

Carpenter Dies After Falling 19 Feet Through a Floor Opening

DATE: January 24, 1992

SUMMARY

On October 10, 1991, a 56-year-old male carpenter died after falling 19 feet through a floor opening on the second floor of a house under construction. The victim was cutting sheets of plywood and handing them up through the roof trusses to a co-worker when he apparently backed into an unguarded opening for a stairwell and fell into the basement. NJDOH FACE investigators concluded that, in order to prevent similar incidents in the future, the following safety guidelines should be followed:

- *Employers should follow 29 CFR 1926.500(b)(1) which requires that all floor openings must be guarded with railings;*
- *employers should conduct a daily job hazard analysis of all work activities with the participation of the workers;*
- *employers should develop, implement, and enforce a comprehensive employee safety program;*
- *employers should become familiar with available resources on work-related safety standards and safe work practices;*
- *employers should have an emergency response plan in place to quickly obtain assistance in the event of an emergency.*

INTRODUCTION

On October 11, 1991, an OSHA area safety supervisor informed NJDOH FACE personnel of this work-related fatal fall which had occurred the previous day. The OSHA compliance officer had conducted his investigation on the same day as the fatality. New Jersey FACE personnel conducted an on-site investigation on October 24, 1991 to photograph the scene and interview the employer. Further information was derived from the OSHA compliance officer and the police and medical examiner reports.

The employer was an unincorporated construction contractor who had ten years of experience in the construction field. He had owned his business for five years and employed workers as they were needed. The victim, a carpenter by trade, was born in another country and shared the same native language as the contractor. The victim had been working for the contractor for less than three months.

INVESTIGATION

The incident occurred at the construction site of a two story, single family house located in a rural area. The employer was working under a verbal contract with a general contractor to frame the house, install the windows, and apply the roof sheathing. He had hired two workers for this job and had been working on the house for two months. The work had progressed to where the framing of the house had been completed and the exterior walls had been sheathed.

On October 10, the crew was in its second day of applying plywood sheathing to the roof of the house. The work was nearing completion, with only a few pieces of plywood left to attach. Two men worked on the roof while one man worked on the second floor, cutting the plywood to size and handing the sheets up to the men on the roof. The plywood was cut in a room off the second floor hallway. An unfinished stairwell opening measuring 6 feet across was located in the hallway, directly across from the roof opening where the cut plywood was passed. Steps were not yet installed in the stairwell at the time of the fall and no railings guarded the open area.

During the morning, the victim worked on the roof but requested to switch to cutting plywood after lunch. At about 4 p.m., the company owner passed an 8 by 3.5 foot sheet of plywood that had been improperly cut back down to the victim on the second floor. As the victim took the sheet, the plywood became caught in the roof trusses above him. The victim then tried to free the sheet by pulling on it, and was apparently trying to reposition it when he backed into the stairwell floor opening. He fell 19 feet to the basement below, striking his head on the concrete floor.

After seeing him fall, one co-worker went to assist the victim while the company owner drove his truck about a mile to a public telephone to summon assistance. He stayed there to meet the police and escorted them to the site of the fall. The police initiated first-aid for the victim's head injuries and started cardio-pulmonary resuscitation (CPR) when they did not find a pulse. CPR was continued after the arrival of the local rescue squad and paramedics, who requested a fire unit to lift the victim from the basement. The victim was transported to the local hospital and pronounced dead on arrival at the emergency room.

CAUSE OF DEATH

According to the medical examiner, death was caused by craniocerebral injuries due to a fall from height.

RECOMMENDATIONS/DISCUSSIONS

Recommendation #1: Employers should follow 29 CFR 1926.500(b)(1) which requires that all floor openings must be guarded with railings.

Discussion: In this situation, the incident may have been prevented if the floor opening for the stairwell had been properly guarded. The OSHA standard requires that floor openings must be protected with standard railings, defined as a top railing mounted about 42 inches from the floor and an intermediate railing located midway between the top railing and floor. A toeboard must be provided to prevent tools

and debris from accidentally being kicked into the opening. It should be noted that 1926.500 also requires that open sided floors and wall openings must be similarly guarded.

Recommendation #2: Employers should conduct a daily 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 floor 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 #3: Employers should develop, implement, and enforce a comprehensive employee safety program.

Discussion: Employers should emphasize 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.

Recommendation #4: Employers should become familiar with available resources on work-related safety standards and safe work practices.

Discussion: In this case, the employer was unaware of the OSHA standards for safeguarding his employees. 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

Recommendation #5: Employers should have an emergency response plan in place to quickly obtain assistance in the event of an emergency.

Discussion: At many worksites, there may be a significant delay in requesting and obtaining help due to isolated rural locations. It is recommended that an emergency response plan should be in place to quickly obtain medical assistance. This plan should include a communication system, such as using a two-way radio to request help if a telephone is unavailable. A first-aid kit and a person trained in first aid and CPR should be available at the worksite.

REFERENCES

Code of Federal Regulations 29 CFR 1926, 1991 edition. U.S. Government Printing Office, Office of the Federal Register, Washington DC. pg 188

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.