Remember safety with standby generators on the farm

Sources: Morgan Hayes, UK assistant extension professor in Biosystems and Agricultural Engineering; National Fire Protection Association, American Red Cross, Centers for Disease Control and Prevention

Standby generators provide emergency electrical power during disruptions caused by winter storms and other disasters. However, you need to take some special precautions to ensure safe, efficient operation of these generators.

Purchase a generator that will supply more than what you need, so you don’t blow a fuse or damage the equipment you attach to the generator. You will find power information on the labels of appliances, lighting and other equipment. The wattage on a light bulb indicates the amount of power it needs. The University of Kentucky provides a webtool with instruction to assist in sizing your generator for home or farm. It is available at <https://www.uky.edu/bae/generator>.

The main hazards of using a generator are carbon monoxide poisoning, electric shock and fire. There are some precautions you can take to make sure you don’t have a mishap.

Use a double-throw type transfer switch if you’re connecting a standby generator directly to an existing electrical wiring system to provide power for a home, farm or small business. A double-throw switch allows you to place the switch into two different positions.

One position feeds normal power from the utility line to the load, such as the household or building circuit, just like the power flows under normal circumstances. In the other position, it disconnects the utility line and feeds power from the standby generator to the household or building circuit.

Remember, anytime a standby generator is wired or directly connected into a household or building wiring system, a transfer switch must be used for the connection. Many new ‘smart’ controllers detect power outages, automatically throw this switch between power sources and manage the startup of circuits when the generator takes over the power supply.

A double-throw type transfer switch is required by the National Electric Code and by electric utility companies for two very good reasons. First, it prevents power backflow from the standby generator through the utility power line. This prevents possible electrocution of utility linemen working to restore service to the power lines. Second, it prevents damage to the standby generator when electrical service is restored.

You won’t need to use a double-throw type transfer switch if you’re plugging individual appliances like a refrigerator, freezer, sump pump or power tools directly into a small portable generator. However, you should never plug one of these portable generators to backfeed power through a wall outlet onto a circuit.

These are some more safety considerations to remember when using standby generators:

Ground the generator using No. 6 copper wire and an 8-foot ground rod that is properly bonded to the electrical grounding system.

To avoid the possibility of carbon monoxide poisoning, never operate a standby generator in a basement, garage, other enclosed area or near windows or doors that may provide air into living spaces. Use battery-operated carbon monoxide detectors, and if you start to feel sick, dizzy or weak while using a generator, get fresh air right away.

Use extreme caution when operating the generator in wet conditions.

Use only approved containers to store fuel. Never refill fuel when the generator is running or while the engine is hot; always allow ample time for it to cool down first.

Do not shut off the generator under load.

For more information on transfer switches and other necessary measures for safe installation and use of standby generators, contact your local electric utility company or a qualified electrician. The (COUNTY NAME) office of the University of Kentucky Cooperative Extension Service also has information on safety practices around the home, farm and business.

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