



The National Institute for Occupational Safety and Health (NIOSH)

Promoting productive workplaces
through safety and health research / **NIOSH**

Painter Falls to his Death from a Scaffold

FACE 8829

INTRODUCTION

The National Institute for Occupational Safety and Health (NIOSH), Division of Safety Research (DSR), performs Fatal Accident Circumstances and Epidemiology (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.

On March 24, 1988, a 30-year-old male painter died and a co-worker was injured when they fell from a scaffold to the street and sidewalk 52 feet below.

CONTACTS/ACTIVITIES

State officials of the Occupational Safety and Health Program notified DSR of this fatality and requested technical assistance. On July 28, 1988, a DSR research industrial hygienist conducted a site visit, photographed the incident site, and met with representatives of various companies and local police and fire departments who were involved in the incident.

OVERVIEW OF EMPLOYER'S SAFETY PROGRAM

The employer is a small painting and decorating contractor which employs six workers. The company has no safety program, no safety training, and does not conduct safety meetings with employees. Most of the work the company does is commercial painting and decorating. The victim had worked as a painter for the company intermittently for the past 10 years.

SYNOPSIS OF EVENTS

The employer had been contracted to paint the outside trim on a seven-story office building. The victim and a co-worker were painting from a 12-foot-long scaffold which was 52 feet above the sidewalk. The employer had provided safety belts and lanyards, but did not require the workers to use them. Also, the workers had been offered a bonus to complete the job before a time deadline. These factors may have influenced their decision not to use fall protection equipment.

The scaffold was suspended by two 5/8-inch-diameter steel cables that were attached with large steel hooks to a ledge near the top of the building. The cables ran vertically to a hand-operated hoist winch on each end of the scaffold that allowed workers to raise or lower the scaffold to the desired height. The suspension cables above the scaffold lay across a horizontal metal gutter that was attached to the side of the building. The slack portion of each cable dangled free under the ends of the scaffold.

On March 24, 1988 (16 days after the job began), the victim and co-worker were within a day of completing the job. They were painting at a level approximately 20 feet above and 4 feet horizontally from a utility pole that held a 3-phase, 7200-volt power line. One of the cables dangling under the scaffold was less than a foot from the power line nearest the building.

At the time of the incident the wind was blowing at 15 to 20 miles per hour. As the victim attempted to crank the hoist, the dangling cable nearest the power line contacted the energized wire nearest the building. The scaffold's two suspension cables grounded out and burned in half where they crossed against the metal gutter, causing the scaffold to fall. The scaffold struck the top of the utility pole, breaking off the cross arm and power lines. The victim and co-worker were thrown from the scaffold. The victim landed on the sidewalk below. The co-worker landed on a bank sign, breaking off the brackets where it was attached to the side of the building. He then jumped the remaining vertical distance (approximately 10 feet) to the street below. The scaffold remained across the top of the utility pole with the downed power lines in the street.

The local emergency rescue squad was immediately summoned and arrived at the scene in 2 minutes. The victim and co-worker were treated at the scene and enroute to the hospital. The victim was pronounced dead at the hospital 1 hour and 44 minutes after the incident occurred. The co-worker survived with multiple fractures.

CAUSE OF DEATH

The medical examiner reported that death resulted from multiple traumatic injuries to the head, chest, and abdomen resulting from the fall.

RECOMMENDATIONS/DISCUSSION

Recommendation # 1: Where the potential for a fall from an elevation exists, employers should ensure that fall protection equipment is provided and used by workers.

Discussion: The use of a safety belt/lanyard combination is required by 29 CFR 1926.104. Use of the safety belt or body harness/lanyard with a rope grab device is appropriate for persons working from scaffolds at varying heights. Properly used, this type of fall protection would have prevented the workers in this incident from falling.

Recommendation #2: To ensure proper protection when working near electrical power lines, employers should request that the electrical utility company de-energize the lines or cover them with insulating line hoses or blankets.

Discussion: Energized power lines in proximity to a work area are hazardous and extra caution must be used when working near these power lines. A safe distance between power lines and scaffolds, ladders, or tools should be maintained at all times; at least one state requires that a 6-foot minimum clearance be maintained. The power line in this instance was only 4 feet from the side of the building. Due to the scaffold location, one of the dangling scaffold cables was less than 1 foot from the power line. In this situation, the power lines should have been de-energized or covered with insulating hoses or blankets before work was begun.

Recommendation #3: The employer should develop and implement a safety program designed to help workers recognize and avoid hazards.

Discussion: The dangers associated with working from scaffolds in the proximity of power lines are obvious. OSHA Standard 1926.21(b)(2) states that "the employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to

illness or injury.” The company in this incident did not provide any training in safe work procedures and did not have written safety rules. Even though it is a small company, the employer should evaluate the tasks performed by workers and identify all potential hazards. A safety program addressing these hazards should be developed and implemented on the job.

Recommendation #4: Employers should perform job hazard analyses to identify the hazards encountered by their employees, and develop measures for controlling each hazard.

Discussion: A job hazard analysis is one method of identifying the hazards associated with a specific task. The job hazard analysis, through its breakdown of a job into specific steps, the hazards associated with each step, and the measures planned to control the hazards, provides an ideal means to relay this information to employees. For example, a thorough inspection by the employer would have disclosed the hazard associated with working at this elevation with equipment in such close proximity to a power line. Noting this, injury prevention measures (Recommendations #1 and #2) could have been taken. Failure to adequately identify and control these hazards increases the risk of injury to employees.

Recommendation #5: Employers should use the job hazard analysis when training employees on the hazards associated with specific jobs and on the countermeasures to control these hazards.

Discussion: General training on company safety procedures should be supplemented by training on specific hazards associated with specific jobs. Such training can make employees aware of the hazards to which they are exposed. At the same time, countermeasures can be explained.

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