



Farm Fatality Reminder of Electrocution Danger Associated with Aluminum Irrigation Piping

The High Plains Intermountain Center for Agricultural Health and Safety

The needless death of a Colorado farm laborer, reported in 1996 to the Colorado Fatality Assessment and Control Evaluation (FACE) Program, was a reminder of the hazards associated with work involving aluminum irrigation piping around overhead power lines. Aluminum irrigation pipes are commonly used in agriculture in the arid West. The lightweight pipes are thirty to forty feet in length and are designed to be connected, moved, and reconnected by hand in irrigated areas during growing seasons. High voltage lines (7200 or 7620 volts) supply power to the irrigation pumps, and are typically suspended twenty to thirty feet above ground. Electrocutions usually occur around the periphery of irrigated fields when workers lift or tilt the pipes to clear out water, sediment, debris, or small animals and make accidental contact with the power lines. Electrocutions may also occur when pipes are tipped to move around trees in orchards. Five such fatalities have been reported to the Colorado FACE program and Colorado Department of Health between 1984 and 1996.

Cases of Electrocution



Electrical Hazard

In the most recent case (June of 1996) two farm hands were installing a siderow sprinkler system in a field. While relocating a section of pipe, the two workers lifted it to a vertical position to clear the pipe of sediment. The pipe contacted a 7200-volt power line 27 feet above the ground that delivered an electric shock to the two workers. One worker, 24 years of age, was fatally injured; the other was hospitalized overnight and recovered.

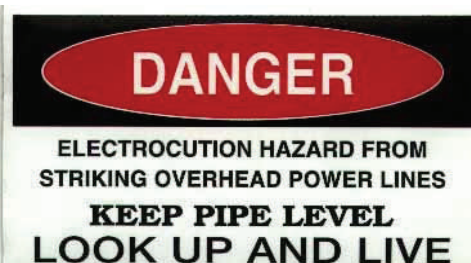
In another incident in May of 1990, a 24-year-old farm hand was working alone relocating irrigation pipe when he was fatally electrocuted.

In June of 1989 three teenage migrant farm workers lifted a 30-foot section of aluminum pipe to dislodge a rabbit. The pipe contacted a 7200-volt power line and a 15-year-old worker was fatally electrocuted. The other two workers were hospitalized for electrical burns to their hands and feet. Additionally, a 47-year-old worker was killed in September of 1984 and a 19-year-old farmworker in October of 1986 in Colorado due to irrigation pipe electrocutions.

Although these incidents are rare, they are certainly preventable. In response to these fatalities the Colorado Department of Health and Environment (CDPHE) prepared a Hazard Alert with recommendations for prevention. Also warning labels were printed for statewide distribution, see above. The recommendations include:

- Place labels on all sections of aluminum pipe that warn of the potential electrocution hazard
- Inspect and clean all pipes in an area free of overhead power lines
- Flag 30 foot areas on either side of power lines 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
- Employers should conduct work-site hazard surveys on a regular basis to assess potential safety hazards, including the possibility for accidental contact with overhead power lines

Written safety rules and procedures should be developed, implemented, and enforced. Training should then be provided to employees that specifically addresses all identified hazards



For Hazard Alerts, Warning Labels or For Further Information Contact:

