

SUBJECT TO ACPO AGREEMENT



Airwave service.

**Interoperability between Land Search and Rescue and the
Airwave Infrastructure.**

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Insp. C Jackson	PITO	18-2-04	Supt T Lunn.	PITO	Circulated & modified in PITO
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Insp. C Jackson	PITO	8-6-04	G. Lowe	National Interoperability Interworking Group.	
Insp. C Jackson	PITO	8-7-04	UK SAR Operators group.	UK SAR Operators group.	

Introduction

- 1.1. The intention of this paper is to initiate a process that is designed to achieve two parallel policies with ACPO/ACPOS and Land SAR on the latter's use of Radio for Command and Control of Land SAR deployment.
- 1.2. This paper sets out the requirements for Police interoperability with Land Search and Rescue with specific reference to the use of analogue to Tetra gateways as an enabler of radio communications between Airwave and the High band VHF frequencies allocated to Land SAR.
- 1.3. This document is a development of "Paper 3"¹ in the context of further roll out of the Airwave programme in Forces in the United Kingdom, and the agreed frequency plan which forms the basis of policy for communications by Land SAR.

2. History

- 2.1. The 1988 "Morritt Report" is the foundation for a great deal of the work in developing land SAR communication policy. Many recommendations in that report were never implemented.
- 2.2. In 1989 the Marchioness disaster again highlighted the problem of search and rescue communications and interoperability.
- 2.3. The UK SAR Operators Group, Communications Working Group in 2001 considered the opportunities that "Airwave" offered for its own communications and interoperability. It was decided that Airwave was too expensive for a voluntary body and more importantly it did not provide coverage in the terrain in which it is usually deployed.
- 2.4. In November 2003 The UK SAR issued its "Implementation and Control Document, Version 4.5 – October 2003" which set out a plan for the use of High Band VHF frequencies available for its sole use. There are more than 10 channels if we take into account the older ex-Home office channels.

¹ National Interworking Guidance & Best Practice. Paper 3: Working with the police in Search and Rescue.

2.5. These channels have now been removed from the licences of the Chief Constables and transferred to the maritime and Coastguard Agency. Henceforth the Chief Constables will need to apply for access to High Band for SAR purposes. (a "Block" application for England & Wales is being processed).

3. Current Situation

- 3.1. Section 6 of "Paper 3" set out a number of options for Land SAR and police interoperation.
- 3.2. On the 30th January 2004 a sub group of the UK SAR Operators Group, Communications Working Group, met to review these options in order that a clear policy on communications could be established.
- 3.3. In anticipation of the removal of the licence for low band frequencies a number of Land SAR teams have begun the process of acquisition of new radio stock capable of supporting the new frequencies. The target date set by the Operators Group for its regions to endeavour to change is 2005 with the Low Band frequencies being removed in 2009. Any team not able to migrate to High Band by 2005 needs to apply to retain use of low band frequencies.
- 3.4. The cost of this hardware purchase is mainly born by a few police forces who host Land SAR teams, although many of them operate in other force areas without any charge to those other forces
- 3.5. This process has not been supported by all sponsoring police forces and consequently has already led to some fragmentation. This could seriously reduce the ability of a national response to a disaster, as was the case in Lockerbie in 1988 where many SAR teams were utilised to search the wide rural areas for items from the destroyed aeroplane.
- 3.6. This fragmentation also serves to exclude the RAF SAR Forces and other MOD assets available for deployment anywhere in the United Kingdom who have a capability to roam widely. They need to have a clear

concept of communications and will invest in the necessary equipment to ensure they are deployable to support police forces where and when requested.

4. Current Command and Control Options.

- 4.1. Some forces have sufficient coverage from the Airwave network to enable their local SAR teams to have a loan of Airwave terminals. This arrangement can be effected under the terms of the licence for Airwave as a 7 day loan, or a separate contract under the “Airwave Extension Service”. This is costed on a per terminal basis where the force provides the terminals. This arrangement enables terminal provision at the bulk rate and affords easy contact arrangements via locally arranged talkgroups.
- 4.2. In the main however Airwave does not give adequate coverage in the terrain where Land SAR commonly deploy. In hill, mountain and moorland areas the use of VHF from either a fixed infrastructure or, more commonly, a vehicle-based transmitter provides a more effective solution.
- 4.3. In order for police control rooms to have interoperability with a deployed team it must have either access to those High Band frequencies, an officer at the SAR control point or a loan of Airwave terminals to the SAR team for use at a control point within Airwave coverage.
- 4.4. It is unlikely that a police control room will be in the coverage range of the High Band VHF in use by the Land SAR teams. The use of a police resource deployed at a control point is considered to be good practice but clearly may not be sustainable if other more pressing demands arise on that valuable resource. It is thus considered of paramount importance that a radio link between the police control room and the Land SAR team is available.
- 4.5. The UK SAR Operators Group would like to adopt a policy for interoperability which specifies the deployment of Radio Gateways to link their High Band frequencies to Airwave. It cannot of course dictate to

ACPO/ACPOS and therefore seeks to obtain agreement for the development of a parallel national police policy.

5. Technical /Operational Requirements.

- 5.1. A principle benefit of Airwave is its flexible use of talkgroups. This enables national roaming with the ability to contact any police force via agreed hailing talkgroups.
- 5.2. Within the national fleetmap there are 53 hailing talkgroups and 53 Emergency Services talkgroups, one of these for each police force.
- 5.3. Any “gateway” radio would need to be filled with the 53 hailing talkgroups and its own force area emergency service talkgroup plus that of its neighbours. It could also have locally agreed talkgroups.
- 5.4. In order to satisfy the needs of Land SAR Teams who have vehicle and fixed control bases, a transportable gateway device will be beneficial. This will also remedy licensing issues with the installation of fixed Tetra transmitters that may not be approved by O2.
- 5.5. It would be beneficial for well known search launch points to be tested in advance to confirm that Airwave coverage exists and also whether any fixed VHF networks provide cover at those points.

6. Security

- 6.1. The deployment of gateways is subject to security considerations as laid out in the PITO guidance paper².
- 6.2. This document defines the requirements that would be placed on an authorised³ user of an airwave terminal (i.e. a gateway device). They are these:-
 - 6.2.1. Recipients of the terminals should be checked to BC level.
 - 6.2.2. Gateways should be de-activated as soon as the deployment ends.
 - 6.2.3. The talkgroups used will not be used for police operational traffic and will be programmed for the Common Cipher Key only.

² Use of The Airwave Service and Terminals including Gateways by Authorised Public Safety Users and Non-Authorised Organisations.

6.2.4. Local robust audit procedures must be in place to account for the terminals.

7. Summary

- 7.1. This paper is part of a process to achieve two parallel policies. One within the Police Service and a second in the UK Land SAR. The two policies would compliment each other in support of radio communications between a Land SAR organisation from any part of the country and the Police Force that requested its deployment.
- 7.2. Land SAR policy is to use High Band VHF as it gives coverage in areas where Airwave will not.
- 7.3. In order to enable Command and Control of the Land SAR resources it is considered best practice to deploy analogue to Airwave gateways. This will enable nation-wide roaming of various Land SAR resources
- 7.4. It is requested that ACPO/ACPOS adopt a parallel policy to the UK SAR Operators Group.
- 7.5. Security issues are not a bar to the formation of this policy.
- 7.6. This paper seeks permission from ACPO/ACPOS to prepare draft policy in conjunction with The UK SAR Operators Group, Communications Working Group and the Airwave police users group (PUG) and Security Working Group (SWG) for subsequent agreement.
- 7.7. Paragraphs 3.4 and 3.5 highlight the inconsistency caused by the current funding arrangements for Land SAR teams. Whilst this paper is not primarily concerned with the funding issue it should be noted that establishing a common policy and funding arrangements are to a degree co-dependant and consideration of funding by ACPO (in Scotland the Executive have proceeded towards central funding) may serve to rationalise implementation of policy.

³ The current DTI list of authorised sharers includes Land SAR

8. Initial Recommendations

- 8.1. That PITO, ACPO, ACPOS and The UK SAR Operators Group, Communications Working Group prepare a policy for police communication with Land SAR (including military resources).
- 8.2. All Chief Constables to be made aware of the requirement to apply for High Band channels and to remove the current low band channels from their licence when migration is complete.
- 8.3. That ACPO consider central funding of the radio communication equipment of Land SAR in line with the position in Scotland.