The National Institute for Occupational Safety and Health (NIOSH)

Promoting productive workplaces through safety and health research NIOSH

Laborer Falls to His Death Through a Skylight Opening

FACE 8947

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 July 24, 1989, an 18-year-old male laborer died after falling through a skylight opening 27 feet to a concrete floor.

CONTACTS/ACTIVITIES

State officials notified DSR of this fatality and requested technical assistance. On August 23, 1989, a DSR field team met and discussed the incident with a company representative and an Occupational Safety and Health Administration (OSHA) compliance officer assigned to the case. On the following day, the DSR team conducted an investigation at the incident site. Police, emergency medical service, and coroner reports relating to the incident were obtained.

OVERVIEW OF EMPLOYER'S SAFETY PROGRAM

The victim had been employed as a laborer for 8 days by a roofing and metal fabrication contractor. The company, which has been in business since November 1984, employs 60 workers, including 20 laborers. At the time of the incident, the employer had no written safety policy or safety program. The employer provides on-the-job training, and requires each employee to view a 15-minute videotape on general safety.

SYNOPSIS OF EVENTS

The company had been contracted to install foam insulation boards and single-ply rubber roofing over a newly constructed 225,000-square-foot, corrugated-steel-paneled roof. The main roof is flat and contains an area (penthouse) which extends 7 feet higher than the main roof. Lengthwise, the 30-foot-wide penthouse spans the width of the main roof. At the time of the incident, the penthouse roof contained 4 unguarded 10-foot-square openings, which were to be used for installing skylights.

On the day of the incident, the victim was part of a six-person crew assigned to move insulation boards from a storage area on one side of the main roof, over the penthouse roof, to the other side of the main roof where the boards were to be installed. The subcontractor had intended to place the boards on the same side of the main roof where they were to be installed, but wet ground conditions precluded moving the crane to that side of the building and the boards were unloaded on the opposite side of the roof. Two members of the crew carried insulation boards from the storage area to the penthouse area. Two other crew members, including the victim, carried the boards to the opposite side of the penthouse where the remaining two crew members moved the boards to the work area. At some point during the task, the victim was walking backwards dragging insulation boards when he fell through the skylight opening to a concrete floor 27 feet below (see Figure 1).

A crew member immediately notified the job foreman, who called the local rescue squad. The rescue squad responded within 5 minutes and stabilized the victim. The victim was then evacuated from the site to a hospital trauma center by a state police helicopter. The victim died the following day.

CAUSE OF DEATH

The medical examiner's report listed multiple head and chest injuries as cause of death.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Prime contractors and subcontractors should contractually agree on specific site safety and health programs to be implemented prior to the initialization of work.

Discussion: Although the subcontractor failed to provide a safety and health program for the employees, the prime contractor should ensure that all subcontractors address safety and health issues on the job site. The prime contractor should use contract language that requires all subcontractors to identify how they intend to implement a site safety and health program. The subcontractor programs should be consistent with the prime contractor's program and differences should be negotiated before the subcontractors initiate work.

In this particular case, it is evident that the prime contractor did not require the subcontractor to utilize fall protection measures (e.g., provide guarding for roof openings). Had such a requirement been in the contract and enforced on the site, the subcontractor would probably have implemented some type of fall protection measures along with a written safety and health program for this particular site.

Recommendation #2: The prime contractor or subcontractor should have implemented 29 CFR 1926.500 (f)(6), which requires that all skylight openings that create a fall hazard be guarded with a standard railing, or covered with a material capable of supporting the maximum intended load and so installed as to prevent accidental displacement.

Discussion: Employers should assume the responsibility of providing for the safety and health of the workers. Neither the prime contractor nor the subcontractor took the necessary precaution–guarding the skylight opening. If the skylight had been guarded in accordance with 29 CFR 1926.500 (f)(6), the incident may have been prevented.

[Note: During the DSR investigation, it became apparent that guards had been installed around the skylight openings subsequent to the incident. These guardrails, however, did not appear to meet the requirements specified in 1926.500 (f)(1) (see Figure 2). The guardrails, as erected, did not include an intermediate rail midway between the top rail and toeboard.]

Recommendation #3: Worker safety should be considered and addressed in the planning phase of construction projects.

Discussion: Safety concerns should be discussed and incorporated into all construction projects during planning and throughout the entire project.In this instance, planning was inadequate. Employees were allowed to work in close proximity to unguarded skylight openings without adequate fall protection.

Recommendation #4: The employer should design, develop, implement, and enforce a comprehensive safety program.

Discussion: This company accepted the risk of a potentially serious or fatal fall by failing to provide fall protection for workers exposed to unguarded skylight openings. Employers should emphasize safety of their employees by designing, developing, implementing, and enforcing a comprehensive safety program to prevent incidents such as this. The safety program should include, but not be limited to, the recognition and avoidance of fall hazards.

[Note: The employer has designed and implemented a written safety program since the time of the mishap.]

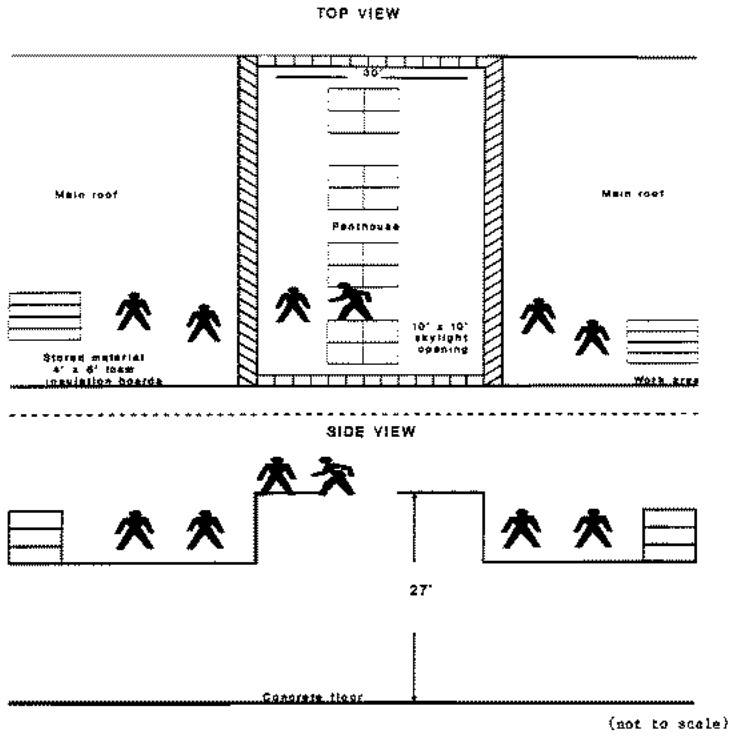

Figure 1.

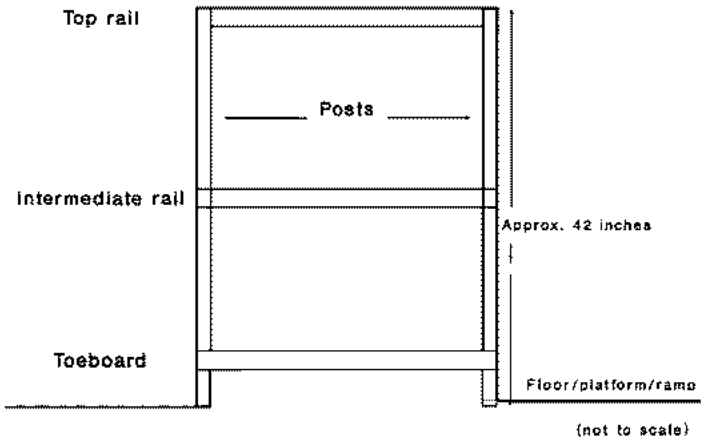

Figure 2.

Return to In-house FACE reports

Last Reviewed: November 18, 2015