

Who pays for equipment damage resulting from power failure - the member, the Cooperative, or the insurance company?

Sumter EMC's liability insurance covers the loss of a member's equipment and food if the loss is caused by the Cooperative's error. If a loss occurs involving Sumter EMC's facilities, but the Cooperative is not in error, the loss is not covered by our insurance and no payment is made to the member. These cases usually involve acts of nature or vehicular accidents.

Are You Protected?

Many losses occur due to acts of nature which are beyond the control of the Cooperative. The member must provide his own protection for these losses. Become familiar with available means of protection and determine which risks you choose to protect against.

Steps to Protect Against Equipment and Motor Failure

1. **Protect against quick restarts.** Momentary power interruption to a central air conditioner or heat pump can result in damage to the compressor. For \$95 to \$125, your equipment dealer can install a time delay device that will keep the unit from restarting immediately when the power supply is momentarily interrupted. The device gives the compressor 3 to 5 minutes for its pressures to stabilize before allowing it to restart.
2. **Protect against low or high voltage.** Several products are available that provide protection. They often provide more than one function. A voltage-sensing relay is available that will shut the motor down when voltage falls below or rises above adjustable set points. Installation of this device and the time delay device mentioned above are good protective measures.

A solid-state device can be installed on your equipment that protects against all 3 problems: high voltage, low voltage, and quick restarts. Often a device is installed as standard equipment on some new air conditioners and heat pumps that will only protect against low voltage and quick restarts, but not high voltage. Check with your equipment dealer to see what kind of protection you have or need.

3. **Protect against phase failure, phase reversal, or frequency failure.** Devices are available to protect from loss of three-phase compressors and large motors where one or more phases are dead or where the rotation of the equipment is reversed due to two of the three supply phases being reversed.

Some devices provide protection from unacceptable frequency levels as well. Protective devices in this category are generally more expensive and are found more commonly on large commercial motors and compressors. The over-load heaters provided with motor starting equipment may not protect the motor from single-phasing. If the additional protective devices described here are omitted, load conditions exist where a motor is vulnerable to single-phasing.

4. **Protection against lightning.** Secondary lightning arresters are commonly installed on large commercial air conditioning systems. For residential systems, placement of a secondary lightning arrester at the weatherhead, meter base, or service entrance panel will provide some lightning protection for air conditioners and other household circuits. See Lightning Protection in the following section for additional information.
5. **Protection for televisions and other electronics.** A device that is designed to protect televisions and DVD players against voltage spikes can be purchased for under \$50. It senses

the momentary surge of voltage caused by lightning hitting the distribution system near your home. The television plugs into this adapter and then into the wall outlet. Once this device operates to prevent a spike from damaging the television, it must be replaced. It is neither effective against a direct lightning strike nor will it protect against sustained high or low voltage caused by a damaged distribution transformer.

6. **Protection for appliances.** There are solid-state protective devices designed for window air conditioners, refrigerators, and freezers. They could be used on other appliances as well, but the cost is prohibitive for small appliances. They serve the same three functions: protection against quick restarts, low voltage, and high voltage. They plug in as an adapter, also. Additional protection for appliances can be obtained through proper grounding and the use of secondary lightning arresters.

Lightning Protection

Sumter EMC installs primary lightning arresters at each distribution transformer pole and on other distribution equipment.

Surge protection equipment on the power distribution system cannot always provide adequate protection to the member's premises. Steps can be taken by the member to provide a greater degree of protection.

1. **Ground properly.** Often the grounding of the home (or other structure) is inadequate to protect against lightning. Grounding conductors should be fastened to ground rods with **HEAVY DUTY GROUNDING CLAMPS** that are suitable for this purpose. This is often treated with too little care. Additional ground rods can be added to improve the grounding. A very effective ground can be accomplished by fastening the grounding conductor to the well casing if the casing is steel and IF the

attachment is done properly. **MANY GROUND CONNECTIONS ARE INEFFECTIVE BECAUSE OF POOR ATTACHMENTS.**

2. Install secondary lightning arresters.

Secondary lightning arresters can provide a degree of protection when properly installed. They have received adverse publicity because so many have been improperly grounded. Arresters should be UL approved.

A secondary arrester can be installed at the weatherhead, the meter base, or the service entrance panel. An arrester can also be installed on a specific piece of equipment. In any installation, the preferred method of grounding the arrester is to attach it to the steel well casing. If the well casing is not available or it is not steel, the use of multiple ground rods can be used as an alternative.

While the above measures provide some lightning protection, they do not necessarily ALWAYS prevent lightning damage due to the tremendous energy transfer that takes place during lightning storms. Protection against lightning damage should include both protective equipment and insurance coverage to cover losses that might occur in spite of efforts to prevent them.

Insurance Protection

If loss does occur, insurance policy provisions can provide some protection. The average user of electrical energy seldom knows or understands the extent of his insurance protection. Many policies are available from numerous carriers, such as:

- Dwelling Policies
- Homeowner's Policies
- Tenant Homeowner's Policies
- Farm Owner's Policies
- Commercial Policies
- Computer Policies

Policies vary greatly in their extent of coverage. Many policies will cover lightning damage to equipment and appliances with exclusions for electronic components. Some policies will cover damages resulting from power interruptions if the interruption originates on the insured's premises. There are varying interpretations of what constitutes "on the premises".

Other policy considerations include payments of Replacement Costs versus Actual Cash Value, differences in coverages concerning contents as opposed to parts of the structure, and special or unusual peril provisions (such as food spoilage peril).

Only your agent can provide the full information you need to assure adequate protection. Have your agent specifically point out your peril coverages and exclusions. Be sure to address losses that can occur when a problem occurs with the electrical distribution system serving you. **YOU NEED TO PROVIDE YOUR OWN PROTECTION FOR LOSSES THAT ARE BEYOND THE CONTROL OF SUMTER EMC.**

All wiring installation should be performed by a licensed electrician and/or heating and air conditioning dealer in compliance with the NEC and/or local codes.



Sumter Electric Membership Corporation
P. O. Box 1048
Americus, Georgia 31709

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Protection Guide

for Electric Motors and Equipment



**Sumter Electric
Membership Corporation**