

**SUBJECT:** A 54-year-old Hispanic worker was killed when he was crushed by a forklift.

## SUMMARY

A 54-year-old Hispanic forklift operator died on January 6, 2004, from crushing head injuries received when he was pinned by a forklift that overturned. He was operating the forklift on uneven terrain at the metal recycling facility where he was employed. The decedent was using a rented forklift to move a metal basket filled with scrap metal weighing approximately 1,500 pounds. He was not wearing a seat belt. As the basket was being unloaded into the pile of scrap metal, the forklift turned over and the victim was crushed beneath the cage of the forklift.

Oklahoma Fatality Assessment and Control Evaluation (OKFACE) investigators concluded that to prevent similar occurrences, employers should:

- Develop, implement, and enforce a comprehensive safety and health training program that includes policies and procedures regarding the safe operation and limitations of forklifts.
- Ensure that all forklift operators are competent to operate a forklift.
- Ensure that all forklift operators wear a seat belt while operating the forklift.
- Ensure that all forklift operators have been trained on special operating procedures or hazards that might be associated with the equipment.

## INTRODUCTION

A 54-year-old maintenance worker died on January 6, 2004, from crushing head injuries received when he was pinned by a forklift that had turned over onto him. OKFACE investigators reviewed the Occupational Safety and Health Administration (OSHA) Fatality/Catastrophe Report, the Medical Examiner's report, the death certificate, and the investigating officer's narrative. A site visit was conducted on January 30, 2004; OKFACE investigators interviewed the company manager and the corporate environmental and safety manager.



Figure 1. Forklift



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The victim worked for a metal recycling facility that had been in business for 17 years. The company had been located at the site where the incident occurred for 17 months. The company employed 100 people, 11 of whom worked at the site of the incident. The decedent was a full time employee and had worked for the company for seven years prior to the incident. He had been driving a forklift for about four months, although he was not a certified operator. Only one person at the company was certified to operate a forklift; however, the company's forklift was reportedly available to anyone who needed to use it.

The company had a written safety program in place at the time of the incident. All new employees received orientation training in English or Spanish that covered safety information included in the written program. The victim's primary language was Spanish; he only spoke a few words of English. His supervisor was not fluent in Spanish, but a co-worker was used as an interpreter when needed. Although the victim could not understand or read English, monthly safety trainings were conducted in English and the victim had signed a statement that he had read the company safety manual.

## **INVESTIGATION**

On the day of the fatal incident, the weather was cool and clear, and the working surfaces were dry. At approximately 11:30 a.m., according to the investigating officer, the decedent was conducting routine work in a metal scrap yard, moving scrap metal across uneven terrain to an area where it could either be cut into smaller pieces with a torch, or ground up into smaller pieces by a shredding machine. He was using a 5,000-pound capacity propane forklift with solid pneumatic tires that had been rented eight days prior to the incident. The company's regular forklift, which was undergoing repairs, was not the same configuration as the rented forklift; however, the rented forklift was the same model that the company had used in the past during repairs and it did come with an operator's manual. The employer-owned forklift was a 6,000-pound capacity diesel model and had been modified with an attachment to rotate the forks to allow operation in a more limited area. The victim was using the rented forklift to move a metal basket filled with scrap metal weighing approximately 1,500 pounds. The basket was 9 feet by 4 feet with a depth of 3 feet. The victim was wearing a hard hat, but not a seat belt. As the basket was being unloaded into the pile of scrap metal, the forklift tipped over and the victim was crushed beneath the cage of the forklift. There were no witnesses to the incident; however, a co-worker was on the scene almost immediately. Company officials immediately called 911; however, it took approximately 20 minutes to get the victim extricated from underneath the forklift. He was pronounced dead at the scene.

## **CAUSE OF DEATH**

The Medical Examiner listed the probable cause of death as head trauma.

## **RECOMMENDATIONS**

**Recommendation #1: Employers should develop, implement, and enforce a comprehensive safety and health training program that includes policies and procedures regarding the safe operation and limitations of forklifts.**

Discussion: OSHA regulations provide guidelines for the safe operation of a forklift and other powered industrial vehicles and should be incorporated into a formal safety program. The

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employer should establish a written program, in the language(s) and literacy level(s) of workers, which includes authorization policies and procedures and includes training in hazard recognition and the avoidance of unsafe conditions. The program should address the requirement for forklift training by a qualified person and the need for retraining if a different model is used. Employers should also ensure that forklifts have appropriate dual-language warning decals on them that declare weight capacity and other hazard warnings to operators.

**Recommendation #2: Employers should ensure that all forklift operators are competent to operate a forklift.**

Discussion: According to OSHA standards, forklift operators must successfully complete forklift training. Training must be conducted by qualified persons and must include formal instruction, practical training, and evaluation of the operator's performance in the workplace. Training must be provided in the language that the operator can understand. Refresher training must be conducted if the operator is assigned to drive a different type of forklift, such as a rented unit. Documentation of all training should be kept on file with the company, including the operator's name, the date the training was completed, the date of the evaluation, and the name of the person who conducted the training or evaluation. Because the victim in this incident had been observed operating a forklift in a safe manner (not speeding, etc.), he was allowed to operate it on a routine basis despite his lack of formal training.

**Recommendation #3: Employers should ensure that all forklift operators wear a seat belt while operating the forklift.**

Discussion: The National Institute for Occupational Safety and Health (NIOSH) found that during a 14-year time period in which just over 1,000 workers died in forklift-related incidents, 22% were due to forklift overturns. The operator's manual for the rented forklift and NIOSH recommend the use of seat belts on sit-down type forklifts. Forklift manufacturers have been required to provide seat belts on new sit-down type forklifts since 1992. Many manufacturers can retrofit seat belts on older models. Employers should ensure the use of seat belts by periodic inspections and reminders. Properly secured seat belts keep the operator within the operator's compartment in the event of an overturn. Workers should also be reminded not to jump from an overturning, sit-down type forklift. Instead, they should hold onto the forklift firmly and lean in the opposite direction of the overturn. This fatality may have been prevented if the operator had been restrained and remained inside the operator's compartment.

**Recommendation #4: Employers should ensure that all forklift operators have been trained on special operating procedures or hazards that might be associated with the equipment.**

Discussion: Operators should be trained on any special operating characteristics, including the specific vehicle, operating surfaces, and environment. OSHA standards address the following issues: surface conditions, composition of loads, load manipulation, pedestrian traffic, restricted operating areas, hazardous locations, ramp and sloped surfaces, closed environments, and any other unique or potentially hazardous environment in the workplace that could affect safe operation. In this case, the forklift was being operated on uneven terrain. The owner's manual of the rented forklift cautioned the operator to avoid bumps,



holes, and loose materials. The use of an all-terrain forklift may have helped prevent this incident.

## REFERENCES

- Occupational Safety and Health Administration: 29 CFR 1910.178, *Powered Industrial Trucks*.
- National Institute for Occupational Safety and Health: *NIOSH Alert, Preventing Injuries and Deaths of Workers Who Operate or Work Near Forklifts*, DHHS (NIOSH) Publication Number 2001-109, June 2001.
- *Coaching the Lift Truck Operator*, FLI Learning Systems, Inc.
- *Lift Truck Safety*, The National Safety Council, Pamphlet 15244-0000.
- *Driving in Dangerous Situations*, Coastal Communications Corp., Pamphlet Number FRKO3H.
- Occupational Safety and Health Administration, *Safety and Health Topics: Powered Industrial Trucks*. <http://www.osha.gov/SLTC/poweredinustrialtrucks/index.html>.

The Oklahoma Fatality Assessment and Control Evaluation (OKFACE) is an occupational fatality surveillance project to determine the epidemiology of all fatal work-related injuries and identify and recommend prevention strategies. FACE is a research program of the National Institute for Occupational Safety and Health (NIOSH), Division of Safety Research.

These fatality investigations serve to prevent fatal work-related injuries in the future by studying the work environment, the worker, the task the worker was performing, the tools the worker was using, the energy exchange resulting in injury, and the role of management in controlling how these factors interact.

For more information on fatal work-related injuries, please contact:

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