

## PREPAREDNESS/SURVIVAL CLASS

### SURVIVING A LONG-TERM POWER OUTAGE IN THE HEAT OF THE SUMMER

This past winter, during the ice storms in Texas and some of the other southern states experienced anywhere for 2 to 10 days without power in the freezing cold. Many people who had never given it a second thought found out just how dependent they were on electrical power to keep them safe and warm. Now we are entering the beginning of what some are calling a very long, hot summer with triple digit temperatures and drought conditions all over the southwestern states. There already has been some minor power outages in some states, along with a few blackouts. They are predicting more electric grid outages, blackouts and brownouts as the summer heat continues to rise and people try to stay cool by cranking up their air conditioning units. Texas went through a power outage a few days ago where 400,000 to 600,000 people didn't have electricity for a little over a day brought on by sweltering temperatures of 103 and over. This happened in a state with its own power grid. And I keep saying, "Then people wonder why we are preppers."

Here are 7 basic tips to keep the heat from affecting you and your house:

#### 1. KEEP OUT SUNLIGHT

About 76% of the sunlight that falls on standard double-pane windows turns into heat and raises the temperature in your home, according to the Department of Energy (DOE).

This is called solar heat gain. During summer, windows facing west and east allow in the most heat, while north and south facing windows only give small solar gains.

Fortunately, there are many ways to reduce the amount of heat that enters your home from sunlight. Here's how:

##### **Close the curtains or blinds**

This is especially important on windows receiving direct sunlight — though the effectiveness can depend on the type and color of the material.

Studies demonstrate that medium-colored draperies with white-plastic backings can reduce heat gains by up to 33%. Lining your curtains with light-colored fabrics, if they are not already light, will help reflect the sun.

##### **Use shutters, shades, or awnings**

Exterior shutters and shades are most effective at reducing solar heat gain, according to the DOE. Shades are typically fabric or vinyl and the material may have openings that allow some visibility through the window. The larger the openings, the less protection from solar gain.

Insulated cellular shades — for a window's interior — are made of pleated materials that can fold up, like an accordion. They can reduce solar gain by up to 80%.

An awning is a roof-like shelter on a home's exterior that shades windows from the sun's heat and glare. Window awnings can reduce solar heat gain in the summer by up to 65% on south-facing windows and 77% on west-facing windows.

##### **Use window tinting and solar screens**

Using window tinting can reduce the sun's heat and glare by 60% and using tinted security laminate on your windows not only protects you from criminals breaking windows to gain entry into your home, but also can reduce the heat and glare up to 85%. Replacing your regular window screens with insulated solar screens can reduce heat by 90%.

#### 2. UTILIZE FANS PROPERLY

Fans can't lower the temperature of an entire room — that's because the electricity driving the fan turns directly into heat. However, fans can create a wind chill effect, so you feel cooler. Basically, when a fan blows air around, it helps sweat evaporate from your skin, which cools you down.

**Ceiling fans** are considered the most effective because they circulate the air in a room to create a wind-chill effect throughout. But turn them off when you leave the room; remember, ceiling fans cool people, not rooms.

Also, when buying ceiling fans, look for the ENERGY STAR® label since fans that earn that label move air 20% more efficiently, on average, than standard models, according to the DOE.

During the summer, **use** your **ceiling fan** in the counterclockwise direction. The airflow directly underneath the **ceiling fan** should push down, creating a wind-chill effect, which is going to make you feel cool. In the winter, reversing your **fan**, to a clockwise direction, creates a gentle updraft, recirculating heat down.

Window fans, or portable fans, can also work well in many climates, but they are only effective if you use them correctly. To do so, you'll only want to use them when the air outside is cooler than the air inside, which is usually at nighttime.

#### 3. DRINK LOTS OF WATER

Staying hydrated by frequently drinking water is one of the best protective measures against heat-related illness. That's because your body needs water to effectively deal with hot temperatures.

When you get too warm, your body starts to sweat. The evaporation of your sweat cools the skin, which helps to cool down your whole body.

The problem is that excessive sweating can lead to dehydration. And your body can become dehydrated before you notice signs, so it's important you don't wait until you feel thirsty to drink.

How much water you're supposed to drink a day depends on your weight. You should drink half your weight in ounces of water. To figure this out — if you weigh 150 pounds, you should drink at least 75 fluid ounces every day, which is about 9 eight-oz cups.

If you are doing any exercise that makes you sweat, you need to drink even more water to replace the lost fluids and stay hydrated.

#### **4. USE COLD WASHCLOTHS**

Applying a cold, damp cloth directly to your skin can help lower your temperature. The Mayo Clinic recommends placing it on your pulse points — such as the back of your neck, under your armpits, on your wrists, or groin.

In these areas, your blood vessels are close to the surface of your skin, meaning the cold will extract more heat from your body and bring your temperature down more quickly.

Prepare a cold washcloth by:

- Wetting a towel with cool water
- Squeezing out excess water, so that the towel is damp
- Leaving it in the refrigerator — the longer you leave it, the colder it will be

If you use ice packs, make sure to never apply ice directly to the skin, as this can result in a burn. Instead, ensure it is wrapped in a towel or a blanket so there is a barrier between the ice and your skin. And never apply it for long periods — the general rule of thumb is no more than 20 minutes every two to four hours.

Although it can give temporary relief, taking a cool bath or shower actually increases our core temperature. Your skin temperature falls and you'll *feel* cooler, but the cold water results in less blood flow to the skin, so you'll actually keep more heat inside. As counterintuitive as it might seem, warm showers — with a water temperature of about 91.4 degrees Fahrenheit — can actually keep us cooler by increasing blood flow to the skin, allowing more heat to escape the body.

#### **5. EAT COOL FOODS AND AVOID ALCOHOL**

Here are recommended foods and drinks to cool yourself down:

##### **Salads**

Vegetables contain lots of water, which can help keep you cool. Lettuce, for instance, is 95% water and cucumber is 96% water.

In addition, salads require no cooking. Any food that doesn't require heat to prepare is better — for example, the CDC advises against using your oven to cook, since it can make you and your house even hotter.

##### **Watermelon**

Not only is watermelon a summer staple for picnics and barbecues, but it's also 90% water.

The pink flesh contains vitamins C and A and the antioxidant lycopene—which helps in protecting you from the sun too. This is the perfect snack to cool off and replenish electrolytes that are lost as you sweat in the sun.

##### **Mint**

Fresh mint can be grown in the garden and provides an instant cooling sensation. It's a zero-calorie addition that will freshen any drink or snack.

##### **Hot Peppers**

Ironically, spicy foods are a great way to beat the heat. Eating something that will cause sweating, nature's way of cooling us down, will allow you to withstand the sun.

Sweating can lead to dehydration, though, so make sure to consume substantial water throughout the day.

##### **Non-alcoholic beverages**

Skip the margaritas and other mixed drinks. A summertime cocktail might seem like just the thing for a warm evening, but too much alcohol can cause your body to lose water.

If water starts to sound bland, rethink your ice cubes. Adding frozen berries, grapes or melon chunks to sparkling water is a refreshing way to switch things up. You can also add packets of electrolytes such as Power Pak and Emergen-C which flavors the water and help balance your system. Drinking Pedialyte works too.

#### **6. IF YOU HAVE TO WORK IN THE HEAT, HYDRATE BEFORE YOU START AND ADJUST YOUR SCHEDULE**

I have painted houses and done manual labor jobs in the hot summer sun. It is always easier on your body if you hydrate before you start working hard and sweating. Once the dehydration process has started it is very hard to turn it around. It seems like you just can't satisfy your thirst no matter what you drink.

Also learn to adjust your work schedule when dealing with extreme temperatures. I worked for a roofing contractor for one summer. We would put in a full 8 hours but would stagger the schedule to avoid the main heat of the day and the hot sun at its midday peak. We would start at 5am and work to 10 or 11am, take a break until about 4 or 5pm and work until 8pm or until dark where we couldn't see anymore.

#### **7. WEAR LIGHT-COLORED, LOOSE FITTING CLOTHES AND VENTED HATS**

Give your body some circulation and ventilation. When you wear loose cotton or linen clothing it helps absorb perspiration and allows air circulation to keep your body dry and comfortable. Light-colored clothing also is a good idea because it allows light (and thus heat) to be reflected away rather than absorbed by a dark-colored fabric, thus you remain cooler.

The top of your head is one of the main points where heat leaves your body. The last thing you want to do in triple digit temperatures is trap that heat in with a solid, unventilated hat. If you wear a baseball-style cap make it that is mostly breathable mesh on top. I have a very large woven straw beach hat (originally invented in California for surfers and beach lifeguards) that I wear in the hot sun. It keeps the sun off your face, neck and shoulders and is actually 10 to 15 degrees cooler than the outside temperature underneath it.

### **When to be concerned about heat illness**

If you're unable to keep yourself cool with these strategies, you may develop the symptoms of heat exhaustion, which, if left untreated, can turn into heatstroke – a serious medical emergency that can lead to organ damage or death without immediate attention. *The signs of heat exhaustion/heat stroke are dizziness, confusion, cramping and fatigue.*

When temperatures are high, such as during a heat wave, you may also want to check in more frequently on young children under the age of four, as well as older people above the age of 65, because they are more susceptible to heat-related illness.

Everything that you need for a power outage in the winter, you will need in the summer – the only difference being ways to stay cool instead of warm. These are the basic items:

- 1. LIGHTING & EXTRA BATTERIES**– LED flashlights and headlamps are a must. Lanterns of all kinds - battery-operated, hand cranked, solar and liquid paraffin wax burners. Candles will also come in handy. As one survivalist said, “Darkness scares little kids and makes cowards of us all.” So in a power outage put as much light on the subject as possible.



Store plenty of batteries in all sizes – AAA, AA, C, D and 9 volt. Also don't forget the round, flat batteries for your watches and optics/lasers on your firearms. These also make great barter items. An extra 12volt auto battery or two would also be good to use with #3.



- 2. COOKING STOVES** – ways to cook food and purify water without electricity. This can be everything from a BBQ grill or propane burner stove to small camping stoves (alcohol burners, Esbit fuel tab stoves, hobo stoves or rocket stoves).



- 3. POWER INVERTERS** – A solar backup system is nice to have but if you can't afford that at least have a 500 watt to 1500 watt inverter. With an inverter you can either plug into your vehicle auxiliary 12v power port or clamp on to a 12 volt car battery so you can generate power from 12volt DC to 110volt or 120volt AC. This can run small appliances and power tools.



- 4. GENERATORS** – for backup power. There are different kinds of generators like gasoline or diesel-powered and propane powered (don't forget to store extra fuel) as well as solar generators which can be charged by the sun through solar panels. Having backup power can keep critical items running in your home during an outage. One of the most dependable gas generators on the market is the Honda 2000i (which I own). Good solar generators are Inergy, Goal Zero, Jackery and Bluetti.



**BATTERY RECHARGING PACKS** – There are many types available – 110v electric, USB and solar. Some of these packs are rechargeable by simply plugging it into your vehicle cigarette lighter/power outlet. Some of these packs are rechargeable by 110volt plug in (by using your inverter), while others are solar charged. These can keep your phone and other small devices fully charged and operational during long term power outages.



5. **EMERGENCY PERSONAL AIR CONDITIONERS** – Eeieer and Arctic Air Ultra are two good personal (one person) small space air conditioners that can be purchased. They are electric so you will need backup power to use them in a power outage. The same goes for electric box and oscillating fans. A solar generator comes in handy for those – it is quiet, does not require fuel and has no fumes. You can also make your own DIY Personal Air Conditioner like the ones shown below. YouTube has many videos on how to build copper coil fan coolers, ice bottles on fan swamp cooler and an Igloo or styrofoam chest air cooler using a small electric fan, bag of ice and a 3” or 4” diameter PVC elbow.





6. **WATER FILTERS & PURIFIERS** – city water comes to your home by means of electric pumps, so **no electrical power = no water**. In certain parts of Texas water is not flowing due to the power grid being down. Without power, cities sometimes have to be placed under a “boil water notice” in order to purify their possibly contaminated tap water for drinking purposes. Remember: **Water is only as safe as its source**. When there is any doubt about the quality of water you are drinking you should treat it either chemically, through filtration/purification or through the boiling method. There are many filters and purifiers on the market, but for me the Berkey Water Purification System is the best. Sawyer and Katadyn filters are two other names that you can trust. Never can enough be said about water purification and quality water sources during an emergency. One of the reasons I am placing so much emphasis on potable (drinking) water is because polluted water is one of the leading causes of death in third-world countries.



Again I have one big remaining question. ***Have we learned anything from the summer power outage in Texas or any of the other blackouts and brownouts that are occurring all over the country?*** I hope we have. This summer is just starting, so keep preparing to be self-reliant by increasing your personal infrastructure where you live. Have the ability to provide your own backup power. Have a way to get extra water, store it, filter it and purify it. Have ways to keep your house somewhat cool and comfortable if the power is out. Have at least two different ways to cook with no power. Be self-reliant and self-sufficient like your grandparents and great grandparents were. Doing these things will help you to withstand 90% of the crisis events that the world might throw at you. Stay safe out there and remember: ***Prepare for the absolute worst but trust the Lord God for the absolute best.***