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

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

**SUBJECT:** A youth dies when a forklift rolls over on him.


## SUMMARY
### California FACE Report # 04CA007

A 17-year-old Hispanic male died when he was crushed by a forklift that rolled over on him. The victim had been employed with the company for only one hour and had not yet received safety training. The victim was attempting to retrieve some bales of hay for a customer when the incident occurred. The company kept the forklift keys in the ignition of the forklift during normal business hours. The CA/FACE investigator determined that, in order to prevent future occurrences, employers, as part of their Injury and Illness Prevention Program (IIPP), should:

- Ensure employees under the age of 18 do not operate power-driven machinery. To accomplish this, employers should:
  - Establish a system to control access to power-driven machinery.
  - Identify and label equipment that is not to be operated by workers less than 18 years old.

- Ensure that employee orientation and safety training is given to employees before they begin work.


## INTRODUCTION

On Wednesday, June 9, 2004, at approximately 11:50 a.m., a 17- year-old Hispanic male died when the forklift he was operating rolled over on him. The CA/FACE investigator learned of this incident on June 24, 2004, from the Division of Occupational Safety and Health (Cal/OSHA). On July 7, 2004, the CA/FACE investigator traveled to the business where the incident occurred, and interviewed the company's store manager and co-workers. The machine involved in the incident was photographed, and the area where the incident took place was also photographed and inspected.

Exhibit 1. The site of the incident.

The employer of the victim was a grain and hay store. The company had been in business for 11 years and had only three employees. The victim had been employed approximately one hour when the incident occurred. The victim was born in the United States, and spoke both English and Spanish. The victim had no employment history but he and

his family were regular customers of the store for many years and the store manager was well acquainted with him. According to the store manager, he informally paid the victim out of his own pocket to do tasks around the store like sweeping floors, pulling weeds, and washing cars. The store manager stated he hired the victim the morning of the incident and planned to complete paper work for a new hire later that day.

The company did not have a written safety program, however there were safety responsibilities assigned to all employees. The store was regularly inspected for safety hazards by the store manager, and a representative of their insurance carrier. The store also had a bulletin board with official safety notices and posters attached. Safety meetings were held every three months and were documented. The company had a training program that provided specific training to its employees for the tasks being performed at the store. The training program had a system to evaluate how well the employee understood the training and this was documented. The victim had not received any training prior to the incident.

## INVESTIGATION

The site of the incident was a commercial grain and hay feed store with an asphalt paved yard. The machine involved in the incident was a propane-powered forklift (**Exhibit 2**). The victim's job title was a "bag hauler," and his duties consisted of placing the items a customer purchased in a bag and then carrying the bag to the customer's vehicle. The victim had graduated from high school, and was planning to work part-time, no more than three days per week, and no more than five hours per day.

Exhibit 2. The forklift involved in the incident.

On the day of the incident, the victim reported for his first day of work at the grain and hay feed store. The store manager had to go to the bank with the store receipts from the previous day. The store manager instructed another employee to work the cash register while he was gone and instructed the victim to "hang loose" until he returned. While the store manager was gone, customers were making purchases and the victim assumed the duties of a bag hauler. The employee assigned to the cash register was helping a customer who ordered three bales of hay, along with other items from the store, when he heard the forklift start up. A few minutes later another customer came running into the store stating the forklift had just turned over by the hay stacks. The employees and customers ran out of the store and found the forklift lying on its left side with the victim pinned underneath. The forklift was removed from the victim with the help of employees from a neighboring business. The paramedics were called and transported the victim to the hospital where he died.


Exhibit 3. The forklift mast in the raised position.

According to witnesses, the victim overheard a customer order three bales of hay and then decided on his own to get the bales using the forklift.

The forklift was always parked on the side of the store with the keys in the ignition. The victim started the forklift and then drove to the other end of the yard where the hay was stacked. The hay bales were stacked seven bales high, so the victim raised the forklift mast and attempted to get the top bale. With the forklift mast raised high in the air, the victim backed the forklift over a rain gutter built into the asphalt yard. The victim lost control of the forklift and it overturned on its left side, pinning the victim as he attempted to jump free.

Exhibit 4. The rain gutter built into the asphalt yard.

## CAUSE OF DEATH

The cause of death, according to the death certificate, was mechanical compression of the torso.

## RECOMMENDATIONS / DISCUSSION

**Recommendation #1: Ensure employees under the age of 18 do not operate power-driven machinery.**

Discussion: In general, workers less than 18 years of age do not possess the experience, or the physical and emotional maturity, of older workers. They often attempt to balance conflicting time constraints from work and school by sleeping less. These are all factors that may place younger workers at increased risk for harm. Studies have shown that all factory workers and miners have higher rates of injuries the first five months on the job, and younger workers have higher rates than older workers. Laws and regulations try to shield the youngest workers from the most hazardous tasks. In a work setting like the one in which this incident occurred, there are several things employers can do to help ensure workers under age 18 do not use power-driven machinery. These include:

- **Establishing a system to control access to power-driven machinery.** The store had an informal policy of leaving the forklift keys in the ignition during normal business hours. All the other employees and the store manager were certified to operate the forklift, so it was convenient to do this. Unfortunately, the victim was never told that he was not allowed or authorized to operate the forklift. Future situations like this might be avoided by placing power machinery keys in a secure, monitored location, or by establishing some other system to control access.
- **Identifying and labeling equipment that is not to be operated by workers younger than 18 years old.** Employers can obtain stickers in English and Spanish that indicate **"NO OPERATORS UNDER 18 YEARS OF AGE. IT'S THE LAW"** from the local Wage and Hour Office of the U.S. Department of Labor (DOL). These stickers can be downloaded from the Internet and should be affixed in a noticeable place on forklifts. A supervisor should be assigned to ensure, through periodic inspections, that only authorized and trained operators are operating forklifts.

**Recommendation #2: Ensure that employee orientation and safety training is given to employees before they begin work.**

Discussion: The victim in this case had not received any orientation or training. Since he had not been informed of his job duties and restrictions, he assumed a responsibility he was not intended to

have. According to the store manager, the victim's orientation, outlining his duties and responsibilities, and instructions not to operate the forklift would have taken place when the manager returned from the bank.

**References:**

California Code of Regulations, Vol. 9, Title 8, Sections 3650(s), 3668

DOL Employment Standards Administration information pertaining to child labor laws is available at: http://www.dol.gov/dol/esa/public/whd_org.htm.

http://www.cdc.gov/niosh/face/In-house/full200202.html

http://www.cdc.gov/niosh/face/In-house/full200403.html

DOL [2001]. Child Labor Requirements in Non-Agricultural Occupations under the Fair Labor Standards Act. Washington, DC: U.S. Department of Labor, Employment Standards Administration, Wage and Hour Division, WH-1330. Child Labor Bulletin No. 101.

Protecting Youth at Work: Health, Safety, and Development of Working Children and Adolescents in the United States / Committee on the Health and Safety Implications of Child Labor, Board on Children, Youth, and Families, Commission on Behavioral and Social Sciences and Education, National Research Council, Institute of Medicine. 1998

DOL [2002a}. Fact Sheet #43: Child Labor Provisions of the Fair Labor Standards Act for Non-Agricultural Occupations. Accessed May 2004.
http://www.dol.gov/esa/regs/compliance/whd/whdfs43.htm


**Exhibit 5.** This sticker "NO OPERATORS UNDER 18 YEARS OF AGE. IT'S THE LAW," is available from the local Wage and Hour office of the U.S. Department of Labor or from the DOL website http://www.youthrules.dol.gov/posters.htm

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**May 6, 2005**

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**FATALITY ASSESSMENT AND CONTROL EVALUATION PROGRAM**

The California Department of Health Services, in cooperation with the Public Health Institute and the National Institute for Occupational Safety and Health (NIOSH), conducts investigations on work-related fatalities. The goal of this program, known as the California Fatality Assessment and Control Evaluation (CA/FACE), is to prevent fatal work injuries in the future. CA/FACE aims to achieve this goal by studying the work 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. NIOSH-funded, state-based FACE programs include: Alaska, California, Iowa, Kentucky, Massachusetts, Michigan, Minnesota, Nebraska, New Jersey, New York, Oklahoma, Oregon, Washington, West Virginia, and Wisconsin.

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**Additional information regarding the CA/FACE program is available from:**

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**Occupational Health Branch**
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**Richmond, CA 94804**