Idaho State Digital Communications Plan

Welcome to the Idaho State Digital Communications plan.

Who:

The Idaho State ARES/RACES organizations are going to set up a digital amateur radio communications network. This will consist of amateur radio stations all over the state of Idaho, having the ability to communicate during a disaster via digital communications in case voice communications are unable to get through. This is also useful in sending more sensitive information that should not be sent using voice for all to hear.

What:

We will begin with one type of digital communications, then once we have that up and running well, we may add another one for a backup. But it is imperative that we get one type of reliable digital communications working throughout the State before we start another.

The type of digital communications we are going to adopt first is Winlink utilizing RMS Express. Winlink has a long track record of success in providing emergency communications support to mariners and other folks in the back country. RMS Express over HF is also being successfully utilized by other ARES groups in other States.

Where and When:

We will hold a digital net each Wednesday night at 0200Z. We will utilize frequency the following frequency on 80m.

Select the Peer-to-Peer mode and type the following frequencies into the respective windows.

Primary frequencies:

> Net controls call sign in the call sign box
> Center Frequency: 3580.00
> Dial Frequency: 3578.50

Secondary frequencies:

> Net controls call sign in the call sign box
> Center Frequency: 7075.00
> Dial Frequency: 7073.50

Why:

Digital communications generally works with lower power requirements than voice. There is no voice distortion due to the noise on a frequency or band. Accuracy of the message is greatly increased over voice; just refer to the recent results from the SET.

Another good example is that the band conditions were very poor during the Idaho State ARES/RACES Voice net on the 6th of December, where bidirectional communications over HF was not good, and in an emergency, communications during those types of band conditions would not be reliable.

How:

We will have a weekly digital net. This will consist of beginning with the digital folks checking in using PSK31 over HF on 3.578.50 USB. Once everyone is acknowledged while checking in on PSK31, net control will ask each ARES member one at a time to change to RMS Express. The PSK31 check in portion will be held for 10 minutes, and then we will move onto the digital check in via RMS Express. Net control may be online on PSK31 15 minutes prior to take early check-ins.

Once the digital net is well established we will migrate to checking in via RMS Express only. We will keep PSK31 in play as a communications platform. You will be notified before this change in process takes place.

Each week Net Control will make a roster of who checked in via PSK31 during the PSK31 portion of the net, and then Net Control will go from the top of the list and have that person attempt to connect to Net Control's HF station via RMS Express in peer-to-peer mode. Once that person is done Net Control will get back on PSK31 and prompt the next person to connect to the Net Controls RMS Express HF rig. After you connect to Net Controls RMS HF rig and send him/her an email, you should close RMS Express and return to PSK31 on the frequency designated earlier.

Periodically we will conduct RMS check-ins via RMS Winlink HF gateways. We will check-in utilizing PSK31 first on the frequency previously listed, and then Net Control will ask all participants on the check-in roster of who checked in via PSK31, to switch to RMS Express and send net control a message via an RMS Winlink gateway. Net Control will then in turn send an email via an RMS HF Gateway to each participating station. So wait 10 minutes after sending your email message via RMS Express to an RMS Winlink HF gateway to receive your message from net control. This means you will have to check-in to an RMS Winlink HF gateway again.

In the near future we will work on read receipts which will be used to ensure that folks received the message. I will provide instruction on how this works.

In the near future we will work on sending attachments to ensure folks can fill out the ICS-213 and Radiogram forms.

ICS-213 and Radiogram formats:
The designated primary format of sending attachments (ICS-213 and Radiograms) will be utilizing FLMSG. Please search for it on the internet, download and install it. It is simple to you. Please do send an email and ask questions if you require assistance.
The second format of sending ICS-213 and Radiograms will be via the text file versions I have distributed. If you need these, please send me an email and I will forward you these templates.
FLMSG and the text file versions are 1 - 2Kb, which will send quickly and preserves the format. Other formats of attachments are not acceptable at this time.

Station requirements:
The following are requirements for being a designated digital station for each district.

1. The power requirements are going to be broken down to levels of service.
   The purpose of having digital communications is to be able to send and receive messages during a disaster. Without power we cannot communicate with either voice or digital, either on HF, VHF, or UHF.
   a) The **minimum** power requirements are to have one week of off the grid power, with radios running continuously 24/7.
      i. This amount of backup power would cover most small disasters, although nothing of any real size and length.

      ii. As you can see in Hurricane Sandy, at this point the power has been out for a lot of customers for two weeks, with the power company estimating that some customers will not have power restored until after Thanksgiving.

      iii. This would generally consist of having a bank of batteries; this could be any number from one to many, which would either be charged by a generator via a battery charger(s), or via solar panels that are charging a battery bank via a controller.

      iv. This type of backup power would run your HF rig and VHF/UHF rigs in your QTH.

      v. Note that we are not suggesting that your generator run continuously for seven days, only that you have the ability to keep your batteries charged so that the radios may be turned on and operating for seven days straight.

   b) The **preferred** power requirements would be to have 30 days of continuous 24/7 coverage.
      This amount of backup power would cover most disasters, although not super disasters.
      i. This would generally consist of having a bank of batteries; this could be any number from one to many, which would either be charged by a generator via a battery charger(s), or via solar panels that are charging a battery bank via a controller.

ii. By having this amount of backup power, you will not only be informed of what is going on, you will be able to help not only your immediate neighbors, but also your neighbors in your County and State and neighboring States.

iii. This type of station would be considered a key communications asset both ingress and egress of your District.

iv. This type of backup power would run your HF rig and VHF/UHF rigs in your QTH 24/7 for a period of 30 days.

v. Note that we are not suggesting that your generator run continuously for thirty days, only that you have the ability to keep your batteries charged so that the radios may be turned on and operating for thirty days straight.

c) The **best case** scenario would be to have at least 90 days of continuous 24/7 coverage.
This amount of backup power would cover most all disasters including super sized disasters.

i. This would generally consist of having a bank of batteries; this could be any number from one to many, which would either be charged by a generator via a battery charger(s), or via solar panels that are charging a battery bank via a controller.

ii. By having this amount of backup power, you will not only be informed of what is going on, you will be able to help not only your immediate neighbors, your neighbors in your County and State and neighboring States.

iii. This type of station would be considered a key communications asset both inside and outside of your District.

iv. This type of backup power would run your HF rig and VHF/UHF rigs in your QTH 24/7 for a period of 90 days.

v. Note that we are not suggesting that your generator run continuously for ninety days, only that you have the ability to keep your batteries charged so that the radios may be turned on and operating for ninety days straight.

Prioritizing messages when sending

What I am referring to here is putting a priority in the subject line of the RMS Express email.
So whatever the subject line content is, it should be prefaced with a prioritization.
Here is the correct prioritization to use for RMS Express email.
This will bring more attention to the receiver of the email if it is coded.

Prioritization codes:

//WL2K Z/   Then the subject of the email   -   Z equals Flash, or Emergency,
//WL2K O/   Then the subject of the email   -   O equals Immediate

//WL2K P/   Then the subject of the email   -   P equals Priority
//WL2K R/   Then the subject of the email   -   R equals Routine

Here are some examples of using these message identifiers types in the subject of the email.

//WL2K Z/ EOC FLOODING
//WL2K O/ SHELTER STATUS – FULL
//WL2K P/ Food and bedding inventory request
//WL2K R/ Supplies received

Re: //WL2K R/ Generator manual needed
FW: //WL2K R/ Please bring gasoline