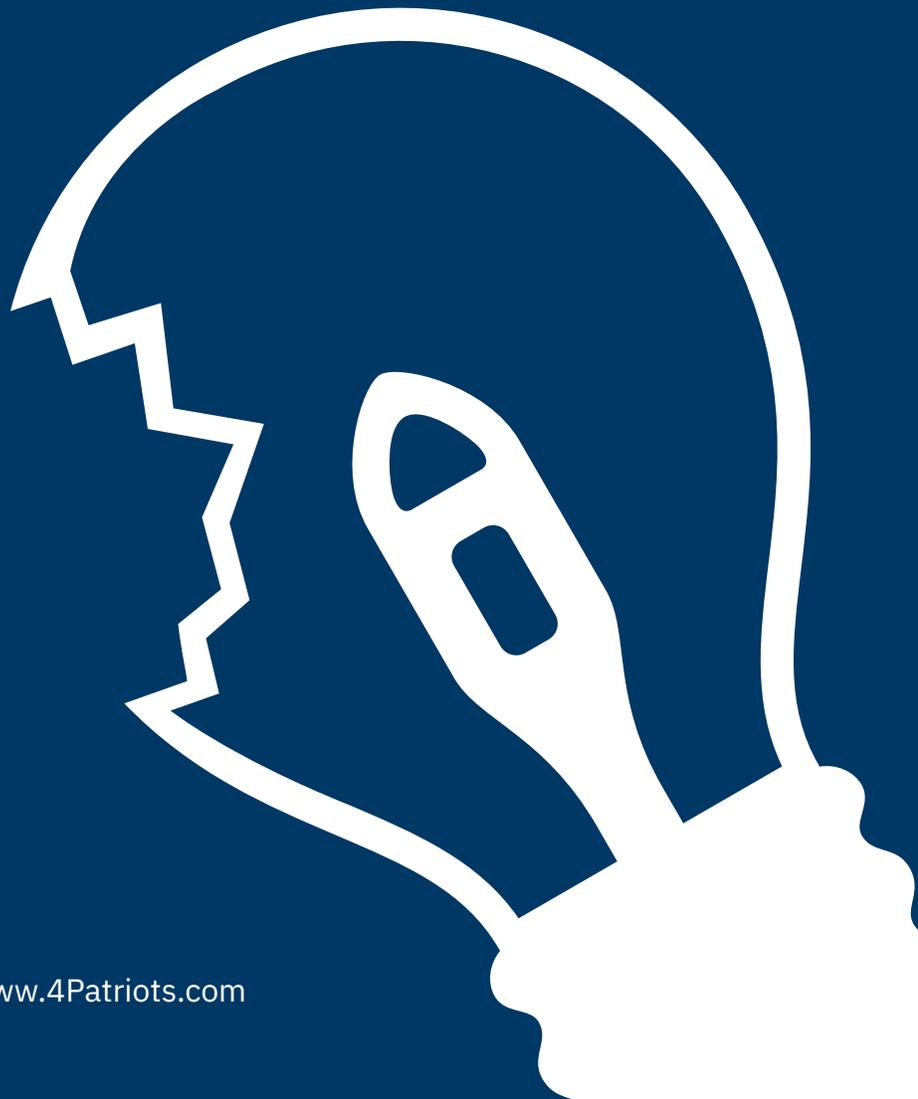


# THE BLACKOUT RESPONSE GUIDE

Proven Ways to Deal with Untimely Power Outages



**4 Patriots**



# BLACKOUT RESPONSE GUIDE

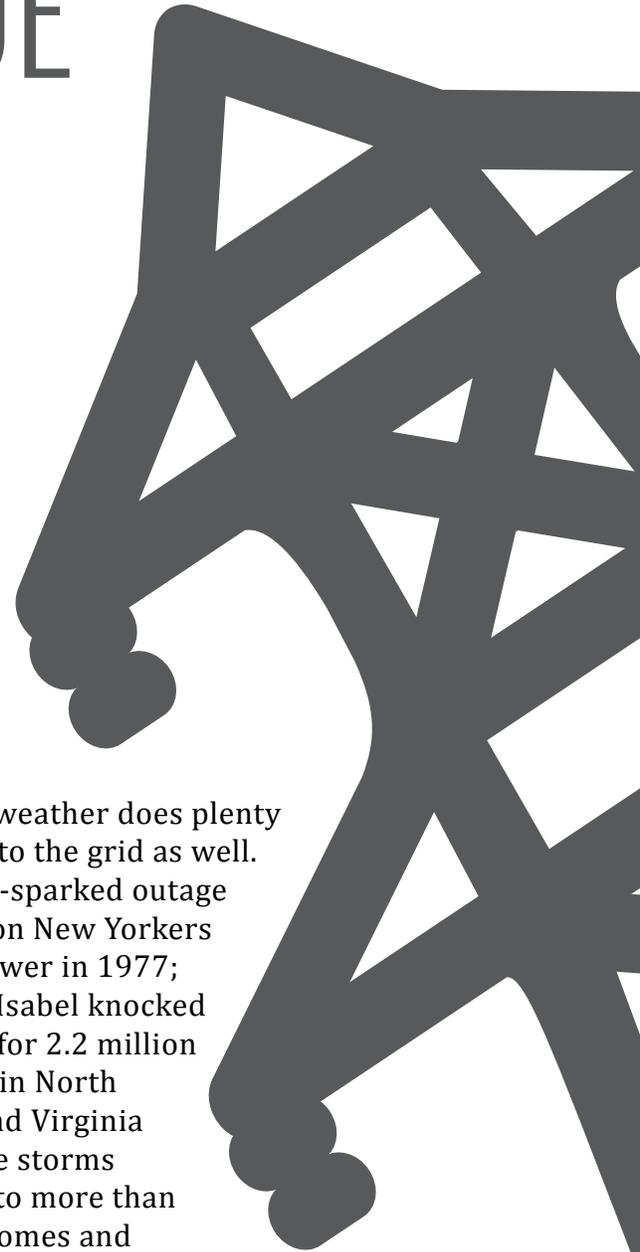
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## INTRODUCTION

On August 14, 2003, more than 50 million people were left without power in the Northeast and Midwest U.S., as well as in parts of Canada. This largest blackout in North American history was not caused by a super storm such as Katrina or Sandy. It was not the result of an EMP from a human attack or a solar flare, and it wasn't caused by any physical or cyber sabotage.

Proving that just about anything can wreak havoc with our aging and vulnerable electrical grid, this huge blackout happened after overloaded transmission lines sagged onto trees in Ohio, followed by a software bug in the alarm system at a FirstEnergy Corporation control room. With operators unaware that they were supposed to re-distribute power, a manageable local problem turned into an enormous nightmare for a large region of the country.

Of course, weather does plenty of damage to the grid as well. A lightning-sparked outage left 9 million New Yorkers without power in 1977; Hurricane Isabel knocked out power for 2.2 million customers in North Carolina and Virginia in 2003; ice storms cut power to more than 1 million homes and businesses in Oklahoma, Kansas and Nebraska in 2007; and a line of thunderstorms caused a blackout for more than 3.8 million in 10 states and Washington, D.C., in 2012. Those are just a few of the thousands of storms that have disrupted power to homes and businesses through the years.



In addition to storms, extreme heat is a serious weather factor causing blackouts. In fact, heat is the worst culprit when it comes to overloading a power system because air conditioners run much longer than normal during heat waves, causing power lines to lose some efficiency and transformers to fail. In 2016, heat waves and wildfires caused blackouts over a wide area of Southern California.

**How vulnerable is our electrical grid? The typical power plant was built in the mid-1960s using 1950s coal-fire technology. Approximately 70 percent of the lines and large power transformers are at least 25 years old, and we don't have enough of them. When something grows old and is not replaced or at least upgraded, it will inevitably experience problems.**

Many parts of the U.S. grid need repair or replacing, including transformers, steel towers and power lines. The vast amounts of electricity currently carried by transmission lines overloads them regularly, causing blackouts, especially when the weather is extreme.

One of the reasons that the outdated grid is in such disrepair is that instead of investing in renewable power sources such as solar and wind, regulators have taken a duct tape approach. Extreme weather and other strains on the system make temporary fixes ineffective.

In some areas of the country, planned rolling blackouts are used to control the demand that is causing the grid so much stress. Utility companies will shut off power in certain areas for a block of time when it looks like the demand for power will overwhelm the grid, in an effort to avoid long-term power failures. These events are occurring more and more frequently in the U.S., especially in the South, Southwest and West.

A rolling blackout may sound manageable, but even these short-term outages cause problems

for people and businesses, especially when they receive only a few hours' notice. With air conditioning, computers and printers suddenly not working, it's very disruptive. And if an ill individual requires electricity-powered equipment that provides them with oxygen, the situation worsens.

These rolling blackouts negatively affect our transportation systems and commerce. Traffic signals, elevators, automated teller machines and credit card processing systems may not function properly during a rolling blackout.

Rolling blackouts are expected to increase in parts of the country because the cost to replace antiquated equipment is more than most utilities wish to spend. And they can't always pass along the costs because rate increases are monitored very closely and are sometimes regulated.

Some utilities use brownouts to reduce stress on the grid. This is a reduction in the strength of the electrical power rather than in the amount of power. With the voltage of electricity being lowered, appliances use fewer watts. For example, a 60-watt light bulb would produce about 40 watts.

**Regardless of whether a blackout is caused by extreme weather, EMPs, sabotage or an accident, or whether it is intentionally produced to temporarily relieve the grid, we must come to grips with the fact that this is the new reality. The grid that we've been dependent upon our whole lives is failing, and we have to get ready for a long-term blackout event.**

Electrical grid operators have tried to persuade customers that it is in their best interests to conserve power as much as possible, but that strategy does not appear to be working. It doesn't look like there will be an effective solution to replace rolling blackouts anytime soon. A long-term blackout is a nationwide crisis in the making.

## What can we expect from a blackout?

We've all experienced blackouts of one kind or another, most of which are thankfully resolved within a few hours. If you're like me, during those brief blackouts you frequently find yourself looking at your cable TV box to see what time it is, only to be reminded that the power is out. Or you'll enter the bathroom and flip the switch, only to remain in the dark. Or you'll try to turn on the radio or TV or stereo, or any of a number of kitchen appliances, once again to be reminded that pretty much nothing is working.

And that shows just how dependent we have become on electricity. We use electrical devices and appliances numerous times every day, and we assume they are going to work just fine when we turn them on. During blackouts, we are given harsh reminders of exactly how much we depend on electricity. Here are just some of the items many of us use regularly that operate on electrical power:

- LIGHTS INSIDE/  
OUTSIDE OUR  
HOMES
- REFRIGERATOR  
AND FREEZER
- DISHWASHER
- WASHING  
MACHINE
- CLOTHES DRYER
- HOT WATER  
HEATER
- AIR CONDITIONER
- FURNACE
- OVEN
- MICROWAVE OVEN
- TOASTER
- COFFEE MAKER
- GARBAGE  
DISPOSAL
- TELEVISION
- RADIO
- STEREO
- INTERNET
- COMPUTER
- LANDLINE PHONE

And that's just at home. Assuming you can get your car out of the garage by opening the garage door manually, here's what you may find failing to work around town during a blackout:

- TRAFFIC LIGHTS
- GAS STATION  
PUMPS
- ATM MACHINES
- CASH REGISTERS
- AUTOMATED  
CHECKOUT  
MACHINES
- POLICE STATIONS
- HOSPITALS
- PUBLIC  
TRANSPORTATION
- AIRPORTS

If a blackout lasts only 24 hours or fewer, in most cases it will really be more of an inconvenience than anything else. As long as you have some flashlights available and have enough food and water to get by, you should be OK.

A blackout lasting from one day to a week is a different story. If you haven't fully prepared for this, you're going to have some problems. Most blackouts lasting this long are caused by severe weather. Without a generator and a week's worth of properly stored water, food and some essential non-food items, your best bet may be to join friends and relatives in an unaffected area until power is restored. Although cell phone towers have backup generators, the network could go down in this type of event. And without electricity to run gasoline pump computers, gas stations won't be able to get gasoline out of their tanks. So, forget about cars and trucks running for very long.

It becomes a whole new ballgame if you encounter a blackout that lasts one week to a month. Among the most likely causes here would be a super storm or a solar storm that causes an electromagnetic pulse. In order to ride this one out, you would need a generator and four weeks' worth of emergency food and water, a significant number of essential non-food items, and very possibly a strategy for properly disposing of human waste, as septic systems and local sewage treatment facilities will

probably not be functioning. At this point, safety becomes a big concern because people who have not prepared will be desperate for food, water and possibly shelter. If you've prepared, you may become a target.

**A blackout that extends anywhere from a month to a year will completely change life as we know it for everyone. Nuclear detonations causing multiple EMPs would be the most likely scenario here.**

There will be a very small percentage of people who own supplies that will last that long, and even those who do will still face many of the same sanitation problems that everyone else is experiencing. It's conceivable that a majority of the population will die as the blackout continues, thanks in part to inevitable lawlessness. Basically, we'll be in the dark ages, literally and figuratively.

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## WHAT TO DO BEFORE A BLACKOUT

As with all survival situations, the better prepared you are for a blackout, the greater the chances are that you and your family will be able to survive it. Experts recommend the following:

Put together a supply of emergency food and water for your family. Start with 72 hours' worth, then build it up to a week, a month, a year and longer.

Build an emergency kit or bug-out bag. Store your kit in an easily accessible place and let everyone in the house know where it is and what it contains. Don't keep it so high that not everyone will be able to reach it quickly, but don't place it on the basement floor where it could get soaked in a flood, either. Consider having an additional emergency kit at your place of business in case a blackout occurs while you're at work.

Make a family communications plan and discuss all aspects of it with family members. Do a dry run every few months to make sure everyone is ready

to carry out the plan if necessary.

Follow energy conservation measures to keep the use of electricity as low as possible, which can help power companies avoid imposing rolling blackouts.

Fill plastic containers with water and place them in the refrigerator and freezer if there's room. Leave about an inch of space inside each one, because water expands as it freezes. This chilled or frozen water will help keep food cold during a temporary power outage.

Be aware that most medication that requires refrigeration can be kept in a closed refrigerator for several hours without a problem. If unsure, check with your physician or pharmacist.

Keep your car tank as full as possible because gas stations rely on electricity to power their pumps. In addition to being your emergency transportation, your car could also be your charging system for your cell phone, and possibly the only heating or air conditioning you'll have for a while.

Know where the manual release lever of your electric garage door opener is located and how to operate it. Garage doors can be heavy, so remember that you may need help to lift it.

Keep a key to your house with you if you regularly use the garage as the primary means of entering your home, in case the garage door will not open.

Get a good supply of cash. Some stores may not be able to process credit card and debit card purchases, and cash machines may not be working.

### **Other suggestions include:**

- Look into alternative power sources to supply your home with power.
- Learn ways to prepare food off the grid.
- Turn your car into a generator. A power inverter



turns DC current from your car into AC current for electric gadgetry.

- Use LED products. A flashlight or lantern with an LED bulb means batteries last up to 10 times as long.
- Don't put off refilling the grill tank. A gas grill is invaluable for heating up canned food or boiling water for dehydrated items such as instant oatmeal and coffee.
- Make sure you have a portable radio, whether battery-operated or hand-cranked. An NOAA (National Oceanic and Atmospheric Administration) weather radio could be a big help, or a portable radio that receives those bands.
- Have at least one working carbon monoxide detector in your home. Any heat sources you use during a blackout could produce carbon monoxide.
- Periodically check your supplies of emergency food, water and non-food items to make sure nothing has expired and everything is functional.

#### **Among the other items you should have ready to go on short notice are:**

- A first-aid kit
- A sleeping bag for each family member
- Several pairs of wool socks for each family member
- Thermal underwear for each family member
- A deck of cards, jigsaw puzzles and board games
- Battery-powered lamps or lanterns
- Non-electric can opener
- Prescription drugs and other needed medicine
- Rock salt to melt ice on walkways
- Chemical fire extinguisher
- Battery-powered smoke alarm
- Battery-powered carbon monoxide detector
- Disposable plates, bowls and utensils

## WHAT TO DO DURING A BLACKOUT

If you've prepared for a blackout, you'll be ready to deal with it. Following are recommendations from Ready.gov and other sources:

- Use only flashlights for emergency lighting. Never use candles during a blackout or power outage due to the risk of fire.
- If you're using a generator to power any lights, be careful how long you keep them on. If your home is the only one lit up at night, you could become a target. Heavy window coverings would help.
- Keep refrigerator and freezer doors closed to make sure your food stays as cold and fresh as possible. Check food carefully for spoilage.
- Turn off or disconnect appliances, equipment and electronics that were in use when the power went out. They could be damaged if power returns with a momentary surge or spike.
- Don't run a gas-powered generator inside your home or garage.
- Don't connect a generator to your home's electrical system. Connect the equipment you want to run directly to the generator outlets.
- Listen to local radio and to a battery- or generator-powered television for news updates.
- Leave one electrical item on – such as a light – so that you'll know when your power returns.
- Use your phones for emergencies only.
- Don't call 9-1-1 to gain information about the power situation. Use it only to report life threatening emergencies.
- If it's hot outside when the power goes off, go to the lowest level of your home, or to a movie



theater or shopping mall if their air conditioning is working. Wear lightweight, light-colored clothing and drink plenty of water even if you're not thirsty. Keep window blinds and curtains closed to keep the heat out.

- If it's cold outside when the power goes out, wear layers of clothing. Don't use your oven as a source of heat. Find a place to go where the heat is working. Open window blinds and curtains during the day to let sunshine in.
- Try to make sure your pets have plenty of fresh, cool water, and anything else they need for their survival and comfort.
- Eliminate unnecessary travel, especially by car. There may be a considerable amount of traffic congestion with people trying to get out of town and traffic lights not working. If you have to drive, treat every intersection as if it were a four-way stop.
- Fill the bathtub with water, as your faucet water flow may decrease or stop entirely over time. Duct tape the drain so that water does not leak out. Fill other containers with water as well, such as buckets.
- Save the risk-taking for later. Power outages mean crowded emergency rooms and delayed ambulance service, so play it safe for a while.

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## WHAT TO DO AFTER A BLACKOUT

At some point, regardless of the length of the blackout you might experience, it will end and the power will come back on. Once you and your family finish celebrating the occasion, it may be time to check on whether your food has gone bad.

Any refrigerated food that has been exposed to temperatures of 40 degrees Fahrenheit for two or more hours should be thrown out. Same thing for any food that has an unusual odor, color or texture. If you have any doubt, toss it out!

**Don't use taste – or even odor or appearance – to determine if your food is still good or not. Food can look and smell OK, but may contain bacteria that causes food-borne illnesses. Some bacteria produces toxins, and not all of them can be destroyed by boiling or cooking.**

Don't turn all of your appliances back on at once. If everyone does that, it could overtax the grid and result in another regional blackout. Get your heat or air conditioning back on first, then wait 10 or 15 minutes before starting up other items or appliances that you may need.

If the water from your faucet has not been running, but now it's working again, don't drink from it right away. Let it run for a while and listen to local broadcasts or contact your local health department to find out if a nearby water source has been compromised during the blackout. Water purification systems usually rely on electricity, so they might not be working properly during a blackout.

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## CONCLUSION

Regardless where you live, what your climate is like and how much electricity you consume, you will eventually be the victim of a blackout. It's inevitable. There are just too many things that can

cause blackouts and our electrical grid is just too old and flawed to handle even a fraction of them.

Now, if you're lucky, all of the blackouts you experience will be short-lived. After a few hours your power will be restored and, worst case scenario, you might have to throw out a few items from your refrigerator and freezer. Most of us can handle that type of blackout without a great deal of trouble.

But considering the recent upsurge in this country in extreme weather events, solar storm activity, manmade accidents causing downed power lines, and intentional cyber and physical sabotage against the grid, it's more likely that you will eventually experience longer blackouts. Not to mention the frightening potential for an electromagnetic pulse (EMP) caused by a terrorist attack. For a society dependent upon electrical power, blackouts can make life miserable for an extended period of time.

So, how will you be able to deal with it? As always, it all comes down to proper preparation.

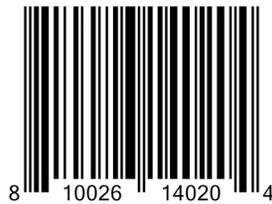
People who have not prepared for an emergency will struggle with a temporary blackout, fall apart in a medium-length blackout and probably die in a lengthy blackout. If you have fully prepared, a temporary blackout will be nothing more than a minor inconvenience and a medium-length blackout will be one you can handle with some determination.

A lengthy blackout will test the resolve of even the most prepared person. But if you've done everything you can in advance and use common sense and your wits during an extended blackout, you will have a much better chance of surviving an event that will cause panic and wreak havoc everywhere the problem exists.

Now is the time to get prepared. Don't wait another minute!

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## NOTES



 **4Patriots**

The logo features a stylized '4' in a dark blue color. The top-left corner of the '4' is a white square containing a blue star. The bottom-left corner of the '4' is a red square. To the right of the '4' is the word 'Patriots' in a bold, dark blue, sans-serif font.

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