

March 28, 2021 WC-ARES Net Training:

More Solar? Or More Battery? That is the question

Presented by: Doug Duke, W5DMD

Since SNOWCOVID hit us last month, one of the things any of us have talked about is: Do we personally need more Battery storage for our radios and home needs or perhaps more solar panels to keep what he have going?

Well if you have learned anything from me over the last few years, the answer is..... IT DEPENDS.

First, let me say that nothing can replace experimentation and just trying it out. Each of us is different. Each of our homes are different and each of our needs are different. So whatever you decide on, try it, play with it and stay flexible.

Next, let's make a couple of assumptions. First, let's go with the idea, that we are talking about at our home QTH's. Not for a portable situations. While having portable power can be important, and can double as something to be used for our homes, since most of us were at home during the event in question, let's stick with that.

For simplicity's sake we are going the keep the examples easy. It doesn't matter if you have one solar panel and one battery, or a roof full of solar panels and a ban of batteries, the reasoning should stay the same. So, with that in mind, here in central Texas, we "normally" will get about 8 hours of daylight each day during the winter time. During the summer, we get closer to 12 hours of daylight. You have one 8 aH battery, and a single 60 W Solar Panel hooked up to it. Ratings of those panels are about 2.6 amps per hour replenishment. But as we don't live in a perfect world, so let's go with 2 amps per hour replenishment due to clouds or not tuning the panel to keep the perfect angle.

So, that would mean in an 8 hour day, the panel you have could churn out 16 amp hours. But you only have the one 7 ½ or 8 amp hour battery. So you are wasting energy because you can't store what you can make. So that answer is easy, you just get a 16 amp hour battery.....right? Well maybe not. If you had one battery, and something happened, you only have the one. Remember the adage about two is one and one is none? So in this case you would be better off having 2 - 8 amp hour batteries. That may if something happened to one, you always had the back up.

So now, let's kind of reverse this. If you had the same solar panel, but a 20amp hour battery, you might be wasting battery as even in a full day, you would not be able to charge up the battery. So in this case, you would consider getting another panel to charge up what you have.

As you can see, it really does depend. Depends on what you have, it depends on what you want, and as always it depends on what you can afford. Don't forget, if possible you might consider being able to run off the same battery you are charging. This would allow a bigger panel to keep a smaller battery going what that same battery is being used. Then you might not be wasting energy as the offset is obvious.

So keep this in mind as we all move forward and try to figure out how we can improve our own situations just in time for hurricane season and the unpredictability that comes from this.

This concludes tonight training, please hold me short time in respect to the remainder of the net.