

## MARSH INSIGHTS: ELECTRICAL SAFETY IN CHURCHES

Electrical fires are among the leading causes of fire in churches. Common causes of electrical fires include old and overtaxed electrical systems, faulty wiring, poor housekeeping and extension cords used as permanent wiring. Since many church buildings are of masonry or wood frame construction and contain significant combustible loading from wooden interior finishings and furniture, when fires do occur, the results can be catastrophic. Identifying and addressing electrical hazards can help you protect your parish.

### ASSESSMENT

In order to adequately assess the condition of your parishes electrical distribution system a licensed electrical contractor should be consulted. The contractor should perform an inspection of the electrical distribution system including the incoming service, breaker panels and fuse boards, wiring and grounding. Infrared scanning should be considered as a way of detecting hot spots in the electrical system that may cause an electrical arc, potentially leading to a fire.

### INSPECTIONS

Parishes should create an electrical safety checklist and conduct regular inspections to check for:

- Excessive loading on circuits (e.g. numerous appliances plugged into a single plug);

- Power bar piggy backing (e.g. power bars plugged into one another);
- Inadequate grounding;
- Extension cords used as permanent wiring (extension cords are designed for temporary use and should not be used under carpets or across doorways);
- Older wiring that may be frayed, cracked or damaged;
- Broken outlets or switches (if hot to the touch, there is likely a problem); and
- Combustible storage stored less than three feet away from electrical devices including breaker panels and transformers.

Deficiencies should be addressed immediately and/or the circuit should be turned off. Only licensed electricians should perform electrical repair work.



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## SIGNS OF PROBLEMS

The following are common signs of problems with electrical systems:

- Fuses or circuits that trip frequently indicate overloading of the circuit or possibly faulty electrical wiring or equipment.
- Dim or flickering lights can be a sign of a loose connection in a lighting circuit, fixture or your electrical service.
- Inadequate grounding represents a shock hazard. Look for missing third prongs, or two-to-three prong adaptors.
- Damaged cords can result in exposed wiring and represent a shock and fire hazard.
- Extension cords used as permanent wiring or interior grade extension cords used outside.
- Overheating organ motors.

## MAIN ELECTRICAL ROOMS

Where applicable, main electrical rooms should be:

- Maintained free of combustible storage.
- Provided with monitored smoke detection to provide an early warning of fire.
- Equipped with CO<sub>2</sub> extinguishers designed for Class C electrical fires since they will prevent damage to sensitive electrical equipment in the event of discharge in a fire situation.

Remember, even a small fire in an electrical room can shut down the parish for an extended period of time.

## For more information, please contact:

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## OTHER CONSIDERATIONS:

In order to keep your parish as safe as possible, consider the following:

- Replace any old coffee makers with newer models equipped with automatic shut-off switches.
- Don't leave chargers plugged in (cell phones, cordless drill batteries, video camera batteries). Use chargers as designed and unplug when finished. Chargers are commonly left plugged in with charged batteries in maintenance areas or workshops.
- Ground Fault Circuit Interrupter (GFCI) outlets should be installed in areas near water (i.e. bathrooms and kitchens) and in exterior areas to reduce the severity of electric shocks. GFCIs should be tested monthly by plugging in a device and pushing the test button; if the device does not turn off, then the GFCI is faulty and should be replaced.
- Baseboard heaters should be checked regularly for excessive dust and nearby combustibles.
- Circuit breakers should be exercised (switched on and off) annually to ensure they operate and are not binding.

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