DATE: June 8, 1998

FROM: Minnesota Fatality Assessment and Control Evaluation (MN FACE) Program
Minnesota Department of Health

SUBJECT: MN FACE Investigation 98MN01301
Worker Dies After Falling 15 Feet From An Extension Ladder

SUMMARY

A 45-year-old roofing worker (victim) died of injuries he sustained when he fell 15 feet while from an aluminum extension ladder. The victim had just finished work for the day and was climbing down the ladder. He had been laying the roof on a 160,000 square foot new construction building. The extension ladder consisted of two 20 foot sections that were joined together. Part of the two ladder sections overlapped even when the ladder was fully extended. The lower section of ladder fit behind the upper section. Beneath the area of the two sections that overlapped, the rungs were slightly further back (i.e. away from an individual on the ladder) than they were prior to or throughout the overlap area. Apparently, while descending the ladder, the victim lost his balance just after the juncture of the two ladder sections where the rung placement changed slightly.

MN FACE investigators concluded that, in order to reduce the likelihood of similar occurrences, the following guidelines should be followed:

- employers should develop a means of visually warning workers while they are using extension ladders that the overlap area between ladders will be occurring;

- employers should ensure that all employees are provided periodic safety training reviews of established safety programs; and

- employers should design, develop, and implement a comprehensive safety program.

INTRODUCTION

On March 16, 1998, MN FACE investigators were notified of a work-related fatal incident that occurred on March 12,1998. The victim worked for a roofing company. An interview with the employer was conducted on April 24, 1998. During MN FACE investigations, incident information is obtained from a variety of sources such as law enforcement agencies, county coroners and medical examiners, employers, coworkers and family members.

INVESTIGATION

The employer is a roofing company that employs approximately 90 workers and has been in business for 69 years. The victim had worked for the employer for 21 years. This was the first work-related fatality that occurred at this company. The company conducted yearly safety training which included personal protective equipment use, right to know, hazard identification, equipment use, and safe work practices. This year during their annual safety training basic first aid, ergonomics, and other safety issues were discussed. The company also had an instructor from the National Safety Council speak at their safety meeting.

On the day of the incident, workers were laying the roof on a 160,000 square foot new construction building. They had been working at the job site for three weeks, but they worked an average of only 2 to 3 days per week due to weather conditions that didn't allow them to work the other days. The victim had just finished work for the day and was climbing down an extension ladder. The extension ladder consisted of two 20 foot sections that were joined together. Part of the two sections overlapped, at all times, even when the ladder was fully extended (Figure 1).

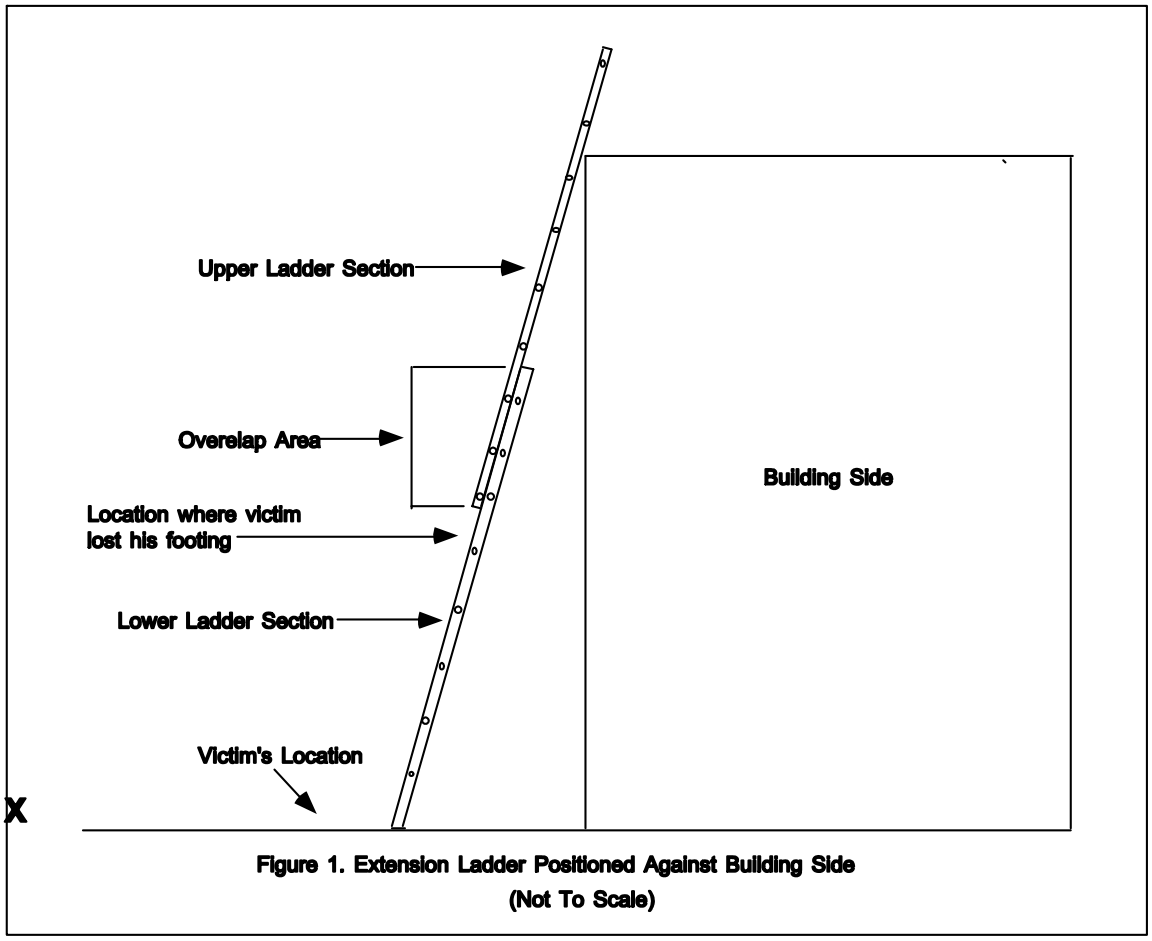

Figure 1. Extension Ladder Positioned Against Building Side (Not To Scale)

The lower section of the ladder fit behind the upper section. Beneath the area of the two ladder sections that overlapped the rungs were slightly further back (i.e. away from an individual on the ladder) than they were prior to or throughout the overlap area. Apparently, while descending the ladder, the victim lost his balance just below the overlap area of the two sections where the rung placement changed slightly. The victim fell approximately 15 feet and a coworker placed a call to emergency medical personnel. They arrived shortly after being called and transported the victim to an area hospital where he died the following day.

CAUSE OF DEATH

The cause of death was not available when this report was completed.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Employers should develop a means of visually warning workers while they are using extension ladders that the overlap area between ladders will be occurring.

Discussion: Employers should ensure that workers are made aware that the overlap area of an extension ladder is approaching so they know that they may have to slightly change their footing. The area on the upper ladder that is at eye level when the worker's feet are approaching the overlap area should be marked with brightly colored paint or colored tape. A written warning should also be placed in this area that warns workers about the overlap area. If the upper section of the extension ladder involved in this incident had been marked to warn the worker that his feet were approaching the overlap area this fatality may have been prevented.

Recommendation #2: Employers should ensure that all employees are provided periodic safety training reviews of established safety programs.

Discussion: Employers should ensure that all employees maintain an understanding of current company safety programs and procedures. Employers should provide periodic safety reviews in the recognition, control, and avoidance of unsafe conditions to which employees might be exposed while performing assigned work tasks. These reviews should also ensure that employees are provided review training in the proper use of all tools and equipment required to perform assigned tasks. They should include reviews of the safe usage of routinely used equipment such as ladders as well as infrequently used tools and equipment. Periodic safety review sessions for all employees would be helpful in reducing the future occurrence of occupational fatalities.

Recommendation #3: Employers should design,develop, and implement a comprehensive safety program.

Discussion: Employers should ensure that all employees are trained to recognize and avoid hazardous work conditions. A comprehensive safety program should address all aspects of safety related to specific tasks that employees are required to perform. OSHA Standard 1926.21(b)(2) requires employers to

"instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury." Safety rules, regulations, and procedures should include the recognition and elimination of hazards associated with tasks performed by employees.

REFERENCES

1. Office of the Federal Register: Code of Federal Regulations, Labor, 29 CFR part 1926.21 (b)(2) U.S. Department of Labor, Occupational Safety and Health Administration, Washington, D.C., July 1, 1994.

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