

NJ FACE
INVESTIGATION
REPORT



Fatality Assessment & Control Evaluation Project

FACE 98-NJ-073-01

April 29, 1999

**Iron Worker Killed When Struck by a Steel Platform
Falling From Two Forklift Trucks**

SUMMARY

On August 17, 1998, a 35-year-old iron worker was killed when he was struck by a falling steel platform that was being supported by two forklift trucks. The incident occurred at a refrigerated warehouse where the victim's company had been contracted to build a steel platform to hold a refrigeration unit. The company had fabricated a 15-foot high stand with a 1,976 pound platform that was being installed in a large warehouse cold room. Borrowing three forklift trucks and operators from the warehouse, the contractor instructed the workers to position two forklifts at the opposite ends of the platform and raise it into the air. A third lift moved under the platform to position the legs. The platform slid off the forks as it was being lowered against the legs. An iron worker who was standing on the floor assisting in aligning the legs was killed instantly when he was struck across the back by the platform. NJ FACE investigators concluded that, to prevent similar incidents in the future, these safety guidelines should be followed:

- *Employers should ensure that all loads are properly positioned and secured before lifting.*
- *Employers should conduct a job hazard analysis of all work tasks with the participation of the workers.*
- *Contracting employers should ensure that employees work only within the limits of their training and experience.*



NJ Department of Health & Senior Services
Occupational Health Service
PO Box 360, Trenton NJ 08625-0360



- *Employers should ensure that forklift operators are properly trained and certified according to the new OSHA regulation 29 CFR 1910.178.*



NJ Department of Health & Senior Services
Occupational Health Service
PO Box 360, Trenton NJ 08625-0360



INTRODUCTION

On August 19, 1998, NJ FACE personnel were notified by an OSHA safety supervisor of a work-related fatality that occurred on August 17, 1998. A FACE investigator contacted the owner of the refrigerated warehouse who agreed to participate. Despite repeated attempts, FACE was unable to contact the employer, a steel erection company based in Pennsylvania. A site visit was conducted on September 25, 1998. During the visit, a FACE investigator interviewed the site owner and witnesses to the incident. The incident site and forklifts were also observed and photographed. Additional information on the incident was gathered from the OSHA compliance officer, the police report, and the medical examiner's report.

INVESTIGATION

The incident occurred at a large refrigerated warehouse in an industrial park. The owner of the warehouse had hired the contractor to erect the steel framework for a wall to divide one of the large cold rooms. This was the second time the contractor had worked at this site, having erected a cooling tower outside the warehouse in 1997. As the wall was being built, the warehouse owner contracted the company for another job. He wanted the company to construct two steel stands to hold the condensers for the refrigeration units. By mounting the condensers on a stand, more floor space would be available for stock. Blue prints were prepared for two identical stands made of steel I-beams that held a platform 15 feet off the floor. The 1,976 pound steel platforms each measured 20 feet long by 7 feet wide. The contractor fabricated and preassembled the stands at their workshop before breaking them down and transporting them to the warehouse. Once on site, the steel was moved into a large cold room for re-assembly.

The incident occurred on Monday, August 17, the second day the steel contractor was working on the stands. The contractor asked the warehouse owner for help in assembling the stands, requesting three employees with forklifts to lift the steel while his iron workers assembled the sections. This request was not unusual since the warehouse owner had helped the contractor in the past. At 8:00 a.m. a crew of seven workers met in the cold room; three iron workers (including the supervisor), two warehouse workers, and two workers from the site owner's other business. The room was kept at 0°F and the work area was cleared of frozen stock. Under the direction of the contractor's supervisor, the platform was placed flat on the floor and two forklifts

were positioned at opposite ends to lift it. The platform was raised about two feet and the supervisor tested the setup by standing on it. Since it seemed stable and was within the lifting limits of the forklifts, the platform was not secured with the chains the ironworkers had brought on site. At this time the warehouse workers needed the forklifts for other duties and the crew broke for lunch.

After lunch the crew reassembled in the cold room. The supervisor directed the lifts to the same positions and the platform was again raised a few feet and tested. Feeling the setup was secure, the supervisor had the two forklifts tandem-lift the platform up 15 feet. A third forklift holding the stand's legs moved under the platform after it was lifted off the floor. A scissor lift with an iron worker was nearby to attach the platform to the legs. When all the forklifts were in position, the iron worker on the scissor lift tried to line up the bolt holes in the legs and platform. At this point the platform was uneven, so the contractor told one forklift operator to lower his lift a little at a time. The operator did this several times. At this point the platform started to slide off the forks. Several workers saw the platform move and yelled that it was going to fall. The victim, who was helping in aligning the legs under the platform, reportedly had his head down and did not see the platform fall. He tried to duck away at the last moment but was struck across the back by the falling platform. The platform then hit the ground and slid away from the workers.

No one else was injured. The other workers immediately went to the victim, who was unresponsive and showed no signs of life. They wrapped him in a sleeping bag to keep him warm while someone called 911. One worker was an EMT and checked for life signs before the paramedics and police arrived. Resuscitation was attempted but was unsuccessful, and the victim was pronounced dead at the scene.

CAUSE OF DEATH

The county medical examiner attributed the cause of death to "multiple fractures and internal injuries due to blunt force trauma."

RECOMMENDATIONS/DISCUSSIONS

Recommendation #1: Employers should ensure that all loads are properly positioned and secured before lifting.

Discussion: The supervisor tested the platform and decided that it was stable enough to lift without chaining it to the forks. Unfortunately he could not predict the platform slipping from the forklifts. To prevent future incidents, FACE recommends that all forklift loads must be properly positioned before lifting. If there is any doubt that the load may be unstable, it should be tied securely to the forks. Cranes and other types of equipment should be considered for large or unusual loads that cannot be safely lifted with a forklift.

Recommendation #2: Employers should conduct a job hazard analysis of all work tasks with the participation of the workers.

Discussion: In this incident the steel contractor did not have the proper equipment and personnel to do this job safely. Also, the work was done in a freezing warehouse cold room that presented additional problems. FACE recommends that employers and workers conduct a job hazard analysis of the work area before starting a job. A job hazard analysis should begin by reviewing the tasks of each worker and the equipment needed. Each task is examined for fall, electrical, chemical, environmental, or other hazards the worker may encounter. Afterwards, appropriate controls and safety training can be used to eliminate the hazards. More information can be found in the attached OSHA publication, *Job Hazard Analysis*.

Recommendation #3: Contracting employers should ensure that employees work only within the limits of their training and experience.

Discussion: The steel contractor had asked the warehouse owner for help in the past, usually needing a forklift to move construction materials. This was taken further in this incident where warehouse workers were used as members of the construction crew. Using other workers may be

necessary when a contractor must depend on the knowledge and expertise of the employees who work at the site. This may include providing special training (e.g., for confined spaces), clearing the work area, or doing other routine tasks that the contractor is not trained or equipped to handle. However, both the site owner and contractor must agree in advance to the tasks and ensure that all workers are acting within their training and skills.

Recommendation #4: Employers should ensure that forklift operators are properly trained and certified according to the new OSHA regulation 29 CFR 1910.178.

Discussion: Effective March 1, 1999, all employers who use forklift trucks must comply with the new OSHA regulation 29 CFR 1910.178, *Powered Industrial Trucks*. This standard requires employers to provide classroom and hands-on training to the operators. Training must be specific to the worksite and equipment used and taught by someone who is competent to train forklift operations. Operators must be certified as having passed their training and must be periodically reevaluated. The complete standard and information on other regulations are available from the following sources:

U.S. Department of Labor, OSHA

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

Hunterdon, Middlesex, Somerset, Union, and Warren counties.....	(732) 750-4737
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.....	(609) 757-5181

NJ Public Employees Occupational Safety and Health (PEOSH) Program

The PEOSH act covers all NJ state, county, and municipal employees. The act is administered by two departments; the NJ Department of Labor (NJDOL) which investigates safety hazards,

and the NJ Department of Health and Senior Services (NJDHSS) which investigates health hazards. Their telephone numbers are:

NJDOL, Office of Public Employees Safety(609) 633-3896
NJDHSS, PEOSH Program.....(609) 984-1863

NJDOL Occupational Safety and Health On-Site Consultative 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. For information regarding a safety consultation, call (609) 292-0404, for a health consultation call (609) 984-0785. Requests may also be faxed to (609) 292-4409.

New Jersey State Safety Council

The NJ Safety Council provides a variety of courses on work-related safety. There is a charge for the seminars. Their address and telephone number is: NJ State Safety Council, 6 Commerce Drive, Cranford, NJ 07016. Telephone (908) 272-7712

Internet Resources

Information and publications on safety and health standards can be easily obtained over the Internet. Some useful sites include:

www.osha.gov -The US Department of Labor OSHA website.

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

www.state.nj.us/health/eoh/peoshweb/peoshhome.htm -The NJDHSS PEOSH website.

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

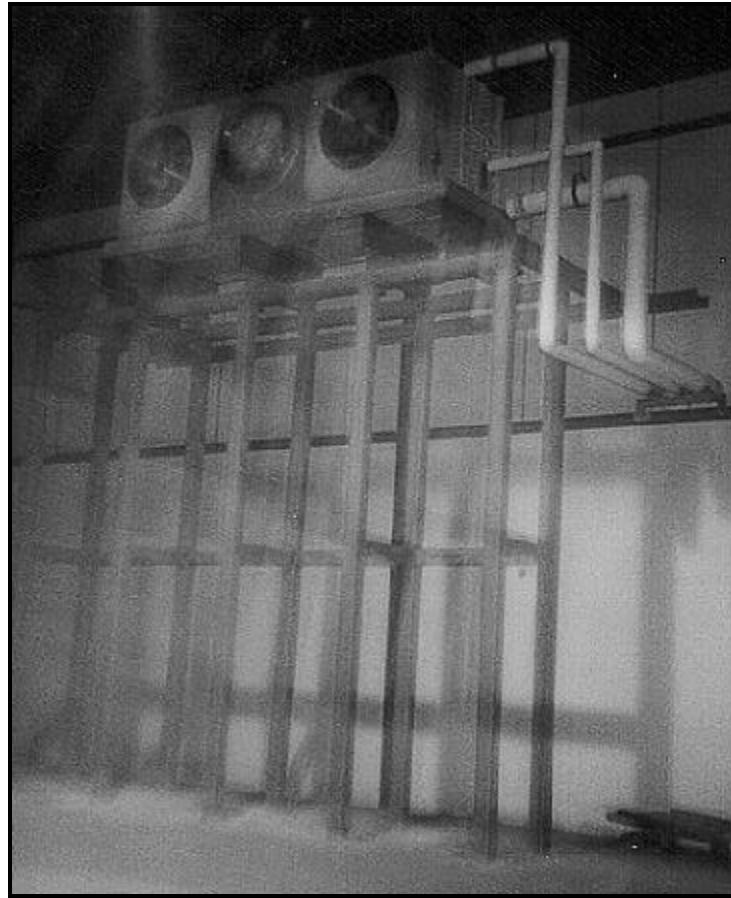


Figure 1
Photo of completed steel platform

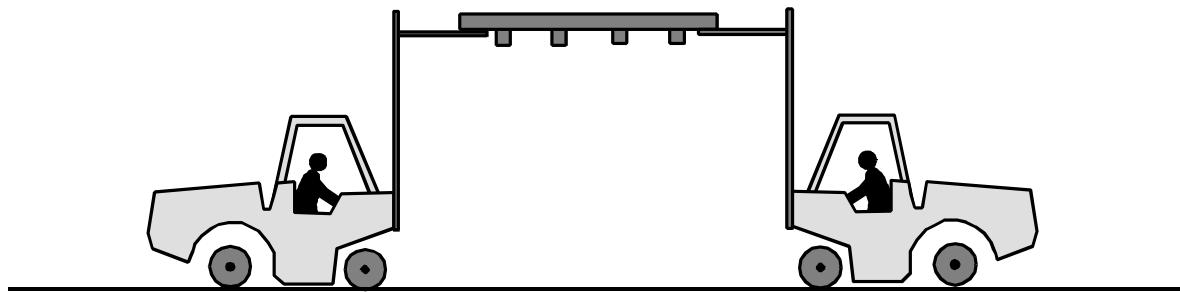


Figure 2
Graphic of two forklifts supporting the top of the platform

DISTRIBUTION LIST

Immediate Distribution

NIOSH
Employer
Incident Site Owner
NJ State Medical Examiner
County Medical Examiner
Local Health Officer
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 OSHA
NJDOL OSHA Consultative Service
NJ State Safety Council
NJ Institute of Technology
University of Medicine & Dentistry of NJ
Rutgers University
Stevens Institute of Technology
College of NJ
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 (4)
Private Companies (10)