TO: Director, National Institute for Occupational Safety and Health

FROM: California Fatality Assessment and Control Evaluation (FACE) Program

SUBJECT: Carpenter Dies from Injuries Sustained after Falling Approximately 20 Feet while doing Earthquake Repair Work in California

SUMMARY
California FACE Report #94CA003
February 5, 1995

A 42-year-old white, non-Hispanic male carpenter died from injuries he sustained on February 11, 1994, when he fell 19' 3" from the ledge from which he was working. The decedent was repairing dry wall cracks in a commercial building which occurred because of the January 17, 1994, Northridge earthquake. He was in a coma for 4 months before dying on June 12, 1994. There were no witnesses to the incident although co-workers were at work in the general vicinity. The decedent was not wearing any Personal Protective Equipment (PPE) at the time of the incident.

According to the employer, the decedent was "taping" joints in preparation to painting the wall. The ledge on which the decedent was working was 11 inches wide and 30-35 feet long. One end of the ledge ended at a wall and the other at a guardrail separated from a work area on the same floor. There was an unprotected 31 inch gap between the end of the ledge that abutted the wall and the neighboring work area. The victim apparently tried to jump this 31 inch gap, lost his footing, and fell to the ground. He sustained severe head injuries after his head struck a concrete ledge at ground level. The CA/FACE investigator concluded that in order to prevent any similar future occurrences, employers should:

· require the use of fall protection equipment by all employees who work at heights mandated by regulation or where temporary guardrail protection is impractical. (Please see note regarding fall protection regulations on page 4.)

· require the use of ladders, aerial lift devices, or scaffolds for work performed at heights exceeding 15 feet for work surfaces less than 20 inches in width.

· have a method for assuring employee compliance with safe work practices as part of an Injury and Illness Prevention Program.

INTRODUCTION

On February 11, 1994, a 42-year-old carpenter fell approximately 19' 3" while repairing cracks in a wall in a commercial building damaged by the Northridge earthquake. The CA/FACE investigator was informed of this incident by a California Occupational Safety and Health

Administration (Cal/OSHA) safety engineer on June 23, 1994. The Cal/OSHA Report and Coroner's Autopsy Report were obtained by the CA/FACE investigator. A site visit was not conducted due to the length of time between the incident and the victim's death.

The employer in this incident was a general contractor and the decedent had worked for his employer for 2 years and 3 months. At this time of the incident, there were 4 other employees at the site. The employer had an established written Injury and Illness Prevention Program (IIPP).

INVESTIGATION

At the time of the incident, the decedent was working on a ledge 19' 3" above the ground floor and was not wearing any PPE. The ledge was 11" in width, 30-35 feet in length, and was separated from work areas on the same floor by a guardrail at one end and a gap at the other end (see exhibit 1). Also, an escalator was located below his work space. The decedent had been working on his hands and knees using a pan and two knives. According to statements made by co-workers, he would place the pan behind him and reach around for it.

The employer and co-workers stated that on earlier occasions while doing similar tasks they had used an aerial lift for personnel positioning. The employer was aware of the existing hazard because a jobsite inspection had been done prior to engaging in all workplace tasks. Co-workers stated that they had told the decedent to use fall protection equipment (safety belts or planks) but he had refused to do so. Earlier on the job one of the decedent's co-workers had refused to let him work in an area where fall protection was mandated.

There were two possible scenarios offered by co-workers as to how the incident occurred. None of the co-workers actually witnessed the incident, but they were aware of the task the decedent had been doing just prior to the incident. The decedent either fell while turning around to leave the ledge or while jumping from the ledge to a neighboring work surface. There were six feet long visible hand streaks with five finger scratches on a column adjacent to the work. These marks were consistent with the area where the decedent landed. He fell onto a dirt planter base, striking his head on a concrete ledge.

The incident occurred at approximately 9:45 p.m. When co-workers discovered the victim he had blood flowing from his nose and ears and his eyes were open. A co-worker yelled for help and a guard working nearby called the in-house fire department which arrived in 15 minutes. An ambulance was also summoned and the response time was approximately 15-20 minutes. Paramedics transported the victim to a local hospital arriving approximately 45 minutes after the incident. The victim remained in a coma from the time of the incident until his death on June 12, 1994 at 10:01 a.m.

CAUSE OF DEATH

The Coroner's Autopsy Report states the cause of death as sequelae of craniocerebral trauma.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Employers should require the use of fall protection equipment by all employees who work at heights when mandated by regulation or where temporary guardrail protection is impractical.

Discussion: Under Title 8 of the California Code of Regulations (CCRs) section 1669 (a) employers shall require the use of safety belts/harnesses with lanyards at elevations exceeding 15 feet above ground, or floor level below, and where temporary guardrail protection is impractical. Safety lines could have been attached to the guardrails adjacent to the victim's work area, if it had been predetermined they were strong enough to have sustained the forces generated by a fall from this height. Had the victim been wearing fall protection equipment, this fatality would have been prevented.

Recommendation #2: Employers should require the use of ladders, aerial lift devices, or scaffolds for work performed at heights exceeding 15 feet and for work surfaces less than 20 inches in width.

Discussion: The ledge from which the decedent fell was a completely inadequate work surface. When a work surface is less than 20 inches in width and more than 15 feet in height, alternative methods such as ladders, aerial lifts, or scaffolds should be used. In this instance, use of an aerial device or scaffold would have been preferable. Implementation of these alternative methods would have been difficult given the position of the escalator beneath the ledge, but it would not have been impossible.

Recommendation #3: Employers should have a method for assuring employee compliance with safe work practices as part of their Injury and Illness Prevention Program.

Discussion: An Injury and Illness Prevention Program should include provisions for ensuring employee compliance with safe and healthy work practices. This may include training, retraining, disciplinary actions, or by any other means. In this instance, the employee had a history of unsafe work practices. Full implementation of an employee compliance program may have prevented this fatality.

Note: On August 9, 1994, the U.S. Department of Labor Occupational Safety and Health promulgated regulations pertaining to Safety Standards for Fall Protection in the Construction Industry. These regulations mandate that fall protection measures be implemented in certain situations where workers are at risk of falling six feet. Current California regulations mandate protection in some situations at 7½ feet and in others at 15 feet. At the time of this writing, California has not yet adopted the federal standard. Measures comparable to the federal standard must be implemented by February 6, 1995.

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FATALITY ASSESSMENT AND CONTROL EVALUATION PROGRAM

The California Department of Health Services, in cooperation with the Public Health Institute and the National Institute for Occupational Safety and Health (NIOSH), conducts investigations of work-related fatalities. The goal of this program, known as the California Fatality Assessment and Control Evaluation (CA/FACE), is to prevent fatal work injuries in the future. CA/FACE aims to achieve this goal by studying the work environment, the worker, the task the worker was performing, the tools the worker was using, the energy exchange resulting in fatal injury, and the role of management in controlling how these factors interact. NIOSH-funded, state-based FACE programs include: Alaska, California, Iowa, Kentucky, Massachusetts, Michigan, Minnesota, Nebraska, New Jersey, New York, Oklahoma, Oregon, Washington, West Virginia, and Wisconsin.

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Additional information regarding the CA/FACE program is available from:

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California Department of Health Services
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