



eSafetyLine

Electrical Case Study #1

On 17 August 1990, a 53 year-old male steelworker was working the day shift (7 am to 3 pm) at a major steel company. The four man crew was conducting normal daily operations. At about 9:50 am the crew took a break; due to the hot working environment they were allowed a 15 minute break once an hour. The victim sat on a wooden bench in the employee lunch room. The bench was next to a floor-model air conditioner, about 30 inches tall. A toaster oven sat on top of the air conditioner and was plugged into a 120-volt circuit.

The victim was sweating profusely, wearing a short sleeve shirt and rested his right arm on top of the air conditioner. The arm contacted the energized casing or the toaster oven at the same time his right calf was in contact with the grounded air conditioning unit. The victim began to shake, causing a coworker to suspect he was being shocked. The coworker knocked the toaster oven off the air conditioner, disconnecting the plug. The current traveled through the victim and exited where his leg was in contact with the grounded casing of the air conditioner.

A coworker began pushing of the victim's chest while waiting for the arrival of the plant's EMS team 15- 20 minutes later. They provided advanced cardiac life support and the victim was transported to the local emergency room where he was pronounced dead on arrival.

The cause of death was determined to be arteriosclerotic cardiovascular disease complicated by electrocution. The Maryland OSHA compliance officer made the following recommendations:

- Employers should periodically inspect all areas of their facility for electrical hazards and apply appropriate control measures. These inspections must

include non-production areas, lunch room, break rooms, rest rooms, etc. to check for electrical hazards that may be present like non-polarized plugs or improper grounding.

- Employers should require that all appliances brought into their facility be tested for electrical integrity by a qualified person before they are used. This policy should be communicated with all supervisors and workers at the facility.
- Employers should periodically re-evaluate safety programs and reinforce training related to worker recognition, avoidance and reporting of hazards. It was found during the investigation that the victim and coworkers were aware that the oven presented an electrical hazard. On a number of occasions workers, including the victim, had received electrical shocks from the oven. These incidents, although minor, should have been reported.
- Employers should provide CPR training to all workers, both management and labor. According to the American Heart Association for best results CPR should be started within 4 minutes. The more employees that are trained, the quicker the response time. The initial CPR was administered by a coworker whose last CPR training occurred 15 years previous to the incident. It is recommended that CPR training be repeated at least annually to be sure employees remember what to do and have the most up to date information.

Had at least some of these recommendations been in place on the day of the accident, this individual may have made it home safely instead of dead.

Discussion Questions

Was the victim's occupation in any way a factor in this incident?

How could have better training helped this victim?

MEETING / TRAINING ATTENDANCE ROSTER

COMPANY: _____

_____ SAFETY MEETING

JOB/DEPT: _____

_____ SAFETY TRAINING

DATE: ___/___/___

TIME: _____

TOPICS ADDRESSED: _____

EMPLOYEE'S SIGNATURES

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

EMPLOYEE SUGGESTIONS AND RECOMMENDATIONS: _____

ACTION TAKEN: _____

Supervisor's Signature

_____/_____/_____
Date

Safety Coordinator's Signature

_____/_____/_____
Date