



Severe weather risks to home systems and appliances

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Daily living depends on the steady and reliable delivery of electricity to homes. Electricity powers the heating and air conditioning systems to maintain a safe and healthy home environment. Daily tasks such as cooking, water heating, refrigeration, washing, and drying clothing all rely on electricity for operation. Internet modems, wireless routers, and switches also need the power to maintain home communications.

Severe weather conditions can threaten the electrical infrastructure that provides reliable power to homes. Snow, ice, and high winds have the potential to cause downed power lines and outages. Water leaking into utility equipment causes shorts and damage to the distribution equipment. Power lines that sway in the wind can accidentally contact each other, causing outages. Trips and resets on utility equipment also can cause intermittent power decline in the home.

Also, weather-related events can cause anomalies on the electrical supply lines to the equipment and appliances in the home. Almost all modern electrical consumer products, home heating, cooling systems, and appliances have electronic components that are very vulnerable to electrical surges. The cost to repair an appliance with surge-damaged circuit boards can exceed the cost of a new appliance.

Here are two options to prepare for the eventuality of power outages and the damaging effects of electrical anomalies such as surges:

First, install a home generator. A generator can supply power if there is a fuel supply for the engine. Most home generators use gasoline, natural gas, or propane as a fuel source. Short-duration power outages won't significantly affect the temperature in the house or cause food spoilage from the refrigerator or freezer shutting off. This is where a home generator can be the most beneficial.

Generators can be purchased in a variety of sizes to supply only critical loads or to back-up the entire house. Generators are available as “portable use” or permanently installed and with an automatic transfer switch. Portable units require manual setup, connections, and supervision when used. Permanent generators automatically detect a utility power outage and turn on and off automatically. Consult with an electrician for the best option and size depending on requirements and budget.

Second, have an electrician install a “whole-house” surge protection device (SPD) at the main electrical panel. Surge protection devices are now required by the 2020 National Electrical Code for all newly constructed homes. For existing homes, if an electrical panel is upgraded or replaced, it must now have an SPD installed at the time of the upgrade. This is great protection from surges for all new and upgraded homes, but not locations built before the code was in force. Existing homes still use the same modern appliances and electronic heating and cooling equipment that is used in new homes without SPD protection. Why leave high-value appliances and home systems vulnerable to surges just because the house was built before the new 2020 electrical code requirement? SPDs are relatively inexpensive and easy to install by an



electrician, yet they provide surge protection for all electronic equipment in the house.

Additional surge protection is recommended at the “point-of-use” for consumer electronic devices such as computers and audio equipment, etc. These devices are frequently called “plug strips.” If using these point-of-use devices, make sure to check that they are not just multi-plug extension cords. They are called relocatable power taps (RPTs) when they do not have an internal SPD. Check the UL

markings on the package or device for a dual UL listing as a relocatable power tap (RPT) and a surge protection device (SPD). Many of these devices look the same, so check the printing on the label or molded into the plastic for SPD and RPT UL listing.

It seems weather events are occurring more frequently. These two steps will help prepare for daily life during extended power outages while reducing the chance for high-value equipment losses due to electrical surge events.