FINAL FACE REPORT

CALIFORNIA DEPT. OF HEALTH SERVICES
FACE REPORT: 94CA01101
DATE: APRIL 24, 1995

TO: Director, National Institute for Occupational Safety and Health

FROM: California Fatality Assessment and Control Evaluation (FACE) Program

SUBJECT: Forklift Driver Dies From Injuries Sustained After Being Crushed by a Forklift California

SUMMARY

A 37-year-old, white, non-Hispanic male forklift driver (the victim) died after being crushed by a forklift when he and a co-worker attempted to raise the forklift to remove some shrink wrap, which had become entangled on the stub axle. The two workers used a second forklift to raise the front end of the first forklift in order to remove the shrink wrap. The shrink wrap had prevented the forklift from moving. The victim slid under the raised portion of the lifted forklift to remove the shrink wrap when the tilted forklift fell crushing the victim's face, neck, and chest. He was taken to a local hospital where he was pronounced dead. The CA/FACE investigator concluded that in order to prevent similar future occurrences, employers should:

- ensure that equipment is used for its design purpose and within the limits of its design capabilities.
- not allow employees to pass, stand, or work under elevated portions of industrial equipment (forklifts) unless they are effectively blocked.
- have a standard operating procedure for removing objects caught under forklifts and provide employees with training and specific guidelines for the safe removal of these items.

In addition, product designers and manufacturers should:

- consider redesigning the axle/wheel access so that material is less likely to become entangled and/or is easier to remove.

INTRODUCTION

On May 13, 1994, a 37-year-old forklift driver (the victim) died after being crushed by a forklift when he and a co-worker attempted to raise the forklift to remove some shrink wrap which had become entangled on the stub axle. The CA/FACE investigator was informed of this incident by an investigator from the California Occupational Safety and Health Administration's (Cal/OSHA) Bureau of Investigation's Office (BOI) on May 13, 1994. The CA/FACE investigator was denied entry by the employer so no site

visit was conducted. A copy of the Cal/OSHA Report, the Coroner's Autopsy Report, were obtained by the CA/FACE investigator.

The employer in the incident was a motor freight transportation company and there were 17 employees working on the night of the incident. The company had a safety plan which was in compliance with Title 8 of the California Code of Regulations (CCRs) Injury and Illness Prevention Program (IIPP), and also conducted monthly safety meetings according to witnesses interviewed. They did not, however, have any specific forklift safety training relating to lifting techniques or specific guidelines (standard operating procedures) for the safe removal of items caught in forklifts or for working below elevated forks.

INVESTIGATION

On the night of the incident, at approximately 1:10 a.m., the victim and a co-worker were at work loading trailers on a loading dock. Both workers were using forklifts to load the trailers when the victim's forklift stopped working for an unknown reason. The workers looked underneath the forklift to try and identify the problem and discovered that shrink wrap had become caught in the underside of the machine. The shrink wrap was preventing the forklift from backing up or moving forward. The workers decided to tilt the forklift in order to remove the shrink wrap. This was done by using the working forklift to elevate the front end of the non-working forklift. The workers did not block or support the front end of the elevated forklift.

Both workers then positioned themselves the elevated forklift to remove the shrink wrap. The victim told his co-worker to move out of the way so that he could cut away the shrink wrap. The co-worker moved out from under the forklift and stated that he wasn't sure what happened next, but for some reason the elevated forklift fell from the forks onto the victim. Co-workers called 911 to summon emergency services and lifted the forklift from the victim. A co-worker pulled the victim out from under the forklift while trying to stabilize his neck. He stated that the forklift's tow motor had fallen onto the victim's face, neck, and chest.

This same co-worker also stated that he yelled for someone to get a blanket. The victim was not breathing at that time and his eyes were rolled back in his head. Cardiopulmonary resuscitation (CPR) was administered by co-workers and according to co-workers, the victim began breathing. The breathing was described by co-workers as a gargle and the victim's eyes returned to normal. The sheriff was the first to arrive at the scene followed by paramedics. The victim was transported in full arrest to the emergency room at a local hospital. He was pronounced dead at 2:19 a.m. on May 13, 1994.

CAUSE OF DEATH

The Coroner's Autopsy Report stated the cause of death to be multiple blunt force injuries.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Employer should ensure that equipment is used for its design purpose and within the limits of its design capabilities.

Discussion: In this situation, the weight from the tilted forklift was within the load capacity of the lifting forklift. However, forklifts are not designed to allow secure tilting of loads, and in this case the tilted load slid off the forks of the working forklift. If some more secure method had been used to tilt the forklift, this incident may have been avoided.

Recommendation #2: Employers should not allow employees to pass, stand, or work under elevated portions of industrial equipment (forklifts) unless they are effectively blocked.

Discussion: Under Title 8 of the California Code of Regulations (CCRs) section 3664(a)(6) employees shall not be allowed to stand, pass, or work under the elevated portion of any industrial truck, loaded or empty, unless it is effectively blocked to prevent it from falling. If the forklift had been blocked so that it would not fall, the victim and his co-worker may have been able to remove the shrink wrap safely.

Recommendation #3: Employers should have a standard operating procedure for removing objects caught under forklifts and provide employees with training and specific guidelines for the safe removal of these items.

Discussion: It is not uncommon for shrink wrap, twine, and other material to become entangled with forklifts. The employees in this situation had not received any specific safety training for the safe removal of items caught under forklifts. If the victim and co-worker had been following a standard operating procedure which anticipated the hazards of removing entangled material, they may have chosen a less hazardous procedure for removing the entangled material and this incident may have been avoided.

Recommendation #5: Product designers and manufacturers should consider redesigning axle/wheel access so that material is less likely to become entangled and/or is easier to remove.

Discussion: Forklift suppliers have been able to retrofit the wheels on some forklifts to allow more room for cleaning operations and/or for removing materials that have become caught on a stub axle. If in this incident, the workers would have been able to remove the shrink wrap more easily without lifting the forklift, this incident may have been avoided.