NJ FACE

INVESTIGATION REPORT

Fatality Assessment & Control Evaluation Project

FACE 03-NJ-042 **August 30, 2004**

Hispanic Tree Trimmer Killed After Being Pulled into A Wood Chipper

On June 14, 2003, a 20-year-old male Hispanic tree trimmer was killed when he was pulled into a wood chipping machine. The incident occurred at the site of a large suburban home that was being renovated. The owner had contracted with the employer to remove two trees and remove a branch from a third tree. These trees were removed the day before the incident; the company was returning to remove the cut-down trees and branches. The employer was a small, family-owned tree-trimming service that employed relatives of the owner's family. A crew of seven workers gathered at the site to carry the branches to a chipping machine. As the victim was feeding a load of branches into the chipper, he used his foot to push the branches into the hopper. A section of the tree top caught his shoe, and the machine pulled the tree and his leg into the machine. A co-worker quickly reversed and shut down the chipper, but it was too late to save the victim. NJ FACE investigators recommend following these safety guidelines to prevent similar incidents:

- **Employers and employees must be properly trained in the safe use of wood chippers and other machinery.**
- **Owners of wood chippers should contact the manufacturer to see if equipment safety modifications and update kits are available.**
- **Employers should conduct a job hazard analysis of all work activities with the participation of the workers.**
- **Employers should ensure that workers in a multilingual workplace comprehend safety training and follow safety instructions required for their assigned tasks.**

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INTRODUCTION

On June 16, 2003, NJ FACE staff received a newspaper article about a Hispanic worker who was killed in a machine-related incident. A FACE investigator confirmed the incident with the federal Occupational Safety and Health Administration (OSHA) and contacted the employer with the assistance of a NJ Department of Health and Senior Services (DHSS) Spanish translator. The employer agreed to participate in a FACE investigation and was interviewed with the Spanish translator on August 16, 2003. On October 28, 2003, a FACE investigator photographed the incident site and went to the municipal police department to discuss the incident and view photographs. FACE investigators were unable to view the wood chipper involved in the incident; however, an investigator visited the manufacturer's sales representative to view a new model of the wood chipper. Additional information was obtained from the police report, the medical examiner's report, and the OSHA investigation file.

The victim worked for a family-owned tree-trimming company (SIC 0783, NAICS 561730) that had been in business since January, 2002. The company employed two workers (partners) with other family members helping when needed. The business started on the recommendation of one of the partners who had previous experience in tree-trimming and provided the training. The company operated during the weekends only and used most of their profits to buy equipment and machinery. During the week, the partners worked at other jobs. The family was from Mexico and spoke Spanish as their primary language. The partner interviewed during the FACE investigation spoke limited English and preferred to talk through an interpreter.

The victim was a 20-year-old Hispanic male who had emigrated from the state of Oaxaca, Mexico, where he had worked in farming. At the time of the incident, he was mowing lawns as an employee of a landscaping company, occasionally working with the tree-trimming company when needed. He was working with them for the first time in four weeks when the incident occurred.

INVESTIGATION

The incident occurred on the street in front of a large home in a residential suburban neighborhood. The

homeowner had recently purchased the house and was renovating it to move in for the upcoming summer. As part of the work, he had contracted with the tree-trimming company to remove two trees from the side yard of the house: a dying 25-foot-tall maple and a second, smaller tree that was to be removed for aesthetic reasons. A limb was also to be cut down from a third tree. On Saturday, June 13, 2003, the workers went to the property and cut down the trees, planning to return the next day to clean up the debris.

The incident occurred on Sunday, June 14, 2003. A crew of seven workers met at the site and started work at 8:30 a.m. All were family members of the two partners: three cousins, one uncle, and one brother-in-law. They set up a wood-chipping machine at the curb in front of the house and started dragging the brush, branches, and trunk wood to the machine. The wood chipper was a diesel-powered machine towed to the jobsite by a box truck (see Photo 2). The machine accepted brush and wood up to 12" in diameter through a large hopper at the rear of the machine. When wood and brush were pushed into the hopper, two rotating feed wheels took hold of the material and directed it against the cutting knives on a rotating disk, quickly reducing the wood to small chips. The chips blew out through a chute where they were collected in the back of a box truck.

Photo 1
Site of Incident

Photo 2
Newspaper Photo of Incident Site

During the cleanup the crew worked as a team; no one acted as a supervisor. At about 10:40 a.m., the victim walked to the chipper carrying an armload of branches and brush. One of the company owners was standing behind him, waiting his turn to put a load in the hopper. The owner stated that part of the

victim's load was a section of the tree's top that was approximately eighteen inches long and three to four inches in diameter. The section had small stumps projecting from it where small branches had been cut off. After putting the load in the hopper, the victim held onto the top of the chipper and used his foot to push the load into the feed wheels. As he did so, one of the small branch stumps projecting from the tree section caught his sneaker. The feed wheels took hold of the trunk section, pulling the trunk and victim into the chipping knives.

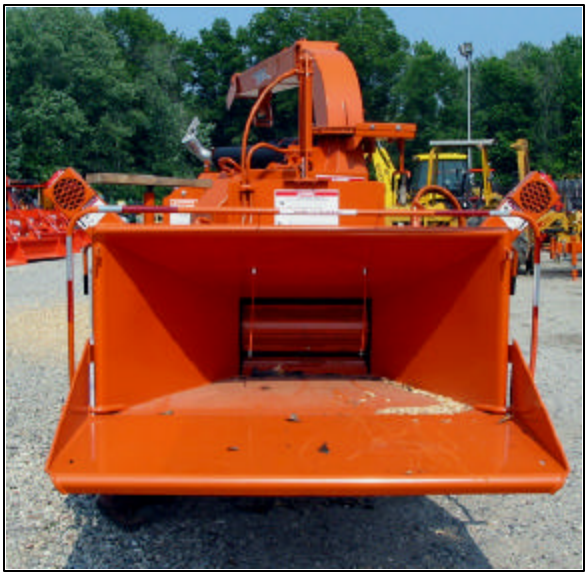

Photo 3
New chipper showing feed wheels, hopper feed table, and emergency stop pull cords in hopper

The company owner saw this happen and quickly went to the side of the machine to reverse the feed wheels. The victim, who had been pulled into the machine up to his waist, was still conscious and lying in the hopper. He asked his cousin to take him out the machine, and the owner picked him up and laid him on the street. During this time one of the other workers asked the homeowner to call the police. Due to language difficulties, the homeowner thought that one of the workers had lacerated his hand and reported that to the police. The police arrived a few minutes later and found the company owner cradling the victim's body near the chipper. They quickly determined that the victim had died from his injuries. He was pronounced dead at the scene at 12:01 p.m. The company owner was taken to the hospital and treated for shock.

RECOMMENDATIONS/DISCUSSIONS

Recommendation #1: Employers and employees must be properly trained in the safe use of wood chippers and other machinery.

Discussion: The employer purchased the wood chipper in used condition and depended on the partner's knowledge of the machine to train the others. The employer did not receive any specific training or documentation on the chipper. NJ FACE recommends that employers receive specific

training in safely operating the machine, preferably from the manufacturer's representative or equipment supplier. Employers should also make sure that the instruction manuals and other documentation are available, or get the missing documents from the manufacturer before using the machine. Once properly trained, the employer can train the other employees to properly use the equipment.

It was noted that the manufacturer's website recommended a number of procedures and machine modifications for preventing injuries. This included using of a push stick to push materials into the hopper and training employees to use the bar that reverses the machine.

Recommendation #2: Owners of wood chippers should contact the manufacturer to see if equipment safety modifications and update kits are available.

Discussion: The wood chipper involved in this incident was an older model machine that was purchased in used condition by the company. This machine did not have a number of safety improvements that were included in later models, including a feed table that prevents workers from getting too close to the feed wheels, and emergency pull cords that reverse the feed wheels (see Photo 3). These devices may have prevented the victim from kicking the brush into the hopper. NJ FACE recommends that machine owners should contact the equipment manufacturer or dealer to ask if safety modification kits are available. The equipment dealer for this machine stated that the manufacturer provides free update kits for older machines. The manufacturer would send the kit to a service representative, who would charge only for the labor to install it on the chipper.

Recommendation #3: Employers should conduct a job hazard analysis of all work activities with the participation of the workers.

Discussion: To prevent similar incidents, we recommend that employers conduct a job hazard analysis of all work areas and job tasks with the employees. A job hazard analysis begins by reviewing the employee's work activities and the equipment needed. Each task should be examined for mechanical, electrical, chemical, or any other hazards the worker may encounter. The results of the analysis can be used to design or modify a written employee standard operating procedures. Additional information on conducting a job hazard analysis is included in the appendix.

Recommendation #4: Employers should ensure that workers in a multilingual workplace comprehend safety training and follow safety instructions required for their assigned tasks.

Discussion: Communication was not a problem in this incident as all the workers spoke Spanish. However, there may have been difficulties in understanding any English language instructions and documentation for the machines. Overcoming language and literacy barriers is crucial to providing a safe work environment for a multilingual workforce. To adapt to these differences, employers should develop and provide training for workers in a language and literacy level workers are able to comprehend. This includes obtaining training materials and documentation in a language and at a literacy level that workers are capable of understanding.

RECOMMENDED RESOURCES

It is extremely important that employers obtain accurate information on health, safety, and applicable OSHA standards. NJ FACE recommends the following sources of information which should help both employers and employees. The NIOSH and OSHA websites offer much of their information in Spanish:

U.S. Department of Labor, Occupational Safety & Health Administration (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 and Workforce Development (NJDLWD), which

investigates safety hazards, and the NJ Department of Health and Senior Services (NJDHSS) which investigates health hazards. PEOSH has information that may benefit private employers.

NJDLWD, Office of Public Employees Safety

☎Telephone: (609) 292-7036

🖷 Website: *www.state.nj.us/labor/mainpages/safety.html*

NJDHSS, Public Employees Occupational Safety & Health Program

☎Telephone: (609) 984-1863

🖷 Website: *www.state.nj.us/health/eoh/peoshweb*

NJDLWD Occupational Safety and Health On-Site Consultation Program

Located in the NJ Department of Labor and Workforce Development, 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 or (609) 292-0104

🖷 Website: *www.state.nj.us/labor/wps/psosh/onsite/onsite.htm*

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.

www.cdc.gov/niosh/face/faceweb.html - CDC/NIOSH FACE website.

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

NIOSH

Employer

Incident Site Owner

Machine Manufacturer

NJ State Medical Examiner

County Medical Examiner

Local Health Officer

NJDHSS Occupational Health Service Internet Site

NJDHSS Census of Fatal Occupational Injuries (CFOI) Project

Fatality Assessment and Control Evaluation (FACE) Project

Investigation # 03-NJ-042

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 the fatal injury, and the role of management in controlling how these factors interact. FACE gathers information from multiple sources that may include interviews of employers, workers, and other investigators; examination of the fatality site and related equipment; and reviewing OSHA, police, and medical examiner reports, employer safety procedures, and training plans. The FACE program does not determine fault or place blame on employers 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, Michigan, Minnesota, Nebraska, New Jersey, New York, Oklahoma, Oregon, 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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