

Public Health

KY FACE #96KY04901

Date: 17 July 1996

To: Carl Spurlock, PhD, Director of the Kentucky Injury Prevention and Research Center (KIPRC)

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Subject: Maintenance Worker Killed in 25-Foot Fall from I-Beam

SUMMARY

A 25-year-old maintenance worker at a steel distribution company died as the result of a fall from a steel I-beam he had repeatedly climbed to reach the top of a disabled crane. This worker and another had been attempting to repair the crane, and had found it necessary to climb up and down several times for various reasons (see below). Each time the victim had shimmied down and back up the I-beam rather than using the fixed ladder some distance away. When the fall occurred, he was on his way back up and somehow lost his grip on the beam. Emergency medical assistance was summoned immediately and the victim was airlifted to a nearby hospital where he died the following day.

In order to prevent similar incidents, FACE investigators recommend that employers should:

- train employees in the recognition of hazards, and methods to control such hazards, including the use of appropriate safety equipment;*
- ensure that workers continually adhere to the safe work procedures established by the employer, and actively encourage workers to participate in workplace safety;*
- routinely conduct both scheduled and unscheduled safety inspections;*
- evaluate their current safety program and incorporate specific training procedures emphasizing the importance of following safety guidelines; and,*
- ensure that adequate fall protection equipment is provided to and used by employees whenever work is performed from an elevation where the potential for a fall exists;*

INTRODUCTION

On May 19, 1996, FACE investigators were informed of the May 17 death of a 25-year-old steel company employee. An investigation was immediately initiated. Although a site visit was refused by the company manager (see below), he granted a telephone interview. Interviews were also held with the Kentucky Occupational Safety and Health Administration (KY OSHA) safety program manager and the investigating compliance officer.

The employer in this case is a steel distribution business. The company receives steel from steel mills and performs some minor processing, but primarily warehouses and delivers large pieces of steel ("plates") to manufacturers. Nationwide, the corporation employs 800 people; 35 work at the site where this incident occurred. This site is located in a small town, and many of the workers have been acquainted for years. Because of the close relationships among many of the employees, the incident was especially disturbing to them. It was for this reason that the site visit was denied by the manager.

INVESTIGATION

On the day prior to the incident, the victim had clocked in at 11:59 a.m. He and another maintenance worker had performed their routine duties during the afternoon and evening. These duties included helping to load trucks with a large crane which runs on a track the length of the building. The crane needed repair work which could not be performed until after the trucks were loaded.

After the other workers left (about 2:00 a.m.), the two maintenance workers, who were lifelong friends, began work on the crane. Since the hoist was sticking in the up position, they first worked on the pendent only. After completing and testing this work, it was determined that the pendent was not the only problem, and that further work on the crane was required. The two men had to go to the top of the crane - an area large enough to park a car, according to the OSHA compliance officer - to gain access to the crane's electrical control panel. The crane was parked at the south end of the building, near the maintenance cage where tools were located, rather than at the north end where a fixed ladder was located, and where work on the crane was normally performed. Since the fixed ladder was some distance away and the crane was now disabled, the two men scaled a steel I-beam to reach the top.

They took some of the crane's wiring apart, memorizing as they went along how the wires should go back together. However, when they started rewiring, the next shift of truck drivers began arriving and one needed help to load his truck. They climbed down and helped him, and then climbed back up to the top of the crane. When they again started to rewire the control panel, they realized that they could not remember the sequence, so it would be necessary to get the schematics to use as a guide.

This time the victim climbed down alone, leaving his co-worker on the crane. Several truck drivers saw him shimmy down the I-beam, and one commented, "Look at that," but none stopped him because he appeared to do it so easily. When he found the schematics he called up to his co-worker that there were two sets. The co-worker advised him to bring both, so he tucked them under his shirt and began climbing back up. The co-worker reported that he heard the victim say, "Whoa," and then a thud. At first he thought it was a joke his friend was playing, but then he saw that he had fallen to the concrete floor approximately 25 feet below. He yelled for the truck drivers to call 911. The victim was airlifted to a nearby hospital where he underwent surgery and was put on life support. The life support mechanisms were removed the following day, and the victim died.

CAUSE OF DEATH

Cause of death was skull fractures and massive internal injuries.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Employers should train employees in the recognition of hazards, and methods to control such hazards, including the use of appropriate safety equipment.

Discussion: Employers are required by 29 CFR 1926.21(b)(2) to instruct each employee in the recognition and avoidance of unsafe conditions, and to control or eliminate any hazards or other exposures to illness or injury. Employers need to provide training that ensures that employees understand existing hazards and how to properly protect themselves. In this case, it should have been required that employees use the fixed ladder to reach the top of the crane, rather than climbing a nearby I-beam in an attempt to save time.

Recommendation #2: Employers should ensure that workers continually adhere to the safe work procedures established by the employer, and actively encourage workers to participate in workplace safety.

Discussion: The importance of adherence to established safe work procedures should continually be stressed. In this case, the victim, in an effort to save time, shimmied up and down an I-beam rather than using the ladder some distance away. Another important factor in this case was fatigue - the victim had been on the job for more than 18 hours when the incident occurred. "Safe work practices" should include limiting the number of hours worked by employees.

Recommendation #3: Employers should routinely conduct both scheduled and unscheduled safety inspections.

Discussion: Employers should be aware of any potential hazards or unsafe work conditions or practices and should take an active role to eliminate them. Both scheduled and unscheduled safety inspections should be conducted by a competent person to ensure that the workplace is free of hazardous conditions. In a case such as this one, management could designate one or more persons to see that safety regulations are followed during the night shifts. An employee with such authority might be able to prevent unsafe work practices such as climbing I-beams.

Recommendation #4: Employers should evaluate their current safety program and incorporate specific training procedures emphasizing the importance of following safety guidelines.

Discussion: The existence of a safety program is only the first step in obtaining a viable safety record. In addition to enforcement, safety programs should be evaluated and training procedures incorporated which emphasize the importance of recognizing and avoiding hazards in the workplace, following established safe work procedures, and wearing appropriate personal protective equipment.

Recommendation #5: Employers should ensure that adequate fall protection equipment is provided to and used by employees whenever work is performed from an elevation where the potential for a fall exists.

Discussion: The use of a "traditional" safety belt / lanyard combination, as required by 29 CFR 1926.104(d), is sometimes not practical, particularly where worker mobility is required. Use of a retracting lanyard equipped with a locking device and attached to a lifeline can provide sufficient mobility in some instances.

REFERENCES:

***29 CFR 1926.21(b)(2); 29 CFR 1926.104(d). Code of Federal Regulations. Washington DC:
US Government Printing Office, Office of the Federal Register.***