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Electricity: a powerful and potentially harmful resource

The electrical needs of religious facilities grow and change over time. Increased dependence on electricity often overburdens older worship centers that were not designed for the amplitude of today's technology demands. More recent facilities also can benefit from electrical updates with new and life-saving equipment.

Each year, numerous Church Mutual customers experience fires as a result of faulty wiring, electrical arcs, overloaded circuits or improperly grounded equipment. Many of these hazards can be prevented with regular electrical inspections and updates.

"Electrical inspections are important for all buildings; however, congregations with aging facilities are especially at risk for potentially harmful out-of-date wiring and inadequate circuits," said Todd Kindred, training director for Northern Illinois Electrical Joint Apprenticeship and Training.

"There are two important types of inspections: a safety inspection, conducted by a custodian or other facility staff, and a professional electrical inspection," said Christopher Lindsay, director of programs for the Electrical Safety Foundation International (ESFI) in Rosslyn, Va.

Safety inspections

"Monthly safety inspections should review common areas of the electrical and lighting systems throughout all congregation buildings," Kindred said.

"Create a checklist that covers areas such as light bulbs, extension cords, wall outlets, appliances and the breaker box," Lindsay said.
(See Page 2 for additional resources.)

Light bulbs and extension cords

Light bulbs should be the correct wattage size for the fixture. A bulb with too much wattage might overheat.

Extension cords should not pass through walking areas, and furniture should not rest on them. The cords should be in good condition and should only be used on a temporary basis. If necessary, note any areas where additional outlets or receptacles need to be professionally installed.

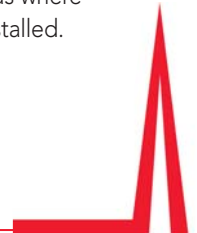
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Wall outlets and switches

Check outlets and switches to ensure they are working properly. Outlets and switches also should be cool to the touch. Warm or improperly operating outlets or switches might indicate an unsafe wiring condition. Replace any missing, cracked or broken outlets and switch cover plates.

"Listen for crackling or buzzing coming from the outlets. If you hear any noises, contact an electrician to identify the cause," said Luka Dexter, project manager at Knights' Electric Inc. of Windsor, Calif.

Tamper-resistant outlets

Tamper-resistant outlets have an internal shutter mechanism that protects children from sticking objects into the receptacle.

"Tamper-resistant outlets are easy to retrofit to older buildings and should be installed in all standard wall outlets," Lindsay said.

Ground Fault Circuit Interrupters

"Ground Fault Circuit Interrupters (GFCIs) are required in bathrooms, kitchens and anywhere electricity is used outside the building," Kindred said. "They are designed to provide protection against electrical shock."

Test GFCIs each month and after electrical storms. To test GFCIs, follow this procedure:

- Push the "Reset" button on the GFCI receptacle to prepare the unit for testing.
- Plug in a nightlight and turn it on. The light should now be ON.
- Push the "Test" button of the GFCI. The nightlight should go OFF.
- Push the "Reset" button again. The nightlight should now go ON again.

Contact an electrician if there are any problems during the GFCI test.

Appliances

All appliance cords should be placed away from hot surfaces and water. Have an electrician inspect any appliances that give a slight shock when touched.

Breaker boxes

"Fuse boxes or circuit breaker boxes should appropriately label which circuits power each room in the building," Dexter said. "Appropriate personnel also should know where the box is located and how to turn off and restore power."

"Regularly resetting tripped circuit breakers might indicate that the circuit is overloaded or that other electrical hazards exist," Lindsay said.

Professional electrical inspections

"Inspections should be conducted by a certified electrician at least once every five to 10 years and before any remodeling or building projects begin," Kindred said.

"An electrician also should be contacted if you observe warning signs of electrical trouble, such as noises in the walls or outlets, flickering or dimming lights or exposed wires," Dexter said.

Inspections also are recommended for buildings more than 15 years old, especially if equipment, appliances and lights have been added or upgraded.

"Most electrical equipment, such as wires and switches, has a life of 20 years," Dexter said. "This equipment should be inspected for loose connections, wear and damage."

Electricians also look for potential problems, such as old outlets, frayed wires, discolored light fixtures and outdated panels in the breaker box. In addition, many certified electricians offer infrared technology that quickly and efficiently detects possible electrical problems. The infrared scan gun identifies heat that could signal potentially hazardous conditions hidden inside walls.

In addition to performing inspections, professional electricians also should perform electrical updates and repairs.

One important electrical update is to install Arc Fault Circuit Interrupters (AFCIs). This new type of circuit breaker recognizes potential fire hazards and immediately shuts off the power. An arc fault occurs when electricity is unintentionally released from wiring cords or appliances because of damage or improper installation.

"This new technology is not yet required in electrical codes, but places of worship should consider having AFCIs installed by a professional electrician," Lindsay said. "This is especially important for older buildings, which are more susceptible to fires caused by arc faults."

"The electrical system in a place of worship evolves over time as the building ages," Kindred said. "This makes performing regular electrical inspections and keeping detailed records crucial."

Congregations should file detailed records of professional electrical inspections and congregation-performed safety inspections as well as any updates and repairs.

Resources

- **For more information** about electricity, visit www.churchmutual.com, click on "Safety Resources" and then "Risk Alerts."
- A sample safety checklist is available on the ESFI Web site, visit www.electrical-safety.org.



Managing Your Risks

Good news, bad news

I have good news, and I have bad news. Let's start with the good news.

A report I recently received from the National Highway Traffic Safety Administration unveiled some positive news regarding accidents involving 15-passenger vans — the number of fatalities as a result of these accidents has been on the decline since 2001.

The organization looked at accident data from 1997 to 2006.

Another bright spot is the downward trend of 15-passenger van rollovers. Only 18 percent of the vans involved in fatal accidents rolled over in 2006. That's down from a high of 45 percent in 2001.

The credit for the decrease in the number of rollover accidents can be attributed to a number of factors including:

- Increased awareness of the propensity of vans to roll.
- Improved maintenance, especially tires.
- Limiting the number of passengers to 10.
- Electronic Stability Control introduced as standard equipment on all 15-passenger vans starting in 2004.

Whatever the reason, it's good to see the number of fatalities on the decline.

Now the bad news — seat belt usage among occupants of 15-passenger vans involved in fatal crashes continues to be low. About 67 percent of the passengers involved in fatal crashes were not wearing seat belts.

How and why drivers are not requiring all passengers to buckle up is a real mystery to me, but I see it all the time. While traveling, I will pass, or be passed, by a 15-passenger van. My first reaction is to look at the side of the van for the worship center's name and location. I then look at the passengers. Are they buckled in? Many times, the answer is no.

As some of you know, if the van turns out to be owned by a Church Mutual customer, I will make a call and give a friendly reminder of the importance of seat belt usage.

As these large vans continue to be the vehicle of choice for many religious organizations, your commitment to enhancing the safety of your transportation programs can be seen in this latest study. Keep up the good work.

Richard J. Schaber, CPCU
Risk Control Manager

seasonal spotlight

Building safety: it's all about the details

Ensuring building safety can encompass many levels of inspection. Often, it's the little things that go unchecked that have the potential to turn a disaster deadly.

"Safety items in a building should be checked annually or semiannually by whatever authority holds jurisdiction in the area, such as the fire department or city officials," said Scott Kurinsky, vice president of Bear Construction in Chicago, Ill., a commercial construction company with more than 20 years in operation.

"Fire departments typically inspect properties annually to certify fire alarm systems, sprinklers, exit signs and emergency lighting are working properly," he said. "Many buildings also test these items more frequently as part of their risk management or insurance programs.

"Simple things, such as blocked exit doors, missing or nonfunctional emergency lighting or signage, are the biggest safety offenders. Additional areas that require maintenance or attention include posting a visible evacuation plan, checking batteries in smoke detectors, making sure carbon monoxide detectors are working properly and keeping vent flues and chimneys free of blockage and debris," Kurinsky said.

Although a building's specific location can determine whether local or national guidelines should be followed regarding safety inspections, below is a list of inspection recommendations:

- **Smoke and heat detectors** – Check each once a month. Replace smoke detector batteries with a new alkaline battery every six months and replace the entire smoke detector after 10 years of use. Heat detectors should be tested and vacuumed to remove dust particles annually.
- **Fire extinguishers** – Inspect annually by a qualified technician. Hydrostatic pressure testing for all types of extinguishers also is required every five years for water and CO₂ models and up to every 12 years for dry chemical models. Portable fire extinguishers require monthly inspections. Keep these steps in mind: fully rotate the extinguisher to prevent chemicals from caking, check the nozzle to make sure it's not blocked or clogged and confirm the pressure gauge needle reads in the "green" area.
- **Fire exits** – Make sure they are clearly marked and free of blockage or hazards.
- **Carbon monoxide (CO) detectors** – All CO detectors have "test" buttons and should be tested regularly — weekly or monthly. Modern battery-powered models have a life of approximately seven years and have a built-in alert mechanism that signals when the battery needs to be replaced. Hard-wired detectors have sensor elements that typically last from three to five years.
- **Emergency lights** – Batteries are commonly made of lead-calcium and can last for 10 years or more on a continuous charge.
- **Sprinkler systems** – A main drain flow test is required on each system annually. The test valve should be opened at least every two years to assure that the sprinkler system operates properly.
- **Emergency power** – Suggested testing for the system includes weekly inspections and monthly performance exercises under full load. Batteries should be tested monthly, and fuel quality tests should be performed annually.

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A Perspective

Extension cords, power strips and surge protectors are helpful when additional power is required for items, such as electronics, lighting and fans.

However, if used improperly, these temporary power solutions can cause an electrical shock,

a burn or even a fire. It is important to exercise caution when utilizing additional

power sources to protect you and your place of worship.

Risk Reporter spoke with Luka Dexter, project manager for Knights' Electric Inc. of Windsor, Calif., about the potential dangers and proper use of extension cords, power strips and surge protectors.



Risk Reporter: What should people look for when purchasing extension cords, power strips and surge protectors?

L. Dexter: Extension cords are labeled with information regarding the use, size and wattage rating of the cord. Power strips and surge protectors should have an internal circuit breaker. Surge protectors also should have a clamping voltage of less than 400 volts and three-line protection. Look for the Underwriters Laboratories (UL) safety label and the manufacturer name and contact information on all cords and surge protectors. The UL sticker or stamp certifies the cord or surge protector has been tested for the marked rating and is safe. Do not buy an electrical piece of equipment if the UL safety label or manufacturer information is missing.

Risk Reporter: What safety precautions do you recommend for extension cord use?

L. Dexter: Extension cords are for temporary use only and are not meant to be used as a permanent power solution. However, when necessary, use the shortest length of cord possible between the appliance and the outlet. Do not string multiple extension cords together or plug more than one cord into an outlet — this could overload the cord. Use special, heavy-duty cords for high-wattage appliances, such as air conditioners and freezers. Inspect the cord before each use and do not use worn or damaged cords.

Risk Reporter: Why is a surge protector important, and how should it be used?

L. Dexter: A surge protector absorbs dangerous excess voltage from reaching and damaging electrical equipment. Surge protectors often look like power strips; however, not all power strips have surge protection included. Read the label carefully and do not exceed the electrical rating of the product. Surge protectors should be used indoors in dry locations.

Risk Reporter: What safety measures should be taken when plugging multiple appliances into a power strip?

L. Dexter: Plugging multiple appliances into a power strip can overload and overheat electrical circuits, resulting in electrocution and fire. If you must use a power strip, place the strip where there is good air circulation to disperse heat. If the power cord feels hot, unplug it immediately. Do not plug multiple power strips into the same outlet. Pay attention to the strip power rating and don't overload it.

■ **For more information** about extension cords, visit www.churchmutual.com, click on "Safety Resources" and then "Risk Alerts."

Checklist for proper and safe usage:

- Inspect extension cords, power strips and surge protectors before every use.
- Discard any cord that has exposed wires, cracks or splices.
- Keep cords unwound and free of kinks when in use.
- Do not put cords under rugs or carpet or have heavy furniture resting on them.
- Insert plugs fully into the outlet so that no part of the prong is exposed.
- Do not attempt to plug grounded (three-prong) cords into ungrounded (two-slot) outlets.
- Examine electrical wall outlets to ensure there are no cracks, breaks or loose pins.