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U.S.

# What to Know as Hurricane Sally Nears: Dangers and Realities of Portable Generators

The devices help people survive the loss of electricity but can prove deadly if used improperly; here's how to protect yourself



Makers of portable generators suggest that users plan ahead and learn how to use the machines safely before a storm or power outage hits.

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By [Matt Grossman](#)

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As another menacing storm approaches the U.S., threatening strong winds and the potential loss of electricity, a quiet yet deadly danger also emerges: carbon-monoxide gas from the use of portable generators.

When people lose power after a hurricane or other natural disaster, many fire up fuel-burning portable generators for electricity. But if the machines are improperly used inside or near homes, their emissions can poison the air indoors.

After Hurricane Laura hit the Gulf Coast last month, generators led to at least eight deaths in Louisiana, a significant portion of the state's total death toll from the storm. Three people also died from a generator accident in Port Arthur, Texas, when they got carbon-monoxide poisoning at a pool hall where they were sheltering.

Portable generators can be invaluable during blackouts and natural disasters: Many of Louisiana's other fatalities from Hurricane Laura were people who died from heat-related illness amid a lack of electricity and air conditioning. But generators come with risks if not used properly. With Hurricane Sally advancing to the Gulf Coast of Louisiana, here is what health experts and manufacturers say you should know about the machines.

### **How can generators cause carbon-monoxide poisoning?**

Nearly any form of combustion, from car engines to cigarettes, releases carbon-monoxide gas, or CO, as a byproduct—including portable generators, says Jeremy Finkelstein, an emergency-room doctor at the Houston Methodist hospital system. When someone turns on a generator indoors, CO builds up quickly and can sicken an entire household in minutes to hours, depending on the concentration. Incidents in the South frequently follow hurricanes, Dr. Finkelstein says, when people use portable generators to power fans and air conditioners at night during power outages. Asleep, victims may not notice feeling sick before the odorless gas has severely depleted the blood's ability to carry oxygen. Many victims never wake up.

### **How common is the problem?**

Between 2009 and 2019, there were 686 carbon-monoxide fatalities caused by portable generators, according to the Consumer Product Safety Commission. Three-quarters of carbon-monoxide deaths from engine tools such as generators occurred in homes, the commission says. Fred M. Henretig, an emergency-room doctor and toxicologist who practiced at the Children's Hospital of Philadelphia, says the hospital's poison-control center has seen surges of CO patients after hurricanes, blizzards and other storms. "Carbon-monoxide poisoning has been around since they invented internal-combustion engines, and probably before that," Dr. Henretig says.

### **What are the effects of carbon-monoxide poisoning?**

Carbon monoxide binds to hemoglobin, the part of the blood that normally transports oxygen, Dr. Finkelstein says. People with CO poisoning can develop a range of symptoms, which could turn fatal depending on their underlying health and the severity of the

exposure. Healthy adults might feel like they have the flu, with headache, nausea and “feeling blah,” Dr. Henretig says. Young children or the elderly might face more severe effects, such as seizures in children or heart attacks in older people. CO patients are treated with high-flow oxygen at hospitals. In severe cases, they may be placed in hyperbaric oxygen chambers.

### **What should people do to stay safe?**

You should only use portable generators outside, away from windows and vents, and keep them 25 feet away from the house, Dr. Henretig says. The CPSC recommends that people place carbon-monoxide alarms on each level of their home and near each sleeping area. Without such alarms, many people with CO poisoning don’t guess right away why they are feeling sick, Dr. Finkelstein says. A good clue is when multiple household members become ill at once. Because symptoms are similar to those of the flu or even Covid-19, diagnosis can be a challenge.

### **How do manufacturers warn people about hazards?**

Nine companies that make generators have formed a trade group, the Portable Generator Manufacturers’ Association, to boost awareness of generator safety and set industry standards. The group runs public-service ads during September, which the Department of Homeland Security calls National Preparedness Month, to warn about CO poisoning, and the member companies put warnings on product boxes and in manuals, says Greg Wischstadt, PGMA’s president and an engineering executive at Generac Power Systems Inc. PGMA tells users to plan ahead for storms and learn how to use the machines safely before an outage hits, including obtaining the proper wiring and perhaps a canopy to keep the machine dry while it is running outside. “You’re in a state of panic when an outage occurs,” Mr. Wischstadt says. “You don’t think about all of this, unfortunately, ahead of time.”

### **Are some generators safer than others?**

There are two sets of voluntary standards for improved generator safety, according to the CPSC. Both require generators to shut off automatically when the machine detects that carbon monoxide is building up in the nearby air. The CPSC advises people who are looking for increased CO safety to shop for generators that meet either the PGMA G300 standard or the UL 2201 standard, a spokeswoman for the commission says. Look for a marking on the box.

## Will manufacturers be held liable for injuries or deaths?

Liability may depend on how well a manufacturer has warned customers about the hazard. It is a good idea all around for companies to include prominent warnings in their manuals and add placards to the machines themselves, says Jim Heller, chairman of the product-liability group at law firm Cozen O'Connor. If they don't, consumers may successfully argue in court that they weren't aware of the danger, Mr. Heller says, noting that much litigation of this sort ends with a settlement. PGMA's G300 standard includes a requirement that there is a prominent graphical and text label warning about the danger of carbon monoxide on product boxes and on generators themselves, according to specifications the group published in 2018.

Write to Matt Grossman at [matt.grossman@wsj.com](mailto:matt.grossman@wsj.com)

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