

# The Invisible Culprit

Protect your appliances and electronics from power surges

By Joseph Hathaway

Maybe you know this story: A classic Eastern Oregon thunderstorm is roaring down. Lightning strikes nearby. The power cuts out for a moment, then returns. But when you try to turn on the TV or microwave, it doesn't work.

Typically referred to as a power surge, these momentary periods of high or low voltage on the home's electrical system are caused by lightning or other disturbances. The brief jolts of electrical voltage range from minor to severe.

Minor surges are common with the daily operation of an electric power system. Most equipment is built to withstand these minor variances. However, major surges can damage your computer, microwave or TV.

Electronics and appliances are especially susceptible to a power surge, but spikes in voltage can also damage outlets or start electrical fires. Although many people associate lightning with power surges, Mother Nature's strike on your house is not the most common culprit.

Power surges can result from normal use of your appliances and electronics. Devices that require a lot of power to switch on or off—such as air conditioners, refrigerators and space heaters—call for sudden, brief draws on power.

These power demands upset the steady voltage in the electrical system. While surges caused by these items

are far less intense than a lightning strike, they add to the continuous wear on equipment over time.

Faulty wiring and overloaded outlets or circuits also can cause power surges and be a fire hazard.

Oregon Trail Electric Cooperative works diligently to prevent surges that enter your home through the electrical system by installing lightning arrestors—utility-grade surge protectors—on every transformer on the system, and at all major equipment on the lines and inside substations.

OTEC's system is designed to tolerate certain levels of power fluctuations—ones that safely deliver power to your home, but sometimes surges can still occur. OTEC is required to design our system to maintain the fluctuations within specific levels.

**OTEC wants to remind its member-owners they are responsible for protecting the electric equipment in their homes and buildings.** Despite its best efforts, OTEC cannot prevent acts of God—such as lightning—or other faults and disturbances that naturally occur outside the normal operation of an electrical system.

OTEC is not usually liable for damages to equipment caused by such "acts of God" surges.

OTEC suggests its members consider these options:

- Use surge protectors to protect your appliances and electronics. Most surge protectors are no match for



Surge protectors are sold at local stores. Contact a certified electrician about whole-house surge protectors. PHOTO COURTESY OF TOUCHSTONE ENERGY COOPERATIVES

lightning's wallop, however. During severe storms, unplug your computer, TVs and other electronics.

- Consider investing in the surge protector's big brother: uninterruptible power supplies. They work like a surge protector but have battery backups to keep them running during surges, power reductions or brief outages.

- Consider having a qualified electrician install a whole-house surge protector. Typically installed to the electric service box, it offers greater protection for your appliances than individual surge protection devices. However, a whole-house

surge protector cannot protect against lightning that enters the home from other sources other than the electrical system, such as through metal gas, water or sewer pipes.

- If you do not have them already, consider updating outlets to those that have ground-fault circuit interrupters. Electrical code requires GFCIs near a water source for new or remodeled homes. They help prevent electrical shock and fire and are reset with the push of a button after they have been tripped. ■

*For more information on power surges and surge protectors, call OTEC at 541-523-3616 or visit [otec.coop](http://otec.coop).*