

Colorado Fatality Assessment and Control Evaluation (FACE) Program

SUBJECT:

Colorado FACE Investigation 96C0029

A 24-Year-Old Farm Laborer Dies When the Aluminum Irrigation Pipe He is Handling Contacts a High Voltage Line

SUMMARY:

On June 15, 1996 at approximately 8:30 in the morning, two farm hands were installing a siderow sprinkler system. The system consists of 30-foot long sections of gated aluminum pipe that are connected to the pumping system. While relocating a section of pipe, the two workers lifted it to a vertical position to clear the pipe of accumulated sediment. The pipe contacted a 7200-volt power line that ran along the edge of the field. The power line was 27 feet above ground level at the location where the pipe contacted the line. Both workers experienced an electrical shock. One of the workers failed to recover and was pronounced dead upon arrival at a local hospital. The second worker was hospitalized overnight for observation and released the next day.

The circumstances of this fatality are very similar to others that have occurred in Colorado in the past eight years. In response to these fatalities, the Colorado Department of Public Health and Environment (CDPHE) prepared a Hazard Alert summarizing some of these incidents and recommendations for prevention. Warning labels were also printed for statewide distribution. The recommendations from the Hazard Alert are listed below. A copy of the entire Alert is attached to this report.

Recommendations:

- Place a label on all sections of aluminum pipe that warns of the potential electrocution hazard.
- Inspect and clean all pipes for installation in an area free of overhead power lines.
- Flag a 30-foot area on either side of the power line during the installation process to alert workers they are in a danger zone and that pipes should not be raised to a vertical position within this area.
- Select plastic pipes when an irrigation system is purchased or replaced.

- Install power lines to pumps underground when new service is requested or existing service is relocated.
- The employer should conduct a work-site survey on a regular basis to assess the potential safety hazards. Once an assessment has been completed, written safety rules and procedures should be developed, implemented, and enforced. Training should then be provided to employees that specifically addresses all identified hazards.

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 report of the incident from the local county coroner. The investigation included interviews with the farm owner and the local coroner. The incident site was photographed and the autopsy report was obtained from the local authorities.

This farm employs up to fifteen seasonal employees. The farm did not have a safety program and safety training was not conducted.

CAUSE OF DEATH:

The cause of death as determined by autopsy and listed on the death certificate was electrocution.

RECOMMENDATIONS/DISCUSSION:

Recommendation #1:Place a label on all sections of aluminum pipe that warns of the potential electrocution hazard.

Discussion: The employer was furnished with 200 labels to apply to all pipe sections on the farm.

Recommendation #2:All pipes to be installed should be inspected and cleaned in an area free of overhead power lines.

Discussion: The best time to clean pipe sections would be when the

irrigation system is removed for the winter months and placed on a trailer for transportation. The sections could be thoroughly and efficiently cleaned if a high-pressure hose was used to spray pipes that are on the trailer (in a horizontal position). This would eliminate the need to clean each pipe separately during installation.

Recommendation #3: During the installation process, a 30-foot area on either side of the power line should be flagged to alert workers that they are in a danger zone and pipes should not be raised to a vertical position within this area.

Recommendation #4: Plastic pipes should be selected when an irrigation system is purchased or replaced.

Recommendation #5: Power lines to pumps should be installed underground when new service is requested or existing service is relocated.

Recommendation #6: The employer should conduct a work-site survey on a regular basis to assess the potential safety hazards. Once an assessment has been completed, written safety rules and procedures should be developed, implemented, and enforced. Training should then be provided to employees that specifically addresses all identified hazards.

Discussion: According to the General Duty Clause of the Occupational Safety and Health Act (Section 5 (a) 1), employers are required to provide a safe and healthy workplace for employees. To do so, employers must regularly survey the workplace to identify hazards. All identified hazards must be adequately addressed through engineering control measures or changes in workpractices. Employers should instruct each employee in the recognition and avoidance of unsafe conditions. In this and similar situations, the employer may need to provide additional training to ensure that employees understand the hazard and how to properly use equipment.

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