



**US Army Corps
of Engineers®**
Engineering and Support Center,
Huntsville

Safety Office

Mishap Lessons Learned



Subject: Electrical Shock Incident



Event:

Contract workers were draining the water from a temporary cooling tower HVAC retrofit on the roof of a building when one of the workers experienced a tingling sensation in his hands and arms as he was picking up a cable (metal) collar. He reported the incident to his foreman who reported up the chain to the SSHO and the Manager. SSHO issued a stop work and notified the local base utilities of the incident. The local base utilities responded and instructed the contract workers to maintain distance from temporary power cabling that had been previously installed by another contractor. Cables were described as “approximately 20, 480V, 300 amp cables, and w/weather-proof connections every 50 feet.” The contractor had previously constructed wood platforms over the cables to eliminate/isolate contact with the workers and cables but also took further protective measures (visual barriers – caution tape) to maintain a secure working distance. Later workers resumed work. Around 0930 another contract worker was leaning on a parapet wall to lower materials and received what he described as a “small jolt of electricity.” He reported, this to his foreman who then reported the incident up the chain of command; the SSHO issues a stop work and the roof is immediately evacuated. The SSHO initiated an incident report to the contractor’s SH&E, contractor’s CM, contractor’s PM, local base Safety, and the USACE Safety. The local base then took control of roof. After the local base gave clearance and after the contractor’s electrical competent person inspected the work area work resumes.

Root Cause(s):

- Electrical cable connections are the most likely source (lack of protection from elements, lack of detection of leaking current and/or improper/failing grounding of cables).
- The presence of water/moisture may have transferred electrical current from the cable connection to the worker
- Worker protective equipment (rubber soles, gloves and clothing) may have offered some, but not complete protection against electrical shock

Recommendations:

- The contractors and the local base need to have a daily coordinated safety meeting of the work area.
- When work is being done around energized circuits/equipment the contractor’s Electrical Competent Person needs to participate in all daily safety meetings/ walk-throughs.
- The competent person/contract workers shall inspect cables and couplings at regular intervals.
- Inspect all PPE (rubber soles, gloves and clothing) to make sure all PPE is compliant.