F. A. C. E.

I N V E S T I G A T I O N R E P O R T

F A T A L I T Y A S S E S S M E N T

A N D C O N T R O L

E V A L U A T I O N P R O J E C T

IOWA DEPARTMENT of PUBLIC HEALTH
Bureau of Environmental Health
Lucas State Office Building
Des Moines, IA 50319

Iowa Department of Public Health
FACE Number 93-IA-015
DATE: October 19, 1993

TO: Division of Safety Research, National Institute for Occupational Safety and Health

FROM: Fatality Assessment and Control Evaluation (FACE) Project

SUBJECT: Lineman Electrocuted After Contacting 7,200 Volt Transmission Line While Installing New Pole

SUMMARY

A 31 year old employee of an electrical construction firm was electrocuted when the pole he and another employee were installing came in contact with a 7,200 volt distribution line. The employee was wearing a hard hat, rubber boots and muddy canvas gloves. NIOSH investigators concluded that in order to prevent future similar occurrences, the employer should:

- Conduct scheduled and unscheduled safety inspections to ensure that safety equipment and procedures are being followed.
- Consider using additional standard safe operating procedures, such as insulated line hoses and blankets.

INTRODUCTION

On August 30, 1993 a 31 year old male 7+ step apprentice lineman for a 102 year old electrical construction firm, employing 950 personnel, was electrocuted when the pole he and a journeyman lineman were setting came into contact with a 7,200 volt distribution line. On September 21, 1993, officials from the Iowa Department of Public Health and NIOSH met with the company corporate safety director and a senior vice president to review the incident. Diagrams of the site were obtained during the meeting. No site visit was made.

INVESTIGATION

The company had been contacted by the local utility company to replace several miles of wooden power distribution line poles. The utility company had installed hot arm extensions on the present poles to aid in the pole replacements. The poles had been pre-placed at the sites. A two man crew began work at about 7:30 am, taking about 15 minutes for each replacement. Upon arrival at the accident site, the operator, a journeyman and acting supervisor, drilled the new hole. The site was wet and muddy and the spoil from the hole was around the hole. The operator got off the truck and checked the site for clearance by standing at the hole and looking up. He said that it was okay. The operator then picked up the new pole with the winch and

raised it into the grabs. When the pole was stabilized with the grabs, the operator swung the pole over the hole with the victim guiding the butt of the pole to the hole. The victim told the operator that the pole needed to go back (toward the energized lines) and to the right (toward the front of the truck). The operator made the corrections while watching the end of the truck boom. While doing so, the operator heard the victim groan. He immediately swung the pole to his left, shut down and went to the victim.

He began CPR and continued for about 1 minute, then called the supervisor on the vehicle's radio and returned to do CPR. The supervisor called 911 and an emergency team arrived at the site within 15 minutes. The victim was accessed and air lifted to the hospital. The employer representatives reported that the victim responded to CPR eight times before he was pronounced dead at the hospital at about 4:00 pm.

CAUSE OF DEATH

A telephone interview was held with the medical examiner since no report has been reviewed as of this date. Electrocution was stated as the cause of death by the Black Hawk Medical Director. One round wound we identified on the right cheek as the entry site and exit wound was identified on the right side of the neck. Observed localized tissue findings surrounding the wounds were consistent with electrocution. There were no visible signs of electrical burn wound on the victim's hands. The medical examiner reports that the pathologist also found pulmonary tissue changes consistent with electrocution.

RECOMMENDATION #1: Employers should conduct scheduled and unscheduled safety inspections regularly at each jobsite.

DISCUSSION: Although the company has a comprehensive safety program which includes monthly employee safety meetings and weekly "tailgate" safety meetings (which the victim had separately attended regularly), upper management should conduct, or appoint safety personnel to conduct, scheduled and unscheduled safety inspections at each jobsite to insure that safety procedures are being followed. Although these inspections are no guarantee that the procedures will be followed when inspector are not on site, it will show the worker that the company is committed to enforcing its safety policies and procedures.

RECOMMENDATION #2: Employers should consider the use of additional standard safety devices, such as insulated line hoses and blankets to act as protective barriers against electrical contact.

REFERENCES

1. Code of Federal Regulations, Labor, 29 CFR Part 1926.950,c,(1),i, page 206, U.S. Department of Labor, Occupational Safety and Health Administration, Washington, D.C. 1991.

2. Code of Federal Regulations, Labor, 29 CFR Part 1926.951,a, page 207, U.S. Department of Labor, Occupational Safety and Health Administration, Washington, D.C. 1991.

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