The National Institute for Occupational Safety and Health (NIOSH)

Promoting productive workplaces through safety and health research

29-Year-Old Electrocuted at Ice Cream Plant in Tennessee

FACE 86-45

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 June 16, 1986, a 29-year-old maintenance man was in the process of troubleshooting an electrical problem with a popsicle wrapping machine when he was electrocuted.

Contacts/Activities:

Officials of the Occupational Safety and Health Program for the State of Tennessee notified DSR concerning this fatality and requested technical assistance. This case has been included in the Fatal Accident Circumstances and Epidemiology (FACE) Project. On August 27, 1986, a research industrial hygienist conducted a site visit and met with the production manager and an insurance representative of the company. At the request of the company, co-workers and next-of-kin interviews were precluded.

Overview of Employer's Safety Program:

The employer is an ice cream company that employs approximately 110 people. The ice cream plant produces frozen dairy products, i.e., ice cream in various size containers, ice cream cones, ice cream sandwiches, and frozen novelty products. Approximately 60 employees work in the ice cream and frozen novelty production area. New employees are given a plant orientation, which includes a manual on plant procedures and safety requirements. The production manager goes over the manual with the new employee and answers any questions. On-the-job training is provided by a co-worker and supervisor. The production manager is also responsible for overall supervision and training of maintenance personnel. Monthly meetings are held to discuss safety issues with production employees and supervisors.

Synopsis of Events:

On June 16, 1986, the operator of the popsicle wrapping machine notified maintenance that the machine was inoperative. The victim, a 29-year-old maintenance man with six years' experience with the company (four years as a journeyman electrician in maintenance) responded to repair the machine. When he pushed the reset button, the machine started, ran for approximately ten minutes, and then shut down. The victim returned to the maintenance shop and obtained an electrical testing device to test the circuits. He returned with the test device and removed the metal cover from the control box of the machine which housed three reset controls and a fuse. With the cover removed he attempted to restart the machine using the reset buttons; however, he was unsuccessful. The victim was sitting on an elevated metal platform (12 inches high) while working on the machine and the floor was wet.

A few minutes later the machine operator heard a moan and noticed the victim slumped over with his hand on the control box. (Two fingers were inside the control box contacting a 230 volt energized circuit.)

A co-worker went across the room and shut off the main control switch to the machine. The 911 number was called and the EMS arrived in approximately twenty minutes. During the interval between calling for the EMS and their arrival, two co-workers administered CPR. The victim was transported to a local hospital and was pronounced dead-on-arrival.

Cause of Death:

The cause of death was cardiac arrest as a result of electrocution.

Recommendations/Discussion:

Recommendation #1: A training program in hazard recognition and control should be instituted as part of safety meetings for all employees, especially for employees required to work on or around energized equipment and in wet work areas.

Discussion: Although workers may be aware of on-the-job, day-to-day hazards, they sometimes become complacent of such hazards. This complacency, especially when working with electrical energy, can lead to a serious accident. Therefore, it is not only important to train new employees, but to provide refresher training to other employees concerning safe work practices and hazard recognition.

Recommendation #2: The company should develop and implement a comprehensive occupational safety program, which would include safe methods for trouble-shooting equipment.

Discussion: Worker safety is a primary responsibility of employers. In order to optimally carry out this responsibility, an employer should: 1) develop a company policy which expresses management's commitment to providing safe working conditions, and 2) develop, document, and enforce the adoption of safe work procedures and practices for all employees, especially when working on electrical equipment.

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Last Reviewed: November 18, 2015