NJ FACE

INVESTIGATION REPORT

Fatality Assessment & Control Evaluation Project

FACE 11-NJ-020 **November 1, 2012**

52-Year-Old Public Employee Dies After Being Crushed between Dumpster and Rails of Roll-Off Truck

A 52-year-old male public employee was crushed to death between the truck bed and the dumpster of a roll-off truck. On the day of the incident, the decedent was dumping a load of leaves at the recycling yard of a Department of Public Works (DPW) in southern New Jersey. A co-worker who found the victim pinned between the rails and the truck bed called 9-1-1. Emergency personnel arrived, and the victim was pronounced dead at the scene.

Contributing Factors:

- The truck was not the unit that the victim usually operated
- Slippery/muddy conditions
- Worker was outside cab with Power Take Off (PTO) on

NJ FACE investigators recommend that these safety guidelines be followed to prevent similar incidents:

- **Roll-off truck operators should only use the external hydraulic controls when absolutely necessary and if so, with extra caution. If an operator is not intending on utilizing the external controls and is exiting the cab, the Power Take-Off (PTO) should be disengaged.**
- **All parts and equipment on the roll-off truck should meet appropriate specifications as specified in 49 CFR 393.203.**
- **A safety and health plan based on a job hazard analysis should be developed by the employer and followed where workers are assigned tasks.**

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nj.gov/health/surv/face/index.shtml

INTRODUCTION

In the spring of 2011, a New Jersey Office of Public Employees Occupational Safety and Health (PEOSH) officer notified NJ FACE staff of the death of a 52-year-old public employee who died after being crushed under the roll-off (dumpster) at a recycling yard.

A NJ FACE investigator contacted the employer and arranged to conduct an investigation. During the visit, the NJ FACE investigator interviewed the immediate supervisor and co-workers of the decedent. Additional information was obtained from the medical examiner's report, police report, and news media.

The victim worked as a public employee for 33 years and had been a driver/operator of the roll-off truck since 1994. Employee health and safety training, as well as job training, was conducted on site by the employer.

INVESTIGATION

The incident occurred on a mild, 75-degree day with up to 15 mph winds recorded. The site of the incident was a leaf composting facility which is not open to the public. At the facility, workers drive in with a full container of material, then operate the hydraulic controls to lift and tilt the container in order to dump its contents. The dumpster ("roll-off") is transported and controlled by a roll-off truck which has a hydraulically operated bed. As the roll-off truck raises the bed, the roll-off container can slide down the rails using a cable and winch system. After the waste container is loaded (or unloaded), the truck winch pulls the container onto the truck bed using the cable.

There are two locations for the controls that raise and lower the truck bed and operate the winch. The controls that are most commonly utilized are located in the truck cab. There are also auxiliary controls located outside of the cab, just beside the fuel tank (see Figure 1). Both controls work in a similar manner. The controls consist of two levers—the right lever operates the winch (the cable line that pulls the roll-off dumpster up the rails or allows the roll-off dumpster to go down the rails). The left lever operates the hoist that raises and lowers the bed rails that the roll-off dumpster sits upon.

According to another operator, the in-cab controls are utilized approximately 95% of the time; an operator only uses the outside controls when, for example, there were issues with the alignment of the roll-off dumpster on the rails or if visibility was an issue. Another important operational characteristic of the levers is that when the worker releases either the levers, any movement immediately locks and the

winch or the body stop and stay in place.

In order for either of the control systems to work, the Power Take-Off (or PTO) switch must be in the "on" position (See Figure 2.). The PTO switch controls the hydraulic mechanism of the truck. When the PTO is "on" the hydraulics can operate. Conversely, when the PTO is "off" the operator can neither raise/lower the bed, nor power the winch.

On the day of the incident, the victim was working alone and had unloaded a 25 cubic yard roll-off dumpster that was full of leaves and debris. The victim was found crushed between the bottom of the roll-off dumpster and the bed of the truck (see Figure 3.) A co-worker found him sometime later and notified the employer who called 9-1-1. The victim was pronounced dead on the scene.

Note that there were no witnesses to the incident, and how the victim became entrapped or why he was outside the cab with the PTO switch on cannot be determined. When the victim was found, he was lying on his stomach (prone), bent at the waist with his legs extended straight out about one foot off the ground. His head was pinned between the roll-off dumpster and the rails of the truck. The container was not in a fully down position. According to other operators, there was absolutely no reason for any worker to be between the bed and the container, at any time.

The employer hired two consulting engineering firms to conduct independent inspections of the condition of the hydraulic and mechanical systems of the truck. Both reports were completed and indicated that all systems were functioning normally.

FIGURE 1: Worker demonstrating the use of the external roll off controls, including the movement of the winch and the bed.

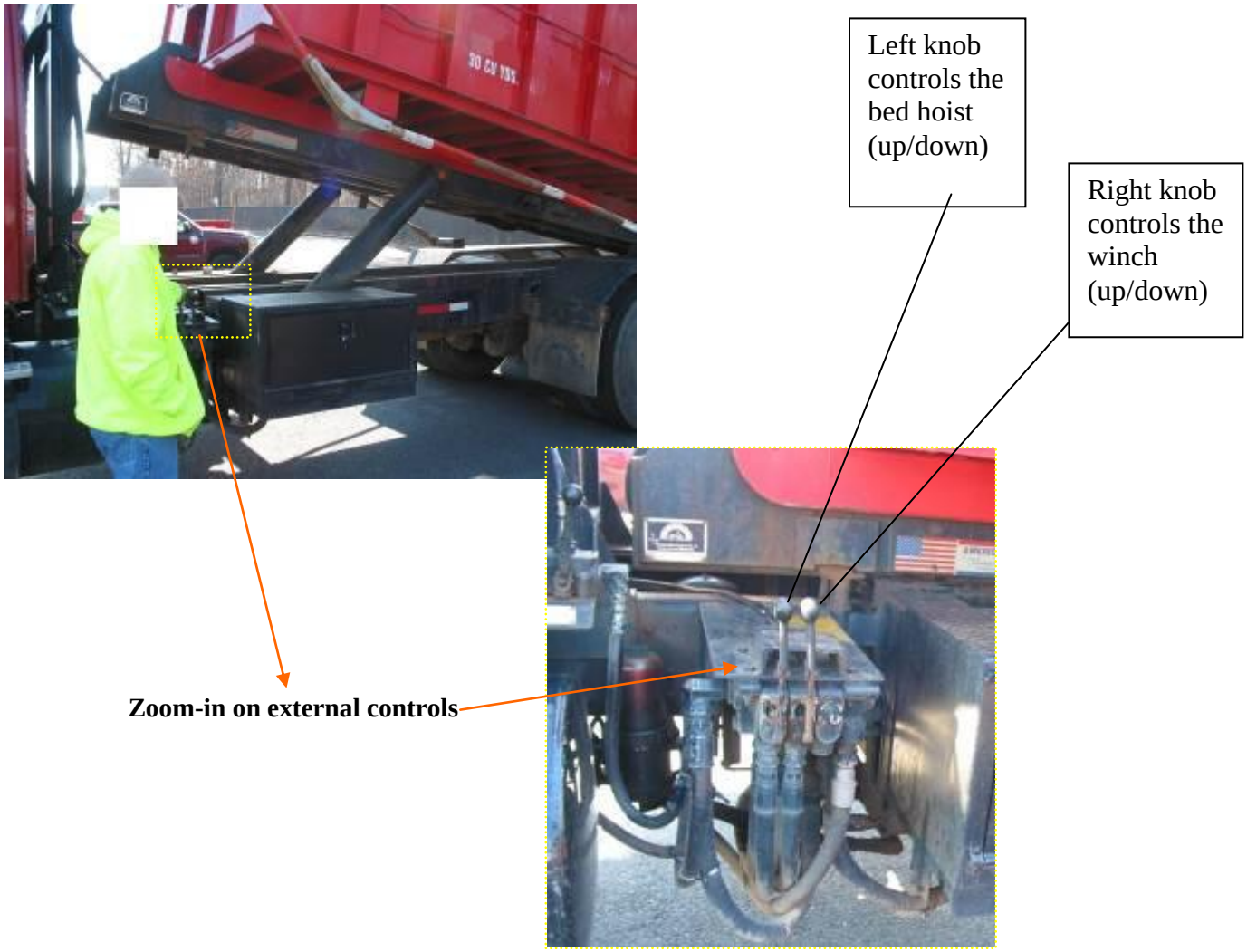
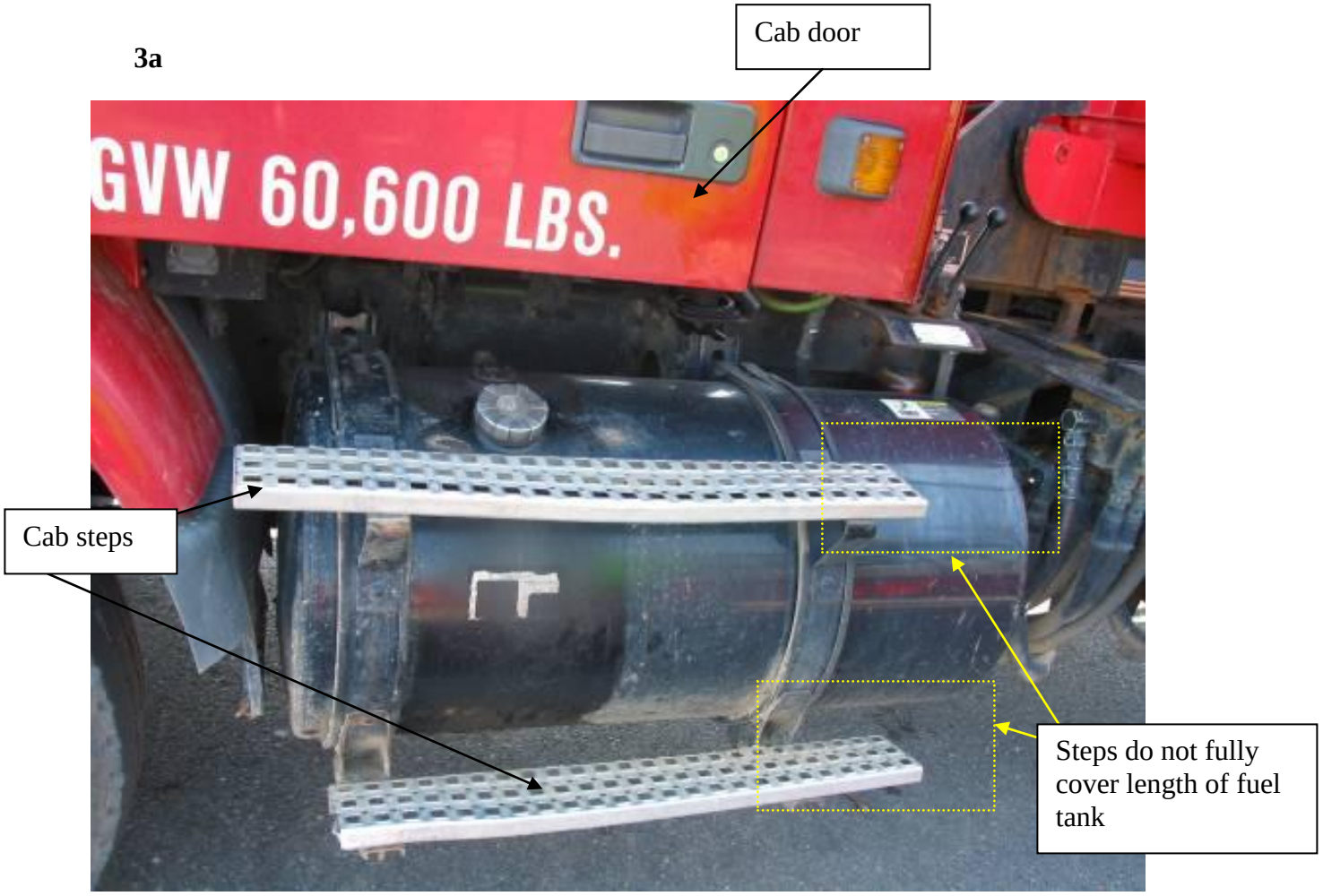


FIGURE 2: Power Takeoff Switch (PTO) located inside the cab.

FIGURE 3a-b. 3a. Door and step to truck cab; 3b. Close up of gas tank.

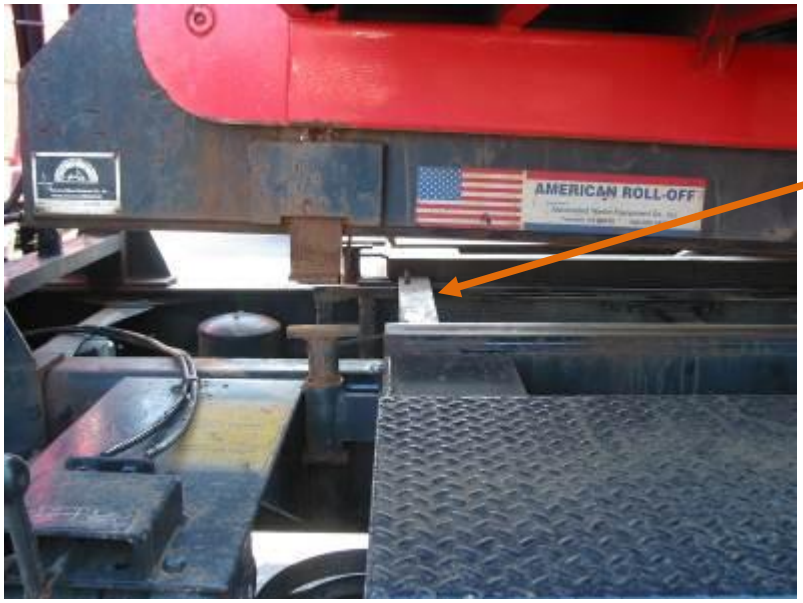
3a



3b

Close up view of gas tank, with warning label

FIGURE 4. The location where the victim was found on the day of the incident.



RECOMMENDATIONS/DISCUSSIONS

Recommendation #1: Roll-off truck operators should only use external hydraulic controls when absolutely necessary and if so, with extra caution. If an operator is not intending on utilizing external controls and is exiting the cab, the Power Take-Off (PTO) should be disengaged.

Discussion:

According to the employer, the external controls to raise and lower the roll-off should only be used if there are significant visibility issues or alignment difficulties with the truck rails as the roll-off dumpster is pulled back onto the truck. NJ FACE recommends that the external hydraulic controls only be used if absolutely necessary, used with extreme caution (perhaps with the use of an additional employee as a spotter). When not in use, the PTO should be disengaged. In addition, the operator should assure that all persons in the area be aware that the dumpster is being raised or lowered. Another related recommendation is to equip the roll-off truck with an external video camera and monitor in the cab to monitor worker activity in the area and the position of the roll-off dumpster. This would allow the worker to remain in the cab at all times while operating the hydraulic controls for the roll-off.

Recommendation #2: **All parts and equipment on the roll-off truck should meet appropriate specifications as specified in 49CFR 393.203.**

Discussion:

The heavy cab door had a broken hinge, such that it would swing without stopping in either direction and the interior door handle was broken. NJ FACE recommends that all parts of the truck should comply with 49 CFR 393.203, PART 393—PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION *Subpart J—Frames, Cab and Body Components, Wheels, Steering, and Suspension Systems* § 393.203; *Cab and body components*. It was also noted that there was a mark on the gas tank from a foot slip. In addition, the steps that lead up to the cab (see Figure 3) did not cover the length of the gasoline tank. NJ FACE recommends that the grated platform steps extend over the tank. According to another operator, the victim also occasionally used another truck that had a step that extended the extent of the gasoline tank.

Recommendation #3: A safety and health plan based on a job hazard analysis should be developed by the employer and followed where workers are assigned tasks.

Discussion: Employers should conduct a job hazard analysis with the participation of employees for all

work areas and job tasks. A job hazard analysis should begin by reviewing the work activities for which the employee is responsible and the equipment that is to be used. Each task is further examined for mechanical, electrical, chemical or any other hazard the worker may encounter. In this case, if the victim had not already done so, it would have been beneficial to have familiarized himself with the truck that was not his usual vehicle.

A source of information on conducting a job hazard analysis is included in the Appendix.

APPENDIX

RECOMMENDED RESOURCES

It is essential that employers obtain accurate information on health, safety, and applicable OSHA standards. NJ FACE recommends the following sources of information which can help both employers and employees:

U.S. Department of Labor, Occupational Safety & Health Administration (OSHA)

Federal OSHA can 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

💻 Web site: *www.osha.gov*

New Jersey 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 also benefit private employers.

NJDLWD, Office of Public Employees Safety

☏Telephone: 609-633-3896

💻 Web site: *www.nj.gov/labor/lsse/lspeosh.html*

NJDHSS, Public Employees Occupational Safety & Health Program

☏Telephone: 609-984-1863

💻 Web site: *www.nj.gov/health/peosh*

On-site Consultation for Public Employers

☏Telephone: 609-984-1863 (health) or 609-633-2587 (safety)

💻 Web site: www.*state.nj.us/health/eoh/peoshweb/peoshcon.htm*

New Jersey Department of Labor and Workforce Development, Occupational Safety and Health On-Site Consultation Program

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

💻 Web site: *www.nj.gov/labor/lsse/lsonsite.html*

New Jersey State Safety Council

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

☏Telephone: 908-272-7712.

💻 Web site: *www.njsafety.org*

Internet Resources

Other useful Internet sites for occupational safety and health information:

- CDC/NIOSH - *www.cdc.gov/niosh*
- USDOL Employment Laws Assistance for Workers and Small Businesses - *www.dol.gov/elaws*
- National Safety Council - *www.nsc.org*
- NJDHSS FACE reports - *www.nj.gov/health/surv/face/index.shtml*
- CDC/NIOSH FACE - *www.cdc.gov/niosh/face/faceweb.html*
- OSHA - *www.osha.gov*
- ANSI - *www.ansi.org*

REFERENCES

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

- 49 CFR 393.203, PART 393—PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION *Subpart J—Frames, Cab and Body Components, Wheels, Steering, and Suspension Systems; Cab and body components*

Fatality Assessment and Control Evaluation (FACE) Project
Investigation # 11-NJ-020

Staff members of the New Jersey Department of Health, Occupational Health Surveillance Unit, conduct FACE investigations when there is a report of a targeted work-related fatal injury. The goal of FACE is to prevent fatal work-related injuries by studying the work environment, the worker, the task, the 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: California, Iowa, Kentucky, Massachusetts, Michigan, New Jersey, New York, Oregon, and Washington. Please visit the NJ FACE Web site at *www.nj.gov/health/surv/face/index.shtml* or the CDC/NIOSH FACE Web site at *www.cdc.gov/niosh/face/faceweb.html* for more information.

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