The National Institute for Occupational Safety and Health (NIOSH)

Promoting productive workplaces through safety and health research

Laborer Electrocuted in North Carolina

FACE 87-08

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 October 14, 1986, a 20-year-old laborer was electrocuted when the 21 foot aluminum flagpole he was installing came into contact with an overhead electric power line.

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 November 19, 1986, a DSR research team (an epidemiologist and a research industrial hygienist) conducted a site visit, met with the owner of the company, interviewed two comparison workers and a surrogate for the victim, and photographed the accident site.

Background/Overview of Employer's Safety Program:

The employer was a small exhibition service company which set up, decorated, and tore down sites for fairs and trade shows. The fatality occurred during set-up for a fair at the state fairgrounds.

The employer did not have a formalized written safety program; however, weekly meetings with employees covered how tasks were to be performed at each site and safety bulletins were distributed with each employee's paycheck.

Synopsis of Events:

On October 14, 1986, a laborer (the victim) and a co-worker were erecting flagpoles on a fence which surrounded the state fairgrounds. Standard operating procedures required that the poles be carried parallel to the ground from the truck to the site where the flagpole was to be installed.

After installing several flagpoles, one of the 21 foot aluminum flagpoles was removed from the truck by the co-worker. The victim then carried the flagpole towards the site where it was to be erected in a vertical position, perpendicular to the ground. The flagpole came into contact with a 7,200 volt overhead powerline which was 20 feet 11 inches above the ground. The line was 9 feet 6 inches from where the flagpole was to be installed. The victim was instantly thrown back away from the power line. The victim was not wearing any personal protective equipment at the time of the incident.

A co-worker at the site started cardiopulmonary resuscitation (CPR). An emergency medical service (EMS) was notified. EMS personnel arrived at the site approximately five minutes after notification. The victim was transported to a nearby hospital where he was pronounced dead.

Cause of Death:

The medical examiner's office listed electrocution as the official cause of death. The victim had burns on both feet.

Recommendations/Discussion:

Recommendation #1: Electrical hazards should be identified and procedures to avoid electrical contact should be communicated and practiced.

Discussion: At the time of the accident, the victim was not following the specified instructions for carrying a flagpole. The employer verbally requested employees who were erecting flagpoles to carry them parallel to the ground until they were at the point where the flagpole was to be installed. Since this incident the employer has circulated a safety bulletin to all employers which identifies safety hazards at that job site.

Recommendation #2: Maintain a clearance between work sites and powerlines.

Discussion: Utility companies normally specify the amount of clearance required between powerlines and other structures to decrease the likelihood of contact with the line. In this case, the 9 foot 6 inch distance between the powerline and the fence where the flagpole was to be erected was not adequate. The powerlines are being placed underground at the state fairgrounds in order to prevent inadvertent contact in this high use area.

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Last Reviewed: November 18, 2015