

Hurricanes, tornadoes, thunderstorms, high winds...all of these severe weather conditions can damage the electrical distribution system that serves your home or business and cause temporary power outages.

In the event of an outage, standby generators can be a convenient source of energy for your home or business. They can also be extremely dangerous. Improper use or installation of a standby generator can cause property damage, serious injury – even death. Even small, portable electric generators can threaten your safety, as well as the safety of utility company linemen who might be working on the electrical system.

Before purchasing a generator, please consider how you will be using it. Doing so will help you ensure that you are buying a generator that is correctly sized for the application you have in mind. It is very important that you read and follow the safety instructions contained in every generator operations manual. You will also want to read the information contained in this brochure. It will familiarize you with different types of generators and provide you with important safety tips.

Fixed Generators

This type of residential standby generator system consists of a generator and an automatic transfer switch. The system monitors your utility power and immediately starts the generator during power failure. When power has been restored, the switch shuts down the generator and shifts your home back to utility power. Most residential standby generators are powered by natural gas or liquid propane, fuels that can be piped directly to the unit if you are already using them as fuel for your home. Residential units range in power from 8.5 to 22 kilowatts, though

11 kilowatts is about all an average home will ever need. Prior to installing a fixed generator, an electrical permit must be obtained from the local jurisdiction in which the property is located.

Portable Generators

A less expensive option is the portable generator. It must be started manually and requires refueling with gasoline every few hours during use. Portable generators are designed to supply electricity to appliances that have cords attached to them. Lights and small appliances can be plugged directly into the outlets on the generator. Typically, portable generators are not designed to be connected to your home or building wiring.

Backfeed Safety

Improperly connecting a standby generator to the electrical system of your home or business can produce backfeed, an extremely dangerous current that flows back out into the utility system. Backfeed into power lines can create “hot” power lines during an outage, and pose a serious hazard to utility repair personnel and possibly your neighbors. Utility linemen who expect certain power lines to be de-energized could be electrocuted. One good way to avoid backfeeding is to have a qualified, licensed electrical contractor install a double pole, double throw transfer switch.

If you own and operate a backup generator, you are responsible for ensuring that its power cannot backfeed into the utility system. In some localities, it is actually against the law to connect a fixed or portable generator to another power source.

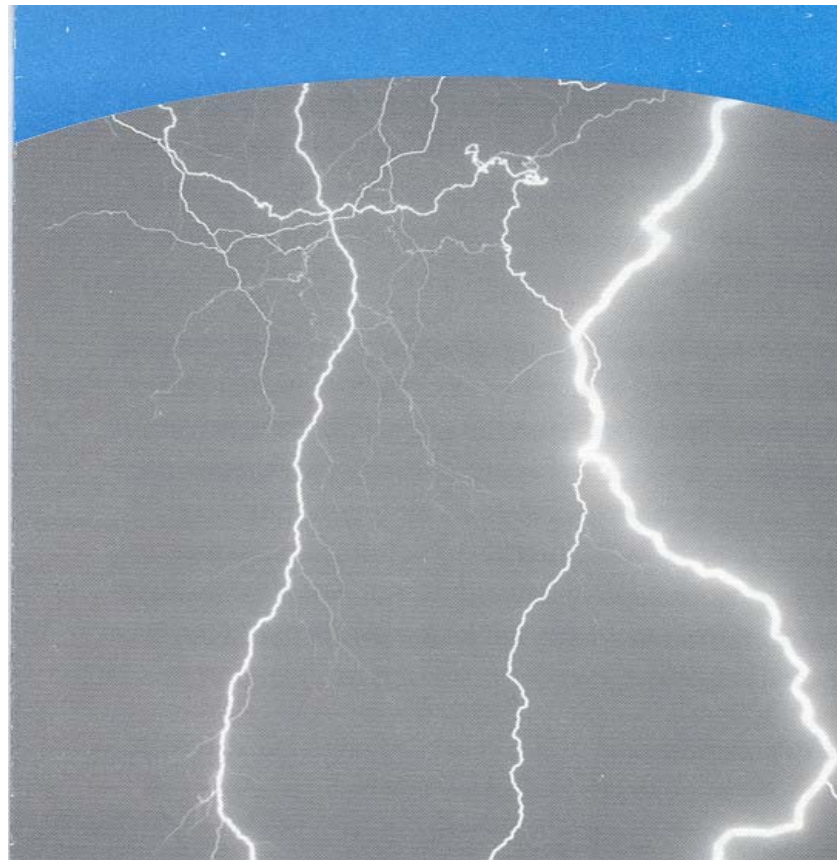
General Safety Tips

- Never attempt to connect a portable generator to a building's wiring – just use properly sized extension cords.
- If your backup power source is designed to connect to a building's wiring, you must have it installed by a qualified, licensed electrical contractor.
- Never attempt to install a disconnect and transfer switch to your home electrical system by yourself – it is extremely dangerous! This work must be performed by a qualified, licensed electrical contractor.
- Never use portable generators inside your home, garage, basement or other enclosed areas. Deadly exhaust fumes, heat, noise, and risk of fire or carbon monoxide poisoning require that they only be used outdoors.
- Never operate a portable generator in flooded areas – water and electric generators make a deadly combination. Make sure that your hands are dry and that you and the generator are standing on a dry surface.
- Never fuel a generator when it is running.
- Always have a fully charged, approved fire extinguisher located near the generator.
- Keep children away from generators at all times.
- Always store gasoline in approved containers.

For additional information about Charleston County Project Impact, call (843) 202-6940.

A Note to Electrical Contractors

In accordance with the National Electric Code, paragraph 700-6: "Transfer equipment shall be designed and installed to prevent the inadvertent interconnection of normal and emergency sources of supply in any operation of the transfer equipment. Automatic transfer switches shall be electrically operated and mechanically held." The transfer switch must be a break-before-make switch, which will "break" the electrical connection with commercial power lines before it "makes" the connection between the generator and wiring. The switch will also prevent utility power from damaging the generator when regular service is restored. Make sure the transfer switch is rated at the same or greater than the main overcurrent protection.



STANDBY GENERATOR SAFETY

Charleston County, SC

PROJECT
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Building a Disaster-Resistant Community

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