Managing and using Government Radio Network (GRN) radios and satellite phones for emergencies

The Government Radio Network (GRN) covers approximately a third of NSW. The network is used for emergency services communications, special events, exercises, training, and in field communications.

NSW Department of Primary Industries (NSW DPI) GRN handsets and satellite phones have been distributed to Local Land Service regions, with devices also remaining with NSW DPI.

The primary purpose is for use by personnel involved in emergency responses.

The use of these devices aims to:

- improve communications, with and between field staff
- create a safer working environment for response staff
- enhance capabilities and situational awareness.

General conditions of use

GRN radio handsets and satellite phones:

1. remain the property of the NSW DPI
2. should be moved between regions when required
3. can also be used on a general basis for communication (when no emergency response exists) to ensure staff remain familiar with their use and ensure devices are working
4. are managed in the resource management system (available from February 2019) and tracked when moved between regions
5. are used according to the manufacturer's instructions and quick guides in Appendix 1 for radios and Appendix 2 for satellite phones.

Roles and responsibilities

NSW DPI - Emergency Management Unit (EM Unit)

1. Supply GRN handsets and charging devices (Tait – Model No: TP9400 P25 portable radios)
2. Supply satellite phones (Iridium Model 9575)
3. Pay the Telco Authority the monthly network access fee for GRN
4. Pay the Telstra phone monthly fee for phones
5. Coordinate resolution of device warranty issues, servicing and repairs
6. Provide replacement devices due to device failure (not resulting from device abuse/misuse)
7. Provide any accessories (e.g. car aerials/kits, batteries) required by DPI users
8. Provide access to user guides and instructions
9. Manage misuse of equipment by DPI users
10. Ensure NSW DPI staff using the devices are familiar with their use
11. Monitor device records in the resource management system (RMS) e.g. repairs, locations

LLS – State Operations

1. Ensure devices are effectively utilised across LLS regions
2. Investigate and action misuse of devices

LLS – Manager Biosecurity and Emergency Services (or equivalent)

1. Manage devices assigned to their region
2. Provide any further equipment (e.g. car aerials/kits, batteries) as required by LLS users, at their own region's cost
3. Manage misuse of equipment by LLS users including paying for repairs and excessive call charges
4. Ensure LLS staff using the devices are familiar with their use
5. Manage device records in resource management system (RMS) e.g. moving devices, repair records

Users

1. Ensure devices under their care can be accounted for and are kept securely
2. Ensure devices under their care are maintained in good working condition
3. Use and maintain the devices according to instructions

Repairs and records

1. To replace faulty equipment or repair broken equipment send an email to emergency.preparedness@dpi.nsw.gov.au including details of the device (including identification number) and the issue.
2. EM Unit will coordinate replacement or repairs.
3. Costs are paid by NSW DPI unless replacement/repairs are the result of misuse and/or neglect, then cost is apportioned to the respective person/agency they were assigned to.
4. Device records in RMS are updated by the person managing the device.

Monitoring

Resource audits, checking RMS records against devices, will be conducted routinely. Audit recommendations will be addressed by NSW DPI in conjunction with LLS State Operations and Manager Biosecurity and Emergency Services (or equivalent).

Safety

The provision of GRN handsets and satellite phones is primarily for the safety of staff whilst responding to emergencies. These devices are to support existing communication devices e.g. mobile phones, to improve the suite of communication options available to staff.

Devices should be used during non-emergency response times to ensure the devices are in good working order and that staff are familiar with their use.

Further information

1. Manufacturer's instructions for devices

   - Tait TP9400 P25 portable radios user guide
   - Iridium satellite phone model 9575 user guide (with device)

2. User guide - Resource management system (available from February 2019)

Appendix 1: GRN radio quick guide for Tait TP9400 model

The Tait TP9400 is a dual mode analogue/digital radio with the following features:

- Simplex mode – for use on small sites between officers
- GRN (trunked) mode – for wide area communications within the GRN footprint
- Encryption - A highly secure operating mode that encrypts messages sent over the radio so they cannot be listened to by others without the encryption key

Simplex/trunked radio environments

Throughout this manual the terms of 'simplex' or 'trunked' are used. These terms identify the mode of operation of the radio channel:

- Simplex operation (also known as point to point) is generally short range from a few hundred metres up to at best several kilometres on open flat ground
- Trunked operation uses a system of radio transmission towers to rebroadcast the received radio signal for distant or strategic level communications. In NSW this system is the Government Radio Network (the GRN) that has a large footprint covering more than a third of NSW.

Radio operation

1. **On/off switch**

   The use of this switch is self-explanatory; it simply controls the electrical power to the radio. Do not leave radio switched on when not in use as they consume power and will eventually drain the battery.

2. **Volume control**

   This controls the output volume of the radio i.e. the loudness of the sound that you hear.

3. **Channel selector buttons**

   Use the up/down keys to select a channel:
   - Channels 1-10 are used by individual LLS regions. LLSs can talk to other regions by selecting a common agreed channel.
   - Channels 11-12 will be used for larger State or multi-regional responses. The decision on how these channels will be used will be determined by the Incident Controller of the response.
   - Channels 13-14 are to be used for Simplex mode.
   - 14 channels have been programmed into each handset. They are:
     - Channel 1 – Western LLS
     - Channel 2 – North West LLS
     - Channel 3 – Northern Tablelands LLS
     - Channel 4 – North Coast LLS
     - Channel 5 – Central West LLS
     - Channel 6 – Hunter LLS
     - Channel 7 – Central Tablelands LLS
     - Channel 8 – Greater Sydney LLS
     - Channel 9 – South East LLS
     - Channel 10 – Riverina/Murray LLSs
     - Channel 11 – DPI State Channel 1
     - Channel 12 – DPI State Channel 2
     - Channel 13 – DPI State Channel 1 (Simplex)
     - Channel 14 – DPI State Channel 2 (Simplex)

4. Operating radios

To operate the radio:
- switch the radio on by turning the dial on the top of the radio
- turn the volume control to the required output level (using the same dial)
- select the appropriate channel
- communicate by depressing the microphone button and release when finished speaking.

5. Microphone technique

The microphone is a sensitive piece of equipment that converts sound waves from your voice into an electric signal which are then transmitted. It is important to observe a few simple rules:
- always listen before you make a transmission, so that you do not interrupt another radio message
- be aware that the radio will be activated whenever you press the microphone talk button, so to save power especially in a portable radio, only press the microphone button when you are ready to talk
- keep transmission time to the minimum.

6. Radio communications

During radio communications you can ensure that messages are clear by speaking correctly. The following factors (RSVP) are very important:

R - Rhythm
- o speak naturally and with a normal rhythm
- o speak in complete phrases that make sense
- o do not use speech fillers such as er, um and ah, as these interrupt the rhythm

S - Speed
- o speak steadily at medium speed
- o if your message is to be written down, pause between phrases to allow the person receiving the message to write it down
- o during long messages, occasionally release the transmission button to allow an emergency call from another handset to be made if needed

V - Volume
- o talk as you would in a normal conversation, do not shout
- o do not allow your voice to fade away at the end of a message
- o keep your mouth close to the microphone and at a constant distance
- o speak into the microphone

P - Pitch
- o avoid dropping your voice on the last syllable of each word and on the last word in each phrase, as voices normally do in natural conversation
- o avoid dropping your voice at the end of a sentence

7. Content of calls

- Use plain language and standard phrases in your calls whenever possible

- Some information, such as the discrete reporting of information, such as injured people or landholder non-compliance, is best passed via a non-broadcast medium. If it has to be passed by the radio, please do so with much discretion. Do not use any names or other identifying words or phrases. Keep the transmission simple and short.

Appendix 2: Satellite phone quick guide for Iridium model 9575

General operating instructions:

- Ensure the phone is charged

- To turn on, press and hold down the small button on top of phone (next to larger SOS button)

- Move to a clear outside area to receive satellite connection

- For all general calls dial 61, followed by:
  - For landline numbers drop the 0 off the area code e.g. to dial 02 67 123 456 – dial 61 2 67 123 456
  - For mobile numbers drop the 0 off the (first number) e.g. to dial 0467 123 456 – dial 61 467 123 456

- Volume key is on the left side

- Sending a text message (SMS)
  - Select 'Menu'
  - Scroll down to 'Messages' hit select
  - Scroll to 'Create Message' hit select
  - Type message
  - Select 'Options'
  - Select 'Send'
  - Select 'New Recipient'
  - Select 'Enter Number' (or stored numbers)
  - Select 'Send'

- To maintain good battery life in the phone, allow it to completely discharge (i.e. run down) occasionally before recharging