



The National Institute for Occupational Safety and Health (NIOSH)

Promoting productive workplaces
through safety and health research



Painter Dies in 96-Foot Fall from Highway Bridge

FACE 8903

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 October 29, 1988, a 43-year-old male painter died when he fell from a bridge he was painting to the rocky ground 96 feet beneath the bridge.

CONTACTS/ACTIVITIES

State officials notified DSR of this fatality and requested technical assistance. A research safety specialist discussed this incident with the responsible compliance personnel. On November 3, 1988, a meeting was held with state officials, and the site was visited and photographed.

OVERVIEW OF EMPLOYER'S SAFETY PROGRAM

The employer in this incident is a small company with 22 years in the painting business. The company normally employs 12 to 16 individuals, all of whom work as painters. The company has no formal safety program.

SYNOPSIS OF EVENTS

The victim, working as a member of a three-man crew, was painting a highway bridge spanning a large river. The victim and his co-workers had been working on the same bridge for approximately 6 weeks prior to the incident.

On the day of the incident the victim and one co-worker had just finished lunch and were moving materials from one "bay" beneath the roadway to an adjacent "bay" prior to beginning the afternoon's work.

Both men were wearing a safety belt and lanyard, with the lanyards secured to a steel lifeline running along the side of the bridge. To reach the new work area it was necessary to step from one steel "I" beam to another approximately 4 feet away. An expansion joint in the area prevented the workers from making this step while their lanyards were connected to the

Although the incident was not witnessed, it appears that the victim, while carrying a partially filled 5-gallon paint bucket, disconnected his lanyard and attempted to step across the 4-foot gap to the next beam. In doing so, he either slipped or lost his balance and fell 96 feet, striking the back of his head on the rocky ground below.

The co-worker, and a supervisor who arrived on the scene just as the incident occurred, immediately summoned local police and rescue personnel. The victim, who suffered partial decapitation, was pronounced dead at the scene by the local medical examiner.

CAUSE OF DEATH

The medical examiner gave the cause of death as multiple traumatic injuries.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Fall protection should be provided and used at all times when the potential for a serious or fatal fall exists.

Discussion: A safety belt and lanyard, as referenced in 1910.28(g)(9) and 1926.104 or safety nets (1926.105), if utilized, could have prevented this fatality. While safety belt/lanyard combinations were used during actual work at this location, fall protection was not employed either when accessing the area (via vertical ladder from the bridge deck) or when moving from area to area beneath the bridge. Failure to employ fall protection during all phases of the operation resulted in this fatality.

Recommendation #2: Safety should be addressed during the planning phases of all work operations.

Discussion: Potential safety problems, such as the need for fall protection during access and when traveling from area to area beneath the bridge, should be noted prior to the start of work. Specific actions should be taken at that time to ensure that the workers are protected during all phases of the job.

Recommendation #3: Fall protection at the work site should be sufficient to protect the worker from serious injury or death.

Discussion: The fall protection equipment employed at this site failed to provide continual protection to the worker, specifically during access to the work site and while relocating from area to area at the site itself. In addition, the safety belt which could have prevented the fall had it been employed, might have inflicted severe or possibly fatal injuries to the victim. Individuals suspended by the traditional safety belt may experience breathing difficulties and other cardiopulmonary problems within a few minutes because of abdomen and chest compression. Because of the remote area where this incident occurred and the difficulty in conducting a rescue operation in this location, it is possible that a worker protected by a traditional belt/lanyard combination might have experienced asphyxiation before being rescued. Alternative forms of fall protection, such as the full body harness or safety nets below the work site would greatly increase the chances that a falling worker will survive without serious injury.

Recommendation #4: Rescue operation procedures should be established prior to the start of work in all situations where such an operation may become necessary.

Discussion: The work site in this case was remote, with extremely difficult and limited access. In such a case a rescue plan, developed prior to work initiation, could increase a victim's chances for survival if he or she falls.

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