DATE: March 16, 1993

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

SUBJECT: MN FACE Investigation 92MN02101
Male Roofer Dies After Falling From a House Roof

SUMMARY

A 38-year-old male roofer (victim) was fatally injured after falling approximately 20 feet from a house roof. No personal protective equipment was being used at the time of the incident. He and a coworker were marking a 4- by 25-foot area of the roof with a chalk line for removal. This roof area had been damaged by water; it was sagging and not totally solid. As the coworker held the chalk line holder stationary, the victim pulled out line as he backed up. He apparently was unaware of his distance from the roof edge and, as the roofers were talking, the victim fell off the roof backwards. He was transported to a hospital where he was pronounced dead. MN FACE investigators concluded that, in order to prevent future similar occurrences, employers should:

> provide fall protection including catch platforms or safety belts and lifelines when working from elevations;

> consider and address worker safety in the planning phase of construction projects; and

> develop, implement, and enforce a comprehensive safety program that includes, but is not limited to, training in fall hazard recognition and the use of fall protection devices.

INTRODUCTION

MN FACE personnel were notified of an October 19, 1992, fall fatality by a county coroner's office on November 2, 1992. MN OSHA was notified of the work-related fatality and releasable information requested. Police and coroner reports were requested. The coworker present during the incident was interviewed via telephone. The home owner was interviewed during the site investigation on November 19, 1992.

The victim sub-contracted to a small home improvement services company owned by one person. The owner declined the opportunity to discuss the incident with MN FACE staff. The victim's training and experience as a roofer could not be determined.

INVESTIGATION

A home owner contracted with a small home improvement services company to have a portion of roof, approximately 4- by 25-feet, removed, replaced, and reshingled. Water damage had caused sagging in this section on the rear northwest edge of the upper-most roof of a multi-level home. This roof was approximately 20 feet high with a 4.5 in 12 pitch (a 4.5" rise to every 12" run). Nine feet below and to the west of this roof was the roof of another section of the house. A cement patio with a stairway leading to an elevated wooden deck (to the east side of the upper roof) was 10- to 15-feet below the lower roof.

The contractor deposited required job materials at the residence the day before the incident. The home owner was informed that two workers, who had not seen the job themselves but were familiar with this type of roof repair, would be performing the work. The victim and a coworker began the roof repair at approximately 9:15 a.m. the following day. It was cold and windy, but the roof surface was dry.

The two roofers were on the roof approximately 15 minutes prior to the incident. They had taken a circular saw, extension cord, chalk line, and tape measure with them to the top of the roof. No personal protective equipment was used. For cutting purposes, two chalk lines, one short and one long, needed to be drawn; the roof edges provided the remaining sides of the roof section being removed. The long 20-foot chalk line was being drawn in a north-south direction 4 feet from the west edge of the roof. As the coworker held the chalk line holder stationary, the victim preceded sideways/backwards in a northerly direction towards the roof edge. The coworker informed MN FACE that the victim tried to keep track of how close he was to the roof edge, but when he reached the northern edge of the roof he fell off. It was unclear to the coworker if the victim lost his balance when he reached the roof edge or if the shingles here gave way when the victim reached it. He fell and landed on his left side with his head away from the rear of the house.

According to the police report, it appeared that the victim struck the corner of the lower roof, then fell to the cement patio below. It was unclear whether he hit the stair railing during his fall. The coworker quickly notified the home owner of the fall, and 911 was called. The victim did not appear to be breathing at this time. First responders arrived within five to seven minutes of the incident and CPR was initiated. The victim was transported to a nearby emergency room but was pronounced dead on arrival.

CAUSE OF DEATH

The cause of death as listed on the death certificate was multiple traumatic injuries due to or as a consequence of a fall from height.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Provide fall protection including catch platforms or safety belts and lifelines when working from elevations.

Discussion: Injuries due to falls can be prevented or minimized if proper fall protection is provided and used. When working on roofs having pitches greater than 4 in 12, fall protection can be provided by erecting fall platforms as specified by 29 CFR 1926.451(u)(3) or by using safety belts and lines in accordance with 29 CFR 1926. 104.

Recommendation #2: Employers should address worker safety in the planning phase of construction projects.

Discussion: Worker safety issues should be discussed and incorporated into all construction projects during planning and throughout the entire project. The planning for and incorporation of safety measures prior to any work being performed at construction sites will help to identify potential worker hazards so that preventive measures can be implemented at the site.

Recommendation #3: Employers should develop, implement, and enforce a comprehensive safety program that includes, but is not limited to, training in fall hazard recognition and the use of fall protection devices.

Discussion: Employers should emphasize safety to their employees by developing,

implementing, and enforcing a comprehensive safety program. The safety program should include, but not be limited to, training workers in the proper selection and use of personal protective equipment and the recognition and avoidance of fall hazards.

REFERENCES

1. Office of the Federal Register, Code of Federal Regulations, Labor, 29 CFR Part 1926.451(u)(3), and 29 CFR Part 1926.104, U.S. Department of Labor, Occupational Safety and Health Administration, Washington, D.C., July 1991.

2. NIOSH-Division of Safety Research, FACE Report 90-28, Morgantown, West Virginia, June 18, 1990.