The National Institute for Occupational Safety and Health (NIOSH)

Promoting productive workplaces through safety and health research NIOSH

Janitorial Worker Dies As Result of Injuries Sustained In Fall With Personnel Lift–Virginia

FACE 9516

SUMMARY

On August 17, 1995, a 51-year-old male janitorial worker (the victim) died as a result of injuries he sustained when the personnel lift from which he was working tipped over and he fell 14.5 feet to the floor of a shopping mall parking garage. The victim and a co-worker had been assigned to dust water pipes (drain lines) which were suspended from the ceiling of the first level of a parking garage. The personnel lift had been set up beneath the drain lines adjacent to a support column without extending the outriggers to stabilize the lift. The victim had accessed the top of the pipe from the elevated work platform of the personnel lift and was using a brush to dust the pipe. The co-worker, located on the pavement about 10 to 15 feet away on the other side of the column, heard a noise and looked toward the personnel lift. He saw the lift tipping over and the victim attempting to grab onto the pipe. The lift continued tipping and the victim fell, striking his head on the pavement. The co-worker went to the nearby mall business office and summoned emergency medical service (EMS) which responded within minutes, transporting the victim to a local hospital where he died 12 hours later. NIOSH investigators concluded that, to prevent similar occurrences, employers should:

- **ensure that personnel lifts are properly erected with all safety features such as outriggers in place**
- **ensure that workers are properly trained in the safe use of all equipment**
- **ensure that equipment is suitable for the assigned task**
- **ensure that a competent person is designated to perform regular safety inspections.**

INTRODUCTION

On August 17, 1995, a 51-year-old janitorial worker (the victim) died after he fell from a manually propelled personnel lift as it tipped over in the parking garage of a shopping mall. On September 5, 1995, officials of the Virginia Occupational Safety and Health Administration (VAOSHA) notified the Division of Safety Research (DSR) of the fatality and requested technical assistance. On September 14, 1995, a DSR safety engineer and a statistician met with the VAOSHA compliance officer assigned to the case. The VAOSHA file was reviewed and a site visit conducted. Measurements and photographs of the site were taken.

The employer in this incident was a janitorial service company employing 200 workers at various facilities, 16 of whom worked at the mall. The company had no safety program or formal safety training, and job tasks and safety procedures were learned on the job. The company had been awarded the janitorial contract at the mall in April, 1995; however, the

victim and co-worker had been employed as janitorial workers at the mall for a previous janitorial contractor before being hired by the new contractor. Both workers had used the personnel lift on previous occasions. This was the first fatality experienced by the employer.

INVESTIGATION

On the day of the incident, the victim and a co-worker started work at 7:00 am. They had been engaged in dusting water pipes suspended from the ceiling of a three-level parking garage adjacent to the shopping mall for 2 days prior to the incident. Access to the pipe was provided by a small manually propelled personnel lift that extended to 14.5 feet. This lift was routinely used by the two workers while replacing light bulbs, cleaning windows, and dusting signs inside the shopping mall and was normally set up and used without attaching the outriggers. On the 2 days prior to the incident, the lift had been used to dust suspended pipes with one of the workers dusting off a pipe from the elevated work platform of the lift while the other remained on the ground to stabilize the lift. After a section of pipe had been dusted, the lift would be partially lowered and the worker on the ground would push the lift to the next section of pipe while the other remained on the work platform. The pavement in the incident area sloped approximately 1°.

At about 8:15 a.m. on the day of the incident, the victim was dusting a section of pipe near one of the concrete supporting columns of the parking garage. The co-worker, who was located on the other side of the support 10 to 20 feet away, heard a noise from the direction of the victim, looked over toward him, and saw the personnel lift tipping over and the victim grabbing for the pipe. The lift continued to tip, and the victim fell with it 14.5 feet, striking his head on the pavement. The co-worker went to the nearby mall business office and called EMS which responded within minutes. The victim was transported by helicopter to a local hospital where he died 12 hours later.

CAUSE OF DEATH

Autopsy established the cause of death as blunt craniocerebral trauma.

RECOMMENDATIONS/DISCUSSION

Recommendation No. 1: Employers should ensure that personnel lifts are properly erected with all safety features including outriggers in place before use.

Discussion: The personnel lift in this incident was manufactured and sold in 1983 and was supplied with outriggers equipped with leveling jacks. These are intended to provide stability to the machine when being used for lifting personnel. The manufacturer's setup and operating instructions, originally included inside a plastic container attached to the machine, specifically state that all outriggers must be installed and the lift leveled before use. When examined just after the incident, the operating instructions were missing from the plastic tube. The lift had been routinely used without outriggers for performing maintenance such as replacing light bulbs, dusting signs, and cleaning windows inside the mall. While use without the outriggers is not acceptable under any circumstances, the conditions inside the mall, where the floor was level, could have decreased the likelihood of tipping from instability. However, using the lift on the slightly sloping parking lot pavement for a task involving horizontal reach from the platform would in- crease the likelihood of instability.

Recommendation No.2: Employers should ensure that workers are properly trained in the safe use of all equipment (personnel lifts).

Discussion: The workers were trained in the use of the lift on the job by other workers. They had never been instructed to use the outriggers and had learned the procedures by watching others who also were not using the outriggers. Although they had used the lift improperly for a number of years without experiencing a problem, this may only have reinforced the idea that it was acceptable to use the lift without the outriggers. Proper training by a management representative in the use of the equipment would have addressed the need for use of the outriggers and emphasized that it is never acceptable to use any equipment without all safety features intact and operating.

Recommendation No. 3: Employers should ensure that equipment is suitable for the assigned task.

Discussion: The task of dusting off the pipe was not routine and had never been done before. While it was possible to access the pipe, which was 14.5 feet above the parking lot pavement, with the personnel lift, several factors made the lift unsuitable for the task. According to the manufacturer's recommended procedures, safe operation of the lift requires attaching the outriggers and leveling the machine each time the work platform is to be raised. Following the instructions would have necessitated lowering the lift to the ground, dismounting from the work platform, raising the outrigger leveling jacks off the pavement, and manually repositioning the lift after a section of pipe had been dusted. The outrigger jacks would then have to be used to re-level the machine before the worker could board the work platform and raise it into position to resume dusting. This time-consuming procedure would have to be performed numerous times to complete the job, and may have provided incentive to short-cut to an unsafe procedure. Alternative methods of accomplishing the task without the need to work from elevation are possible. The pipe could have been dusted from the ground using a longhandled dust mop or perhaps pressure washing equipment with extended handles. Even if the lift had been used, a long handled tool or pressure washer may have decreased the number of times the lift would have to be repositioned.

Recommendation No. 4: Employers should ensure that a competent person[1] is designated and trained to perform regular safety inspections.

Discussion: Two days prior to the incident, the cleaning procedures including personnel lift operation, were observed by a management representative. At that time, the lift was being used without the outriggers, however the representative apparently was not aware of proper erection procedures and did not recognize the hazard. Regular safety inspections which include observation of work habits, by a competent person designated and specifically trained in safe work procedures, can ensure that unsafe practices are detected and corrected.

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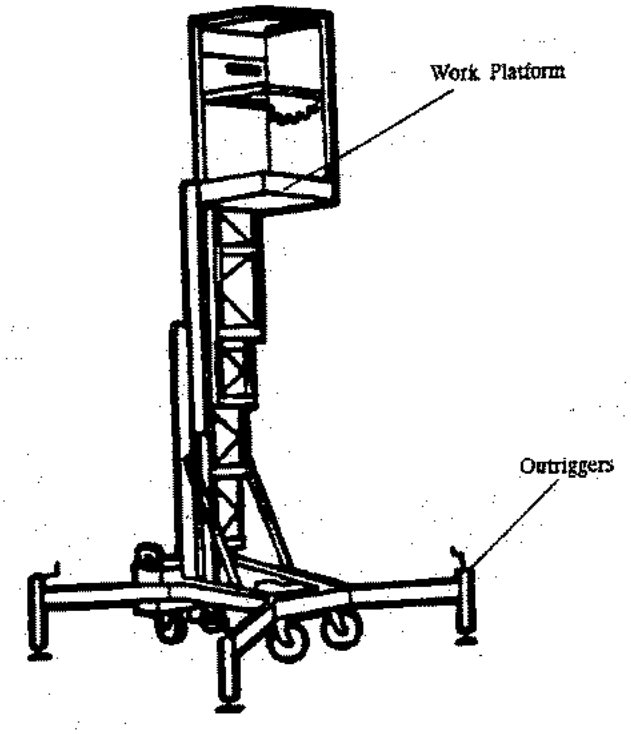
[1] Competent person – one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has the authority to take prompt corrective measures to eliminate them.

FIGURE: FACE 95-16 PERSONNEL LIFT



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