Electrical Safety – Safety Talk

THE UNIVERSITY OF CHICAGO

September 2011

Electrocutions are the fifth leading cause of occupational injuries. From 2003 to 2007, there were 1,213 workplace fatalities in the U.S.

The three leading causes of these fatalities were: contact with overhead power lines, contact with wiring and other electrical components, and contact with electrical current from machines/power tools/fixtures.

Remember: you don't have to be an electrician to be exposed to electrical hazards.

Electrical accidents can result in:

- Minor shocks;
- Electrical burns;
- Arc flash explosions;
- Falls from heights;
- Fires; and
- Electrocutions – death!

RESPECT ELECTRICITY !

- Current as little as 60 miliamps at 60 Hz is enough to be fatal.
- 50 V at 60 Hz can provide enough current to be fatal.
- Never work on live electrical parts!
- Perform lockout/tagout for machines or equipment and unplug power tools prior to servicing.
- Never use conductive ladders or conductive tools around live electricity and power lines.

When using electrically powered machines, equipment, or tools, the following can ensure your safety:

- Guards – cover live electrical parts to prevent contact;
- Double insulation or grounding – protect the user against shock in case of internal electrical system failure;
- Fuses – shuts off power if too much current is flowing through a circuit; and
- Ground Fault Circuit Interrupters (GFCI) – shuts off power if it senses an imbalance between current to the energized and return conductor.

KEEP IN MIND:

Fuses against fires and property damage, GFCI's protect against electrical shocks.

Always test the GFCI prior to using it!

Here are some basic practices to follow when using electrical tools or machines:

1. **Ensure the tool, safety devices, and wiring are in good repair prior to using.**
2. **Beware of overloading and interconnecting multiple extension cords and power strips.**
3. **Always use a GFCI when working outside, in wet environments, or around water.**
4. **Never handle a tool by its cord.**
5. **Always use power tools that are grounded (three-pronged) or double-insulated.**
6. **Remove from service and tag any damaged equipment.**

ADDITIONAL INFORMATION:

Review the following policies on the Environmental Health and Safety website:

Hand and Portable Power Tools, Lockout/Tagout, and Machine Guarding