

Construction Worker Killed After Falling Through a Wall Opening In A Stairwell

DATE: September 24, 1996

SUMMARY

On October 27, 1995, a 54-year-old construction worker died after falling 16 feet through a wall opening on the first floor of a grocery store being renovated. The victim was assisting in the construction of a wall near an enclosed stairwell leading to the basement. He was apparently standing on an eight-foot high ladder to align a chalk line when he fell through a three by three foot wall opening in the top of the framing for the stairwell. He fell approximately 16 feet, striking the cement stairs leading into the basement of the building. NJ FACE investigators concluded that, in order to prevent similar incidents in the future, these safety guidelines should be followed:

- **Employers should ensure that all floor and wall openings are properly guarded.**
- **Employers should develop, implement, and enforce a comprehensive employee safety program which includes ladder use and safety.**
- **Employers should conduct a job hazard analysis of all work activities with the participation of the workers.**
- **Employers with multiple-language shops should have written materials and signs in languages and/or symbols that the employees can understand.**
- **Employers should become familiar with available resources on safety standards and safe work practices.**

INTRODUCTION

On April 11, 1996, the NJ FACE program received a death certificate from the NJ Department of Health and Senior Services for a construction worker who died as a result of a work-related fall on October 27, 1995. After informing the federal OSHA area office of the incident, a FACE investigator contacted the employer and arranged to conduct a FACE investigation. On May 22, 1996, NJ FACE investigators and a Maryland FACE investigator interviewed the company owner and an employee who was on-site the day of the incident. The incident site was examined, measured, and photographed. Additional information on the incident was obtained from the OSHA compliance officer, the police report, the county medical examiner's report, and the insurance company report.

The employer was a construction contractor that specialized in renovating stores. The company had been in business for over 30 years and employed 45 workers at the time of the incident. The company did not have a safety program or written safety rules. The owner stated that they did have a general safety rule booklet, which was not available for examination. Job and safety training were on-the-job. The company primarily did general construction work and contracted the plumbing, electrical, and HVAC work to subcontractors.

The victim was a 54-year-old male carpenter who had worked for the company for one week. He had been hired as a helper to do carpentry, plastering, and sheetrock work. The victim, who was Korean, spoke little English and may have had difficulty communicating with his co-workers who spoke Spanish. A co-worker said the victim was very enthusiastic in doing his work.

INVESTIGATION

The incident occurred at the construction site of a grocery store and restaurant located on the corner of an urban neighborhood. A fire had gutted the corner and adjacent buildings, which held a clothing store and a grocery store/restaurant. In March, 1995, the construction company started work on renovating the buildings into a large grocery store and adjoining restaurant. When the renovation started, the buildings were essentially empty except for the four walls. The job was expected to take six months to complete.

The company was in the finishing stages of the project at the time of the incident. The employees were involved in sheet rocking and painting the building's interior, while other sub-contractors were installing the electrical and HVAC systems. The victim, who had been working at the site since being hired the week before, was working near a stairwell leading from a doorway on the first floor to the basement of the building. A police photo shows that the wood frame stairwell was partly enclosed by unfinished sheetrock walls which measured approximately 11 feet long by 4 feet wide by 8 feet high. Directly above the sheetrock was a section of bare wood framing that rose about three more feet to the ceiling. In the far (closed) end of the stairwell, a three by three foot opening was built into the framing above the sheetrock to accommodate a HVAC duct. The bottom of the opening was about 8½ feet from the floor on the outside of the stairwell, and measured about 16 feet to the basement floor inside the stairwell.

There were no witnesses to the incident. A company employee (who was working in another part of the building) stated that the victim was working with a co-worker to build a curtain wall near the stairwell. This co-worker was across the store on a mobile scaffold, while the victim was standing on an eight foot stepladder near the far end of the stairwell. Both men had their backs to each other. At about 11:35 a.m., the victim was setting a leveling line when the other workers in the area heard him scream and fall. Several workers went to his aid and found him lying in the basement with severe head injuries. The victim was transported to the local hospital where he was pronounced dead three hours later.

It is not known precisely how the victim fell into the stairwell. The circumstances suggest that he may have been standing on or near the top rung of the ladder when he fell through the wall opening. Another possibility is that the victim may have leaned into, straddled, or climbed through the wall opening before falling into the basement.

CAUSE OF DEATH

The county medical examiner found the cause of death to be due to multiple blunt traumatic injuries.

RECOMMENDATIONS/DISCUSSIONS

Recommendation #1: Employers should ensure that all floor and wall openings are properly guarded.

Discussion: This incident was unusual in that the wall opening may not have been recognized as a fall hazard since it was eight feet off the floor. However, this did become a hazard when the victim approached it while working on the ladder. The federal OSHA standard 29 CFR 1926.500(b)(1) requires that all wall openings must be guarded with railings on all exposed sides. A small opening such as this could be guarded with an additional temporary board nailed across the opening in the frame.

Recommendation #2: Employers should develop, implement, and enforce a comprehensive employee safety program which includes ladder use and safety.

Discussion: The OSHA investigation found a number of potential violations regarding the company's maintenance, inspection, training, and use of ladders. To prevent future incidents and avoid violations, employees must be instructed in all aspects of working with ladders. Employers should also emphasize general worker safety by developing, implementing, and enforcing a comprehensive safety program to reduce or eliminate hazardous situations. The safety program should include, but not be limited to, the recognition and avoidance of fall hazards and include appropriate worker training. The OSHA regulations on ladders include 29 CFR 1926.1053 and 1926.1060.

Recommendation #3: Employers should conduct a job hazard analysis of all work activities with the participation of the workers.

Discussion: In this case, the employers and workers were apparently unaware of the hazard created by the unguarded wall opening. It is recommended that employers conduct a daily job hazard analysis of the work area with the employees. This can be done while planning the day's work, and should include an examination of the work area for fall hazards, loose debris, electrical, and other hazards the workers may encounter. After identifying the hazards, the crew should be instructed on how to correct or avoid them.

Recommendation #4: Employers with multiple-language shops should have written materials and signs in languages and/or symbols that the employees can understand.

Discussion: The diverse languages spoken by the workers may make it difficult for an employer to clearly communicate with his employees. To assist in communication, the employer should have all written materials (such as safety policies) available in the languages spoken by the employees. The use of easily understood symbols may also be useful for warning signs at the work site. All employees should be personally instructed in any written policies and procedures to ensure that they fully understand them.

Recommendation #5: Employers should become familiar with available resources on safety standards and safe work practices.

Discussion: It is extremely important that employers obtain correct information about methods of ensuring safe working conditions and adhering to all OSHA standards. The following sources of information may be helpful:

U.S. Department of Labor, OSHA

On request, OSHA will provide information on safety standards and requirements for fall protection. OSHA has several offices in New Jersey which cover the following areas:

Hunterdon, Middlesex, Somerset, Union, and Warren counties.....(908) 750-4737
Essex, Hudson, Morris, and Sussex counties.....(201) 263-1003
Bergen and Passaic counties.....(201) 288-1700
Atlantic, Burlington, Cape May, Camden, Cumberland, Gloucester,
Mercer, Monmouth, Ocean, and Salem counties.....(609) 757-5181

NJDOL OSHA Consultative Services

This organization, located in the New Jersey Department of Labor, will provide free advice for business owners on methods of improving health and safety in the workplace and complying with OSHA standards. The telephone number is (609) 292-3922.

New Jersey State Safety Council

The NJ Safety Council provides a variety of courses on work-related safety. There is a charge for the seminars. The address and telephone number is: NJ State Safety Council, 6 Commerce Drive, Cranford, New Jersey 07016. Telephone (908) 272-7712

REFERENCES

Code of Federal Regulations 29 CFR 1926. U.S. Government Printing Office, Office of the Federal Register, Washington DC.

To contact [New Jersey State FACE program personnel](#) regarding State-based FACE reports, please use information listed on the Contact Sheet on the NIOSH FACE web site. Please contact [In-house FACE program personnel](#) regarding In-house FACE reports and to gain assistance when State-FACE program personnel cannot be reached.