



Land Based SAR Communications Workshop 2009

Record of meeting of the NZSAR Land Based SAR Communications Workshop

File: MOSR 5-10
Date: Thursday, 22 October 2009
Location: Level 6
Novell House
89 The Terrace
Wellington
Attendees: A full list of attendees is attached to this record
Presentations: Available on the NZSAR website (www.nzsar.org.nz)

1. Duncan Ferner (NZSAR Secretariat) opened the workshop, and provided an overview of the role of NZSAR, and the purpose of the workshop.

Session 1: Overview of Land Based Search and Rescue Operations

2. Inspector Gerry Prins (NZ Police) provided an overview of the purpose, organisation, and role of NZ Police in land based SAR operations.
3. Jeff Sayer (AREC) provided an overview of the purpose, organisation, and role of AREC in land based SAR operations. AREC volunteer numbers appear to be holding staying stable across the country.
4. Flt Lt Mike Martin (NZDF) provided an overview of the purpose, organisation, and role of NZDF in land based SAR operations. This includes the latent CDRG (Civil Defence Response Group) capacity at each RNZAF Base, and that SAR is an output for 3 Squadron. For the period 1 Nov 08 – 22 Oct 09, 3 Squadron has provided 66hrs to SAROPs.

Session 2: Networks and Capabilities

5. Rex Aubrey (NZ Police) provided a review of Police supplied radios and maintenance. He also provided a brief update on the NZ Police digital network.
6. Ian Gardiner (Canterbury Mountain Radio Service) provided an overview of the organisation and network of the Mountain Radio Service. Ian stressed the advantage of two way communications that a mountain radio provides, and how this can reduce search time during a SAROP.

7. Geoff Cole (DOC) provided an overview of the DOC communications network. Geoff advised that DOC is fully committed to providing its network to support SAROP communications, but stressed the need for the use of proper protocols when accessing the network, to reduce the chances of DOC solar powered repeater stations failing due to overuse of battery hours.
8. John Yaldwyn (AREC) provided an overview of national and local SAR frequency use, AREC operational support during SAROPs, and the new equipment programme.
9. Flt Lt Mike Martin (NZDF) provided an update on the procurement of the NH90 helicopter for the RNZAF, and an overview of the communications capabilities of the new platform. He also provided an overview of some of the ground based communications capabilities of the RNZAF.
10. The workshop engaged in an open forum session on joint capability. The following themes were discussed during this session:
 - i) **Recognising HF and VHF as co-primary communications means for SAROPs** – noted that HF communications are important to 3 Squadron during SAROPs, however they are unable to constantly monitor 5680 kHz, as they are required to stay tuned to Air Force Auckland. The workshop agreed that HF & VHF are both equally important to SAR.
 - ii) **Interoperability** – noted that SAR is not the primary role for many of the organisations present at the workshop. Some discussion about the need or desire for a common set of radios/frequencies and common arrangements. It would be desirable to have a range of frequencies across various organisations for SAR use, as opposed to the current situation of a variety of different channels being used for SAR. There is an issue of uncertainty in knowing which channels are available, and who is using what.
 - iii) **Supporting SAR preventative strategies** – some discussion on further engagement and cooperation with MRS. It was noted that there are no SAR frequencies in MRS radios (and vice versa), however there is a capability to access the MRS radios via telephone interconnects.
 - iv) **Efficiency** – there was some discussion on ways to improve efficiency across networks, particularly with regard to repeaters. There is a current level of network sharing already in place, but this needs to be further promoted. It was agreed that there needs to be national consistency around better cooperation and collaboration of resources. There was also discussion about the technical requirements for groups to meet interoperability requirements (licensing, Reg 13, MOU, etc). The workshop agreed that there should be a goal of a smoother 'single sign on' approach to licensing and interoperability requirements.

- v) **Resourcing** – there is an issue to ensure that all organisations have a minimum safe requirement of resources available. The workshop agreed that there should be a top-down approach to an assessment of need, as well as a stocktake of equipment and frequencies/channels.

Session 3: Risks and Mitigation

11. The workshop engaged in an open forum session on risks and mitigation. The following themes were discussed during this session:

- i) **People/Knowledge** – there was some discussion about the risks of losing key people with institutional knowledge in organisations. Only some of the organisations present have formal contingency/succession plans in place. It was noted that for some organisations formal succession plans may not be necessary, however it was agreed that all organisations should have documented processes in place, as well as knowledge capture systems (including emails and training documents). Action Point – all organisations need to ensure that they have continuation plans in place, as well as documented processes, and knowledge capture systems.

There was also discussion on the need to keep volunteers interested and involved with organisations, as a means of retention.

Action Point – it was agreed that volunteers need to be involved with SAREXs on a regular basis.

Action Point – Defence Force personnel should be encouraged to transfer their skills to the voluntary sector, especially those with communications expertise.

- ii) **Assets Old/New** – there was some discussion on the current range of communications assets available across the NZSRR, some of which are brand new, and some which belong in the rubbish. In particular it was noted that some fixed repeaters are aging rapidly. Also some discussion on who would be responsible for operational losses, procurement policies and processes, maintenance programmes, and obsolete radios/equipment.

Action Point – all organisations need to have asset management programmes in place. These should include a depreciation register, and asset tracking systems.

Action Point – all organisations should have a procurement policy and procurement process in place. All organisations should be aware of what equipment is becoming (or is) obsolete, and replace it as soon as practical.

- iii) **Frequencies/Access** – some discussion as to whether or not the sector has access to a sufficient number of frequencies to meet requirements. **HF** – it was noted that there are only two HF frequencies available for SAR use, and that these can be subject to HF interference from unintentional radiators (can be mitigated by using telephone interconnects), and from other channel users (particularly

USA/Scotland). Agreed that requests be made to NZ Police to access Police HF channel 7 for use during SAREXs to reduce demand on existing SAR HF frequencies. **VHF** – some discussion on the use and availability of VHF channels during SAREXs and SAROPs. It was recommended that local Police Districts utilise a top/bottom channel assignment for SAREXs (i.e. ESB60, 59) and SAROPs (ESB57, 58) to maintain separation.

- iv) **Licenses** – Jeff Hicks from RSM addressed the workshop on licensing. He advised that licensing is in place to check the use of channels, and to ensure that sufficient capacity is available. Licensing also encourages the protection of available channels. Engagement with the regulator (RSM) has benefits for the sector, and RSM has a gatekeeper role. RSM is working on spectrum management planning. RSM does not allow the use of portable repeaters for commercial users, but does for government agencies. SAR use to be investigated. All organisations need to work towards proper licensing and maintenance of fully type approved equipment with the necessary budget commitments.
- v) **Operational Safety & Interoperability** – there was some discussion on the risks associated with a communications failure during a SAROP. Some mitigating actions/practices were presented:
- VHF coverage can be improved with the use of better and appropriate aerials ($\frac{1}{4}$ and $\frac{1}{2}$ wave antennas rather than shortened rubber 'heliflex' types).
 - Better training in the use and operation of handheld radios by personnel in the field, including how to carry radios correctly.
 - SAROP planning to include alternate communications options.
 - Consider the use of live tracking for teams in the field.
 - Ensure there is proper log based tracking of teams during SAROPs.
 - Have regular sitreps from teams as part of normal radio traffic.
 - Standard Operating Procedures for loss of communications during SAROPs.
 - SAROP communications plans to include alternative channels.
 - Proper and professional relationships between organisations need to be established and maintained.

It was noted that all Category 1 SAROPs are NZ Police responsibility as the Coordinating Authority. All communications issues during SAROPs must be dealt with within the CIMS framework. NZ Police I&T are available 24/7 for assistance.

- vi) **Operational Redundancy** – it was agreed that deploying an inadequate quantity of people and assets needs to be avoided. This can be mitigated by having communications alternatives and Plan B's available. All plans for credible minimums of people and assets need to include a level of redundancy. Consideration should be given to

utilising other technologies such as SARSAT, SATCOM, and IITF (Internet in the Field).

- vii) **Technical Coordination** – some discussion as to whether or not to establish a communications sub-committee (national and/or regional). It was noted that AREC are available for resources, networking, and advice.

Action Point – organisations are to provide the NZSAR Secretariat with a list of names of experts for the Training Advisory Panel.

- viii) **Reporting** – some discussion on reporting requirements, and capturing lessons learned in the field. AREC provide some reporting for SAROPs they are involved with. The NZSAR website has a lessons learned section.

Action Point – lessons learned are to be submitted to the NZSAR website (www.nzsar.org.nz) for dissemination to the whole sector. All team members need to be aware of the correct reporting lines during SAROPs.

Session 4: Future

12. Ross Barr (NZ Police) provided an overview of the Public Protection and Disaster Relief (PPDR) network. Points of note included the decision to use the APCO P25 standard for the network, the agencies involved in the working group, standard operating procedures, and the transition of the police radio network into the whole of government network. The transition to the new police digital network will lead to the encryption of police communications. There was some discussion of the possible implications of this for the SAR sector. The Police have funding for the digital network to be rolled out in Auckland, Wellington, and Christchurch, with funding for the rest of the country expected over the next 5-6 years. The digital network is currently in place in the Wellington District (south from Otaki). Noted that the APCO P25 standard allows radios on the digital network to still operate on the old analogue network, which allows for a migration path.
13. The workshop engaged in an open session on future trends and technologies. Some items discussed were:
- i) **Mobile phones** – if they are in a coverage area, they allow for conversations to take place with teams in the field, as opposed to just passing messages. It is necessary to track the phone numbers and names of all team members. Other benefits are the ability to take photos and to MMS these back to the search base, and some phones are now GPS equipped. Noted that all calls must be logged as required by CIMS.
 - ii) **eText** – can provide group text messages to mobile phones, useful for callouts. Can also be used to send text messages to a victim's phone.

- iii) **Satellite phones** – NZ Police have a small quantity of these, however they are mainly used by the tactical squads.
- iv) **Tracking Systems (GPS over radio, Spot, Spidertracks, etc)** – one issue with these systems is the quality of the electronic mapping at the home base. It was also noted that there are a variety of different live tracking technologies being used across the country. It would be desirable to have a common system or standard of live tracking.
- v) **HF Radio Telephone Interconnects** – HF systems need to be used regularly to maintain good practice. NZ Police test their network (5680 kHz) every Monday at 1400hours.
- vi) **VHF** – NZ Police are in procurement stage of new digital VHF radios. These will have better technology batteries than current models. Batteries will be rechargeable, with two batteries per radio, allowing for two full battery cycles available in the field. Asset management programme will be in place, including unique unit codes for each radio.

14. The workshop was closed by Duncan Ferner.

Table of Agreements and Action Points Arising from the Workshop

| Item | Notes | Agency | Time Frame |
|-------------|---|--------------------|-------------------|
| 10 (iv) | Agreement that all agencies will collaborate and cooperate together on access to resources, and when purchasing new equipment, particularly repeaters. | All | Ongoing |
| 10 (iv) | AREC to develop a smoother 'single sign on' approach for licensing and interoperability requirements, which meets RSM requirements. | AREC | 31/03/10 |
| 10 (v) | To produce a stocktake of equipment and frequencies/channels used for SAR around the country. NZSAR Secretariat to engage appropriate people/agency to conduct the stocktake. | NZSAR & partner | 31/03/10 |
| 11 (i) | Agreement that all organisations are to have continuation plans, documented processes, and knowledge capture systems in place. | All | 31/03/10 |
| 11 (i) | Agreement that SAREXs need to utilise communications volunteers on a regular basis, to keep them involved. | Police | Ongoing |
| 11 (i) | NZDF CIS personnel are to be encouraged to transfer their skills to the voluntary sector, especially on the cessation of service. | NZDF | Ongoing |
| 11 (ii) | Agreement that all organisations are to have asset management programmes in place, including depreciation registers and asset tracking systems. | All | 31/03/10 |
| 11 (ii) | Agreement that all organisations are to have procurement policies and processes in place. These are to include processes to engage with partner organisations as per item 10 (iv). | All | 31/03/10 |
| 11 (iii) | Agreement that NZ Police HF channel 7 to be utilised for SAREXs when appropriate, to reduce demand on the HF SAROP frequencies. | Police | Ongoing |
| 11 (iii) | Police to utilise top/bottom channel assignments for SAREXs and SAROPs, to maintain separation. | Police | Ongoing |
| 11 (v) | Ensure there is proper log based tracking of teams during SAROPs, and have regular sitreps from teams as part of normal radio traffic. | Police / SAROP IMT | Ongoing |
| 11 (v) | Noted that Category 1 SAROPs are Police responsibility, and all communications issues must be dealt with in the CIMS framework. | All | Ongoing |
| 11 (vi) | Operational redundancy needs to be included in communications plans during SAROPs. These are to include communications alternatives and plan B's. | Police / SAROP IMT | Ongoing |
| 11 (vii) | Organisations to provide NZSAR Secretariat names of experts for the Training Advisory Panel. | All | 31/01/10 |
| 11 (viii) | Lessons learnt during SAROPs and SAREXs to be submitted to the NZSAR Secretariat for inclusion on the NZSAR website. | All | Ongoing |

List of Attendees

| Name | Organisation | email |
|---------------------|--------------------|--|
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