multi line
Vermont School Boards Insurance Trust

ELECTRICAL HAZARDS

Though you cannot see electricity, you are aware of it every day. You see it used in countless ways. You cannot taste or smell electricity, but you can feel it.

The **primary hazards** associated with electricity and its use are:

- **SHOCK**. Electrical shock occurs when the human body becomes part of a path through which electrons can flow. The resulting effect on the body can be either direct or indirect.

  Direct- Injury or death can occur whenever electric current flows through the human body. Currents of less than 30 mA can result in death.

  Indirect- Although the electric current through the human body may be well below the values required to cause noticeable injury, human reaction can result in falls from ladders or scaffolds, or movement into operating machinery. Such reaction can result in serious injury or death.

- **BURNS.** Burns can result when a person touches electrical wiring or equipment that is improperly used or maintained. Typically such burn injuries occur on the hands.

- **FIRE.** Electricity is one of the most common causes of fire, both in the home and in the workplace. Defective or misused electrical equipment is a **MAJOR** cause.

- **EXPLOSIONS.** Explosions occur when electricity provides a source of ignition for an explosive mixture in the atmosphere. Ignition can be due to overheated conductors or equipment, or normal sparking of switch contacts.

Other hazards include: Arc-blasts, thermal radiation, pressure wave, and projectiles.

How can I protect myself?

- ✓ Handle all electrical powered equipment in a manner that will not cause damage. Flexible cords should not be used for raising or lowering the equipment. Flexible cords should not be fastened with staples or otherwise hung in such a fashion as could damage the outer jacket or insulation.

- ✓ Visually inspect cords and equipment before use. Defective or damaged items should be removed from service until repaired or replaced. Extension cords are for temporary use only and can't be used as permanent wiring.

- ✓ Damaged insulated tools need to be removed from service until repairs have been made.

- ✓ Attachment plugs and receptacles may not be altered in a manner that would prevent proper continuity of the equipment's grounding conductor.

- ✓ Lights should not be placed where accidental contact can be made.

- ✓ Care should be given to conductivity issues. Cords, lights and electrical equipment should not be used in locations where persons may come into contact with **water** or other liquids. Care should be given when using flammable materials near electrical sources.

Remember

Use Personnel Protective Equipment (PPE) appropriate for the specific parts of the body to be protected and for the work being performed. Some PPE includes: non-conductive head-protection, gloves made from insulating materials, and protective shields.

Do not approach or come into contact with someone who is being shocked. First, shut off the power, then provide care. Always call for emergency medical assistance when electrical injuries occur. Electricity can cause internal injuries.

Ask yourself? Do I know where the emergency electrical shut off is located?

As with all matters of electrical safety, always consult with a licensed electrician before working on any electrical components, attempting repairs etc.

Reference:
29 CFR 1910 Subpart S
29 CFR 1910.147 Lockout/Tagout
NFPA 70 National Electrical Code