

Case 412. 35-year-old welder was electrocuted while welding on the underside of a dock while lying on his back on a floating platform.

A 35-year-old male welder was electrocuted during welding activities on the underside of a dock while lying on his back from a floating platform. The decedent and two crewmembers were performing welding activities on the dock and nearby boat slips. The heat index at the time of the incident was approximately 94°F. There were two gas-powered welding machines onsite; one on the pontoon from which the decedent was working and one on a barge. The welding machine on the pontoon ran out of gas, so the decedent asked his coworkers to “throw him the leads” of the welder on the barge. The welder on the barge was an older model and had damaged generator terminal ends, cable leads, ground clamps and stinger ends; wiring into the ground clamp was not completely enclosed and not fully connected and exposed wiring was found in several areas along the length of the cable leads. The decedent was lying on his back with the welding lead across his body while welding on the dock above him. His coworkers working on a nearby barge witnessed the decedent, “shaking.” His co-workers jumped from the barge onto the pontoon, removed the cable from the decedent and began CPR while awaiting emergency response. The decedent was transported to a local hospital where he was declared dead.

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

SERIOUS: GENERAL RULES, CS PART 1

- RULE 408.40114(1): An employer shall develop, maintain and coordinate with employees an accident prevention program, a copy of which shall be available at the worksite.

An accident prevention program is not being coordinated with employees and hazards are not being identified on the job site.

- Instance 1. Damaged welding leads
- Instance 2. Ramps are not secured or have side boards
- Instance 3. Damaged equipment not removed from service
- Instance 4. Life jackets not being utilized
- Instance 5. Live electrical parts are not guarded
- Instance 6. Ladder not installed to assist a water rescue

Employees are constructing steel boat slips and docks.

- RULE 408.40115(1): An employer shall identify as unsafe a machine, powered tool, or piece of equipment that is damaged or defective. The machine, tool, or equipment shall be locked out, made inoperable, or be physically removed from the jobsite.

Employees are operating and using damaged tools on the work site, i.e. generator terminal ends, cable leads, ground clamps and stinger ends. Damaged tools and equipment were not identified, tagged and removed from the work site. Employees are constructing steel boat slips and docks.

SERIOUS: WELDING AND CUTTING, CS PART 7, RULE 408.40743(2):

- Input power terminals, tap change devices, and live metal parts connected to input circuits shall be completely enclosed and shall be accessible only by use of tools.

Employees are not being protected from accidental contact with exposed live parts of a welding machine. Employees are constructing steel boat slips and docks.

Citation 1, Item 4

Serious: WELDING AND CUTTING, CS PART 7, RULE 408.40744(2):

The work on which the operator welds shall be grounded. A wire used to ground a work piece shall be capable of carrying the full welding current. Connections of the ground shall be mechanically sound and strong. When a single ground return cable services more than 1 unit, the safe current-carrying capacity of the cable shall equal or exceed the total maximum output capacities of all units which it services.

The ground lead being used on a welding machine was damaged and was not mechanically sound and strong. Wiring into the ground clamp is not completely enclosed and not fully connected. Damaged ground leads and wiring is not capable of carrying its maximum welding current capacity for units it services. Employees are constructing steel boat slips and docks.

Citation 1, Item 5

Serious: WELDING AND CUTTING, CS PART 7, RULE 408.40744(6):

A welding cable shall be protected against damage, entanglement, or contact with power supply or high-tension wires.

Welding cables are not being protected from damage and wear while on the work site. Employees are constructing steel boat slips and docks.

Citation 1, Item 6

Serious: WELDING AND CUTTING, CS PART 7, RULE 408.40747(3):

Cut insulation on work and lead cable or exposed bare conductors of an arc welding machine shall be protected by electrical tape and shall be made watertight or the conductor shall be replaced. Splices shall be made by insulated welded joints or pressure connectors.

Employees are using live welding leads that are damaged with bare wires in several places through the cables. Employees are constructing steel boat slips and docks.