



The National Institute for Occupational Safety and Health (NIOSH)

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# 31-Year-Old Groundman Electrocuted in North Carolina

FACE 86-42

## Introduction:

The National Institute for Occupational Safety and Health (NIOSH), Division of Safety Research (DSR) is currently conducting the Fatal Accident Circumstances and Epidemiology (FACE) Project, which is focusing primarily upon selected electrical-related and confined space-related fatalities. The purpose of the FACE program is to identify and rank factors that influence the risk of fatal injuries for selected employees.

On August 4, 1986, at approximately 8:30 p.m. a groundman was electrocuted while performing maintenance on electrical service lines to a residence.

## Contacts/Activities:

Officials of the Occupational Safety and Health Program for the State of North Carolina notified DSR concerning this fatality and requested technical assistance. This case has been included in the FACE Project. On August 28, 1986, a DSR research team met with employer representatives, interviewed comparison workers, conducted a next-of-kin interview, conducted a site visit, and photographed the accident site.

## Overview of Employer's Safety Program:

The victim was employed by a municipal electrical service department and his duties included installation and service to electrical systems throughout the municipality.

A safety program has been developed and implemented. An electrical supervisor is assigned responsibility for the safety program on a collateral-duty basis. Additionally, monthly safety meetings attended by representatives of management and the hourly employees have been instituted as of August 28, 1986.

## Synopsis of Events:

On August 4, 1986, a private electrician, who was hired by the owner of a residence to check the residence for electrical problems, had determined that a voltage loss was occurring at the residence. A telephone call was then placed by the owner of the residence to the local municipal electrical service department requesting assistance. A standby crew

consisting of a groundman (the victim), who was being considered for a lineman position due to his previous lineman experience with other electrical contractors, and a foreman were dispatched to the residence.

At approximately 8:00 p.m. the standby crew arrived at the residence and determined that the electric service line connectors, which provide the electrical link between the 120/240 volt, three-phase power lines and the electrical lines supplying power to the residence, were corroded and needed cleaning. The aerial truck was then positioned and the bucket raised until it was about 18 to 24 inches away from the power lines, which were approximately 20 feet above the ground. The victim, who was in the bucket, detached the three service lines, cleaned two of the connectors, and re-attached two of the three electrical service lines to the power lines. The foreman, who was on the ground conversing with the electrician, did not witness the accident. Apparently, the victim, who was in the process of cleaning the third service line connector, contacted the energized power line and was electrocuted.

The foreman, after realizing what had happened, lowered the bucket containing the victim and immediately started CPR. An ambulance arrived within 5-10 minutes after the occurrence of the incident and emergency medical service was provided to the victim who was then transported to the local hospital where he was pronounced dead 15 minutes after arrival.

### Cause of Death:

The medical examiner’s certificate of death listed electrocution as the cause of death.

### Recommendations/Discussion:

**Recommendation #1: Safety rules governing the wearing of personal protective equipment should be enforced.**

**Discussion:** The groundman (victim) was working on energized power lines without wearing insulated rubber gloves which were required by the employer. It should be the responsibility of the employer to enforce all safety rules governing the wearing of personal protective equipment. Prior to the performance of a given task, the crew foreman should perform a job site survey which would include the identification of safety hazards and personal protective equipment to be utilized.

**Recommendation #2: Safety equipment (insulated line hose) should be used where applicable.**

**Discussion:** Identification and elimination of all safety hazards should be completed prior to the performance of hazardous tasks. Insulated line hose should have been utilized to cover the energized power lines to prevent incidental contact of the power lines.

The managerial staff of the employer was provided the following documents:

- Request for Assistance in Preventing Electrocutions from Contact Between Cranes and Power Lines (85-111)
- Overview of the National Institute for Occupational Safety and Health (NIOSH)
- Overview of the Division of Safety Research (DSR).

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