



Adventist Risk
Management® Inc.

LIGHTNING

You Never Know Where Lightning Will Strike

Lightning strikes are electrical discharges on a massive scale between the atmosphere and an earth-bound object. They mostly originate in thunderclouds and terminate on the ground, called cloud-to-ground (CG) lightning. They are a beautiful natural phenomenon to watch, but deadly to be near by.

Lightning FACTS

In the last five years (2008-2012), lightning strikes have caused 149 insurance claims worldwide to the Adventist Church properties causing 1.5 million dollars in damages. While lightning is somewhat randomized in its location, there is evidence that it reoccurs more frequently in some places more than others. Malawi is one such place where we recently had 8 deaths reported (and over 40 people injured) from one lightning strike that went into an Adventist congregation on Sabbath. Some journal articles have indicated that the annual average rate of being killed by lightning in Malawi is 84/million or about 5 or 6 times the rate for other developing countries.

These natural wonders can be very interesting to watch, but not easy to avoid. Property damage can be expensive, but human injury or death caused by lightning even more costly. There are ways to prepare for lightning strikes, both in protecting individuals and property.

PLACES TO AVOID DURING A THUNDERSTORM:

- Water
- High ground
- Open spaces outdoors
- Solitary trees

THINGS YOU SHOULDN'T TOUCH DURING A STORM:

- Hard-wired telephones
- Plumbing
- Electrical Appliances
- Metal objects including electric wires, fences, machinery, motors, power tools, and aluminum ladders, as well as metal windows and doorframes.



Safe Places to Shelter

Outdoor activities should be suspended when thunderstorms are approaching since lightning can strike in areas ahead of the storm. Take immediate shelter at the sound of thunder or when storm clouds are sighted in your area. A safe location could be a building, or a fully enclosed metal vehicle such as a car, truck or a van with the windows completely shut; however, if there is no time to find this safe location near where you are, assume the Lightning Safety Position.

LIGHTNING SAFETY POSITION

- Crouch to the lowest possible position with feet together, head bowed and place hands on ears to reduce acoustic shock from nearby thunder.
- Remove any metal objects you may be wearing (including watches, baseball caps which often have metal clasps or accents)
- Avoid being too close to other people (stay a minimum of 15 ft. apart)

“Do not become a part of the pathway conducting lightning”

There are four main types of devices that can be used to protect appliances and individuals:

1. SURGE PROTECTION

This protects equipment from power surges. It is the first line of defense against power fluctuations. Surge protectors regulate the voltage supplied to an appliance by either blocking or grounding voltages above a safe threshold.

2. POWER CONDITIONING

This provides a higher level of protection by regulating the AC power supplied to an appliance. It is typically used to protect computers from surges and brownouts.

3. UNINTERRUPTIBLE POWER SUPPLY (UPS)

This is an electronic device that provides emergency power when the main power source fails. A UPS differs from an auxiliary of standby power supply by providing instantaneous or near-

instantaneous protection from input power interruptions. This is usually by means of batteries for low power users, or diesel generators for higher power users.

4. RESIDUAL CURRENT DEVICES (RCDs) AND ISOLATING TRANSFORMERS.

These protect individuals against injury from electric shock, as opposed to protecting appliances from supply interruptions.

PROTECTING WIRING IN CHURCH FACILITIES

A properly installed and maintained lightning protection system consists of cables, connectors, air terminals (the industry-preferred term for the rooftop rods), and at least two grounding rods sunk deep into the earth. These can save a church building or house.

Grounding rods are made from copper or aluminum components and bolted together. They form a continuous and highly conductive path from the high points on a structure to copper rods or metal rings buried deep in the earth. When properly installed, the rods provide a network of low-resistance paths for lightning current to flow in preference to other parts of the structure.

A total protection system also requires that lightning arrestors be installed on all incoming lines, including electric, cable, and telephone in order to prevent electronics from being damaged via power lines.

FOLLOWING THE INSTALLATION OF A PROTECTION SYSTEM

- When re-roofing, painting or any type of chimney work is undertaken on a structure several steps should be followed to insure the protection system continues to function properly. Include a clause in the contract that the contractor is responsible for contacting and paying a UL certified inspector to check out the lightning protection system upon completion of the job.
- On currently owned properties, perform regular inspections on already installed systems.
- If a new property is being considered for purchase, does a protection system need to be installed? If a system exists, does it need to be upgraded?

For more information on Lightning please visit:

<http://www.ready.gov/thunderstorms-lightning>

REPORT YOUR CLAIM RIGHT AWAY

1.888.951.4276 • CLAIMS@ADVENTISTRISK.ORG

STAY INFORMED

ADVENTISTRISK.ORG/SOLUTIONS



Adventist Risk Management® Inc. © 2014

THIS MATERIAL IS FACT BASED GENERAL INFORMATION AND SHOULD NOT, UNDER ANY CIRCUMSTANCES, BE CONSIDERED SPECIFIC LEGAL ADVICE REGARDING A PARTICULAR MATTER OR SUBJECT. PLEASE CONSULT YOUR LOCAL ATTORNEY OR RISK MANAGER IF YOU WOULD LIKE TO DISCUSS HOW A LOCAL JURISDICTION DEALS WITH ANY SPECIFIC CIRCUMSTANCES YOU MAY BE FACING.