TO:Director, Occupational Health Surveillance Program,
Massachusetts Department of Public Health

FROM:Massachusetts Fatality Assessment and Control
Evaluation (MA FACE) Project Field Investigator

SUBJECT: Massachusetts Metal Building Assembler Dies in Fall
From Rooftop - 93-MA-012-01

DATE:October 17, 1994

SUMMARY

On July 9, 1993, a 32 year old, male metal building assembler was fatally injured when he fell 33 feet off a roof top at a Massachusetts construction site. The victim was apparently preparing to place metal decking on the building's structural steel roof when he fell to the ground. Police and emergency medical services immediately responded and the victim was prepared for transport to the regional hospital. He died in the hospital nine days later. To prevent similar future occurrences, the MA FACE Program Field Investigator recommends that employers:

- provide adequate fall protection during metal decking operations

- design, develop and implement a comprehensive safety training program that includes, but is not limited to fall protection.

INTRODUCTION

On July 9, 1993, an OSHA area office notified the MA FACE Project Field Investigator that a 32 year old male metal buildings assembler had fallen approximately 33 feet off of structural steel at a construction site. At the time of the initial report, the victim was in grave condition at a regional hospital and not expected to survive. In anticipation of a targeted FACE Project fatality, an investigation was initiated. On July 18, 1993, OSHA notified MA FACE that the victim had died from his injuries sustained in the fall.

The MA FACE Field Investigator interviewed company personnel on September 9, 1993. Corporate organization data, the OSHA report, municipal police report, and death certificate were obtained during the course of the investigation.

The company was a manufacturer and erector of steel buildings. It had been in business for over 26 years. It employed 45 non-union individuals in various construction and office related capacities. In addition to the victim, eight other workers also shared the title of metal buildings assembler. The company did not have a safety program. It did not employ a designated safety officer (competent person), provide safety training, or have written safety rules and procedures. Although a company official claimed safety issues were discussed on a daily basis, such tool box type talks were not documented for three years. Recent hires reportedly received no training at all, and had no previous experience in the industry.

The victim had worked for the company for 3 years and 8 months. He was on his tenth day at the jobsite when the incident occurred. His training was primarily on the job.

INVESTIGATION

The employer was engaged in the erection of a 19,680 square foot steel building which was to be used as a marine craft storage facility. On July 9, 1993, the employer was into its 16th day on site, and the building was 50% complete. The highest peak of the structure was thirty-five feet with an eave height of thirty-three feet from ground level. The pitch of the structural steel to support the roof was 1:12 (one inch in height for each twelve inches measured eave to peak).
At approximately 8:15 a.m., the victim and his co-workers were decking the roof of the marine storage facility. The workers were elevated to the roof by a manlift. They were using a unique method, which involved rollers, to position and weld the metal decking to the structural steel beams. The rollers were used to move the sheets of decking across the steel beams. The building assemblers pushed the rollers along the structural steel roof members, straddling the beams as they walked.

One of the victim's co-workers claimed that as he was drilling holes in sheets of metal on top of the roof, he witnessed the victim rolling out a roller. The witness claimed that he saw the roller slip from position, and the victim fall head first from the structural steel beams.

The witness yelled to co-workers that the victim had fallen, and the crew descended to assist the victim and summon emergency responders. The victim's brother was among the crew who assisted the victim. Municipal police personnel responded within moments and tended to the victim until the paramedics arrived. The paramedics administered more advanced life support and transported the victim to the regional hospital where he died of his injuries nine days later.

CAUSE OF DEATH

The medical examiner listed the cause of death as multiple injuries due to blunt trauma.

RECOMMENDATIONS/DISCUSSION

Recommendation #1:Employers should provide adequate fall protection during metal decking operations.

Discussion: The employees were installing metal decking on the top of a 33 foot building without any form of fall protection. Safety nets would have been the most effective means of fall protection for this metal decking operation. The OSHA steel erection standard, 29 CFR 1926.750(b)(1)(ii), requires the use of safety nets on buildings not adaptable to temporary floors when the potential fall distance exceeds two stories, or 25 feet (and when scaffolds are not used). OSHA standard 1926.105 provides the specific criteria which must be met when safety nets are used, and further states that nets shall be provided when safety lines and belts are not practical. (After February 1995, these requirements will be expanded and moved to section 1926.502(c) of OSHA's new Fall Protection Standard.) Had safety nets been employed, the victim would most likely not have fallen to his death.

Recommendation #2: Employers should design, develop and implement a comprehensive safety program that includes, but is not limited to fall protection.

Discussion: The company had virtually no safety program. Employers should develop, implement, and enforce a comprehensive safety program that includes, but is not limited to, routine job site hazard surveys, the use of appropriate fall protection, and worker training on the recognition and avoidance of fall hazards. OSHA standard CFR 1926.21(b)(2) requires employers to instruct each employee in the recognition and avoidance of unsafe conditions, and in the regulations applicable to their work environment to control hazardous exposures. Employers should also appoint an individual with safety knowledge, and the authorization to take corrective measures to eliminate hazards, to be the designated safety officer, or competent person, on site. Currently most OSHA construction standards (29 CFR 1926) require the involvement of a "competent person" in the implementation of safety provisions.

LIST OF REFERENCES:

29 Code of Federal Regulations CFR 1926.21(b)(2), 1926.105, 1926.750(b)(1)(ii)
OSHA Preamble and Final Rule for Fall Protection in the Construction Industry, 59 FR 40672, August 9, 1994.