Topanga Unplugged

How to maintain emergency communications during a power outage

The majority of communications systems we all rely on (internet, TV, digital and cell phone) require electricity. When the power goes out, all of Topanga's connections to the world go out as well. This means emergency alerts, including wind-driven wildfires and evacuation orders, won't reach you.

It's strongly suggested that individuals include in their emergency planning multiple ways to get emergency information during a power outage. TCEP's Disaster Radio Team volunteers compiled the options below. Some of the lower cost options are strictly for powering communications equipment. The more expensive options have the capacity to power appliances, lights and other equipment in and around your home.

As you do your own research to find the solutions that work best for you and your budget, keep these points in mind:

- This is not an exhaustive list of possible solutions.
- There are no guarantees any of these solutions will work for your specific installation or in any specific disaster scenario.
- Telecom equipment comes in many different configurations—even from the same provider—so solutions may have to be adapted for your particular set-up.
- Cost ranges are rough estimates only.
- TCEP does not endorse any specific products or brands.

Emergency Notification Options

AM/FM Battery-Powered Radio — "Free" – $80+

Use: Listen to city-wide local news, including disaster updates

- KNX 1070 am radio may broadcast wildfire updates.
- Do a web search for "Emergency radios" to find brands with multiple power sources, including hand-crank charging systems.
- Your car likely has a radio (that's the "free" one).
- Preset these AM news stations: KNX 1070; KFI 640; KABC 790; KRLA 870

FRS (Family Radio Service) Radios **$30 – $75**

Use: Listen to TCEP Top-Of-The-Hour (TOTH) reports during emergencies; communicate with neighbors.

- These are basic, battery-powered, "walkie-talkie" radios that can be purchased and used without a license.
- During large scale emergencies, TCEP's Disaster Radio Team transmits a 5-minute emergency status announcement at the Top–Of-The Hour on FRS channel 15.
- After hearing the TOTH on channel 15, tune your radio to your local assigned channel to share info with your immediate neighbors. Assigned channels can be found on pages 96-97 in the Topanga Disaster Survival Guide (topangasurvival.com).

NOAA Weather Alert Radios **$50 – $90**

Use: Receive automatic notification of a wildfire even during power outages

- Weather Alert Radios (WAR) are AC powered with battery backup and operate in a "sleep mode" until triggered by NOAA to wake up and broadcast an alarm that alerts to a major wildfire in the area.
- If a wildfire broke out in the middle of the night, the alarm is designed to wake you up (it's pretty loud).
- WARs are used extensively in tornado and hurricane prone areas. Their use for wildfire alerts in our area is a new capability that is still being refined.
- Go here for a tutorial: **https://bit.ly/3fJ3S9t**

Amateur (ham) Radios **$30 – $150**

Use: Communicate with other ham radio operators.

- You must pass a FCC test and obtain an amateur radio license to transmit on a ham radio.
- The radios may require some programming and there is a bit of a learning curve to learn radio usage and etiquette, but TCEP's Disaster Radio Team is happy to help.
- To learn more about becoming a ham, email TCEP's DRT at: drt@tcep.org.

Charging Cell Phones, Tablets, Laptops, and Radios

- Get charging cables for your car and a charging adapter if necessary.
- Have several USB power banks in your emergency kit, along with proper cables and connectors to charge all of your devices. Keep your power banks fully charged 24/7.
- Limit phone usage during emergencies to conserve battery life.

Back-up Power Options for Digital (VOiP) Phones, Cell Phones, Internet, and Other Equipment

The following solutions can provide back-up power to your telecom equipment to keep your digital phone, internet, Wi-Fi, and cell phone working. They also apply to Starlink routers. These options assume your telecom provider continues to supply service to your home. If your telecom provider experiences a communications network outage, then no amount of home back-up power will provide you with internet or phone service. The pricier options also have the ability to power other appliances in your home.

Topanga cell service is spotty, at best, and does not have any built-in back-up power. If you can't get over

the air cell service in your home, enable Wi-Fi calling in your cell phone preferences. As long as you maintain internet service through a Wi-Fi router using the more powerful internet/Wi-Fi back-up solutions below, you should be able to use your cell phone during a power outage.

Built-in back-up battery for Frontier/Spectrum phone service $25 – $60

Use: Power for digital telephone voice service for up to 8 hours. Does NOT power internet or TV.

- Frontier and Spectrum offer battery back-up capabilities to keep your digital phone service functioning during an outage. (This does not apply to copper line phone service.)
- These batteries are installed either in the Frontier Optical Network Terminal (ONT) power supply or the Spectrum Multimedia Terminal Adapter (MTA) phone modem. Customers must purchase these batteries either from their telecom provider or a third party compatible brand.
- The batteries automatically keep only the phone service working in an outage. This assumes the telecom provider continues to deliver service to your home.
- You will need to use a non-powered, corded telephone to make and receive calls. These phones are readily available and should be part of your emergency kit. They do not power internet, Wi-Fi or TV services.
- Batteries degrade with age. Some systems have a status light that indicates battery conditions and/or an audible alarm (intermittent beeping) indicating your battery needs replacing. Consider replacing Frontier batteries every 3-5 years or so. Spectrum claims their batteries last 5-10 years, but we wouldn't rely on that estimate.
- You could buy a second battery and use a trickle charger to keep it charged, giving you the ability to swap out a spent battery for additional run time.

Uninterruptible Power Supply (UPS) $120 - $300

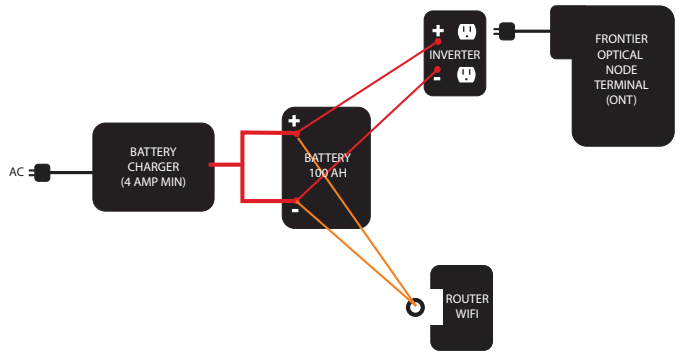
Use: Keep Frontier / Spectrum phone/internet/Wi-Fi powered for up to 3 hours. Also works for Starlink routers.

- A UPS is a battery with AC outlets that automatically and instantly supplies back-up power to any device that is plugged into it when the electric grid goes down.
- Generally, a UPS is not meant to power devices for long time periods. Its main purpose is to keep sensitive electrical equipment, such as computers, running long enough after a power loss for you to save and shut down without damaging the equipment or losing data.
- Keep your Frontier ONT or Spectrum MTA, Wi-Fi router or Starlink router plugged into a UPS 24/7. During an outage, the whole system can continue to operate off the UPS for a limited time.
- The length of time the UPS will power the ONT / MTA and Wi-Fi router depends on the capacity of the UPS and the power requirements of whatever you've got plugged in.
- Consider getting the most powerful UPS you can afford to give yourself the longest potential run time, but realize that the UPS is not meant to power your equipment for very long. If the outage lasts more than an hour, consider plugging your equipment into one of the options below for longer run times.
- The battery in a UPS becomes less effective over time and will eventually need to be replaced.

100Ah Deep Cycle Batteries + Inverters + Trickle Chargers $250 – $600+

Use: Keep Frontier/Spectrum/DirecTV phone and internet/Wi-Fi system powered for up to 72 hours.

- 100Ah deep cycle batteries look much like the battery in your car, but instead of providing instant starting power, they are designed to provide steady power over time.
- This solution requires minor DIY capabilities, such as connecting an inverter and trickle charger capable of trickle charging up to 4 amps continuously.
- One battery and inverter may power your Frontier ONT / Spectrum MTA for up to 72 hours.
- A second battery and inverter may power your Wi-Fi router and Wi-Fi-based cell service for up to 72 hours.
- As with all battery solutions, if you have a way to charge spare batteries, run times can be extended by swapping in a freshly charged battery.



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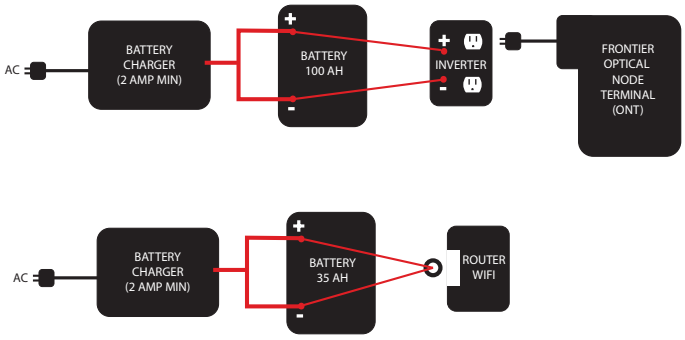
BATTERY BACKUP
1 BATTERY SYSTEM

WHERE A WIRE CAN BE RUN FROM A SINGLE BATTERY TO BOTH ONT AND ROUTER



TCEP TOPANGA

BATTERY BACKUP
2 BATTERY SYSTEM

WHERE ONT AND ROUTER ARE TOO FAR APART TO RUN A WIRE FROM A SINGLE BATTERY

Lithium Power Stations $400 – $3,000+

Use: Keep your digital phone and internet/Wi-Fi system powered for up to 3 days.

- A lithium power station is simply a large battery in a housing with a built-in inverter and AC outlets for the easiest "plug and play" convenience.
- The length of time they can power telecom (and other) equipment depends on the battery capacity. The math is simple: Take the wattage capacity of your power station and divide by the combined wattage of the devices you are plugging into it to see how many hours it will run. Example: 1,400 watt power station / 30 watt Frontier ONT + router = 46 hours run time (1400 ÷ 30 = 46.6).
- Many power stations can be recharged using solar panels. You could also recharge them with a generator while they are being used. In normal conditions, you keep the power stations charged by plugging them into a wall outlet.
- These units are silent, portable (although larger capacity units can be quite heavy), emit no fumes and can be used indoors.
- They are generally more expensive per watt of power than gasoline/propane generators.

Portable Generators $500 – $1,500+

Use: Keep digital phone and internet/Wi-Fi system plus other devices powered for up to 7+ days.

- Generators give you the most power per dollar. They have AC outlets making it easy to directly plug in and run electrical equipment.
- You must store fuel for your generator. The amount of fuel you have will determine how long you can power your equipment. Gasoline has a relatively short shelf life and must be routinely replaced. Propane does not degrade over time.
- Portable generators are heavy, cumbersome to move around, very noisy and emit fumes so they must be run outdoors. You'll need heavy duty, long extension cords to reach equipment you want to power.
- Propane- and gasoline-powered generators each have pro and cons. See this web page for an overview: https://pepupinc.com/propane-generators-vs-gasoline-generators/

Whole House Generators $5,000 – $15,000+

Use: Power your entire home automatically the instant grid power goes down

- If you want the peace of mind that comes from knowing you will never lose power to your home, and you can afford the cost, a whole house generator may be a good solution.
- These units are powered by propane and include an automatic transfer switch that instantly switches to generator power the moment the grid power goes out.
- The size and cost depends on the size of your home and its power requirements.
- They must be professionally installed.