

Case 349. 54-year-old overhead lineman died when he contacted an energized 13,280-volt overhead line.

A 54-year-old male overhead lineman died when he contacted an energized 13,280-volt overhead line. The decedent arrived at the incident scene where a power outage had been reported. He positioned the truck's mounted aerial lift between the top support guide wire and the secondary electric wires below. He found that the fuse for the pole top transformer had blown, so he re-fused it. The fuse blew out again. The decedent called the service center for an upgraded transformer and for assistance. While waiting for the transformer and assistance to arrive, he unhooked the wires, de-energized and disconnected the transformer. He then began to prep the area to upgrade the transformer. He installed one end of a 30- to 40-foot roll of #2 ground wire through the wire harness on the pole cross member and attached it to the pole ground. The remainder of the roll was inside the bucket. The spark arrester had been removed. With a tool (either a knife to scrape or mark wires or a wrench) in his left hand, the decedent reached up and grabbed the energized line with his right hand. When he reached up and grabbed the wire, he was electrocuted. The decedent was wearing safety glasses, hard hat, leather gloves (not insulating gloves or sleeves), flame resistant pants, tennis shoes, and a tee shirt (his flame resistant shirt was in the truck). He was not wearing a fall protection harness. A re-enactment of the incident found that the secondary lines were "skinned" and ready for the new transformer. The decedent may have thought that the phase was a neutral because of the way it was hooked up: a) there was no ground wire in the housing and no wiretap; b) when a line is a neutral, there is only one 4 ¼ -inch dead end disk – the line had only one 4 ¼-inch dead end disk; and c) the phase at this pole was not fused and was not tapped. A coworker who took up a bucket to a similar position indicated he could see the next two poles and he could see from there that the wire was tapped to a live primary wire. A neighborhood resident called 911. Coworkers arrived and maneuvered the decedent's aerial bucket down and with assistance from emergency responders, lifted him from the bucket. The decedent died two days later from the injuries sustained at the time of the incident.

MIOSHA General Industry Safety and Health Division issued the following alleged Serious citations at the conclusion of its investigation.

SERIOUS: ELECTRIC POWER GENERATION, TRANSMISSION, AND DISTRIBUTION, PART 86.

- RULE 1910.269(c)(3):

When an employee was working alone, the employer did not ensure that the tasks to be performed were planned as if a briefing were required.

(Not enforcing a job briefing, employee was unaware of the hazards of two live energized feeds coming into the pole at this job site while changing a transformer).

- RULE 1910.269(1)(1)(i)(C):

Except as provided in paragraph (1)(1)(ii) of this section, at least two employees were not present while the following type of work is being performed: (C) Installation, removal, or repair of equipment, such as transformers, capacitors, and regulators, if an employee is exposed to contact with parts energized at more than 600 volts.

(Employee required to work alone, employee was exposed to direct contact with an approximately 13,280-volt energized electric wire while changing a transformer)

- RULE 1910.269(1)(2):

The employer did not ensure that no employee approaches or takes any conductive object closer to exposed energized parts than set forth in Table R-6 through Table R-10, unless: (i) The employee is insulated from the energized part (insulating gloves or insulating gloves and sleeves worn in accordance with paragraph (1)(3) of this section are considered insulation of the employee only with regard to the energized part upon which work is being performed), or (ii) The energized part is insulated from the employee and from any other conductive object at a different potential, or (iii) The employee is insulated from any other exposed conductive object, as during live-line bare-hand work.

(Not enforcing the minimum approach distance, employee was exposed to direct contact with an approximately 13,280-volt energized electric wire while changing a transformer)

- RULE 1910.269(1)(3):

When an employee was to be insulated from energized parts by the use of insulating gloves (under paragraph (1)(2)(i) of this section), insulating sleeves were not also used.

(Not enforcing the use of insulating gloves and sleeves while working on approximately 13,280-volt live electric parts).

- RULE 1910.269(1)(6)(iii):

The employer did not ensure that each employee who was exposed to the hazards of flames or electric arcs did not wear clothing that, when exposed to flames or electric arcs, could increase the extent of injury that would be sustained by the employee.

(Not enforcing the use of adequate apparel, no flame-resistant shirt worn while working on approximately 13,280-volt live electric parts).

- RULE 1910.269(n)(5):

Before any ground is installed, lines and equipment were not tested and found absent of nominal voltage, unless a previously installed ground was present.

(Not enforcing the use of testing equipment to test for the absence of nominal voltage).

SERIOUS: PERSONAL PROTECTIVE EQUIPMENT, PART 33

- RULE 3370(3):

Head protection equipment that has been physically altered or damaged was worn or reissued to an employee.

(Not removing physically altered hard hat from service before employee worked on approximately 13,280-volt live electric parts. The hard hat has electrical tape wrapped around the entire outside surface and is holding a head lamp and the head liner is turned backwards in the hard hat).

- RULE 3385(1)(a):

The employer did not ensure that each affected employee was wearing protective footwear when working in areas where an employee's feet were exposed to electrical hazards.

(Not enforcing the use of adequate foot protection, tennis shoes worn while employee was working on approximately 13,280-volt live electric parts during his regular scheduled job duties).

- RULE 3387a(2)(h):

Electrical protective equipment, insulating blankets, covers, line hose, gloves, and sleeves made of rubber, as applicable, were not subjected to periodic electrical tests. Test voltages and the maximum intervals between tests were not in accordance with Table 6 and Table 7.

(No annual testing of the insulating sleeves while working on approximately 13,280-volt live electric parts. As marked on the sleeve, the last inspection was in February, 2011).

SERIOUS: AERIAL WORK PLATFORMS, PART 58, RULE 5836(1):

An occupant of an aerial work platform did not use a safety harness:

(Not enforcing the use of fall protection while operating a vehicle-mounted aerial work platform approximately 30-40 feet up from the ground).