

Workplace Safety – Religious

When Lightning Strikes

In the spring and summer months, lightning strikes are often responsible for unexpected building fires. The damage from these fires is often devastating and costly. The following article on lightning strikes provides useful information for protecting both people and parish property from the damaging effects of lightning.

According to the National Severe Storm Laboratory (NSSL), lightning strikes are responsible for more deaths, injuries and damage than all other environmental elements combined, including hurricanes, tornadoes and floods. These statistics make it clear that lightning awareness and prevention is very important.

What Causes Lightning?

Lightning is a flow of electrical current between storm clouds and the earth. It occurs when charges of positive and negative energy accumulate during a storm. The result of this is a discharge of lightning which sends negative charges towards the ground. As this force moves downward, positive charges rise up to meet them. When the opposing forces meet, a closed circuit is created, causing the cloud to short-circuit and result in a flash of lightning.

Indoor Safety Guidelines

- Stand clear from doors and windows.
- Keep away from electrical equipment and appliances, including hairdryers and curling irons.
- Do not attempt to unplug televisions, stereos or computers during a storm.
- Avoid contact with sinks, faucets, baths and piping.
- Do not use the telephone other than for emergency calls.

Outdoor Safety Guidelines

- Avoid areas that are higher than the surrounding landscape.
- Do not use a tree as shelter.
- Keep away from metal objects including bicycles, motorcycles and golf carts.
- Avoid standing near tall or metal objects such as fences, poles and power lines.
- If you're with a group of people, spread out.
- If you feel a tingling and your hair stands on end, lightning may be about to strike! Immediately crouch down. Do not lie down or place your hands on the ground.

Lightning Protection for Buildings

A certified lightning protection system is a very good solution to protect buildings from the dangers of lightning. A protection system is composed of the following items:

Air Terminals—Also referred to as lightning rods, are inconspicuous copper and metal rods that are mounted vertically on the roof at various high points on the building. They are designed to intercept lightning strikes.

Main Conductors—These are made of copper or aluminum and connect air terminals to grounds.

Grounds—Main conductors are attached to metal grounding rods, which are set at least ten feet deep in the earth. Special grounding requirements are sometimes necessary in rocky or sandy soil. As the current flows through the rods, the energy is directed into the ground where the chance for injury or damage is effectively eliminated.

Bonds—The bonding connects grounded metal objects to the main conductor cable and prevents side flashes (lightning jumping from two objects).

Lightning Arrestors—Arrestors protect wiring and appliances from lightning-induced power surges. A surge is an increase in electrical current due to a lightning strike on or near a power line. Kitchen appliances, computers, televisions and sump pumps are vulnerable to unexpected surges.

Tree Protection—It is recommended that any tree taller than your building/home/office, or within ten feet of it be equipped with a lightning protection system.

-Source: *Lightning Protection Institute*

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