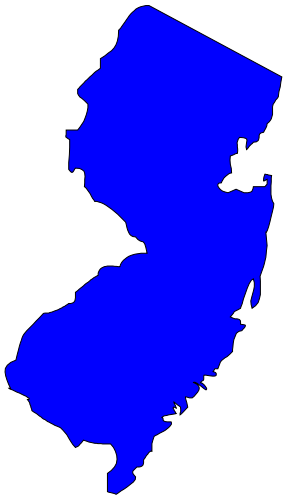
F.A.C.E.
INVESTIGATION REPORT

Fatality Assessment and Control Evaluation Project

FACE #97-NJ-115-01
Municipal Road Worker Run Over
by a Leaf Vacuuming Truck



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TO: Division of Safety Research
National Institute for Occupational Safety and Health
Morgantown, West Virginia

FROM: Fatality Assessment and Control Evaluation (FACE) Project
New Jersey Department of Health & Senior Services (NJDHSS)

SUBJECT: FACE Investigation #97-NJ-115-01
Municipal Road Worker Run Over by a Leaf Vacuuming Truck

DATE: July 9, 1998

SUMMARY

On December 8, 1997, a 57-year-old municipal road worker was killed when he was run over by a leaf vacuuming truck. The incident occurred on a residential street as the victim and a co-worker were picking up leaves piled at the curbside by the home owners. The victim worked beside the truck, using a large vacuum hose connected to the vacuum machine. The co-worker was driving the truck and watched the victim from the side view mirrors. At 11:30 a.m., the workers had just finished vacuuming a pile of leaves at the bottom of a small hill. As the co-worker moved the truck up the hill to the next pile, he felt a bump as if he had run over something. He immediately stopped and found that the victim had been run over by the rear wheels of the truck. To prevent similar incidents in the future, NJ FACE recommends the following safety guidelines:

- Employers should follow the recommendations in the attached *NIOSH Alert, Preventing Worker Injuries and Deaths From Moving Refuse Collection Vehicles*.

- Manufacturers and employers should consider installing bodywork guards over the truck wheels to prevent workers from falling under the wheels.

- Employers should become familiar with available resources on safety standards and safe work practices.

INTRODUCTION

On December 9, 1997, the county medical examiner called NJ FACE investigators to report a work-related fatality that occurred the previous day. Since a public employee was killed, FACE investigators contacted the NJ Department of Labor (NJDOL) Office of Public Employees Safety for more information. The employer was contacted and a site visit was done on the same day. During the visit FACE investigators interviewed the employer and co-worker, examined the incident site, and spoke with investigators at the local police department. Other information was obtained from the NJDOL investigation file, the police report, and the medical examiner's report.

The employer was a municipal department of public works (DPW) that served a small suburban town of one square mile. The DPW employed seven unionized workers. Employees received quarterly safety training through their insurance carrier and in-house safety meetings. The insurance carrier also conducted unannounced safety inspections of the road crews while they worked and reported the results to the township. The DPW employees were trained on the leaf vacuuming machine by the dealer during the previous summer, which included how to operate the machine and load it onto the truck.

The deceased was a 57-year-old male road man who had worked for the DPW for ten years. Previously a machinist, he was responsible for many other maintenance tasks for the township. He was also the town's animal control officer. He was described as very safety conscious both at work and at home, such as wearing eye protection while cutting his own lawn. The deceased was married with two sons and grandchildren.

INVESTIGATION

The incident occurred in a residential suburban neighborhood. During the fall season the DPW had collected leaves raked up by the homeowners. The leaves were left in piles by the side of the road and picked up with two leaf vacuuming trucks owned by the township. The truck involved in the incident was a 41,200 pound, 1997 diesel truck that held roll-off skids. This gave the truck many uses, as it could take a salt spreader, leaf vacuum, or any other equipment that could be loaded onto a skid. The leaf vacuum was a new piece of equipment that the DPW bought the previous summer. This unit was powered by its own diesel engine and was entirely independent of the truck, i.e., the driver could not control the vacuum from the cab of the truck. A large suction hose swung out from the side of the vacuum unit near the truck's cab. A swing arm counterbalanced the hose and could be raised or lowered with a hand held control on a long cable. The vacuum's operating controls (starter, choke, and throttle) and engine gauges were

near the hose. To run the unit, the operator started the engine and engaged the fan blower (which created the vacuum) while the engine was running at a low RPM. The throttle was then turned up to full power, and the operator held the suction hose over the leaves to draw them into the unit's storage hopper. Once filled, the vacuum was shut down and the truck was driven to a compost dump where the hopper was emptied.

The weather the day of the incident was cold and windy. The victim and his co-worker arrived at work at 7:00 a.m., expecting to change the oil in the trucks. The two men knew each other well since they were co-workers and next door neighbors. After arriving, they were told to collect leaves since three other workers had called out that day. They took the truck out and collected leaves for a short time before having to empty the hopper, which was partly filled with leaves left over from the previous week. They then returned to collecting leaves. There were few leaf piles this late in the season, and the work was described as casual. The victim was wearing an orange vest and hearing protection and walked alongside the truck or rode on the running board between pickups. His co-worker drove the truck and watched him in the side view mirrors. The two communicated by hand signal, since they could not shout over the noise of the vacuum's engine. The crew took a break at 9:00 a.m. before making a second leaf dump. They also stopped to wash out a screen that had become frozen in the cold.

At about 11:30 a.m. the crew was at the bottom of a hill in a residential neighborhood. They had just finished vacuuming a pile of leaves and were traveling up a hill to the next pile. The co-worker last saw the victim standing behind the vacuum hose before he slowly drove about 50 feet up the hill. The victim apparently walked beside the truck, holding onto the controller that raised and lowered the vacuum hose. The co-worker reported that he bore left to avoid a pile of sticks in the road before feeling a "bump" as if had run over something. He left the cab to discover that the victim had been run over by the rear wheels of the truck and immediately called for help on the truck radio. The police responded in seconds and found that the victim had died instantly from traumatic head injuries.

CAUSE OF DEATH

The county medical examiner determined the cause of death to be from "multiple fractures and injuries."

RECOMMENDATIONS/DISCUSSIONS

Recommendation #1: Employers should follow the recommendations in the attached *NIOSH Alert, Preventing Worker Injuries and Deaths From Moving Refuse Collection Vehicles*.

Discussion: After analyzing a number of deaths involving garbage collection workers, NIOSH published an alert warning of the hazards of working on and around refuse collection vehicles. Although this incident did not involve a garbage truck, many of the NIOSH recommendations apply to this situation. These recommendations include developing a procedure for safely riding and backing the vehicles, only moving the vehicle when the workers are in sight, and developing a signaling system for communicating. It was noted that the DPW already followed some of these procedures.

Recommendation #2: Manufacturers and employers should consider installing bodywork guards over the truck wheels to prevent workers from falling under the wheels.

Discussion: It is not known how the victim came close enough to the truck's rear wheels to be run over by them. The above NIOSH Alert also outlines a method of guarding the area in front of the truck's rear wheels to prevent workers from falling into the space between the truck body and the tires. A copy of the NIOSH illustration is included in Figure 2.

Recommendation #3: Employers should become familiar with available resources on safety standards and safe work practices.

Discussion: It is extremely important that employers obtain accurate information on working safely and following all OSHA standards. The following sources of information may be helpful:

U.S. Department of Labor, OSHA

On request, OSHA will provide information on safety and health standards. OSHA has several offices in New Jersey that cover the following areas:

Hunterdon, Middlesex, Somerset, Union, and Warren counties.....(732) 750-4737
Essex, Hudson, Morris, and Sussex counties.....(973) 263-1003
Bergen and Passaic counties.....(201) 288-1700
Atlantic, Burlington, Cape May, Camden, Cumberland, Gloucester,
Mercer, Monmouth, Ocean, and Salem counties.....(609) 757-5181

NJ Public Employees Occupational Safety and Health (PEOSH) Program

The PEOSH act covers all NJ state, county, and municipal employees. The act is administered by two departments; the NJ Department of Labor (NJDOL) which investigates safety hazards, and the NJ Department of Health and Senior Services (NJDHSS) which investigates health hazards. Their telephone numbers are:

NJDOL, Office of Public Employees Safety .....(609) 633-3896
NJDHSS, PEOSH Program..... (609) 984-1863

NJDOL Occupational Safety and Health On-Site Consultative Program

Located in the NJ Department of Labor, this program provides free advice to private businesses on improving safety and health in the workplace and complying with OSHA standards. For information regarding a safety consultation, call (609) 292-0404, for a health consultation call (609) 984-0785. Requests may also be faxed to (609) 292-4409.

New Jersey State Safety Council

The NJ Safety Council provides a variety of courses on work-related safety. There is a charge for the seminars. Their address and telephone number is: NJ State Safety Council, 6 Commerce Drive, Cranford, NJ 07016. Telephone (908) 272-7712

Internet Resources

Information and publications on safety and health standards can be easily obtained over the internet. Some useful sites include:

www.osha.gov -The US Department of Labor OSHA website.
www.cdc.gov/niosh/homepage.htm - The CDC/NIOSH website.
www.state.nj.us/health/eoh/peoshweb/peoshome.htm -The NJDHSS PEOSH website.
www.dol.gov/elaws -USDOL Employment Laws Assistance for Workers and Small Businesses.

ATTACHMENTS

NIOSH Alert: Preventing Worker Injuries and Deaths From Moving Refuse Collection Vehicles. US Department of Health & Human Services Publication 97-110, National Institute for Occupational Safety and Health, Cincinnati OH, 1-800-356-4674.

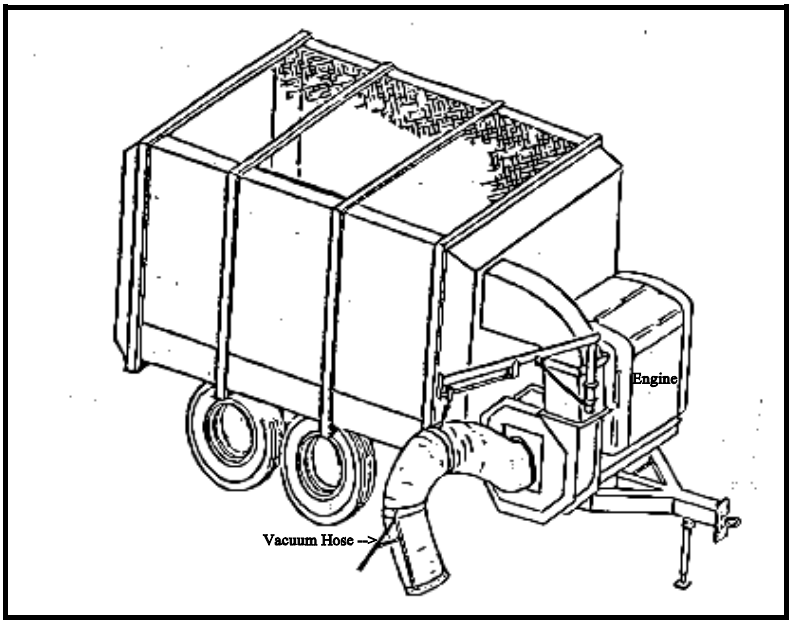
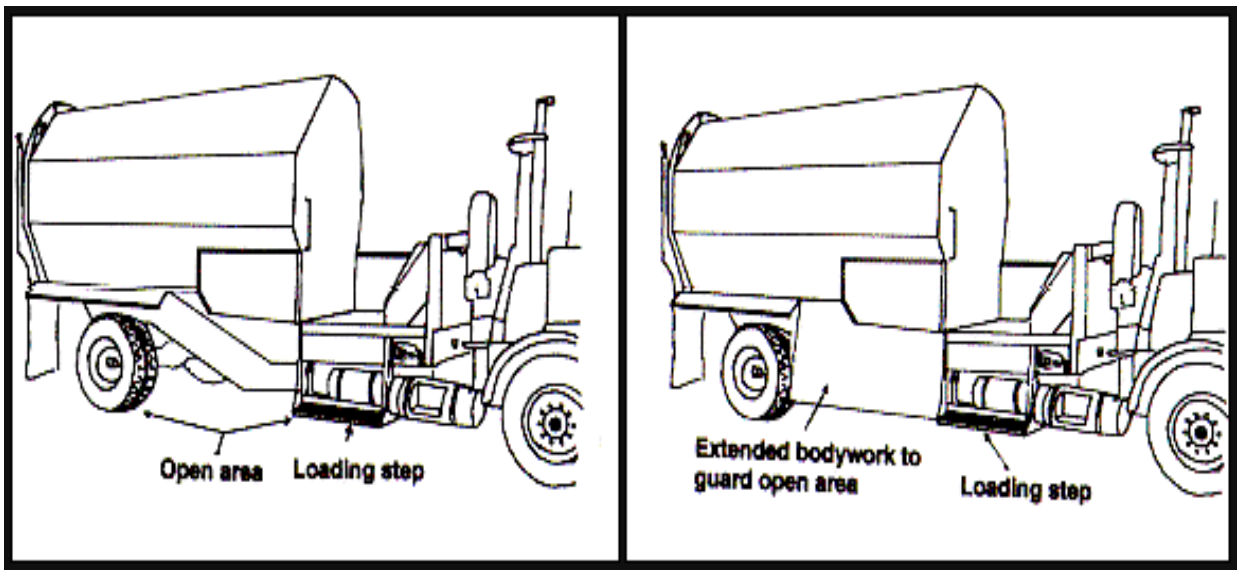


Figure 1
Illustration of leaf vacuum (trailer mounted model)

Figure 2



NIOSH illustrations showing the guarding of the open area between the loading step and rear wheels

From:NIOSH Alert: Preventing Worker Injuries and Deaths From Moving Refuse Collection Vehicles

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