



The National Institute for Occupational Safety and Health (NIOSH)



Roofer Dies After Fall From Church Roof

New Jersey Case Report: 90NJ017 (Formerly NJ9013)

DATE: December 5, 1990

SUMMARY

On September 24, 1990, a 44 year old roofer died after falling from the roof of a church hall. The incident occurred when the roofer apparently tripped or lost his footing while moving debris with a wheelbarrow, resulting in a fatal fall into an alleyway. NJDOH FACE investigators concluded that, in order to prevent similar incidents in the future, the following safety guidelines should be followed:

- Perimeter guarding or fall protection should be utilized when working on rooftops.
- Personal protection equipment should be used and kept in good condition.
- Comprehensive safety training should stress safe work practices while roofing.

INTRODUCTION

On September 29, 1990, NJDOH FACE personnel received a newspaper article describing a work-related fatal fall that occurred on September 24, 1990. After confirming the incident with the county medical examiner, NJDOH FACE personnel met with the investigating OSHA compliance officer to discuss his findings. The OSHA officer had made an on-site investigation on October 1, 1990 to interview the employees and photograph the scene. On October 16, 1990, NJDOH FACE personnel visited the site with the OSHA officer to examine the roof and interview the employer. The victim's shoes were also examined at the medical examiner's office.

The employer is a construction contractor specializing in roofing and demolition work and has been in business for 25 years. The company employs 20 workers (10 in roofing and 10 in demolition) and is not unionized. The deceased was a 44 year old male who had been working for the company for 25 years. Although he had previously worked for the company as a roofer, the deceased was working as a roofing estimator but recently decided to return to roof work. It was stated by his co-workers that he had gained some weight during that time, but was also muscular and physically fit. The deceased had no known physical disabilities, but did wear eyeglasses which were said to be loose fitting.

INVESTIGATION

The building where the incident occurred is located on a corner lot of a major urban area, with two sides of the building facing the street and two sides facing paved alleyways. The roof measures approximately 95 feet 9 inches by 45 feet, with a 36 inch level area surrounding the perimeter (see diagram). The east side of the roof had a 24° incline, or 5.25 inches on

a 12 inch slope. An aerial lift was used to move the workers and materials on and off the roof. Perimeter guarding (such as a catch platform) or safety belts were not used for fall protection on this site. Personal protection equipment was not required by the employer, although some of the workers wore construction boots. The tread of the decedent's boots were completely worn off and had nails in the soles.

For two weeks, the company had been on site to replace the roof of the church hall. This required removing (or "ripping") a section of the old slate shingle and tarpaper roofing and replacing it with new shingles. As the old roofing material was removed, it was gathered on the flat perimeter of the roof where it was loaded into a wheelbarrow. The wheelbarrow would then be moved along the perimeter to the south side of the roof, loaded on to the aerial lift, and emptied into a dumpster at the SW corner of the building.

The weather on the morning of the incident was clear with a slight wind and a temperature of 70° F. On this day, three men, including the decedent who was acting as foreman for the site, were working on ripping the east side of the roof. Two of the men had loaded the wheelbarrow with roof debris and had returned to ripping shingles on the roof. At approximately 1100 hours (11 am), the decedent went to empty the wheelbarrow for the first time that day.

As he pulled the wheelbarrow backwards to the SE corner of the building, he approached a 18" tall, 4" diameter vent pipe projecting up near the corner of the roof. While moving back, he apparently tripped over the pipe or lost his footing, resulting in a 36.5 foot fall into the alleyway. The other workers were unaware of the accident until they saw the wheelbarrow turned on its side and found the victim lying on the pavement below. The victim's glasses were also found on the roof near the wheelbarrow. The workers returned to the ground on the aerial lift and notified the Emergency Medical Service who arrived within 5 minutes of being dispatched. The paramedics began CPR at the scene after the victim went into respiratory and cardiac arrest. He was then transported to the hospital emergency room and later pronounced dead.

CAUSE OF DEATH

The cause of death was attributed to multiple injuries of the head and trunk.

RECOMMENDATIONS AND DISCUSSION

Recommendation #1: Perimeter guarding and fall protection should be utilized when working on rooftops.

Discussion: The OSHA standard 29 CFR 1926.451(u)(3) requires the use of a catch platform or fall protection when working on a roof exceeding 16 feet in height and a slope greater than 4:12 inches. This accident may have been avoided if proper perimeter guarding had been installed at the roof's edge. Measures such as guard rails or a catch platform (a two foot platform with guard rails attached to the edge of a roof) would provide handholds for a person falling off balance. Fall protection such as safety belts and lines should be used if perimeter guarding is not practical.

Recommendation #2: Personal protection equipment should be kept in good condition.

Discussion: The decedent's construction boots were found to have the tread completely worn off and nails in the sole. Shoes should be replaced when the tread becomes worn, and soles should be resistant to nail punctures. All equipment should also fit well.

Recommendation #3: Comprehensive safety training should stress safe work practices while roofing.

Discussion: A formal, comprehensive safety training program should be provided to stress proper safety procedures and practices. A meeting should be held for each job to evaluate the unique and common hazards of the site.

FATAL ACCIDENT CIRCUMSTANCES AND EPIDEMIOLOGY (FACE) PROJECT

Staff members of the FACE project of the New Jersey Department of Health, Occupational Health Service, perform FACE investigations when there is a work-related fatal fall or electrocution reported. The goal of these investigations 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.

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Page last reviewed: November 18, 2015
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