



The National Institute for Occupational Safety and Health (NIOSH)

Promoting productive workplaces
through safety and health research



Journeyman Ironworker Dies Following a 22.5-foot Fall From a Walkway in Maryland

FACE 9118

SUMMARY

A journeyman ironworker died after falling 22.5 feet from the structural steel supports for a walkway platform which was under construction. The walkway had been partially completed (i.e., the structural steel frame, steel grating, and handrails/toeboards had been installed up to the position where the crew members were working). Before the incident, the victim had been welding structural steel support beams for the walkway from a position approximately 8 feet above the co-worker. While the fall was unwitnessed, the co-worker stated he felt something hit his welding hood, and when he looked around he saw the victim falling. The victim struck a drive shaft located in a pit about 12 feet below the area where he was working, and came to rest at the base of the pit about 22.5 feet below the walkway platform (Figure). NIOSH investigators concluded that, in order to prevent future similar occurrences, employers should:

- **provide and enforce the use of personal protective equipment**
- **conduct a jobsite hazard analysis before each job and implement appropriate controls**
- **periodically monitor jobsites to evaluate field compliance with company safety rules and procedures.**

INTRODUCTION

On May 26, 1991, a 62-year-old male journeyman ironworker (victim) fell 22.5 feet from a walkway platform which was under construction. The victim died 2 days later as a result of injuries he sustained in the fall. On May 30, 1991, officials of the Occupational Safety and Health program from the State of Maryland, notified the Division of Safety Research (DSR) of the death and requested technical assistance. On June 20, 1991, a safety specialist from DSR traveled to the incident site to conduct an investigation. The DSR investigator reviewed the incident with the employer, plant representatives, and State OSHA personnel. Photographs of the incident site and copies of the police report were also obtained.

The employer in this incident is an industrial building construction company with about 5000 employees throughout the country. At the time of the incident, 300 employees were working at the jobsite, including 45 journeymen ironworkers. Most of the employees are ironworkers, carpenters, electricians, pipefitters, boilermakers, and laborers hired through their respective local union halls. The victim had approximately 20 years of experience as a journeyman ironworker and had been employed by the company for only 2 days. The company employs a safety staff of 10 persons, including a corporate-level safety manager, a manager of field safety, a safety engineer, and several field safety personnel. The employer has a written

safety policy and written procedures on the use of fall protection equipment and fall prevention methods. The general foreman at each construction site is responsible for jobsite safety issues, and “tailgate” safety meetings are conducted weekly.

INVESTIGATION

The employer had been contracted to build various structures as part of a renovation project for a steel producing facility. About 300 construction employees were working at the jobsite. Work at the incident site included the installation of a walkway platform to access process machinery, piping, and control panels. The walkway platform had been partially completed (i.e., walkway sections complete with steel grating and handrails and toeboards had been installed).

On the day of the incident, the victim and a co-worker had been assigned to continue their work installing additional sections of the walkway platform. The walkway platform section being worked on was approximately 6-feet wide by 10-feet long. Supports for the section were being welded by the victim, while the co-worker was welding brackets in a pit below the walkway platform. The victim was positioned on the structural steel supports next to a pit about 22.5 feet deep, while the co-worker welded brackets in the pit area about 8 feet below him (Figure). Although both workers were wearing safety belts and lanyards, neither worker was tied off.

While the fall was unwitnessed, the co-worker stated he was welding when something hit his welding hood, and as he looked around, he saw the victim falling. The victim fell about 12 feet and struck, face first, a metal drive shaft in the pit. The victim’s body then landed on the concrete floor of the pit about 22.5 feet below the walkway platform.

The co-worker yelled “man in the hole,” and climbed down to help the injured worker. A foreman working in the area heard the call for help and radioed for emergency medical service. In the interim, other workers brought a stretcher to the victim and removed him from the incident area. Within 3 minutes an emergency medical technician (EMT) arrived at the scene, checked the victim, and found no pulse or respiration. The EMT began cardiopulmonary resuscitation while awaiting the ambulance that arrived 15 minutes after the incident occurred. The victim was stabilized and transported to an airlift landing zone. He was then flown by helicopter to a shock-trauma unit at a nearby hospital, where he remained in the critical care unit on assisted life support until his death 2 days after the incident.

CAUSE OF DEATH

The medical examiner’s report listed the cause of death as head and neck injuries.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Employers should comply with existing OSHA regulations regarding fall protection for workers.

Discussion: 29 CFR 1926.28(a) states, “The employer is responsible for requiring the wearing of appropriate personal protective equipment in all operations where there is an exposure to hazardous conditions or where this part indicates the need for using such equipment to reduce the hazards to the employees.” Both workers were wearing safety belts and lanyards. However, neither worker was tied-off to a secure point, and no lifeline was present to use as a tie-off point.

Recommendation #2: Hazard analysis should be included as an ongoing part of each construction phase.

Discussion: Before starting each phase of the construction, each crew foreman should identify and review the potential hazards with his crew and discuss how to control the hazards and how the work can be done safely. These discussions should include information on hazards in the immediate work area as well as information on the activities of other work crews on the site that could create additional hazards for workers.

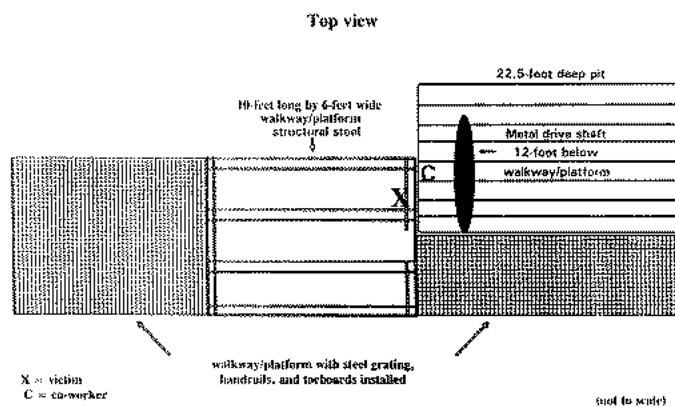
Recommendation #3: Employers should periodically monitor job sites to evaluate field compliance with company safety rules and procedures.

Discussion: Employers should conduct periodic scheduled and unscheduled safety inspections to ensure that employees are performing their assigned tasks according to established safe work procedures. To be effective, a safety program must be enforced at the worksite. Regular company safety inspections show workers that the company is committed to enforcing its safety policies and procedures. Any violations of safety rules should be corrected immediately.

REFERENCES

1. Office of the Federal Register: Code of Federal Regulations, Labor 29 Part 1926. p.21 July 1, 1990.

Figure. Walkway/platform



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