

NJ FACE INVESTIGATION REPORT



Fatality Assessment & Control Evaluation Project

FACE 02-NJ-025

December 3, 2002

Landscaper Crushed between Backhoe and Truck

On May 6, 2002, a 37-year-old landscaper was crushed to death when he was pinned between a backhoe and a dump truck as a landscaping crew was unloading the backhoe from a trailer. The incident occurred on a suburban street in front of a private home as the landscaping crew was preparing to start work for the day. A small backhoe was transported to the site on a trailer being towed by a dump truck. The backhoe was secured to the trailer with chains, which apparently tightened as the vehicle was moved. To remove the front chains, a worker started the backhoe and moved it forward a few inches to release the tension on the forward chains. A second employee (the victim) stood in front of the backhoe to remove the front chains. As the backhoe driver started to get off the machine to help the victim with the chains, the backhoe lunged forward, pinning the worker between the backhoe and the back of the dump truck that was towing it. NJ FACE investigators recommend following these safety guidelines to prevent similar incidents:

- **Employers should ensure that all employees are trained to stay clear of any operating equipment and vehicles.**
- **Employers and employees should conduct a job hazard analysis of all work activities.**
- **Employers should become familiar with available resources on safety standards and safe work practices.**



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INTRODUCTION

On May 6, 2002, the county Medical Examiner's office notified FACE staff of a landscaper who was killed in a machine-related incident. A FACE investigator contacted the company owner and arranged to conduct an investigation, which was done on June 4, 2002. A company representative was interviewed and photographs of the incident site were taken. Additional information was obtained from the police report, the medical examiner's report, and the OSHA investigation file.

The victim's employer was a landscaping company that had been in business for ten years. The company employed 15 workers at the time of the incident. Vehicle operator training was on-the-job, with supervisors riding with drivers on test runs to ensure that they could operate the machinery. The company had an informal safety program that required employees to use hearing and eye protection, but did not have a written safety program.

The victim was a 37-year-old Hispanic male landscaper who had worked for the company for less than two years. He was an undocumented immigrant who only spoke Spanish. Hired as a driver/laborer, he was part of a five-man crew at the incident site. He is survived by his wife and three children.

INVESTIGATION

The incident occurred in a suburban housing development of a large town. About eight weeks prior to the incident, a company representative gave the owner of a private home an estimate to landscape the property around his house. The owner accepted the bid and the employer started work on Monday, May 6, 2002. On this day, a work crew of five employees left for the site. They used a 2001 dump truck to tow a backhoe on a trailer. Additional equipment taken to the site included a van and a second truck with a trailer. They arrived at the site shortly after 7:00 a.m. and parked in front of the house. The crew then started to unload the equipment.

The backhoe was a standard farm tractor equipped with front-end loader and backhoe attachments. A 26,000 pound GVW dump truck was towing it. They parked the truck and trailer near the curb in front



Photo 1
Police photo of backhoe, truck, and trailer

of the residence and started to remove the chains securing the backhoe to the trailer. The chains were tight (possibly due to the backhoe shifting slightly while in transport) and the tension needed to be released for the chains to be removed, which required moving the backhoe forward a few inches. A worker climbed onto the backhoe and started it. This required first pressing down the clutch, which activated an interlock that allowed the engine to start. The victim climbed on the trailer and moved between the front of the backhoe and the rear of the truck, which were separated by only a few feet (see Photo 1). The driver moved the backhoe and reportedly started to get off the vehicle to help the victim with the chains. As he did so, the backhoe lunged forward, pinning the victim against the truck with the blade of the front end loader. The backhoe driver reversed the machine to free the victim, who stepped down and collapsed on the lawn near the vehicles. The police were called at 7:19 a.m. and arrived to find the victim unresponsive with severe abdominal injuries. He was transported by EMS Paramedics who pronounced him dead by telemetry at 7:54 a.m. while en route to the hospital.

RECOMMENDATIONS/DISCUSSIONS

Recommendation #1: Employers should ensure that all employees are trained to stay clear of any operating equipment and vehicles.

Discussion: In this incident, the victim stepped between the truck and trailer to remove the chains at the front of the backhoe. When the backhoe lunged forward, he was crushed against the back of the truck. To prevent similar injuries, NJ FACE recommends training employees to stay clear of vehicles as they are being loaded or unloaded. In a case such as this, the employee releasing the chains must remain clear until the backhoe has been shut down or otherwise secured from further movement. All employees should be trained in safe equipment practices, with detailed training provided to equipment operators and assistants. Training should be done in the employee's primary language.

NJ FACE also recommends researching other ways to chain or secure the backhoe to the trailer that would not require moving the machine to release it.

Recommendation #2: Employers and employees should conduct a job hazard analysis of all work activities.

Discussion: The employees were apparently unaware of the dangers of unloading the backhoe in this manner. To prevent incidents such as this, we recommend that employers conduct a job hazard analysis of all work areas and job tasks with the employees. A job hazard analysis is a review of all the work activities that the employee is responsible for and the equipment that is needed. Each task is examined for possible mechanical, electrical, chemical, and other hazards the worker may encounter. Once identified, the employee can be trained to correct or avoid the hazard. The results of the analysis can be used to design or modify a written employee job description. Additional information on conducting a job hazard analysis is included in the appendix.

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 safety and applicable OSHA standards. The following sources of information may be helpful:

U.S. Department of Labor, OSHA

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

- ☎ Hunterdon, Middlesex, Somerset, Union, and Warren counties.....(732) 750-3270
- ☎ 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.....(856) 757-5181
- 🌐 Federal OSHA Website: *www.osha.gov*

NJ Public Employees Occupational Safety and Health (PEOSH) Program

The PEOSH act covers all NJ state, county, and municipal employees. Two state departments administer the act; the NJ Department of Labor (NJDOL) which investigates safety hazards, and the NJ Department of Health and Senior Services (NJDHSS) which investigates health hazards. PEOSH has information that may also benefit private employers.

NJDOL, Office of Public Employees' Occupational Safety & Health

- ☎ Telephone: (609) 633-3896
- 🌐 Website: *www.nj.gov/labor/lse/lspeosh.html*

NJDHSS, Public Employees Occupational Safety & Health Program

- ☎ Telephone: (609) 984-1863
- 🌐 Website: *www.state.nj.us/health/eoh/peoshweb*

NJDOL Occupational Safety and Health On-Site Consultation 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.

☎ Telephone: (609) 984-0785

🌐 Website: www.nj.gov/labor/lse/lsonsite.html

New Jersey State Safety Council

The NJ State Safety Council provides a variety of courses on work-related safety. There is a charge for the seminars.

☎ Telephone: (908) 272-7712

🌐 Website: www.njsafety.org

Internet Resources

Other useful internet sites for occupational safety and health information:

www.cdc.gov/niosh - The CDC/NIOSH website.

www.dol.gov/elaws -USDOL Employment Laws Assistance for Workers and Small Businesses.

www.nsc.org - National Safety Council.

www.state.nj.us/health/eoh/survweb/face.htm - NJDHSS FACE reports.

REFERENCES

1. *Job Hazard Analysis*. US Department of Labor Publication # OSHA-3071, 1998 (revised). USDOL, OSHA/OICA Publications, PO Box 37535, Washington DC 20013-7535.

DISTRIBUTION LIST

Immediate Distribution

NIOSH

Employer

Incident Site Owner

NJ State Medical Examiner

County Medical Examiner

Local Health Officer

NJDHSS Occupational Health Service Internet Site

NJDHSS Census of Fatal Occupational Injuries (CFOI) Project

General Distribution

USDOL-OSHA New Jersey Area Offices (4)

NJDOL Office of Public Employees Safety

NJDHSS Public Employees Occupational Safety & Health Program

NJDOL OSHA Consultative Service

NJ Institute of Technology

University of Medicine & Dentistry of NJ

Rutgers University

Stevens Institute of Technology

NJ Shade Tree Federation

NJ Utilities Association

NJ School Boards Association

Public Service Electric and Gas Company

Liberty Mutual Insurance Company Research Center

Private Consultants (2)

Private Employers (5)

Public Employers (4)

Other Government Agencies (2)

Fatality Assessment and Control Evaluation (FACE) Project
Investigation # 02-NJ-025-01

Staff members of the New Jersey Department of Health and Senior Services, Occupational Health Service, perform FACE investigations when there is a report of a targeted work-related fatal injury. The goal of FACE is to prevent fatal work injuries by studying the work environment, the worker, the task and tools the worker was using, the energy exchange resulting in fatal injury, and the role of management in controlling how these factors interact. FACE investigators evaluate information from multiple sources that may include interviews of employers, workers, and other investigators; examination of the fatality site and related equipment; and review of records such as OSHA, police, and medical examiner reports, and employer safety procedures, and training plans. The FACE program does not seek to determine fault or place blame on companies or individual workers. Findings are summarized in narrative investigation reports that include recommendations for preventing similar events. All names and other identifiers are removed from FACE reports and other data to protect the confidentiality of those who participate in the program.

NIOSH funded state-based FACE Programs include: Alaska, California, Iowa, Kentucky, Massachusetts, Minnesota, Missouri, Nebraska, New Jersey, New York, Ohio, Oklahoma, Texas, Washington, West Virginia, and Wisconsin. For further information, visit the NJ FACE website at www.state.nj.us/health/eoh/survweb/face.htm or the CDC/NIOSH FACE website at www.cdc.gov/niosh/face/faceweb.html.

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