



The National Institute for Occupational Safety and Health (NIOSH)

Promoting productive workplaces
through safety and health research / **NIOSH**[®]

Lineman Electrocuted in North Carolina

FACE 87-38

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 April 16, 1987, a "Class A" lineman was electrocuted when the boom of a "digger derrick truck" contacted a 7200 volt power line while he was leaning against the truck.

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 May 5, 1987, the DSR research team conducted a site visit, met with employer representatives, interviewed comparison workers, discussed the incident with the OSHA Compliance Officer, and photographed the accident site.

Overview of Employer's Safety Program:

The victim was employed by an electrical contractor that specializes in power line construction and maintenance. At the time of the accident the company was performing contract work for the local power company. The contractor employs a total of 450 workers; 160 employees work out of the branch office where the victim worked. Although the workers follow the safety rules and procedures of the power company, the contractor has a comprehensive safety program. Construction personnel receive periodic structured classroom and structured on-the-job training. The contractor requires construction personnel to be certified in cardiopulmonary resuscitation (CPR). Safety meetings are conducted each day by the "Class A" linemen at each jobsite prior to the start of work. If inclement weather cancels work for a day, employees are required to attend safety meetings at the branch office. The employer has a documented preventive maintenance program for its bucket trucks and digger derrick trucks. Protective sleeves and gloves are removed from service on a monthly basis and dielectrically tested. The contractor has established a quarterly safety incentive program that rewards workers who have injury-free work records.

Synopsis of Events:

The local power company was relocating its rural transmission and distribution lines to make them more accessible for service. On the day of the accident, work was scheduled at the intersection of two country roads (one road surface was dirt, the other blacktop) that were perpendicular to each other. The power lines along these roads were also perpendicular although the power line along the dirt road was located in a field approximately 100 yards from the side of the road. The crew was to begin setting new poles at the intersection, then continue setting poles along the dirt road so that the power line in the field could be moved closer to the road for easier access.

The crew consisted of two "Class A" linemen and a "Class C" lineman. One of the "Class A" linemen (the victim) was designated as crew chief and was responsible for the work being accomplished and for jobsite safety. The men were to use a digger derrick truck to dig the holes and to lift the poles into position. The victim instructed the "Class C" lineman where to position the truck and then went over the job procedures that were to be followed by the crew. After he completed his instructions, the victim began to install the truck's ground rod which was attached to a 30 foot ground cable. The "Class C" lineman climbed onto the truck's platform and raised the boom. This action was in violation of the contractor's policy that the boom shall not leave the cradle on the truck until the truck ground has been installed. The reason why the "Class C" lineman began to raise the boom is unclear. Information collected during OSHA, company, and NIOSH interviews suggests that the "Class C" lineman thought that the truck ground had been installed. The emotional state of the "Class C" lineman precluded his serving as a witness in any of the interviews concerning this incident. The boom contacted the power line running perpendicular to the dirt road. The victim, in contact with the truck, provided a path to ground for the current and was electrocuted.

The second "Class A" lineman heard the sound of the contact and yelled to the "Class C" lineman to drop the truck boom. He then contacted the branch office by truck radio, requested the Emergency Medical Service (EMS), and began cardiopulmonary resuscitation (CPR). The Emergency Medical Service transported the victim to the hospital where he was pronounced dead.

Cause of Death:

The medical examiner listed electrocution as the cause of death.

Recommendations/Discussion:

Recommendation #1: Employees should strictly adhere to established safe work procedures.

Discussion: Established safe work procedures were violated in this instance when the boom was raised before the truck ground was completely installed. The "Class C" lineman may have thought the ground had already been installed. Additionally, the "Class C" lineman may not have been able to clearly see the victim or whether the victim had finished installing the truck ground. The operator of the boom controls should not move the boom until instructed by the crew chief that the ground is in place or he personally verifies that the ground is in place.

Recommendation #2: An observer should be used when operating a boomed vehicle in proximity to power lines.

Discussion: The crew size in this instance allowed for an observer to monitor the clearance between the boom and the power line. Had an observer been in position in this case, he would have warned the "Class C" lineman that the boom was too close to the power line or that the truck ground had not been completely installed.

[Back to Electrocution Fatality Investigation Reports](#)

[Return to In-house FACE reports](#)

Last Reviewed: November 18, 2015

How helpful was this page?



Not helpful

Very helpful