FINAL FACE REPORT

CALIFORNIA DEPT. OF HEALTH SERVICES
FACE REPORT: 94CA00501
DATE: NOVEMBER 22, 1994

TO: **Director, National Institute for Occupational Safety and Health**

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

SUBJECT: **Construction Foreman Dies after Falling Approximately 28 Feet during Roofing Retro-Fit Operation in California**

SUMMARY

A 24-year-old, white, Hispanic, male construction foreman (the decedent) died after falling approximately 28 feet while doing roofing demolition work. The building on which the decedent was working was damaged by the January 17, 1994, Northridge earthquake. The decedent was removing roofing panels when the incident occurred. He was standing on the edge of a panel when the wooden beam supporting the panel shifted. This caused the decedent and four panels to fall to the concrete floor below. Earthquake damage had created the beam instability. The decedent was not wearing a safety harness or lanyard at the time of the incident. The CA/FACE investigator concluded that in order to prevent similar future occurrences, employers should:

- provide safety belts and lanyards for employees when working on unstable surfaces or at heights required by regulation;

- evaluate their current safety program and incorporate specific training procedures emphasizing the importance of controlling hazards in the workplace. These procedures should include, but not be limited to, conducting hazard evaluations before initiating work at a job site and implementing appropriate controls.

INTRODUCTION

On March 10, 1994, a 24-year-old construction foreman (the decedent) died after falling approximately 28 feet while doing roofing demolition work. The CA/FACE investigator was informed of this incident by the California Occupational Safety and Health Administration's (Cal/OSHA) Bureau of Investigations (BOI) office. On Friday, March 18, an occupational health nurse and a preventive medicine resident both working with the California FACE program, accompanied the CA/FACE investigator to the incident site to conduct an investigation. The demolition contractor was no longer working at the site at the time of the investigation, so the CA/FACE investigator and a National Institute of Occupational Safety and Health (NIOSH) investigator conducted a separate interview with the employer on May 9, 1994. A copy of the Cal/OSHA Report and the Coroner's Autopsy Report were obtained by the CA/FACE investigator.

The employer in this incident was a demolition contractor who had

been hired to remove the roof on the building. The employer had been in the demolition business for approximately 24 years (since 1970) and had worked at the incident site for 2½ weeks. The decedent had worked with his employer for eight years and had performed this type of work on numerous occasions. There were eight employees who worked for the contractor; two employees had the same job description as the decedent. The employer provided on the job safety training. The decedent was not wearing personal protective equipment (PPE) at the time of the incident, no did the employer require employees to use fall protection equipment for this kind of work.

INVESTIGATION

On the day of the incident, the decedent and his brother were both removing 4 foot x 8 foot plywood ceiling panels. They had used a ladder to access the roof (approximately 28 feet above the ground) of the building. The modular roof was being removed because the warehouse ceiling was being retro-fitted due to earthquake damage. Together, the decedent and his brother removed the 4 foot x 8 foot plywood ceiling panels that were nailed to the purlins (see exhibit 1A). The procedure was to remove the nails from the panels to the purlins, pop the panels from the purlins with a pick, then place the panel on the roof for salvage. Prior to the incident, they had removed the panels from one bay, a major subsection of the roof.

At approximately 2:20 pm, the brothers began to remove panels from the next bay. The decedent was standing on the edge of a panel pulling back on his pick axe to remove a piece of plywood, when the piece of plywood the victim was standing on fell in between the purlins that were supporting it. As the panel fell, the victim and four additional panels also fell approximately 28 feet to the concrete floor below. The panel on which the decedent's brother was standing on did not shift.

Due to the January 17, 1994 Northridge earthquake, the roof of the building was damaged in the corner where the decedent and his brother were working. The earthquake damage had caused the walls of the building to move away from the roof approximately 6 inches. This damage caused the general structural instability that allowed the purlins to move in a horizontal plane, thus permitting the overlying panels to fall.

Paramedics were called and the victim was transported to a local hospital where he was pronounced dead at 3:22 pm, approximately one hour after the incident.

CAUSE OF DEATH

The Coroner's Autopsy Report lists the cause of death as multiple blunt force injuries.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Employers should provide safety belts and lanyards for employees when working on unstable surfaces or at heights where required by regulation.

Discussion: This incident may have been prevented if the decedent had been wearing a safety harness and lanyard. Under Title 8 of the CCRs section 1669 (a), when work is performed from thrustouts or similar locations, such as trusses, beams, purlins, or plates of 4-inch nominal width, or greater, at elevations exceeding 15 feet above ground, water surface, or floor level below and where temporary guardrail protection is impracticable, employees shall be required to use approved safety belts or harnesses with attached lanyard. Had fall protection equipment been used in this instance, the fatality would have been prevented.

Recommendation #2: Employers should evaluate their current safety program and incorporate specific training procedures emphasizing the importance of controlling hazards in the workplace. These procedures should include, but not be limited to, conducting hazard evaluations before initiating work at a job site and implementing appropriate controls.

Discussion: This incident may have been prevented if the earthquake damage had been evaluated properly and it had been determined initially that the purlins were capable of horizontal movement. Under Title 8 of the California Code of Regulations (CCRs) section 1735 (c), prior to starting demolition operations,

all floor members shall be thoroughly inspected by properly qualified persons to determine that they are safe, before workers are sent overhead to work. During demolition, continuing inspections shall be made as the work progresses to detect hazards resulting from weakened or deteriorated floors or walls, or loosened material. No worker shall be permitted to work where such hazards exist until they are corrected by shoring, bracing, or other effective means.