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Bridge Worker Falls 140 Feet to His Death in New Jersey

New Jersey Case Report: 90NJ019 (formerly NJ9015)

DATE: February 19, 1991

SUMMARY

On October 31, 1990, a 24-year-old bridge worker fell 140 feet to his death from a six foot wide walkway on top of a supporting pier of a large bridge spanning water. The victim was employed by a subcontractor who had contracted to install rigging on the bridge so the structure could be inspected. While walking on a ledge on top of a pier, the victim, who wore a safety belt and lanyard but was not tied off, fell 140 feet and landed in the wet mud below. NJDOH FACE investigators concluded that, in order to prevent similar occurrences in the future, the following safety guidelines should be followed:

- Employers must stress the safe and continuous use of personal protective equipment.
- Any worker who is in danger of a fall of over 25 feet must be protected by the use of safety nets.

INTRODUCTION

On November 2, 1990, NJDOH FACE personnel learned about this fatal, work-related fall from a newspaper article. OSHA compliance officers had investigated the fatality immediately after it was reported to them by the police, and accompanied us to the site on November 9, 1990.

The employer is a contractor who employs 60 workers in a unionized workplace and has been in business for 30 years. The company performs bridge rigging installations, painting, and sandblasting. The employer contracted to install the rigging for a basket lift to be used by engineers who inspect the bridge for structural defects. They had been on this job for two weeks. Rigging is installed as required by the engineers; workers are not at the site on a daily basis. The employer has a written safety program and workers stated that they had been trained. The supervisor, employed by the employer, teaches the foremen, and the foremen are responsible for teaching the workers.

The victim, not yet a union member, had been with the company for only 1½ weeks, and on this particular job for one day. He was employed as a painter's helper.

INVESTIGATION

A four-man crew was present to install rigging for bridge inspection by engineers. In order to check the status of a bridge pier, an engineer uses a "skyclimber" (a basket-type lift operated on ropes by an electric winch) to vertically traverse the structure. The engineer gets into the sky climber and one of the crew lowers and raises it. The crew was responsible for setting up and maintaining the scaffold and lines on which the skyclimber functioned.

The top of the concrete pier is accessible only through a hatchway located on a protected area of the north side of the bridge's road surface. One descends via a permanent ladder, equipped with handrails, to the outer edge of the pier, which is protected by a railing. The six feet wide walkway across the pier is equipped with a permanent static line (safety line), 12 inches from the edge (see diagrams). The walkway is only five feet high; most workers must walk in a bent over position.

Two of the workers remained on the road level of the bridge and planned to lower a scaffold down to the upper pier level. The other two workers, the victim and his supervisor, were to descend to the top of the pier, at the south side of the bridge. They planned to secure the scaffold after it was lowered to them.

On October 31, 1990, about 10:25 a.m., the victim and his supervisor descended to the pier through the hatchway. The supervisor walked across the walkway first, followed by the victim. Both wore safety belts with lanyards wrapped around their waists. The first man across, experienced in this type of work, held onto the static line with his hand. He did not tie off until he reached the south end of the pier, where he tied off to the safety rope which was in place for use of occupants of the sky climber. The victim, new to this type of work, also did not tie off. At some point while walking across the pier, he fell 140 feet to the wet mud below. The supervisor could no longer see the victim since he had walked around a structure which blocked his view. He told the OSHA compliance officer that when he looked for the victim he was gone; he did not witness the victim's fall. No one witnessed the fall.

Police were called on the portable phone carried by the supervisor. Emergency services personnel responded and provided emergency treatment at the site. Treatment was not effective and the victim was pronounced dead at the scene. He was not transported to a hospital emergency room.

CAUSE OF DEATH

The medical examiner listed the cause of death as cardiac tamponade due to lacerations of the aorta and pulmonary artery, a consequence of a fall from a height.

RECOMMENDATIONS/DISCUSSIONS

Recommendation #1: Employers must stress the safe and continuous use of personal protective equipment.

Discussion: Although the employer had a written safety program, and workers stated that they had been taught about safety, it is necessary to continuously emphasize safe work procedures and, especially, to teach safety by example (e.g. supervisor tying off). Safety training is an on-going process.

Recommendation #2: Any worker who is in danger of a fall of over 25 feet must be protected by the use of safety nets.

Discussion: According to CFR 1926.105(a), safety nets shall be provided when workplaces are more than 25 feet above the ground or water surface, or other surfaces where the use of ladders, scaffolds, catch platforms, temporary floors, safety lines, or safety belts is impractical. ¹ The employer was allegedly in violation of this standard. According to OSHA regulations, alternative methods of fall protection may be used in place of safety nets. Wearing safety belts and tying off to the static line would have been acceptable fall protection.

REFERENCES

1. 29 CFR 1926.105 (a) Code of Federal Regulations, Washington, DC: U.S. Government Printing Office, Office of the Federal Register.

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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