

# risk alert



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## Electricity: powerful tool—lethal hazard

Many people have the notion that the condition of a building's electrical system will never change and do not realize that electrical systems require maintenance. Building usage changes over time as well as the need and location for electricity.

Older buildings were not designed for the myriad of power demands that we currently take for granted, such as air conditioners, computers, copiers and sophisticated sound equipment. In extremely old systems, especially those with fuses, overloading is a common problem. The National Fire Protection Association estimates that there is an electrically caused fire in the United States every five minutes.

Each year, more than 100 of Church Mutual's customers experience a fire as a result of faulty wiring, electrical arcs, overloaded circuits or improperly grounded equipment. Church Mutual recently received a claim for extensive smoke and fire damage in an older portion of one of our customer's buildings. The cause of the fire was an old, overloaded wire that shorted over time.



## Identifying your electrical hazards

The first step is to have an inspection of the building and grounds that includes testing and servicing of equipment. Electrical connections can loosen, wires can fray, panels can deteriorate and equipment parts can wear.

## What can staff and members do?

There are several areas that can be easily checked by custodians or safety members during the monthly electrical and lighting inspection of the building. Start with the electrical fixtures, wall outlets and switches. Verify they are working and free of cracks, breaks or other obvious damage. Outlets with poor internal contacts or loose terminals may become overheated or emit sparks.

Confirm that all school-aged rooms have tamper-resistant outlet covers in place. These safety faceplates replace traditional plastic safety inset caps that are often misplaced, leaving an outlet unprotected.

(Over)

Check that electrical equipment and appliances are sound, with no visible damage, signs of wear or excessive overheating (no burning smell or warm to the touch). Check for abnormal operation, proper connections and appropriate grounding. Verify appliance cords are free of wear and splices and that their coverings are free of cracks, holes or other damage. Also check that sound equipment and computers have plenty of air space, so they will not overheat. Ensure that procedures are in place where appliances are turned off or unplugged when not in use.

Check that electrical circuits are not overloaded with multiple power strips or extension cords in an outlet. Look for proper surge suppressors to be installed on key equipment to reduce the risk of damage from power surges. Don't expect much from any surge protector that costs less than \$5. Styles and voltage handling capacities may differ, but the cost of a proper multi-outlet surge protector will start at the \$20-\$35 range. Check for the Underwriters Laboratories rating on these cords.

Verify that Ground Fault Circuit Interrupter (GFCI) outlets are installed in bathrooms, kitchens and any area where water may come into contact with electrical products. Test the GFCI outlet monthly. GFCI outlets are designed to prevent serious injury from shock.

Don't forget the breaker box. Check that the breaker/fuse box circuits are properly identified and the main circuit breaker is clearly marked. Keep the area around the breaker/fuse box clear for access in emergencies. The breaker/fuse box area needs sufficient clearance from clutter and combustible materials.

## **What can professionals do?**

If your building is more than 15 years old, an electrical inspection is advisable, especially if appliances and lights have been added or upgraded. Professional electricians will know the electrical codes and proper inspection procedures for electrical circuitry and appliances. They can include the use of an infrared scan gun (noncontact thermometer) in their inspections to identify a potentially hazardous condition that may be hidden inside walls or junction boxes.

Advise the licensed electrician about a recent circuit breaker trip, an unexplained fuse failure or dimming lights. Professionals should be alerted to any electrical equipment that causes any degree of shock when touched. These may indicate a larger problem.

A church in Maryland recently experienced a large fire. An investigation found church members performed improper repairs to the service panel. Always have a certified, licensed electrician perform electrical updates and repairs. Have an electrician perform wiring alterations (such as installing additional outlets) and updates (such as replacing old, damaged outlets).

Professionals also can provide regular servicing of equipment to ensure proper working conditions. The added benefits to having an electrical maintenance program are improved equipment efficiency and reduced utility bills.

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