

## LPEA urges lightning safety during summer storm season



While La Plata Electric Association's business is management and distribution of electricity for member/customers in La Plata and Archuleta counties, Mother Nature's particular variety of current is one over which the electric cooperative has little control – lightning.

Lightning, which is prevalent in Southwest Colorado during the summer monsoon season, is recognized as an underrated killer of humans and animals, but it can also wreck havoc with electrical systems in and outside of LPEA's customer's businesses and homes. A variety of

precautions can and should be observed when the skies begin to darken.

Lightning can strike as far as 10 miles from the obvious storm area, which is about how far thunder is audible to the human ear. Thus is the basis for the National Oceanic and Atmospheric Administration's slogan, "When Thunder Roars, Go Indoors."

Each spark of lightning can reach in excess of five miles in length, reach temperatures of some 50,000 degrees Fahrenheit and contain 100 million electrical volts.

To avoid being struck by lightning, the National Weather Service recommends that you:

- Get into a safe shelter or hardtop vehicle at the first rumble of thunder;
- Stay indoors for 30 minutes after the last thunder clap;
- Monitor the weather forecast when you're planning to be outdoors;
- Have a plan for getting to safety in case a thunderstorm moves in;
- Do not use a corded phone during a thunderstorm unless it's an emergency (cordless or cell phones are safe to use);
- Keep away from plumbing, electrical equipment and wiring during a thunderstorm.

### What is a Safe Shelter?

A safe building is one that is fully enclosed with a roof, walls and floor, and has plumbing or wiring – a mechanism for conducting the electrical current from the point of contact to the ground. This can include a home, school, church, hotel, office building or shopping center. These mechanisms may be on the outside of the structure, may be contained within the walls of the structure, or may be a combination of the two.

### **Avoid Unsafe Shelters**

Unless specifically designed to be lightning safe, small structures do little, if anything, to protect occupants from lightning. Many small open shelters on athletic fields, golf courses, parks, roadside picnic areas, schoolyards and elsewhere are designed to protect people from rain and sun, but not lightning. A shelter that does not contain plumbing or wiring throughout, or some other mechanism for grounding from the roof to ground is not safe. Small wooden, vinyl, or metal sheds offer little or no protection from lightning and should be avoided during thunderstorms.

### **Safe and Unsafe Vehicles**

A safe vehicle is any fully-enclosed, metal-topped vehicle such as a hard-topped car, SUV, truck, etc. Unsafe vehicles include convertibles, golf carts, riding mowers, open cab construction equipment and boats without cabins.

When driving into a thunderstorm, slow down and use extra caution. If possible, pull off the road into a safe area. Do not leave a safe vehicle during a thunderstorm, and do not use electronic devices such as radio communications as if lightning strikes the vehicle – especially the antenna – it could cause serious injury if one is talking on a radio or holding a microphone at the time.

### **How Lightning Enters a House or Building**

Lightning enters homes and buildings in essentially three ways: (1) a direct strike, (2) through wires or pipes that extend outside the structure, and (3) through the ground. Regardless of the method of entrance, once in a structure, the lightning can travel through the electrical, phone, plumbing, and radio/television reception systems. Lightning can also travel through any metal wires or bars in concrete walls or flooring.

### **Stay Safe While Inside**

Lightning always seeks the ground, so if it should happen to strike a building with electricity or plumbing, the current will typically travel through the electrical or telephone wiring or plumbing and then into the ground. This is the reason to avoid connection with running water (in showers, sinks, hot tubs) and electronic equipment (a corded telephone or computer).

Stay away from windows and doors as these can provide the path for a direct strike to enter a home. Do not lie on the concrete floor of a garage as it likely contains a wire mesh. In general, basements are a safe place to go during thunderstorms. However, avoid contact with concrete walls which may contain metal reinforcing bars. Avoid washers and dryers since they not only have contacts with the plumbing and electrical systems, but also contain an electrical path to the outside through the dryer vent.

### **Remember Your Pets and Farm Animals**

Consider the safety of family pets and farm animals during thunderstorms. Dog houses are not lightning-safe. Dogs that are chained to trees or to wire runners can easily fall victim to a lightning strike.

Lightning will also travel long distances along wet or metal objects, such as fences and poles. For example, if lightning strikes a metal fence, it can electrocute any horses, cattle or other animals in contact with the fence.

### **Protect Personal Property**

Lightning causes significant damage to personal property each year. In addition to direct strikes that can ignite fires, lightning generates electrical surges that can damage electronic equipment some distance from the actual strike. While recommended for electronic equipment, typical surge protectors will not protect equipment from a lightning strike. To the extent possible, unplug any appliances or electronic equipment from all conductors well before a thunderstorm threatens. Do not unplug equipment during a thunderstorm as a risk of being struck exists.

### **Socket Arresters**

The Socket Arrester is a first line of defense against power surges and spikes. This valuable piece of equipment is installed between the electric meter and the house, protecting the home from electric power line surges by sending them to the ground before they reach the home. No piece of equipment can offer 100 percent protection. The Socket Arrester, however, offers a high level of protection at an affordable cost against the most common causes of destructive surges.

### **Camping/Hiking**

When in the wild and thunder rumbles, take shelter in a safe building or vehicle until 30 minutes after the last rumble. If, however, a safe shelter or vehicle is not available, avoid open fields, the top of a hill or ridge, and stay away from tall, isolated trees or other tall objects. If in a forest, stay near a lower stand of trees. If camping in an open area, set up camp in a valley, ravine or other low area. A tent offers no protection from lightning. Also, stay away from water or wet items such as fences or poles, which can conduct electricity. These will not guarantee escape of a lightning strike, but may slightly lessen the odds.

### **Motorcyclist/Bicyclist**

When on the road on a motorcycle or bicycle, and a thunderstorm threatens, the best procedure is to pull off and take shelter in a safe building, waiting 30 minutes until after the last rumble to resume the ride.

### **On the Water**

If out on a boat and a thunderstorm rolls in, return to shore and find a safe shelter as soon as possible. Boats with cabins offer some protection, and the safety is further increased if the boat has a properly installed lightning protection system. When inside the cabin during an electrical storm, stay away from any metal and all electrical components, including the radio, unless it is an emergency. If caught in a thunderstorm in a small boat with no cabin, drop anchor and get as low as possible.

Aforementioned information obtained from the National Oceanic and Atmospheric Administration. For further details visit [www.lightningsafety.noaa.gov](http://www.lightningsafety.noaa.gov).