

November 2005 Safety Meeting

Electrical Safety

Most propane workers don't think of our industry as being heavily electrically-related. In most instances this is a correct assumption but, never the less, there are many electrical hazards in the workplace that can hurt or even kill the most cautious propane person. Combine electrical hazards with propane and you've got a potentially deadly mix. The purpose of this meeting is to discuss various electrical hazards that could "reach out and touch" a propane employee or someone else. Basically, propane workers should always keep electrical arcs or related electrical activity at least 25 ft. from a point of transfer or propane release.

Instructor: ask the class to list various electrical hazards they have run across in the propane industry. Jot them down and discuss.

Review the following list of electrical hazards/statements and discuss each:

- Keep open electrical arcs from the presence of propane vapor.
- Look for evidence of explosion-proof wiring systems that have been damaged or are in a state of disrepair.
- Remember, most battery-powered hand tools are unsafe around propane vapor because they develop open electrical arcs at the armature/brush area.
- Never open or close a switch if propane vapor is present.
- Refrain from parking a bobtail or cylinder truck under a live electrical line.
- Examine electrical devices located near tanks or cylinders such as, but not limited to: A/C condenser units, lights, motors etc. Remove or relocate them as necessary.
- Frayed insulation or damaged wires on or near the rear deck of a bobtail can ignite a propane-air mixture.
- Welding or related contractor operations can ignite a propane mixture.
- Shutoff circuits on household appliances that could energize when employees are working around them. As an example, hot surface and direct spark igniters should be shutoff prior to starting any work activities.
- Refrain from jump-starting a propane vehicle unless you must do so and the area is closely examined for the possibility of a propane vapor being present.
- Be watchful of customers and members of the general public who bring electrical hazards into a propane hazard zone.
- Carefully examine your electrical tools and equipment to ensure they are in tip-top condition. Look for frayed wires and homemade repairs.
- When working outside using electrical tools make sure it is at least double insulated and use an extension cord with GFCI protection.
- Never run extension cords through water or over sharp objects. Remember, it is not recommended that extension cords be field-repaired. Have an expert repair them if they are able to be repaired or destroy them and purchase another.
- Never operate electrical equipment while standing in water.
- Never make unapproved repairs on the electrical system of your plant or bobtail.
- Remember most cell phones are not intrinsically safe, they can produce an open arc to the outside atmosphere.

Electricity is a silent killer of hundreds of people each year. Keep in mind that under the right circumstances, a person can die when being exposed to electrical current of 50-150 milliamps. However, the good news is that most of these accidents can be prevented with just a little care and attention. And never forget that even battery-powered hand tools can be deadly under the "wrong" circumstances. Keep your eyes open for electrical hazards and don't be afraid to cease operations or call for help if you have a question about your safety or the safety of your customer.

November 2005 Test

Electrical Safety

Name: _____

Date: _____

Instructions: Read and answer each of the following questions. When complete, grade the test and review incorrect answers so each employee is “armed” with the correct answers before they leave the training.

1. Even the smallest electrical arc could set off a propane/air mixture:
 - a. True
 - b. False

2. As a general rule, always keep electrical arcs at least _____ ft from the point of transfer.
 - a. 5
 - b. 10
 - c. 15
 - d. 25

3. Most electrical extension cords can be field-repaired if they are damaged:
 - a. True
 - b. False

4. Battery-powered tools do not pose a risk of explosion in a propane/air mixture.
 - a. True
 - b. False

5. Jump-starting a propane truck in the presence of propane is not advised and could be extremely dangerous.
 - a. True
 - b. False

6. According to this safety meeting, an electrical charge from _____ can be deadly to some people.
 - a. 10-50 milliamps
 - b. 25-50 milliamps
 - c. 75-100 milliamps
 - d. 50-150 milliamps

November 2005 Answer Sheet

1. a
2. d
3. b
4. b
5. a
6. d