

Case 220. 56-year-old company owner died when he contacted a live electrical line carrying 220 volts while replacing a well pump.

A 56-year-old male owner of a well/pump repair company died when he contacted a live electrical line carrying 220 volts while replacing a well pump. The two person crew was in the process of removing the water pump from the well and reinstalling it to the inside of the residential home. The work crew had uncovered a 5-foot long by 2-foot wide by 3-foot deep excavation to gain access to the pump. The excavation was covered by a back patio deck behind the homeowner's back door. The decedent had disconnected the wires to the pump and left the wires exposed. While removing the pump, he began to unbolt and extend the pipe that holds the water pump to the floor level upwards. It appears that while working on this activity, he received a small shock(s) so he asked his co-worker to get some electrical tape to cover the exposed wires. The decedent had wrapped one wire with the electrical tape, but not a second wire. He was standing in the moist excavation while using a metal socket wrench to tighten down some bolts on the collar of the pipe extension. It is unknown if he directly contacted the exposed live wire or if the socket wrench contacted the exposed wire. His coworker, upon seeing him slump in the excavation, attempted to rescue his partner. Unable to perform the rescue, the coworker ran to the road and yelled for help. A passerby assisted him by disconnecting the power and then helping the coworker pull the decedent from the excavation. The passerby called for emergency response. Municipal Fire and Rescue assisted with medical treatment at the scene. The decedent was transported to a local hospital where he was declared dead.

MIOSHA Construction Safety and Health Division issued the following Serious citations at the conclusion of its investigation:

SERIOUS: GENERAL RULES, PART 1, Rule 114(1)

An accident prevention program was not developed, maintained, and coordinated with employees:

Employer engaged in pump and well repair activities did not develop, maintain, and coordinate with employees an Accident Prevention Program.

SERIOUS: ELECTRICAL INSTALLATIONS, PART 17

- **RULE 1723(1)**

An employer shall assure that an employee does not engage in the installation activities to which this part applies unless the employee is a licensed electrician, or the employee is working with, or under the supervision of, a licensed electrician. A qualified employee is not required to be licensed when working on utility installation or maintenance such as, but not limited to, substations, switchyards, and street or highway lighting:

Employees engaged in pump and well repair activities including electrical replacement and installations neither were not licensed electricians nor supervised by a licensed electrician.

- RULE 1723(2)
The employer shall insure that all live parts of electrical equipment operating at 50 volts or more are properly guarded against accidental contact.

Employees engaged in pump and well repair activities did not insure that all live parts of electrical equipment were properly guarded against accidental contact.

INSTANCE A

While standing and working in the well pit, foreman accidentally made contact with exposed electrical wires.

INSTANCE B

Foreman was tightening bolts with a conductive socket wrench while standing in the well pit. Foreman accidentally made contact with exposed electrical wires.

INSTANCE C

Laborer pulled Foreman out of the well pit from ground level. Laborer was exposed to live electrical wires.

- RULE 1723(3)
An employee shall not be permitted to be in proximity to any part of an electric power circuit that he may contact unless the employee is protected against electric shock by de-energizing the circuit and locking out and tagging it, or unless the employee working on an energized circuit is guarded by insulation, insulated tools, or insulating matting or blankets sufficient to protect against the voltage involved.

Employees engaged in pump and well repair activities were working within proximity of electrical equipment without any safe guarding methods in place. Employees were not protected against electrical shock by de-energizing the circuit or locking out. No alternative methods of protection were performed to protect employees from electrical contact.