

F.A.C.E. INVESTIGATION REPORT

Fatality Assessment and Control Evaluation Project

FACE #94-NJ-152-01
Foreman Killed After a Forklift Falls
From A Loading Dock



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FROM: Fatality Assessment and Control Evaluation (FACE) Project
New Jersey Department of Health (NJDOH)

SUBJECT: FACE Investigation #94-NJ-152-01
Foreman Killed After a Forklift Falls From A Loading Dock

DATE: June 22, 1995

SUMMARY

On December 14, 1994, a 58 year-old male textile plant foreman was killed when his forklift truck was struck by a second forklift falling off a loading dock. The incident occurred as the victim and a co-worker were transferring pipes from a forklift located at ground level to a second forklift on the edge of the loading dock. The workers had completed loading the second forklift and were raising the load when the lift's front wheels slipped off the edge of the dock. The forklift fell off the dock, striking the first forklift at ground level and turning it over. The victim, who was operating the first lift, was crushed under the roll cage as it turned over. NJDOH FACE investigators recommend the following safety guidelines to prevent similar incidents in the future:

- o Employers should ensure that employees are properly trained and equipped in the proper method of moving materials.

- o Employers should develop and implement a written training and certification program for operating forklift trucks.

- o Employers should conduct a job hazard analysis of all work activities with the participation of the workers.

- o Employers and employees should develop and implement a comprehensive safety program.o Forklift operators should be instructed to wear safety belts.

INTRODUCTION

On December 12, 1994, NJDOH FACE investigators were notified by the OSHA area office of a death resulting from a forklift incident. After contacting the employer, a site visit was conducted on January 11, 1995. FACE investigators interviewed the employer's safety consultant (who was hired after the incident to represent the employer), photographed the incident site, and examined the two forklift trucks involved in the incident. A professor of safety engineering and his graduate student were also present during the investigation to provide technical assistance to the FACE staff. The operator of the second forklift was not available to be interviewed. Additional information on the incident was gathered from the OSHA investigation file, police report, and medical examiner's report.

The employer was a textile processor that bleached, dyed, and treated large bolts of cloth. The employer had been in business since 1948 and operated this facility since 1979. The plant employed 185 workers, 75 of whom were working the first shift when the incident happened. The company owned five forklift trucks and provided informal on-the-job training for the forklift operators. The production workers at the plant were unionized, however maintenance workers (including the victim) were not. The victim was a 58 year-old male plant engineer or general foreman. He had worked for the company a total of 15 years, and was said by the company consultant to be responsible for safety at the plant.

INVESTIGATION

The incident occurred on a Wednesday on the loading dock at the plant's warehouse. Shortly before noon, the victim asked a co-worker to help him move three 21 foot-long lengths of pipe to the roof of the warehouse. The pipes (one 4" and two 2" diameter pipes) were to be used in installing another piece of equipment elsewhere in the plant. Directing the operation, the victim planned to use two forklifts to lift the pipes 22 feet to the roof. He first positioned a 5,000 pound forklift (Lift #1) on the ground at the base of the loading dock. His co-worker operated a larger, 8,600 pound forklift (Lift #2) on the loading dock. Both lifts were propane powered trucks equipped with roll-over protective structures.

With the parking brake set, lift #2 was positioned with the front wheels on the edge of the loading dock. This allowed the truck's forks and mast to reach out over the dock and clear the outside wall as the forks were raised. The victim raised the 4" pipe with Lift #1 and transferred it

to the forks of Lift #2. After the victim tied a heavy rope to both ends of the pipe, his co-worker raised the forks of Lift #2 to its maximum height of 15.5 feet. Other workers on the roof then pulled the pipe up with the heavy rope (Figure 1).

The forks of Lift #2 were lowered to repeat the operation with the remaining 2" pipes. Leaving their lifts, the victim and co-worker manually lifted the pipes to Lift #2 and secured the rope to the ends. The victim then returned to his forklift while his co-worker went back to the loading dock. Standing beside Lift #2, the co-worker reached into the truck and pulled the lever to raise the forks. The forks began to rise slowly, so the co-worker tried to speed up the lift by revving the engine. He put his foot on the gas and jumped into the forklift. This caused the overhanging front wheels of Lift #2 to slip off the edge of the dock. Lift #2 tumbled off the dock, striking the victim's forklift (Lift #1) which had just moved to the side to leave the area. The impact caused Lift #1 to turn over, throwing the victim from his seat and crushing him between the roll-over cage and pavement. The co-worker was able to jump off the falling lift and was not injured. Other plant workers called 911, used a third forklift to raise the machine off the victim, and started first aid. The police and EMS arrived and requested a helicopter to med-evac him to the hospital, where he arrived with CPR in progress. The victim failed to respond to resuscitative efforts and was pronounced at 1:22 p.m.

CAUSE OF DEATH

The county medical examiner attributed the cause of death to severe upper airway trauma received in a forklift accident.

RECOMMENDATIONS/DISCUSSIONS

Recommendation #1: Employers should ensure that employees are properly trained and equipped in the proper method of moving materials.

Discussion: In this situation, the task was to raise the three lengths of pipe to the roof. The victim was apparently trying to make the job easier by improvising with the two forklift trucks. The proper way of raising the pipes would have been to use a block and tackle to hoist the pipes up and over the roof edge. Heavier items may require a high reach forklift or crane.

Recommendation #2: Employers should develop and implement a written training and certification program for operating forklift trucks.

Discussion: By improperly using the forklift trucks to raise the pipes, the employees demonstrated their lack of training or understanding in the safe operation of the lifts. To prevent similar incidents, FACE recommends that employers implement a comprehensive employee training and certification program for operating forklift trucks. This training should include both classroom and hands-on training on general forklift operations, back-up alarms, use of seat belts and personnel cages, and other operating and safety topics. An employee who completed the training would be certified to use the equipment until he was due for refresher training. To prevent non-certified drivers from operating the forklifts, it is suggested that keys to the equipment should only be given to and held by certified operators.

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

Discussion: To prevent incidents such as this, we recommend that employers conduct a job hazard analysis of all work areas and job tasks with the employees. A job hazard analysis should begin by reviewing the work activities that the employee is responsible for and the equipment that is needed. Each task is examined for fall, electrical, chemical, or any other hazards the worker may encounter. The analysis can then be used to design or modify a written employee job description. If the employer is unable to do a proper job hazard analysis, then the company should hire a safety consultant to complete it.

Recommendation #4: Employers and employees should develop and implement a comprehensive safety program.

Discussion: It is recommended that all employers emphasize worker safety by developing and implementing a comprehensive safety program to reduce or eliminate hazardous situations. This program, which may be developed as part of a joint labor/management safety committee, should include the recognition and avoidance of hazards identified by the job hazard analysis and include appropriate worker safety training. Records should be kept of any training conducted.

Recommendation #5: Forklift operators should be instructed to wear safety belts.

Discussion: The operator in this case was killed when he was apparently thrown under the roll over cage of the forklift. To prevent being thrown from forklift trucks, operators should wear their safety belts. Forklift trucks that are not equipped with safety belts should be retrofitted with belts at the earliest opportunity.

REFERENCES

Code of Federal Regulations 29 CFR 1910, 1992 edition. US Government Printing Office, Office of the Federal Register, Washington DC

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