



Important information concerning the safety & operation of generators

The power outages caused by hurricane have created a lot of interest in generators among a number of families in North Florida. If you are shopping for a generator or have already purchased one, please keep the following information in mind:

Safety

First, it is extremely important to follow all the instructions provided by the manufacturer of the generator.

Second, an improperly connected generator can create an extremely dangerous situation because it can back feed electricity into Clay Electric's distribution system. This situation could result in serious injury or death to an unsuspecting co-op lineman, a neighbor or family member. Also, never operate a generator inside an enclosed area. Carbon monoxide gases produced by a gasoline or propane engine can also cause death. Generators should be operated in well ventilated areas, a minimum of 10 feet from operable windows and doors.

A Word of Caution: Residential portable generators are not designed to be operated continuously. We recommend running a generator during emergency situations for a few hours then shutting it off for a short period of time. This helps conserve gas/propane since they may not be readily available for the first few days after a major storm. Never leave a generator running when the home is unoccupied. Also, portable generators should be run for 10 minutes monthly to prevent stagnant gas from gumming up the carburetor.

About Generators

There are two basic types of generators: (1) Portable and (2) Standby.

Portable generators are designed to supply auxiliary power to specific appliances/equipment using extension cords. Most portable generators are mobile, gasoline fueled and electric or manually started. They may cost from \$500 to \$2,000 or more.

Choosing the size of the generator (watts) for your home should be determined after deciding which appliances/equipment you want powered during emergency situations. The rated wattage of portable generators is from 1,500 to 15,000 watts. See the appliance usage chart on back to help you determine the total amount of watts you may need.

The extension cords used with a portable generator also should be properly sized to handle the electrical requirements of the appliance.

A double-throw transfer switch can be used to permanently connect a portable generator to a specific electrical circuit (water pump, for example) but a licensed electrician should install the double-throw switch.

Stand-by generators are designed to be hard-wired to the home's electrical system. They automatically operate when there is a power interruption and they shut off when the utility power is restored. They are powered by LP, natural gas, diesel or gasoline and they should be installed by a licensed electrician. The installed cost of standby generators may range from \$3,000 to \$10,000. The wattage ranges from about 5,000 to 25,000 watts for residential use.

Similar to the portable generator, the size (watts) of the generator determines the number of appliances/equipment you can safely operate at one time. Remember, any appliance/equipment with a motor or compressor will draw more current during start-up than during normal run time.

The start-up of these motor/compressor loads must be considered when sizing a generator for your needs.

Standby generators use a transfer switch designed to connect certain electrical circuits within a home to the generator. You must determine which electrical circuits you want to be supplied with auxiliary power. A licensed electrician should install the transfer switch. The standard transfer switch costs between \$300 and \$500 and has the capability of connecting 6 to 12 circuits to the generator.

Transfer switches are rated at 30 amperes, 50 amperes and larger. A 7,500 watt generator will accommodate a 30 amperes transfer switch, while a 15,000 watt generator will accommodate a 50 amperes switch. There are transfer switches available up to 200 amperes.

A new type of switch now available for portable generators is the “meter based” transfer switch. It costs between \$600 and \$800. The meter based transfer switch allows operation of any circuits in the home up to the capacity of the switch and generator.

See the below Appliance Usage Guide to estimate the power requirements of various appliances/equipment. This will help you determine the size of generator you may want to purchase.

Appliance/Equipment	Running Watts (avg.)	Starting Watts (avg.)
Water Pump 1/2 HP	1000	3000
Water Pump 3/4 HP	1500	4500
Sump Pump	1000	3000
Refrigerator	750	1500
Freezer	500	1000
Microwave	600-1500	
Lights	40-200	
Television	150-400	
Radio	15	
Oscillating Fan	50-100	
Water Heater	4500	
Coffee Maker	750-1200	
Toaster Oven	1100	
8000 BTU AC (window unit)	1000	3000
3 Ton A/C or Heat Pump	6000	32,400
Garage Door opener	500	
Computer	120	
Fax Machine	50-1000	
Home Security System	24	

This appliance usage guide is the estimated average usage of electrical equipment. Generators have to be sized large enough to handle the starting wattage of motorized equipment.

A 5,000 watt generator will handle the operation of appliances listed at left with the exception of the 3 ton A/C or heat pump. All appliances can't be in operation simultaneously but you can control the sequence of operating time.

Remember, we are operating under emergency conditions. It's more economical to purchase a small window A/C to provide comfort in one room than to purchase a generator large enough to power a whole house (central A/C) system.

How should I maintain the generator when not in use?

If left to sit in engines for long periods of time, ethanol-added gasoline can corrode parts of the engine, causing seals to deteriorate and fuel injector jets to become clogged. However, if you drain the gas and leave the engine empty, the o-rings can dry out and cause the gas tank to leak. To avoid seal corrosion and clogging, use a fuel stabilizer and run your generator monthly for 10 minutes.

