

# November 2007 Safety Meeting

## Electrical Safety

More than 20 percent of all workers who die on the job are killed as a result of electrical accidents. Some unfortunate propane gas industry employees are part of this deadly toll! As with any type of accident, most of these accidents could have been prevented with a little knowledge and attention to detail.

### How Electricity Works

Electricity travels through cables or wires. These wires are generally made of metal, which conducts electricity, so they are called conductors. The wires are wrapped in plastic or rubber material to keep the electricity contained. These materials are insulators.

Electrical equipment must be grounded. This simply means that it is connected to the ground through some type of conductor (such as a circuit box).

Electrical current refers to the flow of electricity through a conductor. It is measured in amps and can be thought of as measuring water in gallons per minute. Voltage is a measure of the pressure driving electrical current through a conductor.

### Electrical Hazards

If a wire is not properly insulated or if you make contact with electricity, the current will pass through your body. Depending on where the current enters your body and where it exits, it could kill or severely burn. The chances of shock or electrocution are multiplied when water is involved. Water can make your body act as a conductor. So working with electricity with wet hands - or even sweaty hands - can be deadly.

### Prevention Guidelines

Knowing these basics doesn't make you qualified to correct electrical problems, but it should help you recognize the hazards.

Some things you should be on the look out for are:

- Always follow lockout/tagout procedures to ensure equipment you are working on does not accidentally energize. (Discuss your facility's procedures)
- Use PPE when appropriate (Discuss your facility's requirements)
- Always follow manufacturer's instructions on the proper use of all electrical equipment
- Make sure any electrical tools you use are clean. Check for dust or grease build-up
- Make sure the wire plugs you use match the outlets
- Do not operate electrical equipment with wet hands

- Take extra care when working near flammables
- Respect locks and tags of co-workers
- Never use any equipment that is defective, inspect electrical equipment before use
- Check your propane bobtail and service truck for active electrical hazards especially those hazards on the rear deck of a bobtail truck
- Keep non-explosion proof electrical equipment away from propane transfer areas
- Be on the lookout for electrical hazards at home, make corrections immediately and train all household members of the hazards of electricity

### **Class Exercise**

Discuss with attendees various electrical hazards and related concerns around your facility. Walk around the plant and office area and have the attendees inspect for electrical hazards that should be corrected. Discuss the findings and develop a plan of action.

### **Conclusion**

It's pretty clear that we'd be in trouble if we had to avoid electricity. However, we need not avoid electricity, we just need to protect ourselves from it. Please respect the power of electricity and follow the guidelines we've discussed to keep yourself and your co-workers safe!

# November 2007 Electrical Safety Test

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. Electrical current flows through:
  - a. Insulators
  - b. Conductors
  
2. More than \_\_\_\_\_ % of all workplace facilities are electrical-related.
  
3. Working around \_\_\_\_\_ multiplies the risk of electrical shock.
  
4. Electrical shock occurs only when electricity passes through your heart muscle.
  - a. True
  - b. False
  
5. Current flow is measured in amps.
  - a. True
  - b. False
  
6. Home environments should be inspected regularly for electrical hazards.
  - a. True
  - b. False

**November 2007  
Answer Sheet**

1. b.
2. 20
3. water.
4. b.
5. a.
6. a.