

Don't Get Zapped: The Dangers of Electricity

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Weights and Measures Inspectors are faced with inspecting devices which require electricity. Electrical hazards must be identified and avoided to keep us out of danger.

Considering the path an electrical charge will take and mitigating the risk is essential to being safe. Recognizing that electricity is necessary to the devices we test and to the testing process itself, and that testing may generate additional electric charges so we have to think about controlling it.

Potential harm caused by uncontrolled electricity or electrical charges:

- Shocking or electrocuting a person
- Setting fire to a flammable liquid (fuel) or other combustibles
- An explosion of combustible vapors

How to Prevent or Control Stray Electrical Charges:

- Work in dry conditions
- Use hoses/cords in good condition (not frayed, repaired with tape, missing grounding plugs, etc.)
- Use a voltage detector to verify retail motor fuel devices or scales are grounded or are energized, giving off an electric charge
- Plug into grounded receptacles/testing with a UL approved ground-fault circuit interrupters (GFCI)s tester to verify the receptacle is grounded
- Use an extension cord with a built-in GFCI or use a ground fault interrupt 'pigtail' between the end of the extension cord and the prover
- Verify tanks and vehicles are bonded, not breaking the bond between slip-on tanks and the vehicle they are mounted on
- Bond a bulk truck and prover when proving to equalize the charge between them (this prevents creating a spark when touching the one with the higher charge)
- Ground equipment to direct electrical charges away from flammables, explosives and people

How to Protect Others:

- Wear gloves
- Wear proper footwear
- Keep feet close together and take SMALL steps when there is any chance of a charged object on the ground
- No jewelry, (if you allow rings, require gloves over the rings – especially when working inside powered retail motor fuel dispenser)
- Choose clothing with natural fibers. Synthetic fibers (i.e. polyester) can generate static charge
- Use double-insulated tools and equipment that are distinctively marked
- Use tools and equipment according to the instructions included in their listing, labeling or certification

- Visually inspect all electrical equipment prior to use. Equipment that has frayed cords, missing ground prongs must be removed
- Do not use defective tools or equipment
- Use equipment as prescribed

Many workers are unaware of the potential electrical hazards present in their work environment, which makes them more vulnerable to the danger of electrocution. We must mitigate the risk and think about the path an electric charge will take. We must think about electricity hazards as testing procedures may generate additional electrical charges.

Sources:

www.osha.gov/SLTC/electrical/hazards.html

www.osha.gov/SLTC/electrical/solutions.html