

* FATAL ACCIDENT CIRCUMSTANCES & EPIDEMIOLOGY *

NIOSH-DIVISION OF SAFETY RESEARCH

FACE-85-22-I

DATE: May 15, 1985

TO: Director, National Institute for Occupational Safety and Health

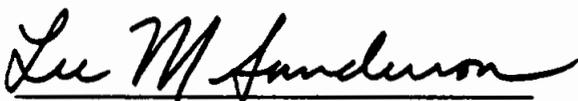
FROM: Division of Safety Research, NIOSH

SUBJECT: Firefighter Electrocuted While Rappelling Down Building
in West Virginia

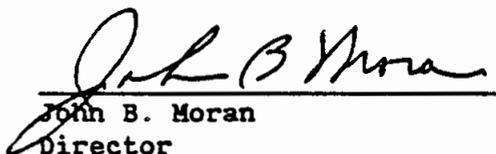
On May 13, 1985, at 9:00 p.m., two firefighters were repairing a siren atop of their firehouse. Upon completion, they decided to rappel down the other side of the building, a practice which had been done before. As the first firefighter was rappelling down, he contacted a 7,000 volt electrical line which was 3-4 feet away from the building, and fell approximately 40 feet to the ground. The cause of death was determined to be electrocution.

Dr. Jack Frost, Deputy Chief Medical Examiner for the State of West Virginia, has requested researchers from DSR for technical assistance, and this case will be included in the Fatal Accident Circumstances and Epidemiology (FACE) projects. Lee Sanderson and Ted Pettit intend to conduct an epidemiologic evaluation of this accident during the week of May 13, 1985.

The NIOSH Regional Office has been notified.



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John B. Moran
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Additional information regarding this report is available from:

Division of Safety Research
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944 Chestnut Ridge Road
Morgantown, West Virginia 26505-2888

NIOSH-DIVISION OF SAFETY RESEARCH
FACE-85-22-II
DATE: June 10, 1985

TO: Director, National Institute for Occupational Safety and Health

FROM: Division of Safety Research, NIOSH

SUBJECT: Fireman Electrocuted While Rappelling Down Building
in West Virginia

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 electrically-related and confined space fatalities. By scientifically collecting data from a sample of fatal accidents, it will be possible to identify and rank factors that influence the risk of fatal injury for selected employees.

When the accident occurred on May 13, 1985, at 9:00 p.m., four volunteer firemen were removing the siren from atop their fire station. After the siren had been lowered to the ground (approximately 35 feet), three of the firemen were going to rappel down the front of the building. The first fireman to descend attached his rope to a support rod on the roof and, as he tested the rope, contacted a 7200 volt power line. The fireman was electrocuted.

Contacts/Activities

The Deputy Chief Medical Examiner for the State of West Virginia requested technical assistance from NIOSH/DSR and this case has been included in the Fatal Accident Circumstances and Epidemiology (FACE) Project. On May 20 and 21, 1985, the DSR research team, which consisted of an epidemiologist and research industrial hygienist, conducted a site visit, met with the assistant fire chief, interviewed firemen who were at the fire station at the time of the accident, and photographed the accident site.

Synopsis of Events

On the evening of the accident, four volunteer firemen decided to remove the station house rooftop siren for repairs. The firemen ascended to the top of the fire station (approximately 35 feet high) by climbing a radio transmission tower located at the rear of the building.

After reaching the rooftop, the siren was removed from its support structure and lowered to the ground by a rope. When the work was finished on the roof, three of the firemen decided to rappel down the front of the building (a practice which had been done for years). The fourth fireman (inexperienced in rappelling) was to descend by the rear tower, which was used to ascend to the rooftop.

The first fireman secured his rope and leaned out over the rooftop to test the rope before starting his rappel. One of the remaining fireman, who was going to rappel from the roof, said he heard "a loud buzz and looked up to see sparks flying". The victim's back contacted a 7200 volt power line; his feet were still on the roof of the fire station. (The 7200 volt power line was approximately 5' diagonally from the roof.) The second fireman grabbed the rope, attempting to pull the victim loose, when the victim fell to the ground. A nearby EMT was called and transported the victim to the hospital. The fireman was pronounced dead on-arrival.

Conclusions/Recommendations

Recommendation #1: Fireman should be trained at specified locations that provide a relative degree of safety.

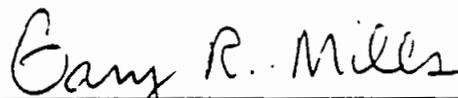
Discussion: The practice of allowing firemen to rappel down the front of a building (fire station) in close proximity (approximately 5' diagonally from the roof top) to high voltage lines was hazardous and fatal. Although this is a volunteer fire department and the firemen's time is donated, the city should provide training facilities and develop procedures that will prevent this type of accident from reoccurring. If the fire station is to be used for training (i.e., rappelling, ladder drills, etc.), the facility should be evaluated for safety hazards, particularly electrical hazards.

Recommendation #2: Firemen should be trained in recognition and appreciation of hazards and preventative measures for personal safety.

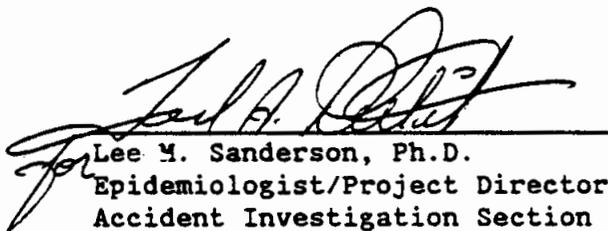
Discussion: Although firemen are trained in various firefighting techniques, it would appear additional training is needed in hazard recognition, particularly electrical hazards. This training should include recognition, awareness, and appreciation of electrical hazards, along with necessary preventative measures to avoid future accidents of this nature. Training of emergency service personnel in rappelling should address electrical hazards.



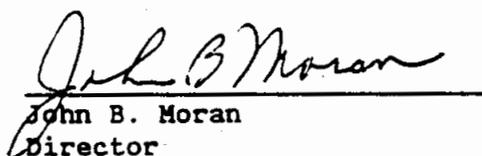
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