

So many of us Hams think we're ready to launch into action when disaster strikes, but how well prepared are we really? Our Fall River 2 Meter repeater is backed up by a natural gas fired generator, so it "*should*" stay on the air for most types of disasters. The only reasons it would lose power would be if the generator failed, or we had some sort of emergency that interrupted the natural gas delivery such as a broken pipe during an earthquake, flooding or fire at a pumping station. Since our practice drills are based around the assumption of the repeater staying on air, what would we do if the backup power or the repeater itself ever failed, or the remote possibility the antenna is blown down?

How well equipped is your station for backup power? Do you have additional batteries such as a deep cycle lead-acid, or gel cell? How well are they charged, and are they still at 100% capacity? Most Hams are unaware of the proper battery charging requirements for these Hamfest specials they pick up for pennies on the dollar. Lead Acid, Gel Cell, and AGM (Absorbed Glass Matt) batteries all have slightly different charge voltages. The best way to know what your backup battery requires is to download the manufacturer's specification sheet and follow what they recommend. A battery that has been charged to just a few tenths of a volt less than recommended will not provide nearly 100% of its rated capacity, and an over charged battery can be permanently damaged quite rapidly. The charging voltages also vary with the temperature of the battery. Many of the current automotive battery chargers have a switch setting for the different types of batteries and will provide the proper charging voltage, and the high-end units will have a temperature probe to adjust the charging voltages for the current battery temperature. Some styles of battery chargers use switching technology much like a switching power supply and can generate a substantial amount of RFI.

Let's say we had an emergency in the Fall River area such as a major hurricane or blizzard, and the AC power was out for several days. (It's happened before if you remember the Blizzard of 78'). Our role with Fall River Emergency Management will be to man the emergency shelters throughout the city and provide logistics communications to EMA. How would you operate your portable station without regular AC power? How long would your deep cycle battery keep you going for? 24, 36, 48 hours? You may find yourself becoming one of the residents taking cover at the shelter while you are also helping coordinate supplies for the support of hundreds of others. Do you have a way to recharge your batteries? Is it a gas generator, solar panel, or something else? Anything requiring fuel may be problematic since fuel can be hard to get in major disasters. Many backup generators failed during hurricane Katrina due to fuel starvation and the inability of fuel trucks to make their deliveries. Do you have a second battery to use while your first is being recharged? When you think about this as a real possibility, most of us are unprepared to be useful stand-alone communicators.

For those of us who have backup generators, how often do you test them? N1JOY learned this lesson recently when he tested the natural gas generator in his home. The generator fired right up, but when the house load was transferred to the generator, there was a problem with the AC power and all of the fluorescent lights flickered wildly. The generator had not been tested for a long time and the AC armature has developed a problem, even though the engine runs perfectly, the machine was not producing a usable AC power source. Testing a generator requires that you place a substantial load on it, measure the AC voltage, and make sure it is outputting as close to 60 Hertz as possible. Fresh fuel is a must, and draining the fuel system when you are finished is more important than ever with gas that is mixed with ethanol.

Whenever using emergency power, you must always be conscious of how much of that precious power you are using. Today's radios are quite power efficient when in receive, and you need to turn your TX power down as low as possible to not waste Amp-Hours. Turning your display backlight off, or down as low as it will go, is also a good idea. Do not run accessories that serve no function, and turn off what you are not using. LED flashlights are one of the greatest inventions for emergency kits.

There are many other aspects to long term communications that will be discussed in future articles. It's never too late to think about how well you can sustain communications in the worst of conditions.