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PRESS RELEASE

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STANDBY GENERATORS

Don't forget to keep them in operating condition.

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Standby generators play a key role in maintaining critical farm operations when weather or other circumstances cause electrical power outages.

Because they're a temporary power source, it may be easy to overlook basic maintenance activities related to standby generators. However, the last thing anyone wants to experience in an emergency is failure of the power source they're counting on.

"A generator owner's manual provides model-specific instructions for maintaining the machine," Aaron Yoder, Associate Professor at the University of Nebraska Medical Center (UNMC) College of Public Health, Department of Environmental, Agricultural and Occupational Health, says. "As with most equipment like this, maintenance is critical to both the operation and life span of the generator. Even though a generator is typically used occasionally, you want to ensure that it's in good running condition all the time."

If there's no access to an operator's manual for an older generator, a manual may be obtained online, through the equipment manufacturer, or a company that manufactures similar/same generators.

"Sometimes, the company who installs the generator may be able to assist in locating a manual," Yoder says.

Generally, a generator's manual will contain a maintenance checklist and timeline for completing maintenance tasks. Usually, starting a generator every 30 days to ensure it's in running condition will give owners an opportunity to address any operation issues.

“If you know there’s a potential storm or adverse conditions on the near horizon, it’s a good practice to start the generator before the event and check it over,” Yoder says. “During seasons when power outages are rare, you may be able to stretch maintenance timelines.”

Keeping the generator clean requires checking any area where dirt, dust, or rodents might invade the generator.

“If a mouse or a bird builds a nest in the exhaust or air intake, there’s a risk of causing a fire if the generator gets hot during operation,” Yoder says. “The last thing you want during an emergency is fire in your generator.”

Inspecting the generator switch for dust and dirt can help avoid development of stray voltage or electrical malfunction. The inspection should be completed by a certified electrician or the generator supplier.

Propane is often the fuel of choice for a standby generator unless a supply of natural gas is available. Diesel fuel is commonly used for a portable generator. Using gasoline to power a generator adds a significant safety risk since it could result in an explosion if the fuel came in contact with any part of the generator that’s hot.

“Your fuel supplier should be able to outline the risks related to use of their fuel,” Yoder says. “They may have information specific to safely using the fuel for a generator.”

One key safety element when using a generator, regardless of the way it’s fueled, is ensuring that the generator is used in a well-vented, open area so exhaust buildup doesn’t occur. It’s common to place a generator within some type of structure to keep rain, snow, etc. off from it. It’s critical to make sure that the area is well ventilated because the carbon monoxide generated by the equipment is odorless and can be deadly when significant amounts are inhaled by any living being.

The National Ag Safety Database (NASD) recommends that:

- Large engine generators should be located in a building, preferably a heated building.
- Inlet and outlet air ducts must be large enough to carry off excess heat. They should be open at least a half a square foot for each 1,000 watts of generator capacity.
- Combustion fumes must be carried outdoors safely. Exhaust pipes must be at least six inches from combustible material.

If a producer elects to install a generator by themselves, it must be inspected by a qualified electrician to ensure that the electrical current it produces is appropriately directed to the proper location.

“You need a thorough understanding of the electric circuits the generator is connected to,” Yoder says. “This prevents having that power sent to the wrong place or back through the electrical grid. The best practice is to hire a certified electrician, but at the very least, have an electrician inspect the work once it’s completed. No one wants to create an electrocution hazard when they use their generator.”

Testing the generator once it’s installed and completing an inspection for stray voltage or any other electrical issue will help ensure the equipment is ready for use when it’s needed.

When it’s time to replace a generator or purchase one for the first time, some considerations in selecting the appropriate model include buying one that has the capacity to handle the necessary power.

“Using a generator that doesn’t supply adequate power could lead to overheating the equipment and result in a fire,” Yoder says. “If you buy the equipment through an exchange

marketplace, double check the generator specifications to make sure it's the right size for your operation."

A full-load system will power the entire farmstead. Automatic engine-powered, full-load systems will begin furnishing power immediately, or up to 30 seconds after the power goes off. Power-take-off (PTO) systems cost about half as much as an engine-operated unit.

Other aspects of using a generator include recognizing that liquid fuels may come with use issues during severely cold weather. A generator that features an auto-start option will eliminate the need to be out in adverse weather conditions to get the generator going.

"Most of those conveniences cost more, but those features, such as auto-start, may be well worth the extra investment," Yoder says. "Consider how noisy the generator is while it's running. If you're using it in an area where you often work, the noise could lead to noise-induced hearing loss or simply be a nuisance if you have to listen to it very long."

According to the NASD, when a power supply fails, take these steps:

- Contact your power supplier to advise them of the conditions.
- Turn off or disconnect all electrical equipment.
- Start the unit and bring it up to proper speed. Check on exhaust conditions and ensure that there's no danger of fire. The voltmeter will indicate when the generator is ready to carry the load.
- Put the transfer switch in the generator position.
- Frequently check the voltmeter. If voltage falls below 200 volts for 240 volt service or below 100 volts for 120 volt service, reduce the load by turning off some electrical equipment.
- When commercial power is restored, put the transfer switch in normal power position, then stop the standby unit.

"A standby generator is a wise investment because it could prevent costly losses during a power failure," Yoder says. "As with any other agricultural equipment, know how to safely operate and maintain the equipment so it functions properly, and you and your family are safe at the end of the day."

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