ADMINISTRATIVE REPORT **DATE: October 17, 1997**
PUBLIC HEALTH SERVICE/CDC/NIOSH/DSR
FACE 98-01

TO: **Director, National Institute for Occupational Safety and Health**

FROM: **Division of Safety Research, NIOSH**

SUBJECT: **Maintenance Manager Dies After Falling 7 Feet From an Elevated Forklift Safety Platform--North Carolina**

SUMMARY

On September 24, 1997, a 61-year-old male maintenance manager (the victim) died after falling 7 feet from a safety platform that had been elevated by a forklift. The victim had been raised in a steel-framed cage-type safety platform that had not been secured to the forklift. The victim removed a fluorescent light bulb from its fixture and stepped to one side of the safety platform. When the victim shifted his weight from the center of the platform to the outer edge, the safety platform toppled off the forks of the forklift. The victim, along with the safety platform, fell about 7 feet to a concrete floor where the victim struck his head and was also struck by the steel safety platform. The forklift operator called 911 and the Emergency Medical Service (EMS) arrived about 7 minutes later. The EMS transported the victim to a local hospital where he was pronounced dead on arrival. NIOSH investigators concluded that, to prevent similar incidents, employers should:

- *implement 29 CFR 1910.178 (m)(12)(i), which requires the use of a safety platform firmly secured to the lifting carriage and/or forks when lifting personnel with a powered industrial truck (e.g., forklift)*
- *ensure that personnel assigned to operate forklifts are thoroughly trained*
- *ensure that workers continually adhere to the safe work procedures that have been established by the employer*
- *routinely conduct scheduled and unscheduled worksite safety inspections.*

INTRODUCTION

On September 24, 1997, a 61-year-old male maintenance manager (the victim) died after he fell 7 feet from a safety platform that had been elevated by a forklift, then landed on a concrete

floor. On October 2, 1997, officials from the North Carolina Occupational Safety and Health Administration (NCOSHA) notified the Division of Safety Research (DSR) of this fatality, and requested technical assistance. On October 14, 1997, a DSR safety specialist conducted an investigation of the incident. The incident was reviewed with the NCOSHA compliance officer assigned to the case, the company executive director, the warehouse manager, and a forklift operator. Photographs of the incident site were taken and the forklift and safety platform involved in the incident were inspected.

The employer in this incident was a rescue mission that provided shelter to the homeless. The mission had been in business since 1967 and employed 22 workers, including 5 workers who operated the 3 forklifts on an as-needed basis. The employer had a written safety program which was verbally communicated by the maintenance manager (the victim) on a regular basis. The safety program contained rules which included securing the safety platform to the forklift whenever the safety platform was to be elevated. Training was provided on the job. The victim had worked for the company for 5 years at the incident site as a maintenance manager. This was the first fatality experienced by the employer.

INVESTIGATION

On the day of the incident, the victim and forklift operator arrived at work around 7:30 a.m. and performed various duties until noon. At about 1:15 the victim informed the forklift operator that a number of fluorescent light bulbs in the entrance-way to the recycling center needed to be changed. The fluorescent light bulb fixture was suspended from the ceiling by chains about 13 feet above the concrete floor.

The two men walked to an area where the Yale forklift and fabricated safety platform were located. As the men approached the forklift/safety platform it appeared that the safety platform had previously been secured to the forklift (the forks of the forklift appeared to have been inserted through channels on the bottom of the safety platform, but in reality the forks had been positioned alongside the channels instead of into the channels). The operator drove the forklift from its location to the recycling center entrance-way just beneath the fluorescent light fixture.

The victim opened the door to the 36-inch-wide by 39-inch-long by 42-inch-deep steel-framed cage-type safety platform and entered and secured the door (Figure). The operator elevated the safety platform about 7 feet above the concrete floor. The victim reached up and removed one of the two fluorescent light bulbs from its fixture and stepped from the center of the safety platform to one side. At that time the safety platform became

unstable because of the shifting weight from the center of the platform to its outer edge, and began to tip. The safety platform, containing the victim, fell off the forks of the forklift to the concrete floor.

As the safety platform and victim fell, the victim was partially thrown from the platform and struck his head on the concrete floor. Also, as the platform fell to the floor it struck the victim in the face. The operator rushed to the victim and found him unconscious but breathing, with a strong pulse. The operator called 911 for the Emergency Medical Service (EMS). The EMS arrived in 7 minutes; by that time the victim had no pulse and was not breathing. Although the operator had first aid and CPR training, he could not perform CPR because of the extensive facial damage to the victim. The EMS transported the victim to a local hospital where he was pronounced dead on arrival.

CAUSE OF DEATH

The medical examiner listed the cause of death as blunt trauma head injury.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Employers should implement 29 CFR 1910.178 (m)(12)(i), which requires the use of a safety platform firmly secured to the lifting carriage and/or forks when lifting personnel with a powered industrial truck (e.g., forklift).

Discussion: In this incident, a steel-framed cage-type safety platform used as a work surface was elevated, unsecured, on the forks of the forklift. 29 CFR 1910.178 (m)(12)(i) requires that whenever a truck is equipped with vertical only, or vertical and horizontal controls elevatable with the lifting carriage or forks for lifting personnel, the use of a safety platform firmly secured to the lifting carriage and/or forks shall be used as an additional precaution for the protection of the personnel being elevated. If the safety platform had been firmly secured, the victim and safety platform would not have toppled from the forks of the forklift and the incident may have been prevented. Note: the employer has secured the safety platform to a set of forks by welding the bottom of the steel-frame safety platform to the forks apparatus. Also, to provide for additional safety while working from an elevated safety platform, workers should use a safety belt and lanyard secured to a point on the forklift or cage, in the event the worker should fall out of the platform.

Recommendation #2: Employers should ensure that personnel assigned to operate forklifts are thoroughly trained.

Discussion: The victim and forklift operator discussed changing light bulbs then proceeded to the area where the forklift was

parked. Without first checking that the safety platform was secured to the forks of the forklift, the operator and the victim moved the forklift to the recycling center entrance-way and commenced work. Employers should ensure that forklift operators are not only thoroughly trained, but that they understand the hazards associated with all phases of using a forklift (e.g., the hazards of elevating personnel in a safety platform and the prevention or elimination of those hazards).

Recommendation #3: Employers should ensure that workers continually adhere to the safe work procedures that have been established by the employer.

Discussion: Employers should continually stress the importance of adherence to established safe work procedures. In this instance, written safety rules regarding the securing of the steel-framed cage-type safety platform to the forklift were in effect when personnel were to be elevated. During employee interviews with the NCOSHA compliance officer, it was learned that the forklift operators were aware of the rule and the rules had been communicated to them. For rules to be effective, they should be reinforced on a regular basis and compliance with the rules should be enforced.

Recommendation #4: Employers should routinely conduct scheduled and unscheduled worksite safety inspections.

Discussion: Employers should be aware of any potential hazards or unsafe work conditions or practices in the workplace and should take an active role to eliminate them. Scheduled and unscheduled safety inspections should be conducted by a competent person[1] to ensure that the workplace is free of hazardous conditions. Even though these inspections do not guarantee the prevention of occupational injury, they may identify hazardous conditions and activities that should be rectified. Further, they demonstrate the employer's commitment to the enforcement of the safety program and to the prevention of occupational injury.

REFERENCES

29 CFR 1910.178 (m)(12)(i) Code of Federal Regulations, Washington, D.C.: U.S. Government Printing Office, Office of the Federal Register.

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[1]Competent person: One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has the authority to take prompt corrective measures to correct them.

Figure. Safety Platform

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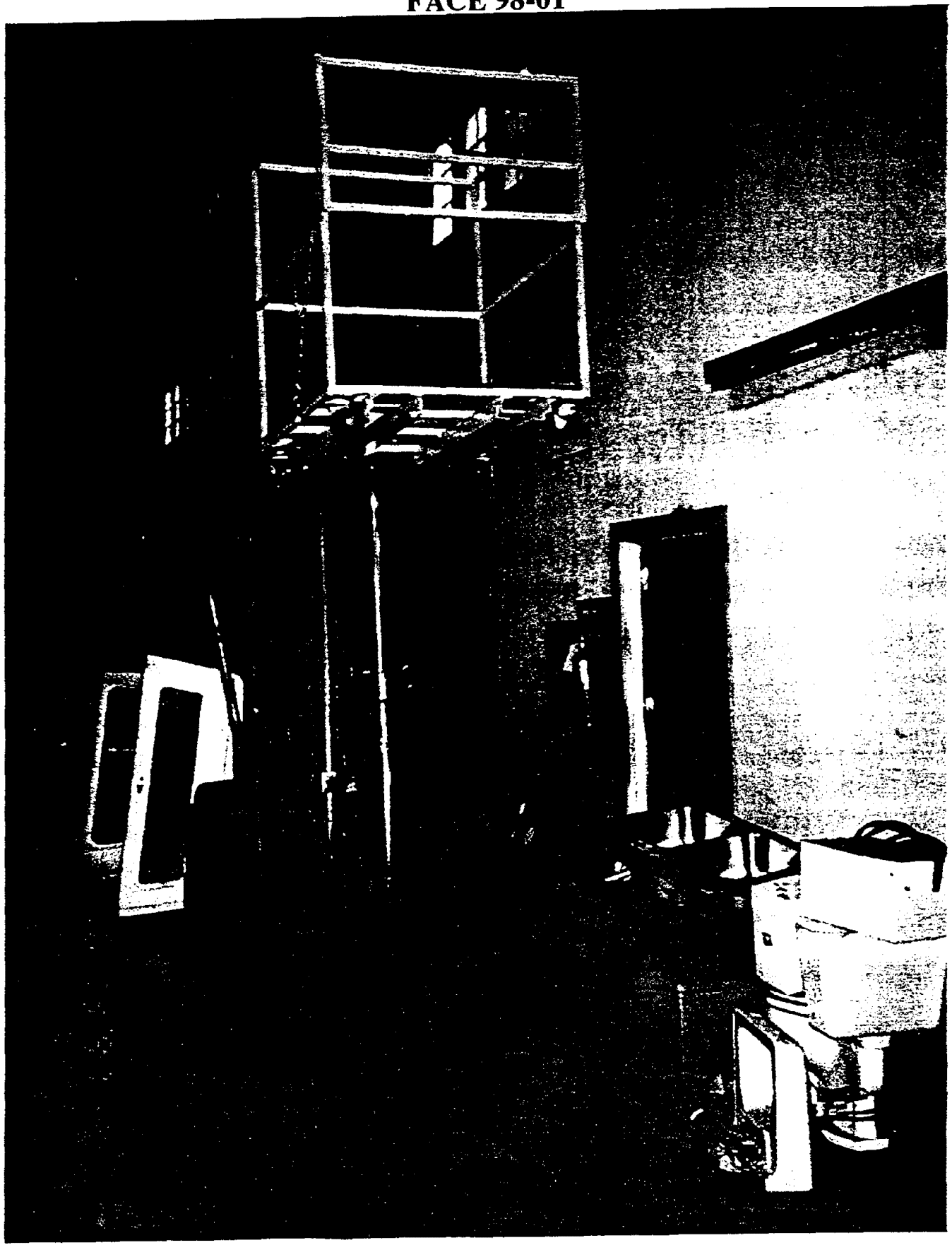

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Fatality Assessment and Control Evaluation (FACE) Project

The National Institute for Occupational Safety and Health (NIOSH), Division of Safety Research (DSR), performs Fatality Assessment and Control Evaluation (FACE) investigations when a participating State reports an occupational fatality and requests technical assistance. The goal of these evaluations is to prevent fatal work injuries in the future by studying the working environment, the worker, the task the worker was performing, the tools the worker was using, the energy exchange resulting in fatal injury, and the role of management in controlling how these factors interact.

States participating in this study: North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, and Virginia.

Additional information regarding this report is available from:

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