

Be Cautious Around Generators

By Pam Blair

During a power outage, the only options used to be lighting a candle or finding a flashlight and patiently waiting by the fireplace. Today, homeowners unwilling to wait out an outage are installing backup power generators.

A generator converts energy from fuel—usually gasoline—into electricity. Provided the generator is large enough, it can run a few appliances and lights.

While a generator certainly makes it more comfortable to endure an outage, improper use can be deadly.

If you are planning to use a generator, hire a licensed electrician to hard-wire a transfer switch adjacent to your existing circuit breaker box. Using a transfer switch eliminates the risk of electrical “backfeed” into power lines, which can kill utility workers repairing downed lines, and damage the generator and any equipment connected to it.

During an outage, you simply shut off the main breaker, isolating your home



from power lines, and connect your generator to the transfer switch. Once the generator is running, you can choose which appliances and circuits you want to use by flipping the switches.

Because the transfer switch often is wired into more circuits than the generator can handle all at once, keep track of what is being powered. Running too many appliances at once can overload your generator. As a rule, the total

running (rated) and starting watts of all the appliances used at one time should not exceed the generator's wattage.

Other tips:

- Place the generator on a level surface. If the generator is not level, fuel may leak from the fuel cap.

- Use an appropriately sized extension cord—usually 10, 12 or 14 gauge. A long or undersized cord could damage the generator and appliances. The lower the number, the thicker the cord and the more electricity it can carry. Don't run it under a rug. Heat can build up and spark a fire.

- Don't run a generator indoors or in an enclosed space, such as a garage or basement. Internal combustion engines produce deadly carbon monoxide gas.

- Fill the generator with clean, fresh, unleaded gasoline in a well-ventilated area while it is turned off. Keep the fuel 2 inches below the top of the fuel tank to allow expansion in hot weather and prevent overflow.

- Use the correct amount and type of oil. Refer to the engine manual. Always check the oil level prior to starting.

- Allow the generator to run about two minutes before plugging in extension cords, appliances or equipment. This allows it to reach a proper operating temperature and a constant voltage. Do not start a generator with items already plugged in.

- Start items from the largest power usage to the smallest. Keep in mind many items—especially ones with electric motors, such as sump pumps, furnace fans and air conditioners—require a surge of power to get them started.

- To avoid the possibility of a voltage surge, unplug all cords in the reverse order in which they were plugged in (smallest to largest power user), then wait about two minutes before you shut down the generator. ■

Standby Generators Offer Convenience, Security

If you want the convenience, security and comfort of a generator, but do not want to venture out in inclement weather to get it started, you might want to consider getting an emergency standby generator.

These personal power plants supply electricity to most of your house, not just to a few selected circuits. The all-weather generators are installed outside like a central air conditioner, and are wired through an automatic transfer switch to the main electrical panel. The units run on natural gas, propane or diesel fuel.

When the power goes out, there is a delay of 15 to 20 seconds, then the generator automatically kicks on and continues running until power is restored. Then, it automatically shuts off.

The smallest emergency backup power plant offers 8.5 kilowatts of power. The system can be professionally installed for around \$5,000, depending on the complexity of the installation.

Because these generators operate at variable speeds depending on the amount of electricity needed, they run quieter, use less fuel and are more environmentally friendly than traditional generators.