Colorado Fatality Assessment and Control Evaluation (FACE) Program

SUBJECT:

Colorado Face Investigation 95CO054

A Car Wash Employee is Electrocuted While Working on Equipment

SUMMARY:

In September 1995, a 15-year-old white non-Hispanic male employee of an automated full-service car wash in Colorado was instructed to remove a defective motor from the car wash machine. This motor operated the spinning car washing wands and was powered by 460-volt electricity. The manager of the car wash disconnected the three wires supplying power to the motor, but power to the circuit was not de-energized. The teenager was then instructed to remove the motor. While he was doing this task, a car entered the system and the computer controlled equipment was activated. The metal conduit that contained the wires to the motor was energized. The employee's arm was contacting the conduit and he was electrocuted.

The Colorado Department of Public Health and Environment (CDPHE) investigator concluded that to prevent future similar occurrences, employers should:

- Ensure that all power sources are deactivated before operators make adjustments or work on machinery.

- Develop, implement, and enforce a comprehensive written safety program that includes a lock-out/tag out policy.

- Allow only properly trained personnel to work on equipment.

INVESTIGATIVE AUTHORITY:

CDPHE performs investigations of occupational fatalities under the authority of the Colorado Revised Statutes and Board of Health Regulations. CDPHE is authorized to establish and operate a program to monitor and investigate those conditions which affect public health and are preventable. The goal of the workplace investigation is to prevent work-related injuries in the future by study of the working environment, the worker, the task the worker was performing, the tools the worker was using, and the role of

management in controlling how these factors interact.

This report is generated and distributed to fulfill the Department's duty to provide relevant education to the community on methods to prevent severe occupational injuries.

INVESTIGATION:

The investigation of this work-related fatality was prompted by a news report of the incident on a local television station. The CDPHE investigation included interviews with the company owner, car wash manager, and the attorney representing the company. Photographs of the incident site were taken and police and coroner reports were obtained.

The company in this case employs 120 people. The company has a designated safety officer who has additional duties. Less than 25% of this person's time is spent on safety-related issues. Although the company had a written safety program, the program did not include a lockout/tagout section. Safety training was conducted by the company but did not cover working with electricity.

CAUSE OF DEATH:

The cause of death as determined by autopsy and listed on the death certificate was acute cardiorespiratory failure consistent with low voltage electrocution.

RECOMMENDATIONS/DISCUSSION:

Recommendation #1: Ensure that all power sources are de-energized prior to making adjustments or working on machinery.

Recommendation #2: Implement and enforce a lock-out/tag-out policy.

Discussion: In this incident, locking out the power supply would have prevented the system from becoming energized when a car entered the car wash.

Recommendation #3: Only properly trained personnel should be allowed to work on equipment.

Discussion: In this incident, proper training of employees could have prevented this electrocution. It was evident that the personnel involved in the repair of the system did not have experience with electrical systems.

FACE Report 95CO054

_____

Lyle E. McKenzie
Chief Investigator/Industrial Hygienist
Environmental Epidemiology Division
Occupational Epidemiology Program

_____

Jane B. McCammon, M.S., CIH
Manager
Occupational Epidemiology Program

_____

Richard E. Hoffman, M.D., MPH
State Epidemiologist
Colorado Department of Health

Date:

DISTRIBUTION:

ALASKA DEPT. OF HEALTH
BUREAU OF LABOR STATISTICS, DOL
CALIFORNIA PUBLIC HEALTH FOUNDATION
COLORADO COMPENSATION INSURANCE AUTHORITY
COLORADO CORONER'S ASS'N
COLORADO DEPARTMENT OF HEALTH (INTERNAL DISTRIBUTION)
COLORADO DIV. OF RISK MANAGEMENT
COLORADO ENVIRONMENTAL HEALTH ASSOCIATION
COLORADO RURAL ELECTRIC ASS'N
COLORADO SAFETY ASSOCIATION
COLORADO STATE UNIV. (OSHA CONSULTATION)
EMPLOYER OF VICTIM
ENVIRONMENTAL HEALTH DEKALB COUNTY, GEORGIA
FUTURE FARMERS OF AMERICA, EATON DIV.
INDIANA DEPARTMENT  OF HEALTH
INJURY PREVENTION NETWORK
IOWA DEPT. OF PUBLIC HEALTH
KENTUCKY TRAUMA REGISTRY
LARIMER COUNTY SAFETY COUNCIL
MARYLAND DIVISION OF LABOR AND INDUSTRIES
MASSACHUSETTS DEPT. OF PUBLIC HEALTH
MINNESOTA DEPT. OF HEALTH
MISSOURI DEPT. OF HEALTH
NATIONAL ENVIRONMENTAL HEALTH ASSOCIATION
NATIONAL SAFETY COUNCIL
NEBRASKA DEPARTMENT OF LABOR
NEW JERSEY DEPT. OF HEALTH
NIOSH, DSR
NIOSH REGIONAL OFFICE
OSHA REGION 8 OFFICE
OSHA ENGLEWOOD AREA OFFICE
OSHA DENVER AREA OFFICE
WISCONSIN DIVISION OF HEALTH
WYOMING DEPARTMENT OF HEALTH