

Youth Killed while Operating a Forklift at a Plumbing Supply Company - Massachusetts

Investigation: # 03-MA-034-01

Release Date: July 6, 2005

SUMMARY

On July 1, 2003, a 16-year-old male stock clerk (the victim) was fatally injured when the sit-down forklift he was operating overturned. The victim, who was not wearing a seatbelt, was operating the forklift with the tines raised on an outdoor ramp next to the building's loading dock. The forklift started to tip and he attempted to either jump away from the forklift or was thrown from the operator's seat when the forklift overturned. The forklift's falling object protective structure (FOPS) landed on the victim's chest and abdomen area. A coworker found the victim and yelled for help. Other coworkers ran to assist the victim and they were able to lift the forklift enough to free the victim. Coworkers then began cardiopulmonary resuscitation (CPR) while Emergency Medical Services (EMS) were notified. EMS responded to the incident site within minutes and transported the victim to a local hospital where he was pronounced dead. The Massachusetts FACE Program concluded that to prevent similar occurrences in the future, employers should:

- **provide adequate supervision for young workers, new employees and inexperienced workers**
- **establish work policies and procedures that comply with federal and state child labor laws prohibiting youth less than 18 years of age from performing hazardous work, including operating forklifts**
- **ensure that forklift keys are kept in a locked location and only accessible by trained and authorized employees**
- **develop, implement and enforce a written comprehensive safety program that includes training in safe operation of forklifts.**

In addition, employers, distributors, and manufacturers should:

- **place warning stickers on forklifts that state that forklifts are not to be operated by workers under 18 years of age.**

INTRODUCTION

On July 2, 2003, the Massachusetts FACE Program was alerted by the local media, that on July 1, 2003, a 16-year-old male was fatally injured when the forklift he was operating overturned. An investigation was immediately initiated. On July 29, 2003, the Massachusetts FACE Program Director traveled to the incident location, a plumbing supply company, where the company owner was interviewed. The death certificate, corporate information, police report, and the OSHA fatality and catastrophe report were reviewed and photographs of the incident location were taken during the course of the site visit.

The employer, a plumbing supply company, had been in business for approximately 75 years. The current owners bought the company approximately 27 years prior to the incident. The company has eight locations in Massachusetts. The incident location had been purchased approximately two years prior to the incident. The company employed approximately 100 people, 12 of these employees worked at the incident location. The victim and one other employee were hired for the summer months, while they were on school vacation, both held the title of stock clerk / general help. The victim had started work approximately one week prior to the incident. The company owner reported that the victim had a work permit. In addition, the victim's father worked at the incident location as a salesperson.

The company did not have a designated person in charge of employee safety and health nor did they have a safety and health program, but did have a company handbook that contained job descriptions. The company owner reported that their forklift operators, not including the victim, held the Massachusetts Department of Public Safety issued 1C Hoisting license, which are required in Massachusetts to operate forklifts. The company employees were not part of a union collective bargaining unit.

INVESTIGATION

The company was comprised of four divisions: plumbing, heating, industrial supplies and kitchen supplies. The incident location consisted of a showroom, sales counter and warehouse/stock area. The victim's main tasks were described as labeling bins, moving around materials and putting away stock, such as faucets and other small plumbing type products.

The incident company had purchased another plumbing supply company approximately two years prior to the incident. The incident company acquired the forklift with the incident location as part of this sale. This forklift was the only one at the incident location. The company was not sure when the forklift was manufactured and could not find the owner's manual at the time of the investigation. The 3,000-pound-capacity sit-down forklift was propane powered, had an operable seatbelt and a falling object protective structure (FOPS).

On the day of the incident, the victim had started work at 7:30 a.m. and the incident occurred at approximately 4:30 p.m., at the end of the workday. The victim, along with other coworkers, had been cleaning up for the close of the business day. There were nine employees on site at the time of the incident.

The incident location had an outdoor cement loading dock ramp that sloped away from the building at an angle of approximately 33 degrees (Figure 1). Although not witnessed, the company owner reported that the victim had boarded the forklift, which had the key in the ignition switch, and, without putting on the seatbelt, raised the forklift tines with an empty pallet to a height of approximately 10 feet. The victim then drove the forklift in the forward direction, with the empty pallet on the raised tines, down the left side of the loading dock ramp. It appears that the victim was attempting to place the empty pallet on top of a stack of pallets located at the bottom of the loading dock ramp.

When the forklift started to tip, the victim either attempted to jump away from the forklift or was thrown from the operator's seat. As the forklift overturned, it fell off of the bottom left edge of the loading dock ramp, approximately one-foot to the ground level. The forklift's FOPS crushed the victim's chest and abdomen area as it landed on top of him. The combination of the forklift tines being raised 10 feet and the 33-degree slope of the loading dock ramp may have shifted the forklift's center of gravity causing the forklift to overturn onto its left side.

A coworker found the victim and yelled for help. Other coworkers came running to assist the victim and they were able to lift the forklift enough to free the victim. Coworkers then began cardiopulmonary resuscitation (CPR) while Emergency Medical Services (EMS) were notified. EMS responded to the incident site within minutes and transported the victim to a local hospital where he was pronounced dead.

During the investigation, the company owner reported that the victim had operated the forklift in the past and that the victim had been warned against using the forklift. The employer also mentioned that the local fire department requires forklift keys to be kept in forklifts at night in case of a fire so the forklifts can be removed from the building. The FACE program contacted the local fire department and asked about leaving keys in forklifts at night. The fire department's response was that there is no requirement and they don't ask employers to do this.

CAUSE OF DEATH

The medical examiner listed the cause of death as blunt force abdominal trauma.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Employers should provide adequate supervision for young workers, new employees and inexperienced workers.

Discussion: Research indicates that 80 percent of occupational injuries to young workers occur when no supervisor was present in the immediate work area. There is also evidence that inexperienced workers are at a higher risk of occupational injury than experienced workers. Employers of young workers, new employees and inexperienced workers should provide adequate and frequent supervision for these employees. An adequate supervisor would be a person who has the knowledge, training, and experience to routinely evaluate the worker's performance and competency and has the authority to enforce workplace policies and procedures.

In this case, the victim was operating a forklift during the un-witnessed incident. The company owner reported that the victim was told prior to the incident not to operate the forklift. Adequate supervision would have involved routine checks to ensure that the victim was performing only tasks to which he was assigned with consequences for violating the rules.

Recommendation #2: Employers should establish work policies and procedures that comply with federal and state child labor laws prohibiting youth less than 18 years of age from performing hazardous work, including operating forklifts.

Discussion: State and federal child labor laws are intended to protect working youth by prohibiting their employment under conditions that would be detrimental to their health or well being. These laws establish minimum ages for employment, limit the hours and times of day youth can work and prohibit employment of youth in certain jobs/tasks deemed as particularly hazardous for young workers. The federal Fair Labor Standards Act prohibits youth less than 18 years old in nonagricultural occupations from performing certain jobs that are particularly hazardous (Hazardous Orders). Hazardous Order (HO) No. 7 prohibits persons below the age of 18 from operating power-driven hoisting apparatus, which includes forklifts. The Massachusetts State child labor law also prohibits workers under the age of 18 from operating any motor vehicles, including forklifts (Massachusetts General Laws Part II Title XXI Chapter 149 Section 62).

In this case, the victim who was 16 years old had been seen operating the forklift in the past to transport wooden pallets. Once this was observed, the company owner reported that the victim was told not to operate the forklift. Employers should establish policies and procedures to make certain that workers under 18 years of age are not performing tasks prohibited by child labor laws and ensure that all staff including supervisors are trained in these policies. In addition, employers should explain to supervisors that young workers are at increased risk for injury at work and reinforce the importance of assigning youth to appropriate work tasks.

Reference and educational materials on child labor laws can be obtained by contacting either the Massachusetts Attorney General Office, Fair Labor and Business Practices Division, the U.S. Department of Labor's Wage and Hour Division, or the Massachusetts Department of Public Health, Teens at Work: Injury Surveillance and Prevention Project.

Recommendation #3: Employers should ensure that forklift keys are kept in a locked location and only accessible by trained and authorized employees.

Discussion: Although not required by the local fire department, the company owner reported that keys were left in the forklift ignition switch to ensure that the forklift could be moved out of the building in case of a fire. This practice could create a welcoming situation for any employee to operate the forklift. Keeping the forklift keys in a locked storage location and giving access only to employees that are licensed (1C Hoisting license) through the Massachusetts Department of Public Safety, would eliminate the possibility of non-licensed employees including any employee under 18 years of age from operating forklifts.

Recommendation #4: Employers should develop, implement and enforce a written comprehensive safety program that includes training in safe operation of forklifts.

Discussion: A written comprehensive safety program should be developed with employee input, implemented and strictly enforced by the employer. In this case, a written comprehensive safety program should include, but not be limited to, sections on young workers, hazard recognition, and the avoidance of unsafe conditions. A summary of OSHA's draft proposed safety and health program rule, which discusses employee training, has been included at the end of this report.

The young worker section of a safety program should include child labor laws and the role of supervisors (discussed in above recommendations). The safety program should also include standard operating procedures (SOP) that have sections on hazard recognition and avoidance of unsafe conditions. In this case, a SOP should include forklift stability, safe operating speeds and forklift maneuverability. Also, prohibiting the driving of forklifts with the tines raised, use of operator seat restraints at all times, and knowledge of how to respond when a forklift starts to tip should be addressed in the safety program.

When a forklift is overturning the operator should make every attempt to stay within the operator's compartment. This can be accomplished by the operator wearing the seat restraint, holding on firmly, leaning in the opposite direction that the forklift is tipping, and keeping all body parts within the operator's compartment. It is very important that the operator does not attempt to jump from the operator's compartment when a forklift is overturning. By staying inside the operator's compartment during a overturn, the operator can greatly reduce the risk of being crushed by the overhead guard or another rigid part of the forklift.

Recommendation #5: Employers, distributors, and manufactures should place warning stickers on forklifts that state that forklifts are not to be operated by workers under 18 years of age.

Discussion: A few years prior to this incident, a similar incident occurred in Massachusetts involving a 16-year-old male worker who was also killed when a forklift he was operating overturned. This incident led the Massachusetts Department of Public Health, FACE Project and the Teens at Work: Injury Surveillance and Prevention Project to develop a young worker forklift safety sticker (Figure 2). This sticker is available from the Massachusetts Department of Public Health, from the local Wage and Hour office of the U.S. Department of Labor and from the DOL web site www.youthrules.dol.gov/poster.htm.

Employers and distributors should affix these stickers in a conspicuous place on forklifts. In addition, during the manufacturing process, manufacturers should consider adding a similar sticker to all forklifts and other equipment that are prohibited for use by workers under 18 years of age.

REFERENCES

29 CFR 1910.178 [1998]. Powered industrial truck operator training, Washington, DC: U.S. Government Printing Office, Office of Federal Register

NIOSH [1999]. NIOSH alert: preventing injuries and deaths of workers who operate or work near forklifts. Cincinnati, OH: U.S. Department of Health and Human Services, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publications No. 2000-112.

Massachusetts FACE Report Number 00MA058-01, Massachusetts Youth Killed While Operating Forklift at Seafood Processing Facility.

NIOSH FACE Report Number 2002-02, Seventeen-Year-Old Warehouse Laborer Dies After the Forklift He Was Operating Tipped Over and Crushed Him - Arizona.

National Academy Press, Protecting Youth at Work, Washington, D.C., 1998

Figure 1 – Incident Location

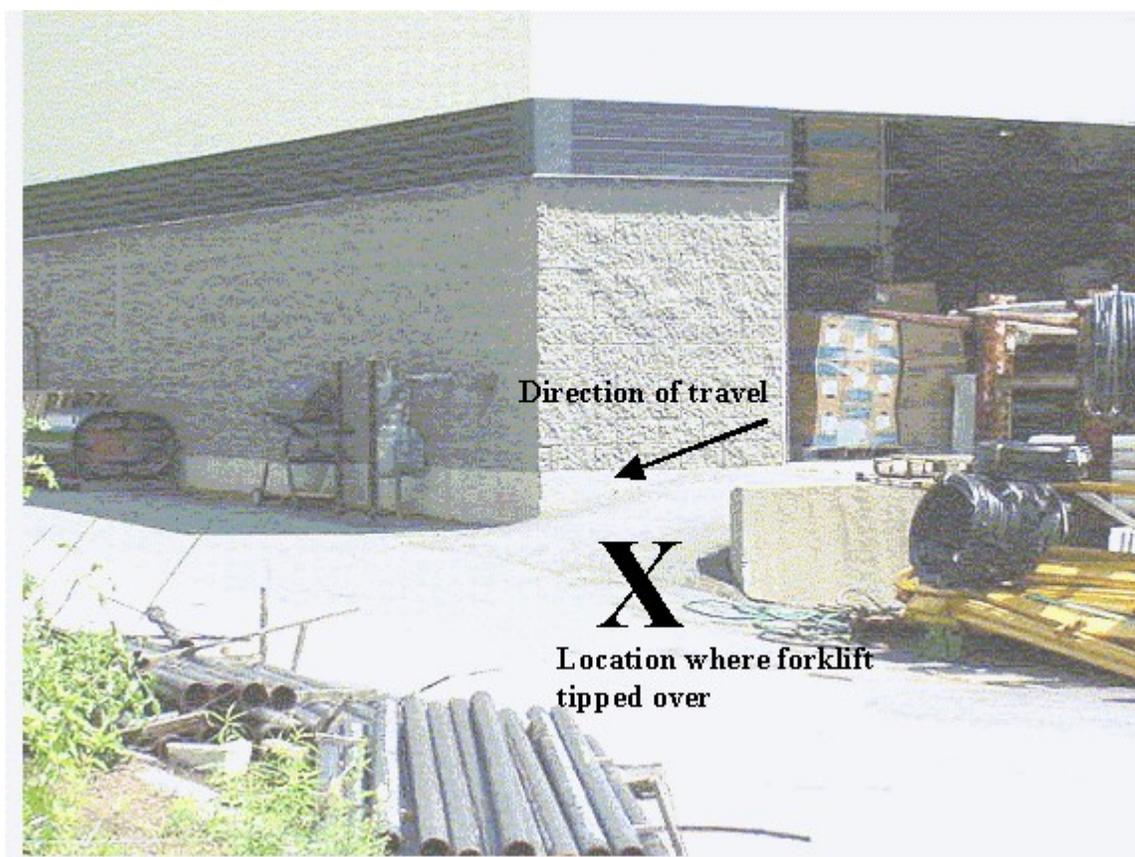


Figure 2 – Young worker forklift safety sticker



SUMMARY OF OSHA'S DRAFT PROPOSED SAFETY AND HEALTH PROGRAM RULE FOR EMPLOYERS

(29 CFR 1900.1 Docket No. S&H-0027)

Core elements

- Management leadership and employee participation
- Hazard identification, assessment, prevention and control
- Access to information and training
- Evaluation of program effectiveness

Basic obligations

Set up a safety and health program, with employee input, to manage workplace safety and health to reduce injuries, illnesses and fatalities.

Ensure that the safety and health program is appropriate to workplace conditions taking into account factors such as hazards employees are exposed to and number of employees.

Establish and assign safety and health responsibilities to an employee. The assigned person must have access to relevant information and training to carry out their safety and health responsibilities and receive safety and health concerns, questions and ideas from other employees.

Employee participation

Regularly communicate with employees about workplace safety and health matters and involve employees in hazard identification, assessment, prioritization, training, and program evaluation.

Establish a way and encourage employees to report job-related fatalities, injuries, illnesses, incidents, and hazards promptly and to make recommendations about appropriate ways to control those hazards.

Identify and assess hazards to which employees are exposed

Conduct inspections of the workplace at least every two years and when safety and health information change or when a change in workplace conditions indicates that a new or increased hazard may be present.

Evaluate new equipment, materials, and processes for hazards before introducing them into the workplace and assess the severity of identified hazards and rank those hazards that cannot be corrected immediately according to their severity.

Investigate safety and health events in the workplace

Thoroughly investigate each work-related death, serious injury, illness, or incident (near miss).

Safety and health program record keeping

Keep records of identified hazards, their assessment and actions taken or the plan to control these hazards.

Hazard prevention and control

Comply with the hazard prevention and control requirements of the OSHA standards by developing a plan for coming into compliance as promptly as possible, which includes setting priorities and deadlines for controlling hazards and tracking the progress.

Information and training

Ensure each employee is provided with safety and health information and training.

If an employee is exposed to hazards, training must be provided on the nature of the hazards to which they are exposed to and how to recognize these hazards. Training must include what is being done to control these hazards and protective measures employees must follow to prevent or minimize their exposures.

Safety and health training must be provided to current and new employees and before assigning a job involving exposure to a hazard. The training should be provided routinely, when safety and health information is modified or a change in workplace conditions indicates a new or increased hazard exists.

Program evaluation and maintenance

Evaluate the safety and health program at least once every two years or as often as necessary to ensure program effectiveness.

Revise the safety and health program in a timely manner once deficiencies have been identified.

Multi-employer workplaces

The host employer's responsibility is to provide information about hazards and their controls, safety and health rules, and emergency procedures to all employers at the workplace. In addition, the host employer must ensure that assigned safety and health responsibilities are appropriate to other employers at the workplace.

The contract employer responsibility is to ensure that the host employer is aware of hazards associated with the contract employer's work and how the contract employer is addressing them. In addition, the contract employer must advise the host employer of any previously unidentified hazards at the workplace.