



Your Touchstone Energy® Partner

**Got a suggestion for a story in a future issue of Kilowatt?**

**Call Lisa at 1-888-832-3362**

## ENERGY TIPS

**Set your air conditioner thermostat to 78°F or higher “health permitting” when you’re at home.**

**Set your air conditioner thermostat at 85°F (or turn it off), when you’re away from home.**

### KILOWATT

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## Kiwash Electric Cooperative Offers New Weather Package

Instant weather information, specific alerts for your location, interactive radar screen to pinpoint and track storm movement, plus pertinent information from your local school administrator is delivered directly to your desktop. It's yours for the asking and to make the best better – it's completely free.

The Touchstone Energy® Cooperatives of Oklahoma are announcing a new weather package to their members and non-members alike. This unique tool takes Co-op communications and the Touchstone Energy Brand to a whole new level.

By simply using your computer and Internet connection you can download the application. Go to Kiwash Electric Cooperative's website at [www.kiwash.coop](http://www.kiwash.coop). Simple download instructions are provided by completing an online registration form consisting of eight questions: First and last name, email address, city, zip, co-op affiliation, school affiliation and are you a co-op member. With just the click of a few keys the application is downloaded to your desktop and you are ready to start using the various features offered.

After downloading, the Co-op Cast icon is shown on the bottom right of your computer screen. You will immediately be able to view the local weather radar information in your area and receive alerts for inclement weather directly to your desktop. As an added bonus, you will receive text messages concerning important information from your local school. In addition, users will be able to link to the Co-op Connections website where members can identify great money-saving discounts from local, regional and national businesses that are available to Co-op member's compliments of their Connections Card Program.

The fact that local schools will be able to use this communications tool to convey information such as school closings, athletic events, parent-teacher meetings, etc. should prove to be a valuable asset to students, parents, teachers and administrators. These timely bits of info sent directly from school administrators will automatically scroll across the bottom of your computer screen. **This is an effective way to communicate timely information to students and their parents. Co-op Cast provides us a wonderful tool to accomplish just that. And, it's free.**

One of the major differences between this weather package and others offered online is that your local electric cooperative is controlling the content and communications directed through this application. In this way, SPAM, and other undesirable features typically accompanying similar services will be minimized.



Kiwash Electric Cooperative is proud to partner with schools in your area to offer this unique weather and communications tool. Co-op Cast is a program that once again affirms the value of Oklahoma's Touchstone Energy® Cooperatives.



Manager's Monologue  
Dennis Krueger



### Transformers 101

The often asked question is, "Why do we have a higher monthly minimum charge on accounts that serve fence chargers, cattle water wells and/or remote barns than we do on residential accounts? To answer this question, please allow us to give you a quick course on Transformers.

Transformers serve an important role in electrical distribution. Because transmitting electricity at low voltages can be very costly, Kiwash distributes electricity over long distances using higher voltages. The high voltage is reduced using the transformer; thus making it usable for your home, business and even the fence charger.

Transformers do not convert 100% of the energy input to usable energy. The difference between energy input and the usable output is quantified in losses. In the simplest terms, there are two components to transformer losses: 1. core losses and 2. coil losses. The core losses are constant, regardless of the load placed on the transformer. They continue to waste energy as long as the transformer is energized; however, different size of transformers will vary in their loss ratios. For this exercise, we have chosen a typical 10 kVa transformer to demonstrate our point and we will conduct this exercise using only the core loss, we will ignore the coil losses at this time.

The typical core energy loss of a 10 kVa transformer is 40 watts per hour. A 10 kVa transformer core loss is equivalent to running a 40 watt light bulb continuously and, again, we state the larger the transformer size the larger the core loss and vice versa.

Kiwash has about 2,450 such minimum use transformers or 41% of Kiwash's meters are serving unoccupied farms (cattle water wells, fencer chargers or barns) in its service territory. These are electric meters that might produce a little electricity throughout the year; but consistently show zero (0) kWh sales in a typical month. For simplicity, let's assume all of these transformers are 10 kVa.

Our calculations would be as follows: 40 watts per hour divided by 1000 kilowatts equal = .04 kWh used per hour times 24 hours in the day times 365 days a year times the electric rate of \$0.09 = \$31.54 in core losses per transformer per year. Now multiply the dollars (cost) of energy losses at one transformer (\$31.54) times the 2,450 minimum use transformers on Kiwash's system. In energy losses alone, it cost Kiwash \$77,273.00 to keep these transformers in service every year.

Our calculations are not over... Now add the cost of this transformer, which happens to about \$1,100, plus regular line maintenance charges to keep the account active and the electricity flowing properly, energy losses on line and transformer coils, repair charges for weather related outages, and other associated charges for operating Kiwash. The bottom line indicates that it costs the cooperative just as much to maintain a low energy usage account as it does a high energy usage account; however, all we receive from the minimum use account is a monthly charge with little or no energy income to offset the other associated costs.

It's the cooperative-way not to subsidize one electric rate with another electric rate so the minimum charge has been set accordingly. It cost Kiwash, in 2006, over \$11.5 million dollars to purchase power while properly maintaining and operating your electric distribution system to meet or exceed your expectations. We hope that this explanation will answer some of your questions.

## Energy Improvements Grants and Loans

USDA Rural Development has a program for agricultural producers and rural small businesses that will assist Kiwash members in upgrading equipment that results in significant reduction in energy use. Typical loan and grant uses could be upgrading irrigation/pumping wells from propane, diesel, or natural gas to energy efficient electric pumps for agricultural producers or small oil and gas producers. Small rural businesses could consider upgrades for office/warehouses with improvements such as heating and air conditioning units, lighting controls or new design, insulated windows, building insulation and so forth.

It is a competitive loan application based on federal allocation of funds and USDA is quick to point out that a combined loan and grant application will be more competitive than a straight grant request. However, the USDA Stillwater office can better answer those questions by contacting Jody Harris at (405) 742-1060 and all loan application are processed by the Stillwater office.

The new program guidelines and application process will be out in early March and first round application dates will probably be set in May. Some key provisions of previous applications are:

Applicants may qualify for a grant, a guaranteed loan, or a combination of both.

Grant request must not exceed 25 percent of the eligible cost with energy efficiency grants ranging from \$1,500 to \$250,000.

Loan guarantees can be up to 50% of total eligible project costs and can range from \$5,000 to \$10,000,000 per project.

Additional information, guidelines and application criteria can be found at [www.rurdev.usda.gov/rbs/farmbill/what\\_is.html](http://www.rurdev.usda.gov/rbs/farmbill/what_is.html)

The USDA anticipates that this program will reduce energy consumption and help the nation meet its energy needs. Kiwash believes a natural gas driven oil & gas pumping load could find up to an 18% energy savings if it is converted to an electric driven engine.

# How to Operate A Generator Safely

You can use a generator to supply electricity to your appliances if an emergency exists during a power outage. But if used improperly, they can harm you and the people who are restoring power to your home or business. Generator sizes vary. Common units can be from 8 to 14 horsepower and capable of handling from 4,000 to 8,400 watts.

Connecting a generator to the main electrical supply for your house requires the services of a qualified, licensed electrician. Before connecting the generator to your household circuit, notify Kiwash Electric Cooperative.

## Selecting a Generator

**Determine the “constant wattage.”** When you use a portable generator, you can only operate a limited number of appliances and lights. Determine what items you need to operate and add up that wattage. That total is your “constant” wattage” – the energy you will constantly need to keep the selected items running

**Determine the “start-up wattage.”** Motor-driven appliances, such as refrigerators, freezers, air conditioners and furnace blowers require up to three times their normal wattage to start or to periodically cycle a compressor. Choose a generator that meets or exceeds your “constant wattage” needs and that also has a surge rating that meets or exceeds your “start-up wattage” needs.

**Match voltage ratings.** The generator’s voltage rating must also match the voltage ratings of the items you want to operate. Portable generators may be rated for 120 volts only or a combination of 120 and 240 volts. Most household appliances are rated at 120 volts. Some larger electric appliances, such as ranges, dryers and well pumps, are rated at 240 volts. These appliances cannot be operated on a 120-volt generator.

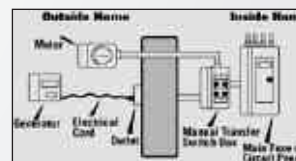
## Connecting a Generator

**Get some expert advice.** If you purchase a generator, have a qualified electrician properly size and install it. If you install the generator yourself, have a local electrical inspector check the installation for compliance with safety codes. A permit may be required for installation. If you’re renting a generator for temporary use, choose equipment that is properly sized for your needs and that comes with complete operating instructions.

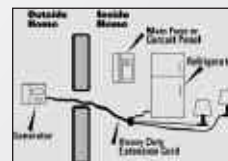
**Prevent back feed.** Back feed occurs when an improperly connected generator begins feeding electricity back into the power lines. Protect repair crews and your neighbors. Back feed can seriously injure, or even kill. It can also cause damage to the generator when electric service is restored.

To prevent back feed and operate your generator safely, we recommend you use one of the following hookup methods:

**Use a transfer switch.** Have a qualified electrician install a transfer switch. This is the best way to protect you, your neighbors and our repair crews from back feed. The transfer switch closes the path of electricity between our lines and your main electrical panel and opens the path between the generator and the panel.



**Use a direct hookup.** If you do not install a transfer switch, plug the appliances you want to operate directly into the generator. For an extra measure of safety, switch your main fuses or circuit breakers to the “off” position.



For everyone’s safety, remember....

Comply with all manufacturers’ suggested safety procedures.

Call Kiwash to remove your electric meter.

1. Connection of a generator should not take place at the meter socket.

## Operating a Generator

**Read all instructions.** Be sure you understand them before hooking up the generator. Follow the manufacturer’s instructions to properly ground the generator.

*see next page*

*continued from previous page*

**Maintain adequate ventilation.** Generators emit carbon monoxide. Never operate a generator in your home, garage or other enclosed building. Place it in a dry, outside location.

**Handle fuel carefully.** Turn the generator off to refuel. Gasoline and its vapors may ignite if they come in contact with hot components or an electrical spark. Store fuel in a properly designed container in a secure location.

**Water conducts electricity.** Avoid dangerous electric shocks. Make sure that your hands are dry and you're standing in a dry place whenever you operate the generator.

**Protect your appliances.** Turn off or disconnect all appliances and lights before you begin operating the portable generator. Once the generator is running, turn your appliances and lights on one at a time to avoid overloading the unit.

**Share the power.** If your electric load is greater than your generator's capacity, temporarily disconnect some appliances and lights and connect others. This shared approach may help maintain temperatures in freezers and refrigerators while alternately operating sump pumps or furnaces until power is restored.

**Use the right extension cord.** Use only UL-listed, three-prong extension cords. Be sure the extension cord is the proper size (wire-gauge) to handle the electric load that will be plugged into it.

### **When Power is Restored**

If you hooked up your generator using a transfer switch, shut the generator off in accordance with the manufacturer's instructions. Then turn the transfer switch off to resume normal power supply from our lines. If you have used a direct hookup, first turn off or unplug all lights and appliances operated by the portable generator. Next, disconnect the generator in accordance with the manufacturer's instructions. Return the main fuses or circuit breakers to the normal "on" position. Finally, plug in and turn on your lights and appliances.

\*Appliance wattages vary. These figures represent averages only.

\*\*Allow up to three times the normal running watts for starting these appliances or cycling their compressors.

### **General Safety Rules**

- \* Cover all generator openings with wire mesh to exclude rodent entry and potential damage. Keep these openings free of debris that might restrict the cooling of the unit.
- \* Keep all guards and shields in place to protect the operator from moving parts.
- \* Tractor-driven units – always turn off the tractor and PTO control to service the generator. Set the tractor brake before starting the generator.
- \* Never run a generator in a basement or other enclosed area. Fumes that are not easily detected can be lethal to sleeping occupants and others.
- \* Never shut-off the generator under load.
- \* Use extreme care under wet conditions. Making your body a path to ground can cause a fatal shock.
- \* Never store fuel near the generator, unless a proper container or fuel tank is used.
- \* Never re-fuel a generator when hot or while the engine is running.



**KILOWATT**  
To report the events in your community, or for more information, call Kiwash Electric Cooperative.  
**1-888-832-3362**