

Indiana State
Department of Health
Indiana FACE
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TO: Charles L. Barrett, M.D., M.S.P.H., Medical
Epidemiologist
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FROM: Richard L. Warren, Indiana FACE Investigator

SUBJECT: Laborer Electrocuted While Felling Trees on Private
Property

SUMMARY:

A 53-year-old male laborer was electrocuted while felling trees on private property one quarter of a mile from the employer's home. The victim, with alleged experience of fifteen years felling trees, started to work about 3:00 p.m. the day of the fatal injury. The victim was instructed by the employer to clear a specific area. For unknown reasons the victim moved 20 feet north and east from the specified area and began felling trees. He was electrocuted when a tree he was cutting fell against a powerline estimated by the power company to carry 138,000 volts. This tree had been approximately 73 feet high and its base was located 40 feet, on a horizontal plane, from the powerline which was 38 feet above the ground. The electrical current traveled from phase to ground killing the victim instantly. The State FACE investigator concluded to prevent similar occurrences employers should:

Contact the local utility company to de-energize or insulate powerlines before the commencement of any work task.

Conduct a jobsite survey before starting any work to identify any hazards, implement appropriate control measures, and provide subsequent training to employees specific to all identified site hazards.

Develop and implement a written safety program designed to enable workers to recognize and avoid hazards, especially electrical hazards.

INTRODUCTION:

On May 21, 1994, a 53-year-old male laborer was hired to clear trees from a lot to make way for a house. The victim was electrocuted when the tree he was felling struck a powerline which the power company estimated to carry 138,000 volts. Officials of the Indiana State FACE program were notified by a newspaper clipping service. A phone call to the employer established that an on-site investigation could be conducted.

The victim was a self-employed laborer alleged to have fifteen years experience in felling trees. County officials stated, however, that the victim was in the business approximately three years. According to the employer, the victim received instructions in regard to safety procedures before the work task began. Given the victim's alleged work experience, it is not known how detailed the instructions on safety procedures were. The victim worked less than two hours before the fatal injury.

INVESTIGATION:

On the day of the fatal injury there were no co-workers at the incident site and, therefore, it is difficult to determine the sequence of events. Reported facts are as follows: On May 20, 1994, a self-employed tree trimmer was hired to clear trees from a lot to make way for a house. According to the employer, instruction was given for the work task at hand and safety procedures were discussed. The victim told the employer he had fifteen years experience in felling trees. County officials stated to the FACE investigator, however, that the victim had been in business for approximately three years.

The victim began his work task about 3:00 p.m. on the day of the fatal injury. At approximately 5:00 p.m., the employer went to the work site to check progress. The employer stated that he found the victim lying next to a freshly felled tree with the chain saw still connected to the tree. The employer returned to his home and called the authorities.

Further information obtained from the county coroner and power company officials indicated that the victim was electrocuted when the tree struck the powerline. A large brush fire also resulted. The electrical current and fire incinerated the victim and burned the surrounding area. The volunteer fire department was called to put out the fire. The fire personnel stated that there was a gasoline can found in close proximity to the site and that the explosion of this can plus the explosion of the chain saw gas tank caused the brush fire. Officials stated the chain saw was still in the felled tree and was the suspect conductor.

CAUSE OF DEATH:

The cause of death as listed on the certificate of death by the county coroner is high voltage electrical incineration.

RECOMMENDATION # 1:

Employers should contact the local utility company to de-energize or insulate powerlines before the commencement of any work task.

DISCUSSION:

De-energizing powerlines in work areas will provide workers protection but clear communication among the utility company, the employer, and the workers must be maintained. All parties involved must be aware of when the powerlines will be de-energized, the period of time the powerlines will be de-energized, and the exact time power will be restored so that workers are not exposed to energized conductors. Insulating powerlines by installing line sleeves or hoses will offer a measure of protection, but should not be the only means utilized to prevent contact with electrical energy.

RECOMMENDATION # 2:

Employers should conduct a jobsite survey before starting any work to identify any hazards, implement appropriate control measures, and provide subsequent training to employees specific to all identified site hazards.

DISCUSSION:

Prior to any work being undertaken, a jobsite evaluation should be performed by a competent person. A competent person is one who is capable of identifying existing and predictable hazards in the surroundings or working conditions. In this case, an evaluation could have identified the hazards of working in proximity to the uninsulated overhead powerline.

RECOMMENDATION #3:

Employers should develop and implement a written safety program designed to enable workers to recognize and avoid hazards, including electrical hazards.

DISCUSSION:

The danger of overhead powerlines appears to be obvious; however, contact with overhead powerlines and subsequent occupational-related fatalities continue to occur. Employers should instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure, illness, or injury. Employers should develop and implement comprehensive safety programs with particular emphasis on detailed safety procedures specific for all tasks and job categories. Employers should also provide employees with adequate training to ensure they can recognize potential hazardous exposures and are familiar with the safety program and procedures.

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What is the FACE Program?

FACE is one of many prevention programs conducted by the Indiana State Department of Health (ISDH). FACE stands for "Fatality Assessment and Control Evaluation." The purpose of FACE is to identify factors that increase the risk of work-related fatal injury. Identification of risk factors will enable more effective interventions to be developed and implemented. The FACE Program does not just count fatalities. It uses information gained from each fatality investigation to develop programs and recommendations aimed at preventing future occupational fatalities.

Who can you contact for additional information?

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