FACE 90-13

Asbestos Worker Dies in Fall from Scaffold in Indiana

SUMMARY

A 21-year-old asbestos worker died as a result of injuries sustained in a 12-foot fall from a scaffold. The victim was a member of a six-man crew engaged in the removal of asbestos-contaminated insulation from a series of large ducts on the exterior of an electric power generation plant. The victim was removing asbestos insulation from a large outdoor metal duct approximately 14 feet above the ground. The worksite was accessed by tubular metal scaffolding. The victim was working at the 12 foot level of the scaffold. The scaffold was not decked at this level. Instead, the crew had installed a single 2-inch by 12-inch plank across the tubing. The plank extended beyond the tubing on both sides and was not fastened in position to the tubing. Instead, the crew had driven two nails into each end of the plank at 45 degree angles to hold the plank against the tubing while allowing them to slide the plank along the tubing to various areas where they were working. The nails on one end of the plank had loosened sufficiently to slip free from the scaffold. The weight of the victim on the opposite end of the plank caused the plank to rise up in the air, dropping the victim to the ground below. NIOSH investigators concluded that, in order to prevent similar occurrences in the future, employers and employees must:

- fully deck all scaffolds and secure decking material in accordance with existing OSHA regulations
- provide appropriate fall protection equipment to all employees whenever the potential for a serious or fatal fall exists
- provide safety training to all employees which address all potential hazards to which the employee may be exposed, especially the proper use of scaffolding and fall protection equipment.

INTRODUCTION

On November 2, 1989 officials of the Indiana Occupational Safety and Health Administration notified DSR of the death of a 21-year-old male asbestos worker who died as a result of a 12-foot fall from a scaffold on August 18, 1989 and requested technical assistance. On November 29, 1989 a DSR safety specialist conducted an investigation of this incident. The case was discussed with state officials and emergency services personnel, and the incident was reviewed with company officials.

The employer is a large, multistate insulation contractor. The company employs 500 individuals, including 100 asbestos workers who remove asbestos-contaminated insulation. The company has a designated safety officer and written safety policy and procedure manuals. The victim had been employed by the company for 1 month at the time of the incident. Although the victim had received safety training from the company, the primary focus of this training was asbestos removal procedures. (Note: The company had no policy in place requiring the use of fall protection equipment at the time this incident occurred. Since the incident, a policy has been implemented requiring the use of safety belts/lifelines whenever employees are working on any elevated surface.)

INVESTIGATION

On the day of the incident, a six-man crew was removing asbestos-contaminated insulation from a series of large ducts on the exterior of an electric power generation plant. The crew had been working intermittently at the plant (as environmental conditions permitted) for several days prior to the incident.

On the morning of the incident, the crew started work at 7:00 a.m. The victim was removing asbestos insulation from a large outdoor metal duct approximately 14 feet above the ground. The worksite was accessed via metal tubular scaffolding.

Each section of the scaffolding formed a 10-foot by 6-foot rectangle. The victim was working at the 12-foot level where the scaffold was not decked. Instead, the work crew had installed a single 8-foot-long, 2-inch by 12-inch plank across the tubing. This plank extended approximately 14 inches past the end of the scaffold tubing on one side, and approximately 10 inches past the tubing on the other side. This plank was not fastened in position on the scaffold tubing; rather, the crew had driven two nails into each end of the plank at 45 degree angles, to hold the plank against the tubing (Figure). This procedure allowed the workers to slide the plank along the tubing (along the 10-foot side) to various areas where they were working.

The victim was sitting astride the tubing, on the end of the plank with the 14-inch overhang, to remove asbestos from the duct. Two co-workers had stepped off of the same plank about 5 minutes earlier.

Although no one witnessed the incident, it appears that the nails on one end of the plank had loosened sufficiently to allow the plank to slip free from the scaffold. The weight of the victim on the opposite end of the scaffold caused the plank to rise up in the air, dropping the victim to the ground below where he was struck by the falling plank. The two co-workers heard the victim and the plank strike the ground. The co-workers immediately called for help and went to the victim. The victim was conscious but told the co-workers that he "couldn't feel anything." He asked the co-workers to "put my hands on my chest," which they did.

Local Emergency Medical Service (EMS) personnel arrived on the scene approximately 8 minutes after the incident, and promptly transported the victim to a local hospital. The victim died in the hospital 65 hours after the incident.

CAUSE OF DEATH

The Coroner gave the cause of death as bronchopneumonia and sepsis complicating blunt force injury of the neck.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: All scaffolding should be fully decked and all decking material secured in accordance with 29 CFR 1910.28(1) and 1926.451(2).

Discussion: The scaffold in this incident was not properly decked, and the planking used for decking was not properly secured. These two conditions were major contributors to this incident.

Recommendation #2: Appropriate fall protective equipment should be employed wherever the potential for a serious or fatal fall exists.

Discussion: The victim was not using any type of fall protection equipment when this incident occurred. A safety belt and lanyard could have prevented this fatality had they been utilized.

Recommendation #3: Employee safety training should address all potential hazards to which an employee may be exposed.

Discussion: While the employer in this case did have a safety training program, this program dealt specifically with the hazards of asbestos removal work. The employer's program failed to address other hazards to which employees may be exposed, such as falls and the proper installation and use of scaffolding. A comprehensive safety training program emphasizing the hazards posed by falls and stressing the use of appropriate personal fall protection equipment, might have prevented this fatality.

REFERENCES

1. 29 CFR 1910.28. Code of Federal Regulations. Washington, D.C.: U.S. Government Printing Office, Office of the Federal Register.

2. 29 CFR 1926.451. Code of Federal Regulations. Washington, D.C.: U.S. Government Printing Office, Office of the Federal Register.