

POWER SHORTAGES CAN DAMAGE ELECTRICAL EQUIPMENT;
TIPS TO PREVENT DAMAGE

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Severe power shortages in California and other regions of the United States increase the risk of damage to electronic equipment. In fact, the greatest threat comes after a utility brownout or blackout when the power is turned back on and a burst of electricity surges through the lines.

Equipment can fail because of a sudden lack of power, lower voltage levels, power surges when service is restored, and other line and distribution problems. But a little planning can go a long way to prevent damage. Businesses and homeowners alike should act now to protect their equipment.

With the utility grid becoming more congested and more unreliable everyday, the following are a few basic steps to minimize equipment breakdowns related to power quality problems.

Brownouts and Blackouts

Too little or too much voltage, either condition can damage electrical and electronic equipment, including computers, communications systems and office equipment. Brownouts can occur at times of extremely high power consumption or power shortages when electric utilities reduce the voltage supply to conserve energy. When this occurs, solid-state and computer equipment may not operate correctly or at all. These conditions can cause computer resets, memory loss, data loss, and in some cases, overheat electronic equipment components. Motors can also overheat and burn out.

Blackouts are sustained power interruptions caused by storms, accidents, malfunctions of utility equipment, or other factors. Longer-term power outages can last from hours to days. But the greatest risk of damage comes when the power is restored! A sudden surge or spike in power can create havoc with electrical systems and equipment.

Damage from power surges is one of the leading causes of electrical equipment failure. After an outage, a brief, but high-energy impulse of electricity can be sent through the lines when the power first comes back on. There are ways to protect against power surges, but unfortunately; very few individuals or businesses take the necessary action.

Pull the Plug

There are some simple ways to help avoid damage.

When the utility institutes a brownout or after a blackout occurs, pull the plugs for sensitive equipment and turn switches to the off position. It is also a good idea in a home, business or office to turn off circuit breakers that serve that equipment, especially for a company where equipment may be hard wired. Once full power is restored, plug the equipment back in and turn switches and circuit breakers back on, but do so one piece of equipment at a time, starting with units closest to the power source to limit potential damage.

Power Shortages Cont'd ...

Surge Protection

Install surge protection devices, inside and outside your building. Most people think of utility power lines as the path for voltage surges to enter a building. But telephone lines, computer lines, modems, and fax machines -- any equipment connected to the outside world can be the source. It's important to have protective devices on all potential paths of electrical surges. The greatest emphasis should be on the power and telecommunications lines entering the building. But don't forget lines and systems inside when planning your surge protection system.

Protect Critical Equipment

Your computers are not the only equipment risk. Don't forget surge protection devices for each piece of important equipment and all sensitive systems, including telephone and fax machine lines, cable or satellite systems, and local area networks (LANs). Households should also protect televisions, home entertainment systems, security systems and similar property.

Emergency Generators

If you don't have emergency generators, consider a rental agreement with a dependable local vendor.

Uninterruptible Power Supply (UPS)

If computer loads or communications systems utilize the UPS to ride through short-term outages, have procedures for an orderly shutdown. Usually, the UPS will provide power for only 15 to 60 minutes.

Power Outage Procedures

Keep written procedures on what to do in a power emergency in a central location. Include emergency contacts. One of my favorite ideas is to keep a copy of an up to date power system one-line diagram enclosed in a large frame on the wall in the electric room, or each electric room. This will help in determining the connection of the system components when an unplanned shutdown occurs and keep the information readily accessible.