stone, and had an approximate 15 degree slope. At approximately 7:00 a.m., the truck driver finished unloading the cardboard sludge onto the cement pad, lowered the container mechanism, pulled ahead to the edge of the pad, and was closing up the rear gate of the mechanism.

At the same time, a payloader operator for the recycling center was beginning his shift. The operator was a 60-year-old man who had worked for the recycling company for the past 10 years. He was the longest term employee and had been with this company since its' inception. The operator's shift began at 7:00 a.m. when the nightshift was going off duty. Upon beginning his shift, the payloader operator checked the fluid level of the payloader as part of the switchover process from one operator to another. The payloader was a 2001 New Holland LW130 that had a weight of 13,100 kilograms (Figure 2). The loader appeared to have been designed relatively free of blind spots. The operator drove the payloader from inside the building, where material is transported internally, and backed the paloader out of the doorway adjacent to the unloading



Figure 2. Payloader that was involved in the incident.

pad. As he backed out of the building he made a 90-degree turn in order to position the payloader for scooping the material prior to transporting it back into the building (Figure 3). As he backed out of the doorway and made this 90-degree turn, he heard a bang and then a loud scream. The operator then saw that the delivery truck still remained at the unloading area. He also saw the victim lying on the ground about 10 feet from the back end of the delivery truck. The payloader operator

immediately dismounted from the payloader, ran into the building and yelled for a co-worker to call 911.

The co-worker called 911 and informed the company owner that an incident had occurred. One of the co-workers went to the driveway entrance of the plant to help direct the EMS vehicles to the scene. The police, fire squad and the ambulance responded to the scene promptly. Initial evaluation of the victim revealed no vital signs. The victim was transported via ambulance to the local emergency room where he was pronounced dead.

Upon re-creation of the incident, it appears that the payloader operator did not expect a vehicle to be present near the loading pad. Commonly, trucks unload at the unloading pad and then pull away from the area in order to secure the tailgate before proceeding onto the roadway. On this particular day, the victim unloaded his truck and then pulled to the edge of the unloading pad before securing the tailgate prior to departure. This left a space of only 29 feet between the edge of the cardboard pile and the back end of the dump truck. The payloader was 24 feet in length.

At the time of the incident, the payloader was in good condition and had rearview mirrors present on both corners of the operator's cab. The fact that the shift change had just occurred and the payloader operator had just reported to work may also have contributed to the incident since the truck had been present and unloaded prior to his arrival for his shift. The operator was unaware that a truck was present at the pad as he backed out of the door and made the turn. The area immediately outside of the doorway of the building is visible from the inside of the building, but the area where the dump truck was parked was perpendicular to the doorway opening, and was not visible from the inside of the building (Figure 3).

Upon inspection by police and OSHA investigators, the back-up beeper of the payloader was not sufficiently audible to be heard while the engine was operating. Later that day when the payloader was checked again, the back-up beeper was operating at a louder and normal level. The business manager stated that the back-up beeper had been working prior to the incident although it is not known whether it was working immediately before the fatal accident occurred. It is possible that the back-up beeper was damaged during the collision since it was located in the rear grille cover which was the general area of impact. The company subsequently replaced the back-up beeper.

The victim's inability to move out of the way of the payloader could have been due in part to 1) not hearing the payloader approaching or 2) his familiarity with working in close proximity to the payloader. The victim had made deliveries to the recycling facility many times before and was accustomed to being near the payloader. Often people who work regularly near back-up beepers become accustomed to their sound and become desensitized to them as warning signals.

Following the incident, the recycling company instituted changes to ensure worker safety. These included installing a safety chain across the doorway out to the unloading pad area. While this chain is up, no payloaders can travel beyond that point to the unloading pad. The company has also installed 2-way radios between the payloader operator position and the truck drivers that deliver to the unloading pad. Each truck driver must call the payloader operator and tell him that he is ready to approach the unloading pad. At this time the payloader operator informs him whether the chain is up; if the chain is up, truck drivers can then proceed to unload. When the trucks are pulled away

from the unloading area, they then call back to the payloader operator who confirms that the area is clear before taking the chain down and moving the material from the unloading pad into the building. Additionally, the company has instituted additional training procedures for employees to ensure their safety with machinery and in the plant. The company has also made additional safety adaptations to areas throughout their facility, such as guarding of drive units and general hazard reduction.

## **CAUSE OF DEATH**

The cause of death was listed on the death certificate as blunt force injuries of the trunk.

## **RECOMMENDATIONS/DISCUSSION**

**Recommendation #1:** *Facilities should be properly designed and unloading procedures modified to promote safety.*

**Discussion:** The unloading area of the facility involved in the incident had two ramps that were used; one was angled 90 degrees to the door opening, and the other was directly across from the door opening. The unloading ramp that is directly opposite the door opening is the preferred design because it allows the payloader operators to see any trucks remaining in the area prior to exiting the building.

**Recommendation #2:** *Payloader operators should survey the surrounding area prior to backing.*

**Discussion:** In this scenario, the payloader operator did not expect any vehicles to be outside of the door as he backed through the doorway. Prior to backing up, heavy equipment operators should double check traffic areas. Direct visual sight and the use of mirrors can also help with this. In addition to backing beepers, supplementary warning devices should also be considered such as strobe lights, video monitors, and infrared detection systems.

**Recommendation #3:** *Safety devices should be checked at each shift change to ensure proper operation. Additional safety devices should be installed in areas of high traffic.*

**Discussion:** In this scenario, safety devices such as backing beepers and lights may not have been working properly at the time of the incident. These devices should be checked at the shift change of each operator to ensure their proper operation. Additional safety devices on the building and loading area such as convex mirrors and flagging could be used to help identify when other vehicles are in the area.

**Recommendation #4:** *Truck drivers should pull dump trucks a safe distance away from the unloading area prior to securing the tailgate. Companies should consider instituting policies that specify this distance.*

**Discussion:** In this scenario, the truck driver unloaded the sludge material and then moved only 29 feet from the pile edge before stopping to close the tailgate and secure his load. Most of the truck drivers at this facility move a distance of 90 feet away prior to securing the tailgate, although there

is no written policy for this. In other industries such as the landfill industry, truck drivers are required to move a specified distance away from the working face prior to dismounting and closing the tailgates of their trucks. Instituting this type of policy at recycling facility would remove the truck driver from a potentially hazardous area where payloaders and other heavy equipment are operated.

**Keywords:** *payloader, bucket loader, truck driver, struck by, recycling*

## REFERENCES

1. New York FACE Program Report No. 02NY007  
<http://www.health.state.ny.us/nysdoh/face/02ny007.htm>

The Fatality Assessment and Control (FACE) program is one of many workplace health and safety programs administered by the New York State Department of Health (NYS DOH). It is a research program designed to identify and study fatal occupational injuries. Under a cooperative agreement with the National Institute for Occupational Safety and Health (NIOSH), the NYS DOH FACE program collects information on occupational fatalities in New York State (excluding New York City) and targets specific types of fatalities for evaluation. NYS FACE investigators evaluate information from multiple sources. Findings are summarized in narrative reports that include recommendations for preventing similar events in the future. These recommendations are distributed to employers, workers, and other organizations interested in promoting workplace safety. The FACE program does not determine fault or legal liability associated with a fatal incident. Names of employers, victims and/or witnesses are not included in written investigative reports or other databases to protect the confidentiality of those who voluntarily participate in the program.

Additional information regarding the New York State FACE program can be obtained from:

New York State Department of Health FACE Program  
Bureau of Occupational Health  
Flanigan Square, Room 230  
547 River Street  
Troy, NY 12180

1-866-807-2130

[www.health.state.ny.us/nysdoh/face/face.htm](http://www.health.state.ny.us/nysdoh/face/face.htm)

Figure 3. Diagram of Incident

