Case: 92-MA-012
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Massachusetts Bridge Painter Dies In Fall From Toppled Aerial Scissor Lift

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SUMMARY

On June 24, 1992, a 32 year old male bridge painter died of injuries sustained in a 36 foot fall when his overextended scissor aerial platform tipped over on sloped terrain. Working alongside his cousin, who was also an employee of the painting company, the pair were working on an overextended scissor aerial platform beneath an interstate highway overpass stringing cables that would eventually hold painting platforms. During this process, the unsecured platform rolled back, pivoted on its two rear wheels and toppled, causing the two men to fall to the ground. Both men were transported to the regional hospital where the co-worker was admitted for treatment and the victim was pronounced dead fifty minutes following hospital arrival. The Massachusetts FACE Investigator concluded that in order to prevent similar future occurrences, employers should:

- **ensure that aerial scissor lifts are operated only by competent individuals familiar with the manufacturer's guidelines for proper use**
- **select and appoint a designated safety person to develop, implement, and enforce a comprehensive safety program that includes, but is not limited to, training in the recognition and avoidance of unsafe working conditions**
- **ensure that mechanical equipment is regularly inspected and continues to meet or exceed manufacturer's specifications for safe operation**

INTRODUCTION

On June 25, 1992, the Massachusetts Medical Examiner's Office telephoned the Occupational Fatality Hotline to report that a 32 year old male bridge painter died in a fall from a toppled aerial scissor lift the previous day. An immediate investigation was initiated. On July 8th, 1993, the MA FACE Investigator traveled to the incident area and interviewed an employer representative and the investigating Massachusetts Department of Labor and Industries Inspector. The U.S. Department of Labor regional OSHA office was also consulted regarding this incident.

The employer was a structural painting company that had been in business for 9 years and had 17 employees. The company did not have a designated safety officer, have written safety policies and procedures, or provide task specific training of any kind.

INVESTIGATION

On the day of the fatality, the employer was under contract to provide structural bridge painting services. Work area preparation included the stringing of cables beneath an interstate highway overpass that would soon hold personnel platforms from which they would paint the bridge's structural steel. After two other employees secured cable to the western bridge pier cap from twenty foot ladders, they led the tail of the cable down an adjacent railroad bed area and handed it to the victim and his co-worker who then elevated themselves in a rented scissor aerial platform from beneath the highway overpass to feed the cable over a center pier. The workers then repositioned their aerial lift to the adjacent eastern pier cap where they then secured the cable at that point. Once these tasks were completed, the switch was engaged to lower the lift. Just as this was done, weight redistribution on the still overextended platform caused an apparent shift in the center of gravity causing the lift to roll backward, pivot on its rear two wheels and topple over sending the men thirty-six feet to the ground below. Within minutes of the incident, emergency medical services airlifted the co-worker to a regional hospital. The victim however, was pronounced dead approximately fifty minutes following arrival at the hospital.

The investigation revealed a number of factors which may have contributed to this incident. First, the scissor aerial lift had been previously altered to permit extension to a height of approximately thirty-six feet which was nine feet higher than the twenty-five foot height restriction given in the manufacturer's operator's manual. The control arm leading from the microswitch appeared to have been altered which allowed the lift to exceed the twenty-five foot restriction. Secondly, the scissor aerial lift outriggers were not deployed prior to lift extension. Even if the outriggers had been fully deployed, the slope of the terrain on which the lift was situated may have rendered them useless in the prevention of this incident. Lastly, the lift was situated on a twelve to fourteen degree sloped terrain which was seven to nine degrees more than the five degree maximum safe operating slope listed in the manufacturer's operation's manual.

CAUSE OF DEATH

The medical examiner listed the cause of death as multiple injuries.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Employers should ensure that aerial scissor lifts are operated only by competent individuals familiar with the manufacturer's guidelines for proper use.

Discussion: While the individuals involved in this incident may have had a working knowledge of aerial lifts in general, they were not fully aware of manufacturer guidelines which governed this machine. Had they been aware that this machine was altered to by-pass extension limits and that it was not to be used on inclines more than five degrees, the incident may have been prevented. Employers must ensure that personnel are fully trained and competent to engage in the use of potentially dangerous equipment at all times.

Recommendation #2: Employers should select and appoint a designated safety person to develop,

implement, and enforce a comprehensive safety program that includes, but is not limited to, training in the recognition and avoidance of unsafe working conditions.

Discussion: OSHA Standard 29 CFR 1926.21 (b)(2) requires employers to instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his/her work environment control or eliminate any hazards or other exposures to illness or injury. The company did not have any written safety program, training program or designated safety officer. Employers should select and appoint such an individual to develop, implement, and enforce a comprehensive safety program that includes, but is not limited to, training workers in the recognition and avoidance of unsafe working conditions. Daily, weekly, and/or monthly safety meetings which are conducted by a designated safety person and cover such vital areas as safe operation of equipment on unimproved surfaces and the dangers of tampering with equipment constantly remind employees of the hazards associated with their occupation(s) and how best to deal with them.

Recommendation #3: Employers should ensure that mechanical equipment is regularly inspected and continues to meet or exceed manufacturer's specifications for safe operation.

Discussion: OSHA Standard 29 CFR 1926.556 and American National Standard Institute (ANSI) Standard A92.2-1969 require that aerial lift controls be tested each day prior to use to determine that such controls are in safe working condition. Not only were the victim and his co-worker unfamiliar with the equipment manufacturer's guidelines for safe operation, but they were not trained to inspect and identify potentially problematic equipment control mechanisms. In this incident, one of these essential control mechanisms had been altered to permit bypass of a built-in safety feature (twenty-five foot maximum platform height). Hence, this equipment did not meet or exceed the manufacturer's specifications for safe operation, therefore it should not have been in use.

REFERENCES

1. Office of the Federal Register: Code of Federal Regulations, Labor 29 Parts 1926.21 (b)(2) 1991, 1926.556 1991

2. American National Standard Institute (ANSI) Standards: 92-6-1977, A92.2-1969

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