TO: Director, National Institute for Occupational Safety and Health

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

SUBJECT: Maintenance Laborer Electrocuted During Renovation of an Office Building in California

SUMMARY

California FACE Report #92CA011
April 15, 1993

A 27-year-old Hispanic male maintenance laborer was electrocuted while doing renovation work in an office building. The victim was removing ceiling tiles and trying to cut an electrical wire when the incident occurred. The victim was electrocuted when both hands made contact with a dangling electrical wire (120 volts). At the time of contact the victim was standing on a step ladder made of aluminum and fiberglass. A co-worker pushed the victim from the ladder immediately after the incident, thus exposing himself (co-worker) to the risk of electrocution. A supervisor summoned to the area phoned 911 and then initiated cardiopulmonary resuscitation procedures. The rescue team arrived a short time latter and continued giving CPR along with defibrillation procedures and transported the victim to the hospital where he was pronounced dead. The California FACE investigator concluded that in order to prevent future similar occurrences, employers should:

- provide and implement safety precautions and training for employees working with or around electrical wires.
- have personnel certified in CPR and First Aid.
- only allow properly trained or licensed individuals to work with or around electrical systems.
- only use wooden ladders when potential contact with electricity exists.

INTRODUCTION

On August 6, 1992, a 27-year-old Hispanic male maintenance laborer was electrocuted while doing renovation work in an office building. The incident occurred at approximately 2:00 PM. The California FACE investigator was informed of the incident that same afternoon (August 6, 1992) by the California Occupational Safety & Health Administration (Cal/OSHA) office. The California FACE investigator and Cal/OSHA safety engineer went to the incident site together.

Four co-workers were present in the room where the incident took place. The workers gave limited information when questioned, and the California FACE investigator was unable to ascertain what actually happened in the incident at the time of this first site investigation. The supervisor never did show up so California FACE investigator got his telephone number and returned the next day. Photographs were taken at the site by the FACE investigator, and the Cal/OSHA report and Coroner's autopsy report were obtained. Interviews were conducted with the supervisor and co-workers during the next few days.

INVESTIGATION

The victim in this incident was doing office renovation work in a ten story highrise in a downtown location. He (victim) was regularly employed at this location as a laborer/maintenance worker. In this capacity he (victim) had a wide range of tasks he could be asked to perform. The task the victim had been given at the time of the incident was to remove ceiling tiles. It was believed by co-workers that the victim was in the process of cutting the electrical wires when the incident occurred. There was no physical evidence to support their claim, such as a pair of wire cutters or scissors at the scene. The victim was electrocuted when both hands made contact with a dangling electrical wire (120 volts). The room where the victim was working was very cluttered with broken ceiling tiles and their metal support pieces. At the time of the incident the victim was standing on an aluminum/fiberglass ladder. There was no personal protection equipment (PPE) provided or required by the employer.

The victim and four of his coworkers were working in the same room removing ceiling tiles when the incident occurred. One of the co-workers (the one

working with the victim) stated that he pushed the victim from the ladder after he (co-worker) realized what was happening. This co-worker also stated that the victim was in the process of cutting the electrical wire when the incident occurred. He (co-worker) exposed himself to the electrical current and was at risk of electrocution himself. The other co-workers were in other areas of the room and heard the victim scream, but did not actually witness the incident.

The supervisor stated that when he first viewed the victim, he (victim) was shaking and that his face looked green. The supervisor then went back to his office and dialed 911. He (supervisor) stated that the operator spent several minutes asking him questions about the incident, most of which he could not answer. He (supervisor) then went back over to the victim and attempted to administer CPR.

Paramedics arrived within 10 minutes and continued to administer CPR and began defibrillation. The supervisor stated that he had received some breathing responses from the victim after initiating CPR. The victim was transported by paramedics to the hospital where he was reported dead at approximately 4:00 PM.

CAUSE OF DEATH

The Coroner's Autopsy report stated the cause of death as electrocution due to contact with electrical wires.

RECOMMENDATIONS/DISCUSSION

Recommendation 1: Employers should provide and implement safety precautions and training for employees working with or around electrical wires.

Discussion: There should be signs or tags indicating that there are electrical hazards in the vicinity. Under Title 8 of the California Code of Regulations (CCRs) section 1509 (b) & (c) employers must address and implement a Code of Safe Practices which is relevant to the work being performed by employees. This information must also either be posted or easily accessible to employees.

Recommendation 2: Employers should have personnel trained in First Aid and CPR.

Discussion: The supervisor in this incident had not had CPR training for approximately eight or nine years. Under Title 8 of the CCRs section 1512 (b) employers must ensure the availability of appropriately trained personnel to render first aid.

Recommendation 3: Employers should only allow properly trained and licensed individuals to work with or around electrical systems.

Discussion: The victim in this incident did not have the proper training or background in electrical work to do the task at hand. Under Title 8 of the CCRs section 2320.1 (b) unqualified, untrained employees are not permitted to perform functions in proximity to energized overhead conductors without suitably guarding against accidental contact.

Recommendation 4: Employers should only allow the use of wooden ladders when potential contact with electrical currents exist.

Discussion: The ladder the victim was using in this incident was made of aluminum and fiberglass.

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