



NPIA

National Policing
Improvement Agency

STANDARD OPERATING PROCEDURE GUIDE ON

MULTI-AGENCY AIRWAVE INTEROPERABILITY

2010

Produced on behalf of the Ambulance Chief Executive Group, Chief Fire Officers Association and Association of Chief Police Officers by the National Policing Improvement Agency

This Guide contains information to assist the ambulance service, fire and rescue service and police service and other Category 1 and 2 Responder Agencies in the United Kingdom in the use of Airwave for Interoperable Voice Communication.

It is not protectively marked under the Government Protective Marking Scheme.

STANDARD OPERATING PROCEDURE GUIDE ON MULTI-AGENCY AIRWAVE INTEROPERABILITY

This document has been produced by the National Policing Improvement Agency (NPIA) on behalf of the Ambulance Chief Executive Group, Chief Fire Officers Association (CFOA) and the Association of Chief Police Officers (ACPO). It will be updated according to legislative and policy changes and re-released as required.

All other enquiries about this publication should also be addressed to the NPIA-led Multi-Agency Interoperability Programme:

Telephone: 020 8200 3286

Email: interoperability@npia.pnn.police.uk

Website: www.npia.police.uk/interoperability

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FOREWORD

The need for responders to communicate with one another is never more essential than in response to an emergency. The resilient telecommunications strategy led to the creation of Telecoms Sub-Groups in each Local Resilience Forum to ensure plans are in place to enable communication, and importantly coordination, to continue when responding to any of the hazards and threats that you face. Airwave - the common radio platform – is one tool to provide this.

Completion of the Airwave rollout to the three core emergency services, alongside the hundreds of other organisations on the Airwave sharers list, presents us with a need for nationally agreed standards on usage and approach. Following the standards in this guide will enable operational commanders to access and share the information they need to make critical decisions on the ground - whatever the scale or complexity of an incident, or the nature of an organisation.

I commend the guide to you as a significant tool in improving local telecommunications plans and enable a real capability shift in inter-agency working.



Christina Scott
Director, Civil Contingencies Secretariat

This Standard Operating Procedure (SOP) Guide is designed to enhance Interoperable Voice Communication between the emergency services. It has been agreed by the Chief Officers' and Chief Executives' associations for the Ambulance, Fire and Rescue, and Police Services nationally, and is endorsed by their Government Departments.

The content has been researched widely and is presented as national good practice for achieving Interoperable Voice Communication using Airwave. For clarity, where a provision is deemed essential to successful interoperability, the word "must" is used to emphasise that this is mandatory rather than optional.

It is strongly recommended that each Category 1 and 2 Responder Agency using Airwave adopts and implements this SOP Guide as a template for its own operating procedures. When reviewing whether alternative practices already in place are still valid, each Responder Agency should consider whether, under independent scrutiny, they would give an equivalent and effective level of interoperability as provided for in this SOP Guide.

- i To assist with interpretation and reduce additional text, the terms **Responder Agency** or **Agencies** are used throughout this document as the generic, collective name for the Emergency and Public Safety Services plus all the other organisations that comprise the Civil Contingencies Act 2004 (CCA) Category 1 and 2 Agencies. In addition, the Military are implicitly within this group when providing aid to the Civil Authority, Civil Power or Civil Community. The term "responder" means a member of one of these Agencies. Other generic terms used are described in the **Glossary of Terms** (see **Appendix B**).
- ii This SOP Guide establishes the business rules for inter-agency radio communication at the minimum level of bronze-to-bronze (operational) command. Nevertheless, **the primary focus should be on silver (tactical) Incident Commanders**. There are established routes for communication in each agency, which is important for effective command, control and coordination of their resources. Ideally, inter-agency decision-making should be kept to the silver (tactical) commanders. It is recognised, however, that there will be exceptions where, operationally, the level at which interoperability takes place will need to be reduced to be more inclusive. Nevertheless, setting the standard at the level of command and management roles has been done to help ensure that in an operational environment network capacity is not exceeded, information is protected appropriately, and the integrity of command within each agency is maintained.
- iii This SOP Guide recognises and respects the well-established policies, protocols, practices and procedures in each emergency service and the individual roles and responsibilities of their commanders and managers. This SOP Guide aims to complement these and also provide a framework for multi-agency

communications to which other Responder Agencies (who have access to Airwave) can be aligned. Airwave is simply a technical means to exercise command, control and inter-agency coordination. This SOP Guide does not affect established doctrine on command and control, only the methods by which it can be communicated by radio. That point is also made clear in the *Guidance on Multi-Agency Interoperability*, first published in May 2009 and will be refreshed in 2010:
<http://www.npia.police.uk/en/13291.htm>.

- iv The introduction of Airwave is the result of organisational learning from events and incidents, both national and international that, in response, led the Government to make a significant investment in a common radio communications platform for the Responder Agencies.
- v This SOP Guide does not replace existing arrangements such as "face-to-face", and thus the use of Airwave by commanders should be an alternative, not a prerequisite. It is accepted that the preferred option is face-to-face, as it allows commanders to explore more fully each others strategies. However, it must be recognised that the geography, scale and complexity of an incident can present additional challenges, such as in the 2007 and 2009 UK floods, that means sole reliance on face-to-face contact is not sustainable, and can add to the operational risks. That is because it can represent a snapshot in time rather than real time, and the information may already be out of date by the time the face-to-face meeting takes place. It is on these occasions that Airwave provides a means technically for decision-makers to keep each other informed.
- vi The objective of this SOP Guide is to standardise procedures to help maximise operational capabilities and realise the full benefits provided by Airwave for multi-agency information sharing. This will help the Responder Agencies meet the public expectation that they make optimal use of Airwave to support both their individual and collective response to incidents and events.
- vii The case for Interoperable Voice Communication has already been made and is now enabled through talkgroups and other functionality provided specifically for this purpose on the Airwave network. It is critical to success that the interoperability talkgroups be configured correctly in control centres and Airwave terminals in accordance with the National Fleetmap standards for each agency. Equally critical is for personnel to be trained and exercised in their use. It is essential they become confident and competent in the procedures, which should be evident from their regular interactions with counterparts in other Responder Agencies.
- viii This SOP Guide provides the basis for that training. To help build confidence in the use of Airwave for multi-agency communication, familiarity is essential. That means the procedures used should be

the same and scalable regardless of whether responding to a local emergency or a high-impact event that has regional or national consequences. This principle is in accord with the Civil Contingencies Secretariat's Concept of Operations, which states:

"Response to emergencies should be grounded in the existing functions of organisations and familiar ways of working, albeit delivered at a greater tempo, on a larger scale and in more testing circumstances".

Section 1

INTRODUCTION

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Implementation of this SOP Guide is a major milestone on the “UK Interoperability Continuum” (see **Appendix A**). The latter represents the roadmap for achieving an optimal level of collaboration between the Responder Agencies and Government Departments. Its outcomes involve having in place competent people trained in the necessary processes, systems and standards, and equipped with the enabling technologies that provide access to real time information to support real time decision-making. The objective is to unify our collective capabilities in response to incidents and events and thereby increase safety for the public and first responders. This will be delivered within the context of an all hazards approach, involving the same procedures, policies and practices regardless of the scale of the incident or event and irrespective of whether it is man made or environmental.

1.1 AIRWAVE

- 1.1.1 This SOP Guide assumes a degree of prior technical knowledge by the reader of Airwave and its capabilities. A Glossary of Terms (see **Appendix B**) is provided to help with understanding certain technical points and to provide clarification as needed.
- 1.1.2 Publication of this SOP Guide is designed to coincide with completion of the rollout of Airwave to the Ambulance, and Fire and Rescue Services through the Ambulance Radio Programme and Firelink Project. These will provide them and the Police Service with a common radio network for their own communication needs as well as Interoperable Voice Communication with each other.
- 1.1.3 Airwave Solutions Limited (ASL) advises that there are more than 300 organisations amongst the wider community of Responder Agencies nationally that now have access to the Airwave network too, known as Sharers, and a further 600 approved who have yet to adopt the capability. More information can be found on the Ofcom website:
www.ofcom.org.uk/radiocomms/ifi/licensing/classes/business_radio/emergency
- 1.1.4 For the first time, Great Britain has a single radio network for all its Responder Agencies. Emergency services in Northern Ireland do not have access to the Airwave network; instead their radio capability is known as “Barracuda”.

1.2 REQUIREMENT FOR AIRWAVE

- 1.2.1 Prior to Airwave, the gap in interoperable communication capabilities had been commented upon regularly in debriefs and inquiries into incidents and events where it had compromised the efficient coordination between multiple organisations and impacted adversely on the safety of the public and first

responders. That is not to say the incidents were not managed appropriately; just not as effectively as can be achieved now using a common radio network. Airwave provides Responder Agencies with the only single communications device enabling commanders and managers to exchange real time information critical to real time decision making. This capability is also a vital aid to the exercise of more effective and efficient command, control and coordination, as this can be achieved remotely (without the need to meet face-to-face), so that commanders and managers can remain alongside their teams, which is where their leadership is most valuable.

- 1.2.2 The introduction of Airwave as a technological solution will only be successful and effective operationally once complementary processes and systems are implemented. These are needed to encourage all the right people to make full use of its capabilities and functionality. That also requires some change in current cultures around trusting and being confident in technology to do something that for years has been done more often than not in face-to-face exchanges. These processes and systems need to be embedded through training, and for competence to be tested in exercises, so they become ingrained quickly as business as usual. Regular use will build confidence and familiarity in the wealth of functionality now available in Airwave terminals. This needs to be embraced by those entrusted with command. Their leadership is now required to change pre-existing cultural conventions, so responders can take full advantage of all the operational benefits provided by a common radio communications platform.
- 1.2.3 Using Airwave as a tool to support the exchange of real time information between commanders and managers in the different agencies is vital to the effectiveness of their decision-making. It will improve their individual and collective situational awareness and allow for a better understanding of how to work together to deploy their resources in the most effective and efficient manner. It will also enable them to talk through and test the impact of decisions before making them. This capability contributes greatly to building the "Common Operating Picture", using all available sources of information wherever held, which then allows better informed decisions to be reached. This will improve significantly the safety of members of the public and responders.

1.3 BUSINESS RULES

- 1.3.1 Each Responder Agency has adopted its own approach to implementing Airwave to meet their individual operational requirements. This SOP Guide provides a consistent set of business rules as the Standard Operating Procedures to enable Interoperable Voice Communication to be achieved seamlessly by harmonising these different approaches into one when required. In addition, success is dependent on the Airwave radio equipment being configured to the common standard laid down for the National Fleetmap Talkgroups.

1.3.2 These business rules regulate how Interoperable Voice Communication on Airwave should be implemented operationally. They are necessary to:

- Enable controlled use between authorised responders;
- Discourage improvisation;
- Support communications across multiple users and agencies without exceeding the capacity of the Airwave network;
- Provide appropriate information security; and
- Maintain the integrity of command within each Responder Agency.

1.3.3 These business rules provide a set of minimum standards that define the options for invoking Interoperable Voice Communication including, when, why, and who should be authorised. This SOP Guide also establishes the complementary changes to business processes essential to make sure people in command and management roles, as well as communications personnel in control centres, have the skills and confidence to use the full range of Airwave functionality for both same-service and multi-agency communications. These rules have not existed previously. Their adoption and implementation now are vital to the successful, collaborative use of Airwave. Relevant provisions of this SOP Guide, if not a distillation of the entire document, should be integrated into the relevant protocols, practices and procedures for multi-agency working in each agency.

1.3.4 When and Why

The following criteria are provided as a guide to when and why the decision should be taken to invoke Interoperable Voice Communication using Airwave. Fundamentally, it is to support the exchange of real time information, outside of face-to-face contact, for the purposes of adding value by:

- Increasing safety;
- Minimising risk or harm to the public and responders;
- Alerting responders rapidly to an immediate hazard;
- Supporting decision making either at an individual level or as a collective group;
- Contributing to a common understanding and awareness of the situation;
- Improving communications between all or some responders attending the incident;
- Improving coordination.

1.3.5 Who

Whilst Airwave provides the capability for all users from different agencies to talk to each other on common talkgroups, in most instances this will not be appropriate and could subvert command, control and coordination by their commanders and managers. Therefore, this SOP Guide encourages Interoperable Voice Communication to be authorised by an incident supervisor/commander and its use should be kept at the minimum command level of bronze to bronze (operational). However, it is recognised there can be very practical exceptions. For example, during the initial mobilisation and response, **any** ambulance clinician, firefighter, or police officer (or in fact any other responder) acting in a coordinating role at the incident ground (ahead of a formal command structure being set up) can request invocation if doing so will add value for any of the reasons given in **section 1.3.4**.

1.3.6 Compliance

This SOP Guide describes the standards for invoking Interoperable Voice Communication, its use and then discontinuation. These must be reflected in the plans for each Responder Agency including details of when, why and who should be authorised to do so. It is essential that responders are not only trained in these rules but effective supervision is put in place to ensure people abide by them.

1.4 ROLES AFFECTED BY THIS SOP GUIDE

The standards set out in this SOP Guide apply to all people in the Responder Agencies who perform any of the following operational roles in the context of a multi-agency response to an incident or event:

- Gold (strategic);
- Silver (tactical);
- Bronze (operational) – functional and geographic command;
- Staff officers;
- Command support staff;
- Tactical advisers to the above;
- Force Operational Airwave Tactical Advisers (police);
- Inter-Agency Liaison Officers (or equivalent);
- Communications personnel employed in control centres and forward command units;
- Staff responsible for writing communications plans and operational orders; and
- Staff developing SOPs for emergency planning and emergency preparedness.

1.5 CRITICAL SUCCESS FACTORS

- 1.5.1 The SOP Guide provides the national standard against which existing, locally adopted practices, procedures and protocols should be reviewed to ensure they are consistent and compatible with the new approach now that Airwave is available to such a broad range of users. Ideally, this should be managed through the Local Resilience Forum¹ (LRF). The Regional Resilience Forum² (RRF), or equivalents, has an important role too: to ensure consistency extends seamlessly across all their LRFs and with the neighbouring LRFs in other regions, so that there is one approach to using Airwave for multi-agency interoperability locally, regionally and nationally.
- 1.5.2 Plans for using Airwave must, therefore, be scalable to support the full range of incidents from the localised event through to those emergencies that require a regional or national response. Telecommunications Sub-Groups (TSGs) should incorporate the standards set out in the SOP Guide, which will also help them meet their obligations to have in place a resilient telecommunication plan.
- 1.5.3 As a critical milestone on the “UK Interoperability Continuum”, implementing this SOP Guide will help Responder Agencies accelerate their advance towards the optimal level described. However, success is not measured simply by evidence of having a plan and a batch of Airwave terminals ready for use. Instead, it is measured by the public witnessing responders demonstrating familiarity in the procedures and using the terminals effectively and proficiently whenever and wherever required.
- 1.5.4 One of the primary purposes of this SOP Guide is, therefore, for each Responder Agency to incorporate its practices and procedures into their methods of working and to achieve that through training their people. It should feature in the training syllabus for responders and communications staff in every agency. It should also be written into operational and contingency plans, and objectives set to test them robustly in exercises to ensure proficiency and competence. The ideal is to make Interoperable Voice Communication instinctive as business as usual rather than an exception for all the appropriate people. Building confidence in these procedures is the key to success, so that users are familiar with them in advance of any operational need to invoke them.

¹ Subsequent references to LRFs should be interpreted to include their equivalents in Scotland and London.

² Subsequent references to RRFs should be interpreted to include their equivalents in Scotland and London.

1.6 ABOUT THIS SOP GUIDE

This SOP Guide has been developed collaboratively by a national team drawn from the Ambulance, Fire and Rescue, and Police Services in consultation with the Military and wider Responder Agencies for England, Wales and Scotland. It complements a range of advisory documents that include:

- ***Guidance on Multi-Agency Interoperability (2009);***
- ***ACPO (2009) Guidance on Command and Control;***
- ***ACPO (2009) Guidance on Emergency Procedures;***
- ***The UK Interoperability Continuum (version 4, 2010);***
and
- ***Fire Service Operations – Incident Command.***

Section 2

OPTIONS FOR AIRWAVE INTEROPERABILITY

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This section provides guidance on the range of options available for achieving Interoperable Voice Communication using the functionality offered by Airwave, as follows:

- **Interoperability Talkgroups;**
- **Direct Mode Operation;**
- **Telephony;**
- **Point-to-Point;**
- **Text;**
- **Status Messages;**
- **Patch and Regroup; and**
- **Dynamic Group Number Assignment.**

2.1 INTEROPERABILITY TALKGROUPS

Airwave adheres to the common standards for a Terrestrial Trunked Radio (TeTRa) system, which enables all Responder Agencies equipped with this capability to have Interoperable Voice Communication with each other as and when authorised anywhere in Great Britain. This is also dependent on them having access to the range of talkgroups that support interoperability, and each of these is described in the following sub-sections. Permission to install the majority of those most commonly available is controlled by the Emergency Services Sharer Advisory Group (ESSAG) and the National Interoperability and Interworking Group (NIIG); both chaired by the NPIA. Authority to access and use these operationally for an incident or event may also require permission from the local police force and, in some instances, ASL. The table below summarises those most widely available.

| Multi-Agency Interoperable Voice Communication Talkgroups | | | | | | |
|---|---|---|---|---|---|--|
| Name | Detail | Terminal Load | Control Centre / ICCS Load | Availability | Intended Use | Comments |
| Police Sharers Hailing Talkgroup | PFFFF SHG1 One per Police Force | Talkgroup available in all 'Blue light' terminals | Pol: mandated to be available | Permanently enabled and monitored | Initial Hailing | Also available in specific approved Sharers' terminals |
| | | | FRS: not mandated but available on fixed mobiles | | | |
| | | | Amb: not mandated, but some have it configured | | | |
| Incident Command Talkgroup | PFFFF IC1 One per Police Force | Talkgroup available in all 'Blue light' terminals | Pol: mandated to be available | Permanently enabled - not permanently monitored | Silver Level Comms | Also available in specific approved Sharers' terminals |
| | | | FRS: subject to local agreement - available on fixed mobiles | | | |
| | | | Amb: mandated for forces within the Ambulance Trust's boundary | | | |
| Emergency Services Talkgroup | PFFFF ES1-3 Three per force (5 in the MPS) | Talkgroups available in all 'Blue light' terminals | Pol: mandated to be available | Permanently enabled - not permanently monitored | Bronze Level Comms | Also available in specific approved Sharers' terminals |
| | | | FRS: not normally - available on fixed mobiles | | | |
| | | | Amb: mandated for forces within the Ambulance Trust's boundary | | | |
| Inter-Agency Talkgroup | XFFFF IAT1 One per Police Force | Available in ALL sharers terminals | Pol: mandated to be available | Permanently enabled - not permanently monitored | Specific Airwave Users at local spontaneous events | Provides a force specific command talkgroup for ALL responders |
| | | | FRS: not mandated - available on fixed mobiles | | | |
| | | | Amb: not mandated | | | |
| Multi-Agency Mutual Aid Talkgroups | XMAMA 01-10 (10 available) | Available in ALL sharers terminals | Pol: not mandated | XMAMA 01 is permanently enabled | All Airwave Users at wide area events | XMAMA 02-10 are available on request from ASL |
| | | | FRS: not mandated - available on fixed mobiles | | | |
| | | | Amb: not mandated | | | |
| Police Mutual Aid Talkgroups | PMA 81-90 (10 available) | All 10 talkgroups available in all 'Blue Light' terminals | Pol: not mandated | PMA 81-90 are available on request from ASL | Specific Airwave Users at local police-led planned events | Also available in specific approved Sharers' terminals |
| | | | FRS: not mandated - available on fixed mobiles | | | |
| | | | Amb: not mandated | | | |

Note 1: Use of each of the talkgroups shown in the table is not mutually independent of the others. Users are encouraged to be flexible and employ whichever combination of talkgroups best suit the circumstances of the incident or event.

Note 2: The benefits from using this set of talkgroups is that they are commonly available to a broad range of Responder Agencies, which means as an incident escalates, and authority given, additional Airwave Users can join the communication exchange seamlessly by selecting these talkgroups on their own terminals.

Note 3: Use of a common talkgroup for Incident Command, such as IC1, will enable all who fulfil the role of silver (tactical) command to have a single channel for exchanging information to support their collective decision making and coordinate their response. Inviting others, such as bronze (operational) commanders, on to that same talkgroup at regular times provides an opportunity to give briefings and updates to make sure that everyone across and up and down the command structures are kept informed fully and consistently. Alternatively, those on IC1 can switch to one of the ES talkgroups for the same purpose.

Note 4: Use of common talkgroups for operational working, such as IAT1, XMAMA 01 to 10, and PMA 81 to 90, enable Airwave Users from multiple Responder Agencies to have a single channel for coordinating particular tasks and activities. This can be done in conjunction with using the IC1 and ES talkgroups for command communications to agree and report back on these actions.

Note 5: To help with interpreting the table, PFFFF indicates the alpha tag for the specific force talkgroup identifier. When the number of talkgroups provided to the national police forces, e.g. British Transport Police, Civil Nuclear Constabulary and the Ministry of Defence Police, are added to those held by the local territorial forces, a total of 54 sets are available for Interoperable Voice Communication.

Note 6: Alpha tags of the interoperability talkgroups that belong to and are managed by ASL have an X prefix (formerly an O2 prefix). Nationally, there are ten Multi-Agency Mutual Aid (MAMA) talkgroups and ten Sharer accessible Police Mutual Aid (PMA) talkgroups available for multi-agency Interoperable Voice Communication. Except for XMAMA 01, these talkgroups have to be booked with ASL in advance.

Note 7: There may be competing demands to use these PMA and MAMA talkgroups and although, ideally, ASL requires six weeks prior notification, spontaneous requests will be responded to immediately. Early booking does not guarantee priority in the event of multiple applications. The NPIA Fleetmapping and Interoperability Managers can help arbitrate any conflicting applications.

Note 8: To ensure a common understanding of alpha tags and what functionality each talkgroup provides, it is essential that a

standardised approach is taken to codifying them. For example; PFFFF³ SHG1: where the SHG1 refers to the national standard for the force Police Sharers Hailing Talkgroup (see **section 2.1.5**). Consistency also applies internally to each agency to ensure that the alpha tag presented on the terminals used by control centre operators is identical to that presented on those held by users. This is particularly relevant to those talkgroups that are not in regular use and, thus, unfamiliar to users.

2.1.1 Police Sharers Hailing Talkgroup (PFFFF SHG1)

2.1.1.1 There is one Police Sharers Hailing Talkgroup for each force to **enable approved non-police users from specific Responder Agencies to initiate contact with the local Police Force within whose area they are operating**. Consequently, this talkgroup offers a means for those Responder Agencies to initiate Interoperable Voice Communication. Although not intended for prolonged exchanges, this talkgroup **can be used for multi-agency Interoperable Voice Communication in the very early stages of a response to an incident** until control centre operators can make arrangements to switch to others more appropriate for the communication needs of all Airwave users.

Note: To access the talkgroup, the user needs to select it on their terminal and then press the Push to Talk (PTT) button to speak to the police control centre.

2.1.1.2 This talkgroup is shared with specific Responder Agencies that use Airwave on an “as required” basis. Consequently, access is **not given to all Airwave users**, and there must be a specific requirement to do so. Approved users include:

- Partner Responder Agencies, e.g. the Fire and Rescue, and Ambulance Services, plus Strategic Health Authorities, Primary Care Trusts, and Air Ambulances;
- Traffic Officers working for the Highways Agency, Traffic Wales and Transport Scotland;
- British Army, Royal Navy, Royal Air Force plus the Royal Military Police the Royal Navy Provost, and individual regiments, such as the Royal Signals;
- Investigative and enforcement agencies, such as the Department for Work and Pensions, Gangmasters Licensing Authority, UK Border Agency, and HM Revenue and Customs;
- Royal Society for the Prevention of Cruelty to Animals (RSPCA), certain blood donor transport companies, and specific council warden schemes;
- Voluntary organisations, such as Search and Rescue Units, British Red Cross (but not, currently, St John Ambulance); and

³ The P component refers to Police and FFFF to the individual force code, e.g. PWMER is Police West Mercia.

- Environment Agency and Health Protection Agency.

2.1.2 Multi-Agency Incident Command Talkgroup (PFFFF IC1)

2.1.2.1 Each Police Force has one Multi-Agency Incident Command (IC1) Talkgroup that may be used to provide Interoperable Voice Communication at silver (tactical) command level between the police and other agencies.

Note 1: To access the talkgroup, the person authorising its use first needs check with the relevant police control centre that it is available. To use it, the talkgroup should be selected on the terminal, and then press the PTT button to speak.

Note 2: Use of this talkgroup need not be limited to Silver (tactical). Bronze (operational) commanders can also be invited on to this talkgroup as and when necessary to join the exchange for a regular briefing.

2.1.2.2 This talkgroup will only be exchanged with approved Responder Agencies authorised by the ESSAG or NIIG. The following are authorised currently:

- Police forces: including the British Transport Police (BTP), the Ministry of Defence Police and Guarding Agency (MDP) and the Civil Nuclear Constabulary (CNC);
- Emergency services: including the Fire and Rescue, and Ambulance Services, and the Maritime and Coastguard Agency;
- Highways Agency, Traffic Wales and Traffic Scotland;
- British armed forces when providing Military Aid to the Civil Power, Civil Authority, Civil Community, and on other occasions when they need Airwave to communicate with partner agencies;
- Government Agencies: UK Border Agency, HM Revenue and Customs, and Department for Work and Pensions;
- HM Prison Service and Category A prison escort services; and
- Local Authority Emergency Responders from the Emergency Planning Teams.

2.1.2.4 As control of these talkgroups rests with the police, permission to use the IC1 Talkgroups must be obtained from the police control centre. It is not necessary for the police to be operationally involved.

2.1.3 Emergency Services' Talkgroups (PFFFF ES1 to 3 (5))

2.1.3.1 Each police force has a set of three Emergency Service Talkgroups (the Metropolitan Police Service has five) to **provide Interoperable Voice Communication at between police and other agencies**. It can be used for both planned events and spontaneous incidents.

Note 1: To access the talkgroup, the person invoking its use first needs check with the relevant police control centre that it is available.

Note 2: It is recommended that these talkgroups can also be used as the default interoperability talkgroup(s) (see **section 2.2**) for **all users regardless of role** in the immediate response to an incident involving multiple agencies where this would add value. When employed for this purpose, users must advise their control centre in advance if they will be moving from their existing working talkgroup, or that they will be utilising additional talkgroups. The police control centre may be best equipped to take responsibility for management of communications on this talkgroup, along with its monitoring and audio recording.

2.1.3.2 These talkgroups will only be exchanged with approved Responder Agencies. The following are authorised, currently:

- Police forces: including the British Transport Police (BTP), the Ministry of Defence Police and Guarding Service (MDP) and the Civil Nuclear Constabulary (CNC);
- Emergency services: including the Fire and Rescue and Ambulance Services, and the Maritime and Coastguard Agency;
- Transport Agencies: the Highways Agency, Traffic Wales and Traffic Scotland;
- British armed forces when providing Military Aid to the Civil Power, Civil Authority, or Civil Community and on other occasions when their personnel need to communicate by radio with partner agencies;
- Government Agencies: UK Border Agency, HM Revenue and Customs, and Department for Work and Pensions;
- HM Prison Service and Category A prison escort services; and
- Local Authority Emergency Responders from the Emergency Planning Teams.

2.1.3.3 As control of these talkgroups rests with the police, permission to use the ES Talkgroups must be obtained from the police control centre. It is not necessary for the police to be operationally involved.

2.1.4 Inter-Agency Talkgroup (XFFFF IAT1)

2.1.4.1 This talkgroup is available to **all** Airwave users. The **X** element of the alpha tag signifies that these are owned by ASL though managed through the local Police Force (the FFFF element of the Alphanag). **It provides Interoperable Voice Communication across a broad community of Responder Agencies for use at a local event or incident.** It can be used for both planned events and spontaneous incidents. This is particularly relevant at local events involving multiple agencies where Airwave provides the only common means of achieving this.

Note 1: To access the talkgroup, the person requesting (see [section 2.1.4.3](#)) its use first needs check with the relevant police control centre that it is available, e.g. not being used for another incident or event. To use it, the talkgroup should be selected on the terminal, and then press the PTT button to speak.

Note 2: Users should bear in mind the broad community with access to this talkgroup and thus consider alternative means of communicating over it information of a sensitive nature.

Note 3: When determining whether to use IAT1, the MAMA1-10 range (see [section 2.1.5](#)) or one of the Police Mutual Aid (PMA) Talkgroups (see [section 2.1.6](#)), consideration should be given to the advantage IAT1 has over the MAMAs and PMAs, as it can be invoked immediately without referral to ASL and can be accessed by a broader range of agencies (there is also the fact that MAMAs and PMA 81-90 aren't mandated to be available in control centres). Thus IAT1 would be more suitable for a spontaneous incident involving multiple agencies (with access to this talkgroup), whereas the PMA 81-90 range would be better for planned events that will be coordinated by the police involving the named Responder Agencies (see [section 2.1.6.3](#))

2.1.4.3 As control of these talkgroups rests with the police, permission to use the XFFFFIAT1 Talkgroups must be obtained from the relevant police control centre. It is not necessary for the police to be operationally involved.

2.1.5 Multi-Agency Mutual Aid Talkgroups (XMAMA 01 to 10)

2.1.5.1 These talkgroups are available to **all** Airwave users. The **X** element of the alpha tag signifies that these are owned by ASL, which also has responsibility for invocation. They provide Interoperable Voice Communication across a broad community of Responder Agencies for use at a large-scale or wide area event or incident. XMAMA 01 is, however, permanently enabled and may be used in spontaneous response to an incident. Nevertheless, as this talkgroup is available nationally to all Airwave users, ASL must be consulted beforehand to check that it is not in use already elsewhere. ASL has to be requested to invoke the talkgroups in the range XMAMA 02 to 10.

Note 1: Any agency can decide to use them at a particular event or incident. Preparation is essential as there can be high demand for these talkgroups. Access is controlled and facilitated by ASL via its Network Management Centre (NMC). To use them, the appropriate talkgroup should be selected on the terminal, and then press the PTT button to speak.

Note 2: Users should bear in mind the broad community with access to this talkgroup and thus consider alternative means of communicating over it information of a sensitive nature.

Note 3: These talkgroups are of benefit when users outside the emergency services need to be able to communicate over Airwave and do not have access to other interoperability talkgroups.

2.1.6 Police Mutual Aid Talkgroups (PMA 81–90)

2.1.6.1 These are termed “closed” talkgroups for joint-agency operations when a control centre operator is not usually required to monitor usage, as this can be done by users and their supervisors on the ground. They are for use at planned events and spontaneous incidents on any scale that are coordinated by the police. The decision to use them rests with the police incident supervisor/commander, who, in consultation with their Airwave advisors, should take into account any apparent risks of not having a control centre monitoring or audio recording communications.

2.1.6.2 These talkgroups are available nationally to all police forces and specific Airwave users (see **section 2.1.6.3**). The talkgroups are owned by ASL and as such they must be consulted beforehand to check which are available for use. Preparation is essential as there can be high demand for them. Examples of their use include:

- For at incident management, in addition to the mandated Emergency Service (ES) and Incident Command (IC) Talkgroups;
- For multi-agency exercises as part of the National Exercise Programme.

2.1.6.3 These talkgroups will only be exchanged with approved Responder Agencies. It still remains a matter for each Responder Agency to consider whether or not to include these talkgroups on its Communications Control Interface (CCI) or equivalent, and availability should be confirmed before proposing its use. The following are currently authorised:

- Emergency services: including the Fire and Rescue and Ambulance Services, and the Maritime and Coastguard Agency;
- Transport Agencies: the Highways Agency, Traffic Wales and Traffic Scotland;
- British armed forces when providing Military Aid to the Civil Power or Civil Authority, and on other occasions when needed to communicate with other agencies;
- Government Agencies: UK Border Agency, HM Revenue and Customs, and Department for Work and Pensions; and
- HM Prison Service and Category A prison escort services.

2.1.7 Additional Guidance on Using Talkgroups

2.1.7.1 It is considered good practice by those already experienced in using Airwave to create a preset profile on control centre terminals for specific instances. In a fast moving operational

scenario, this automates the process for activating the required talkgroup(s). It provides operators with rapid, easy access to a set of pre-determined talkgroups from which to select those most appropriate for their needs. Examples would include Profiles for a major incident, and the roles of silver (tactical) and bronze (operational) commanders. The benefit is that this approach removes the delay caused by navigating manually through all the talkgroups available to then make the appropriate selection.

- 2.1.7.2 To increase the options for interoperability, the Ambulance, Fire and Rescue, and Police Services each have their own single service talkgroups for mutual aid. These can also be shared with other agencies, but will need suitable arrangements for doing so, which have yet to be agreed. Additionally, more PMA interoperability talkgroups (131 to 150) will become available in the future. But, again, they can be used only once all the relevant Responder Agencies have adopted them.
- 2.1.7.3 It should be noted that some agencies have made their own local arrangements to use certain talkgroups for interoperability outside the set mandated nationally. Whilst this SOP Guide does not cover their use, the general principles about the need to be mindful of the impact on other Airwave users and issues affecting capacity, such as use of telephony and point to point (see [section 2.3](#)), should still be adhered to.

2.2 DEFAULT INTEROPERABILITY TALKGROUP(S)

- 2.2.1 Further to the guidance given in [section 2.1.1](#), Responder Agencies should give active consideration to the operational benefits of designating a talkgroup, such as Emergency Service 1 (ES1), or a set of talkgroups, such as ES1 to 3, as the default setting for immediate use by all first responders during the initial stages of the response. It will be for each agency to assess the merits of this approach, in collaboration with their partners. Where adopted, local SOPs need to include a clear policy to determine which Responder Agency will take responsibility for coordinating implementation through their control centre.
- 2.2.2 Using a “default interoperability talkgroup” has both benefits and limitations, some of which are listed below.

Benefits:

- This simple process is one that can be understood easily and thus trained more readily than perhaps others, so responders become familiar with its use and are more likely to select and use it instinctively as the first option in times of crisis;
- Its adoption for everyday incidents will help embed the principles of interoperability around the value of exchanging decision-critical and mission-critical information between agencies and building the Common Operating Picture;

- Such use will be scalable, allowing for a larger communications structure to be built upon the initial foundation to help meet demands as the incident escalates to involve an increase in resources;
- Its use will ensure that, when Interoperable Voice Communication is an urgent imperative, users are not delayed waiting for a direction on which talkgroup to select.

Limitations:

- Responder Agencies whose boundaries are not coterminous may have a variety of options for the default interoperability talkgroup which, without careful planning, could cause confusion as to which is the most appropriate in a particular geographic area. An example would be where the boundaries of the Ambulance and/or Fire and Rescue Services are not aligned with a single Police Force area;
- Responder Agencies with sufficient users should plan for instances when the default interoperability talkgroup will already be in use. In such cases, the coordinating control centre will need to provide operators to monitor all of the talkgroups required for Interoperable Voice Communication. It may also need to oversee allocation of the most appropriate and available talkgroup rather than allow responders to make the selection.

2.3 ALTERNATIVE FUNCTIONALITY FOR AIRWAVE INTEROPERABILITY

2.3.1 In addition to the interoperability talkgroups, Airwave functionality provides alternatives for achieving Interoperable Voice Communication, and these are described below. Even though Airwave has been adopted widely, Responder Agencies can have different contractual or operational constraints on its use, as well as differences in the equipment available. This can mean that some of the alternatives described might not be available to everyone. Communication plans involving multiple agencies need to take these differences into account and assumptions should not be made without confirming capabilities beforehand with each agency involved. Certainly, there should be no expectation that a Responder Agency will have to use their Airwave equipment outside their contractual arrangements, or use technical features that are prohibited, unsupported technically, or unfamiliar to them.

2.3.2 Direct Mode Operation (DMO)

2.3.2.1 DMO is the equivalent of back-to-back communications on an analogue radio system and relies on line of sight for best results. It enables users to communicate directly with each other over a limited range independent from the Airwave network and infrastructure. DMO can be used in areas of poor or non-existent coverage, including in-building that other Airwave talkgroups

cannot penetrate in Trunked Mode Operation (TMO). The power output of the terminal plus the geography and topography of the location will determine the effective range.

- 2.3.2.2 When Interoperable Voice Communication on DMO is required, a supervisor at the incident ground must select an appropriate DMO Talkgroup for responders to use. They should ensure all users from each agency involved are advised of that fact. Where vehicle coverage is available, Gateway functionality can extend handheld coverage by linking a TMO talkgroup to a DMO one. Where no coverage is available a Repeater can provide a local DMO network for handheld terminals. Users should also be alerted to the presence of the Repeaters and Gateway. In the case of the Gateway, this will involve giving details of the TMO Talkgroup and control terminal location.

Note 1: It is recommended that in the first instance the ES1 Talkgroup (if chosen as the solution for a default interoperability talkgroup) should be the primary choice for the TMO Gateway interoperability talkgroup.

Note 2: Fire and Rescue Service vehicles do not have the Repeater function, and only specific Police and Ambulance vehicles have this and the Gateway functionality enabled. DMO is not available within the terminals used by the Scottish Fire and Rescue Services.

- 2.3.2.3 When DMO is selected, unless terminals are connected to the infrastructure on a talkgroup via a Gateway within the standard TMO coverage, terminals are not able to communicate on the Airwave network. Consequently, there is no access to a control centre and no ability for them to monitor activity.
- 2.3.2.4 An emergency button activation will notify terminals operating on the same DMO Talkgroup within range. How this operates is dependent on the terminal and how it has been configured by each agency
- 2.3.2.5 It is possible to configure a handheld terminal so that when it is switched to DMO it will relay back to a specific vehicle mounted terminal which provides the Gateway to a TMO talkgroup. Where this has been set up, an emergency activation will result in all users in range on the DMO Talkgroup being notified. However, those operating in TMO will only see the Individual Short Subscriber Identity (ISSI) of the gateway terminal displayed. This information will be shared back to the control centre terminal and all terminals monitoring the TMO Talkgroup.
- 2.3.2.6 DMO has a role in incident support and fallback, particularly when used with DMO/TMO Gateways, but its limitations must be clearly understood. Range is restricted, so none of the advanced features of TeTRa that require the support of a network and infrastructure are present, and use of DMO can drain battery power faster than TMO.

2.3.3 Telephony

The Telephony function on Airwave can have a significant impact on network capacity. In addition, mindful of the post incident debrief and audit of communications, there is little or no audio recording capability of telephony. Therefore, its use should be discouraged at incidents and events.

2.3.4 Point-to-Point

The use of Point-to-Point is similar to a 'private' talkgroup call between two terminals. Where commanders from the various Responder Agencies have access to the ISSI numbers for their counterparts and it is essential to do so, Point-to-Point may prove a useful option for one-to-one communications. It can have a significant impact on network capacity while excluding others from useful information exchange and its use, like telephony, should be restricted to essential and relevant business only at incidents and events. It will also be appropriate to seek advice from a (police) Force Operational Airwave Tactical Advisor (FOATA) (see **section 3.1**) on whether or not to allow use of this function.

2.3.5 Text

The use of Text as an interoperability option is of limited benefit. It should be noted that, unlike a mobile telephone, Airwave texts are neither stored nor forwarded if the recipient terminal is turned off. While future generations of software will allow texts to be stored and forwarded, the capacity of an individual terminal to store messages is limited and, thus, the use of text over the Airwave network is far from ideal for achieving interoperability.

2.3.6 Status Messages

At this time, Status Messages from one agency will not be read on the Integrated Communications Control System (ICCS) in another. This includes status messages concerning a Requests to Speak (RTS) and a Priority Call.

2.3.7 Patch and Regroup

Patch and Regroup allows an operator to bring together users on two different talkgroups without them having to alter their own talkgroups on their terminals. This may also reduce demand on capacity, as the impact of two talkgroups patched together can be the same as operating one.

Note 1: When using Patch and Regroup, operators should be aware that for all the audio links to be available and activation of the emergency button apparent to them, both talkgroups must be selected by each operator position monitoring the event.

Note 2: There are sufficient, flexible talkgroups to render Patch and Regroup unnecessary under most circumstances; particularly when use of this function for at least one emergency service will tie up an operator for the duration of its use. Thus, it may be appropriate to consider this only as a last resort. If, however, it is required, operators must ensure that they remove the patch once the requirement has ended.

2.3.8 Dynamic Group Number Assignment (DGNA)

Sharing a talkgroup to enable interoperability is also possible using Dynamic Group Number Assignment (DGNA). This allows the control centre for one Responder Agency to send a talkgroup it owns to a terminal held by another Responder Agency over the Airwave network. Though DGNA can enable Interoperable Voice Communication in an unpredicted emergency situation, there are a number of technical points that can make this appear a complex process. DGNA should, therefore, only be deployed after consultation with Airwave specialists. Appropriate prior planning with detailed instructions written into the local SOP should clarify when and how to use this process.

Section 3

PLANNING ACTIVITIES

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3.1 TACTICAL AND TECHNICAL ADVICE: FOATAS AND AIRWAVE TEAMS

In addition to their in-house Airwave Teams, each police force has a number of people trained to provide tactical and technical advice on how to maximise the use of Airwave. These are known as Force Operational Airwave Tactical Advisors (FOATAs). Other Responder Agencies may have similar advisors and in-house Airwave Teams. Their advice should be sought during the initial planning phase of any operation involving different specialist and non-specialist responders from the same agency that need multiple talkgroups, as well as those incorporating multiple Responder Agencies that will be using Airwave too. There is equal merit in seeking their guidance early in response to a spontaneous incident. In both scenarios, they can apply their operational and technical knowledge of Airwave to develop a tactical communications plan that will make sure optimal use is made of available talkgroups. The objective is to satisfy the communications needs of **all** the Responder Agencies using Airwave. ASL can also be contacted for advice, guidance and support.

3.2 POLICIES, PLANS AND PROCEDURES

- 3.2.1 To help achieve an optimal level of operational and technical cohesion, local and regional SOPs for Interoperable Voice Communication must be written with consideration for all partner Responder Agencies.
- 3.2.2 Contingency plans developed between Responder Agencies should contain a clear description of the tactical use of Airwave to achieve effective Interoperable Voice Communication. Airwave Teams and FOATAs should be involved in this. They should also take part in the post-incident debrief to ensure that any improvements identified are noted and then implemented.
- 3.2.3 Operational Orders and Event Plans must have well-defined communications plans with the options for achieving Interoperable Voice Communication clearly signposted, including the nominated interoperability talkgroup for the event (and contingencies for escalation). When planning communications in advance of an event, consideration should be given to the possibility that some of the interoperability talkgroups more easily available, such as ES 1 to 3, will also be required for spontaneous incidents. Confusion will arise if users responding to an incident find the talkgroups they would switch to instinctively in these circumstances are already in use for a planned event. Therefore, wherever possible usage of certain talkgroups that might conflict with other operational demands should be avoided.

- 3.2.4 Multi-agency and same-service exercises are a vital way to identify operational differences and develop joint practices, processes and systems that help ensure a unified approach to the use of Airwave. Exercises need to be run regularly and debriefed to improve confidence and competence amongst users and operators. This needs to be done in advance of a live event challenging untested assumptions that “everything will work on the day”.
- 3.2.5 When developing communications plans in advance of any operation, Responder Agencies should share with their counterparts details of the resources to be used for their individual command and management structures plus their capabilities, call-signs and deployments. This will help those in the command and management roles to identify the appropriate people with whom they will need to communicate, and allow specific preparation of equipment, protocols and, if necessary, prior meetings and training. For those incidents requiring a more spontaneous response, every effort should be made to communicate this same information between the Responder Agencies.
- 3.2.6 When reviewing existing local arrangements on the exchange of information between the Responder Agencies, reference should also be made to the provisions of the Data Protection Act, 1998 and the **ACPO (2006) Management of Police Information statutory Code of Practice** and supporting **Guidance on the Management of Police Information**. The former deals with the protection of personal data, and the latter provides guidance on the handling, recording and sharing of information.
- 3.2.7 Where appropriate, other communication technologies complementary to Airwave should be used to develop and share the Common Operating Picture. These should enable the exchange of information and its display in a timely and consistent manner that can be viewed simultaneously by all commanders who need access to it. Covert policing units already use handheld devices for their operations, such as personal digital assistants. These access a designated web-based application which enables commanders to view and share textual information, including transcripts of messages on all relevant talkgroups, plus imagery and maps. The ability to “show me” rather than “tell me” is helping to reduce radio traffic by up to 30%. These devices also provide an audit trail for the exchange. It should be remembered that mobile telephones do not provide such an auditable record and, other than in a conference call, they do not provide for one-to-many communications.
- 3.2.8 The Airwave network is both robust and resilient. However, allowance should be made for the service not being available (for whatever reason), so that when formulating plans for interoperable working, consideration is given to providing an alternative communications capability. Where available, provision should be made to share alternative equipment to help establish

an interoperable communications structure for all the Responder Agencies. This could include Field Phones held by some emergency services and the military.

3.3 RADIO DISCIPLINE

- 3.3.1 Responders need to be trained that only those involved in an operation and authorised to do so should monitor the talkgroups allocated to it. Similarly, those deployed at an event or incident must abide by the instructions to monitor only the talkgroup(s) to which they have been allocated and not switch to any others. Scanning by unauthorised users and dragging irrelevant talkgroups on to the local Airwave network at the incident ground will impact adversely on available network capacity.
- 3.3.2 Responders must comply with instructions designed to reduce or minimise the impact of their use of Airwave on network capacity and its knock-on effect to other Responder Agencies. This may mean directing a restricted use of capacity-hungry functions, such as telephony and point-to-point calls. (See **sections 2.3.2 and 2.3.3.**)

3.4 INTERIM BRONZE INTEROPERABILITY SOLUTION (IBIS)

- 3.4.1 In 2006 each force received central funding to purchase additional handheld Airwave terminals for use at incidents and events to aid communication and coordination, primarily, with the local Ambulance, and Fire and Rescue Services but also with partner agencies. Through their LRF (or equivalent), all Responder Agencies have been given information by the NPIA on the availability and deployment of IBIS together with a template for a local protocol covering its deployment and use. The commercial contract allows them to be shared spontaneously with other Responder Agencies for up to seven days, although this may be extended on agreement with ASL.
- 3.4.2 Completion of the Firelink Project and Ambulance Radio Programme means the initial terms for IBIS usage have ceased. In determining the continuing utility and distribution of these terminals, every police force and its LRF (or equivalent) should consider whether retention is still important. For example, to enable Interoperable Voice Communication at the scene of an incident with the other partner agencies and volunteer groups that provide valuable support in times of crisis. IBIS can still be made available to the Ambulance and Fire and Rescue Services. **However, this would only apply when agencies do not otherwise have access to handheld Airwave terminals and IBIS provides the only resilient means of mobile communication with any of the emergency services.** Guidance on this from a commercial perspective need only be sought from ASL should the loan period exceed the seven-day rule.

- 3.4.3 There is no benefit to be derived in recovering the centrally funded IBIS terminals. Equally there is no central funding available to assist with their maintenance or replacement. The only mandatory requirements are that each force shall ensure the storage and usage of retained IBIS terminals is in accordance with the TEA2 licensing conditions.
- 3.4.4 Further information about IBIS can be obtained from a variety of sources that include ASL and the Multi-Agency Interoperability Programme Team: interoperability@npia.pnn.police.uk.

3.5 HUMAN FACTORS

3.5.1 Capacity of Control Centre Personnel

The capacity of control centre personnel to manage the number of people with whom they are likely to communicate must be considered along with the number of talkgroups it is reasonable and feasible for them to monitor at one time. When control centre personnel from different services are working with each other, cultural differences in communication style can be exacerbated by unfamiliarity with the varying approaches to radio discipline. It is essential that common standards are adopted, such as plain English, the use of readily understood call-signs, and common symbols for mapping. Often, these differences can be resolved through joint exercises.

3.5.2 Capacity of Responders

During any event or incident, responders receive information from a number of sources, e.g. radio, mobile telephone, face-to-face, textual or graphical. When planning an operation or event or responding to an incident, to avoid overloading or overwhelming people with information, consideration must be given to the way in which individuals receive that information and their capacity to process it. It is good practice for people to be appointed as "command decision support staff" as aids to commanders and managers. These individuals need to be trained to filter, analyse and evaluate information from its raw state and present it in a form that is relevant to operational decision-making.

3.6 THRESHOLD STANDARDS FOR PLANNING AND PREPARATION

- 3.6.1 This section consolidates the information provided previously into a set of threshold standards that must be met in order to establish compatible procedures between the Responder Agencies for using Airwave to achieve Interoperable Voice Communication. It is neither an exhaustive list nor is it in any order of priority. Consistency is critical so that responders operate to the same procedures whether attending a local incident or one that escalates to require a regional or national response.

- Each Responder Agency must ensure that their own nationally mandated talkgroups are available in the control centre facility (or equivalent) where incidents and planned events are managed. These should be available on sufficient controller positions to manage a response that involves multiple talkgroups being in use at the same time.
- Each Responder Agency must ensure that all the talkgroups which provide multi-agency interoperability, as agreed nationally, are configured correctly and available as appropriate in all their mobile and handheld terminals.
- To promote consistency across England, Wales and Scotland, each RRF must develop its SOP with cross-regional consideration and in consultation with its own LRFs and all neighbouring RRFs/LRFs.
- The talkgroup(s) to be used for interoperability must be clearly defined in all communication plans.
- All personnel who may reasonably be expected to authorise use of the interoperability talkgroups, those who monitor or coordinate their use in control centres and those who will use them at an incident or event must be trained and exercised beforehand in the necessary procedures.
- When handheld terminals need to be loaned to other Responder Agencies, such as IBIS, an aide-memoir must accompany them to explain the basic operation and functionality. This should be in sufficient detail to guide personnel who may be unfamiliar with the equipment. Details should include the rules on their use and how to navigate to the selected talkgroup(s).
- To avoid a potential conflict, when planning for Airwave communications at events, consideration should be given to using only those interoperability talkgroups that would not normally be activated for everyday spontaneous incidents.
- Familiarity in the use of Interoperable Voice Communication is vital to its success. Exercises that invoke the procedures and test them in practice should take place regularly. This should be combined with actively encouraging personnel to use them frequently as standard operational practice, so as to accelerate making Interoperable Voice Communication intuitive and part of business as usual.
- All communication on an interoperability talkgroup should be coordinated by one control centre. There is a current expectation, certainly amongst the Fire and Rescue Regional Control Centres that this will be the responsibility of the police; particularly as the interoperability talkgroups are "owned" by them. Other control centres should also monitor that talkgroup and any others which their users are operating on.
- Where possible, at least one control centre should audio record all communication on the interoperability talkgroup for

audit purposes. Any such recording should be made available to all attending Responder Agencies if they require it. Where the ability to audio record is not feasible technically, consideration should be given to using an alternative means of logging significant information.

- Radio communication training must follow the principles of the **Radio ABCD: Accuracy, Brevity, Clarity and Discipline**. Responders must also maintain talkgroup discipline, keeping only to those that have been assigned to them at that incident or event.
- At the conclusion of every multi-agency exercise and live incident or event, the normal debriefing process should involve an all inclusive discussion and reflection upon the effectiveness of inter-agency communications. Contributions should be sought from all the participating Responder Agencies. This is essential to help validate communication plans and bring about evidence based organisational learning to identify where improvements need to be made to enhance the multi-agency aspects of Interoperable Voice Communication.

Section 4

PROCEDURES FOR SPONTANEOUS USE OF THE INTEROPERABILITY TALKGROUPS

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4.1 INVOCATION PROCEDURE

- 4.1.1 Incident commanders are encouraged to consider invoking use of one or more of the interoperability talkgroups at an early stage of an incident so that the capability is in place before the need becomes critical.
- 4.1.2 Upon receipt of a request from the incident commander to invoke Interoperable Voice Communication, the control centre nominated to coordinate implementation will allocate the appropriate interoperability talkgroup(s) (see **section 2**). Activation and availability must then be confirmed by the control centre for each of the other Responder Agencies involved. They should be advised as follows:
- The full alpha tag for the allocated interoperability talkgroup;
 - The role, call signs and names of the responders authorised to participate;
 - Confirmation of which control centre will audio record the interoperability talkgroup (if different from the coordinating control centre); and
 - Details of the other control centres monitoring the talkgroup.
- 4.1.3 Selecting the appropriate talkgroup is of critical importance to the success of Interoperable Voice Communication. In doing so, consideration must be given to the following factors as a minimum set of qualifying requirements.
- At least one of the Responder Agencies should be able to monitor communications on the interoperability talkgroup(s) from their control centre. If it is desirable that all the Responder Agencies are able to do so, then the talkgroup(s) required must be configured on each of their control centre systems, e.g. the ICCS.
 - That each of the talkgroups required is loaded on to all the handheld and mobile terminals to be used, including IBIS.
 - That effective and efficient procedures have been agreed beforehand and available on the day to coordinate activation of the nominated talkgroup(s) at the scene.
 - That effective and efficient procedures are in place to confirm not only that all users who need to switch to the interoperability talkgroup(s) are informed to do so but also, afterwards, have made the switch successfully.
 - Confirmation that the Airwave network in the location(s) affected has sufficient coverage and capacity to sustain communications not only for users working on the interoperability talkgroup(s) but also all other users operating there or nearby who need business as usual Airwave communications.

- Provided information to all users so they know from the start or, in the event of an escalating incident at the time of invocation, which Responder Agencies have been authorised to use the interoperability talkgroup(s), and those which should operate on the others available for their individual purposes.
 - Remind users of their obligations towards information security to protect sensitive material and consider either sanitising the content before transmission or to use a more appropriate, alternative means of communication.
 - Where appropriate, that the talkgroup(s) to be used for interoperability have sufficient prioritisation over others so as to give preference to command communications.
- 4.1.4 If an interoperability talkgroup is selected that requires activation by ASL, the request to do so is treated as a priority. Similarly, providing early notification to ASL of the incident and its location will enable them to monitor the network to allow for early identification of any problems, which can then be escalated quickly for prompt resolution.
- 4.1.5 It is essential that the nominated interoperability talkgroup(s) are audio recorded by one of the control centres. Recording provides an audit trail and corroboration both for evidential purposes and scrutiny at the debrief or subsequent inquiry. Where this is not possible technically at present, future updates by an agency to its communications infrastructure and equipment should consider the requirement to record and monitor interoperability talkgroups. To assist with maintaining the Common Operating Picture, it is recommended that all Responder Agencies monitor the interoperability talkgroup(s) for the duration of the incident or event so as to ensure they each have a consistent understanding and awareness of the totality of the collective response.

4.2 INVOCATION FLOW CHART

- 4.2.1 Shown on **page 39** is a flow chart giving the template for a generic approach to invoking Interoperable Voice Communication in response to a spontaneous incident. It sets out the actions to be followed by responders and their control centre for either initiating Interoperable Voice Communication or responding to a request to do so. These are illustrated in a sequence set out along parallel paths.

Note 1: Authority to invoke Interoperable Voice Communication will be given by an incident supervisor/commander in agreement with their counterparts in one or more of the other Responder Agencies. This can also be made by a responder in a supervisory role ahead of a formal inter-agency command structure being established. Alternatively, control centre personnel or a (police) FOATA can recommend this to their silver (tactical) incident commander. For the Fire and Rescue Services, only the silver (tactical) incident commander will invoke this function.

Note 2: Where an interoperability talkgroup is in use, no Responder Agency should start to use or monitor it without authority from the coordinating Agency. Each control centre will, on behalf of their incident supervisor/commander, direct relevant personnel to use the interoperability talkgroup and no individual should join unless so directed by their control centre.

The only exception is:

- When there is an immediate requirement to pass an urgent safety message to all the responders working on the talkgroup; **and**
- The individual is able to rapidly change to the interoperability talkgroup; **and**
- It is the fastest way to ensure that the information reaches those who need it.

Under normal circumstances messages will be passed via the control centres so as to be logged and recorded appropriately.

Note 3: To achieve optimal benefit, careful consideration must be given to which tactical option for Interoperable Voice Communication best suits the circumstances. Four examples are presented in this SOP Guide and are set out below with explanatory diagrams. Each Responder Agency must develop the capability to deploy all of them. The first three involve either silver (tactical) and/or operational (bronze) commanders. The fourth is an exception to the standard rule (that would normally restrict Interoperable Voice Communication to just the command and management roles) to include all levels. This recognises there may be circumstances where the exception should be applied so as to enable **all Airwave users** at the scene to benefit from operating on the same interoperability talkgroup regardless of role. This may mean that everyone will need access to handheld terminals.

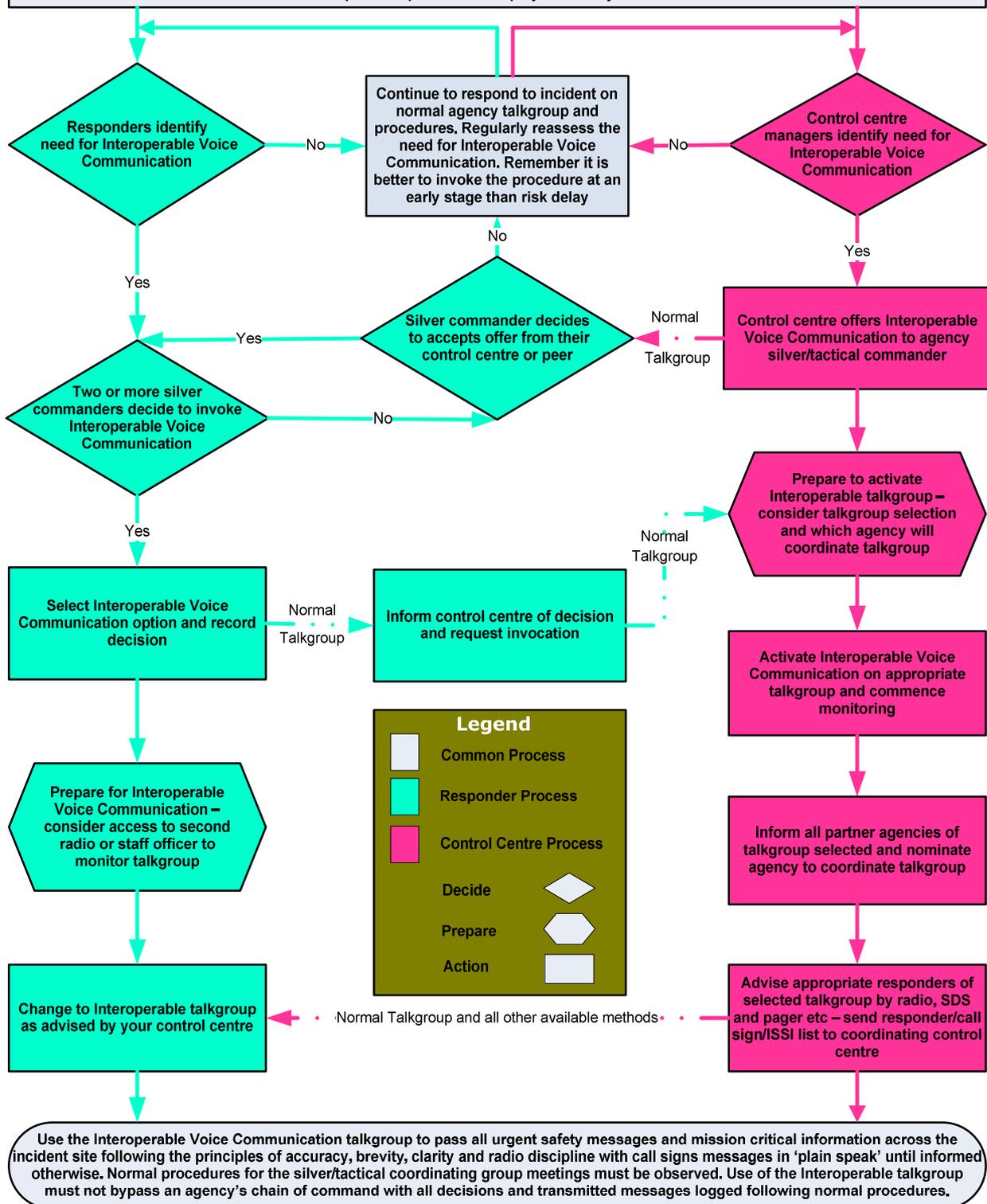
Note 4: Implementation should always be flexible to allow for a combination of the four options described below that would best suit the specific circumstances of the incident or planned event.

Generic Template to Invoke Multi-Agency Interoperable Voice Communication

Responder Pathway

Control Centre Pathway

During a multi-agency response, each agency alerts their responders (including FOATA or agency Airwave Teams as appropriate) following their recognised procedures. Other Responder Agencies are notified as required. This may include Airwave Solutions Ltd to allow their response capabilities to deploy in a timely manner



Flow Chart 1

4.3 QUICK GUIDE TO FOUR TACTICAL OPTIONS

The table below, which is also described in detail in the following sections, provides a quick reference guide to four tactical options to help with selecting the most appropriate interoperability talkgroup(s) for immediate use from the broader range available in the table on **page 16**.

Note: It is assumed that action to initiate invocation using the SHG1 talkgroup has already taken place, and that the PMA and XMAMA (02 to 10) talkgroups are not required, as access to these can be delayed through invocation by ASL.

| Interoperable Voice Communication Options Summary | | | |
|---|--|---|--|
| Option | Who | Recommended Talkgroup | Suggested Application |
| One | Silver (tactical) commanders only | IC1 | Cross-agency coordination at silver (tactical) incident commander level for any scale of incident |
| Two | Silver (tactical) commanders, and selected bronze (operational) commanders when required | IC1 | Cross-agency coordination when the silver (tactical) commanders need to include specific Bronze (operational) commanders in the information exchange for any scale of incident |
| Three | Bronze to Bronze (operational) commanders | ES 1 to 3 (5) | Cross-agency coordination for specific joint taskings and passage of mission critical information |
| Four | All Airwave users at scene | IAT1, XMAMA 01, or ES 1 to 3 (5) as the default interoperability talkgroup(s) | Immediate need for coordination across all levels in every or just specific Responder Agencies for small-scale or escalating incidents |
| Any combination of the above may be used where it meets the requirements for using Airwave to share information to support decision making, reduce risk and increase safety. | | | |

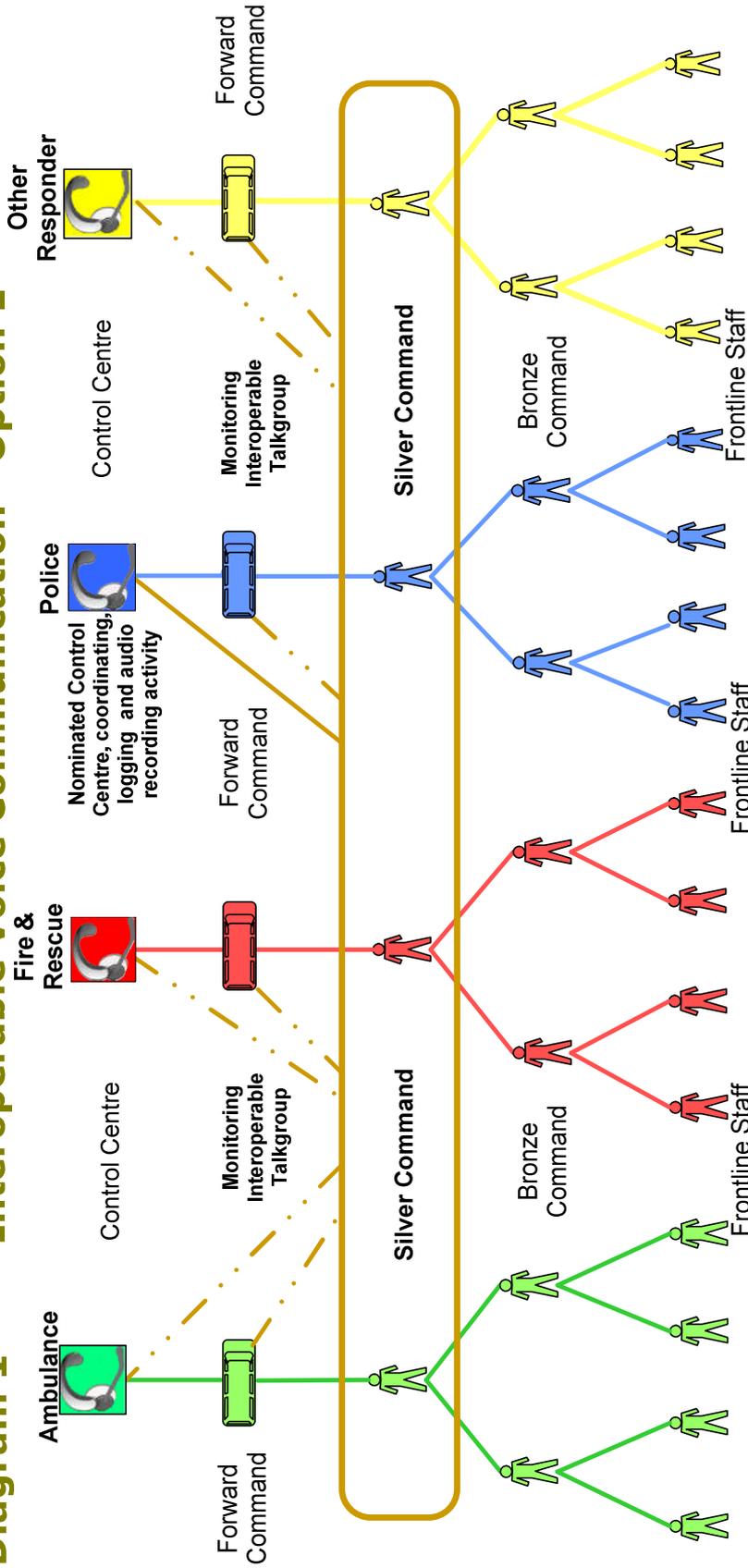
4.4 GUIDANCE ON USING THESE FOUR TACTICAL OPTIONS

4.4.1 The following four diagrams illustrate the explanations given for each of the tactical options available for achieving Interoperable Voice Communication. The vertical lines show only the communication structure and are not supposed to identify the means of communication. The interoperability talkgroups are superimposed on to normal, single-agency working practices. Each Responder Agency may choose to prepare a brief introduction for their partners to include in the local SOP for all agencies within the LRF to explain its own operational protocols on the use of Airwave. This would help others to understand the general availability of all communications equipment and its usage for normal business. An example would be that Fire and Rescue Services (FRSs) use UHF "Fireground" terminals to support their internal communication needs at the incident ground. Airwave is also available to them but used, predominantly, for communications dealing with mobilisation. These terminals should have been loaded with the talkgroups commonly used locally and nationally for multi-agency interoperability. However, not all FRSs are equipped with handheld Airwave terminals and this should be considered when developing local protocols for Interoperable Voice Communication.

Option 1: (Diagram 1) **Two or more silver (tactical) incident commanders use an interoperability talkgroup.**

The objective is to exchange mission critical or safety information to help test and share tactical decisions and update the Common Operating Picture. This example does not replace the normal arrangements for the Silver/Tactical Coordinating Group meetings or any other involving each Responder Agency's approach to command and control. It provides a useful means of conducting meetings remotely, in effect by using the interoperability talkgroup as a group conference call facility, when circumstances would otherwise prevent a face-to-face exchange. If this option is deployed, then it would be appropriate to select an Incident Command (IC) alpha tag talkgroup. This has the added benefit of giving such group calls a high priority status over others on the system. The IC alpha tag talkgroup will ensure critical command messages take precedence in the event of call queuing on to the Airwave network.

Diagram 1 Interoperable Voice Communication - Option 1



Incident or Emergency

In Option 1, all silver/tactical commanders dealing with the incident, irrespective of agency, have access to an interoperability talkgroup to exchange mission critical or safety information and update the Common Operating Picture continually as well as and share and test tactical decisions. This interoperability option does not replace the normal arrangements for silver/tactical coordination group meetings or bypass an agency's own command and control arrangements. There must be a single control centre nominated to coordinate, log, and audio record activity on this talkgroup and share the Common Operating Picture. In this example, that role is performed by the Police Force.

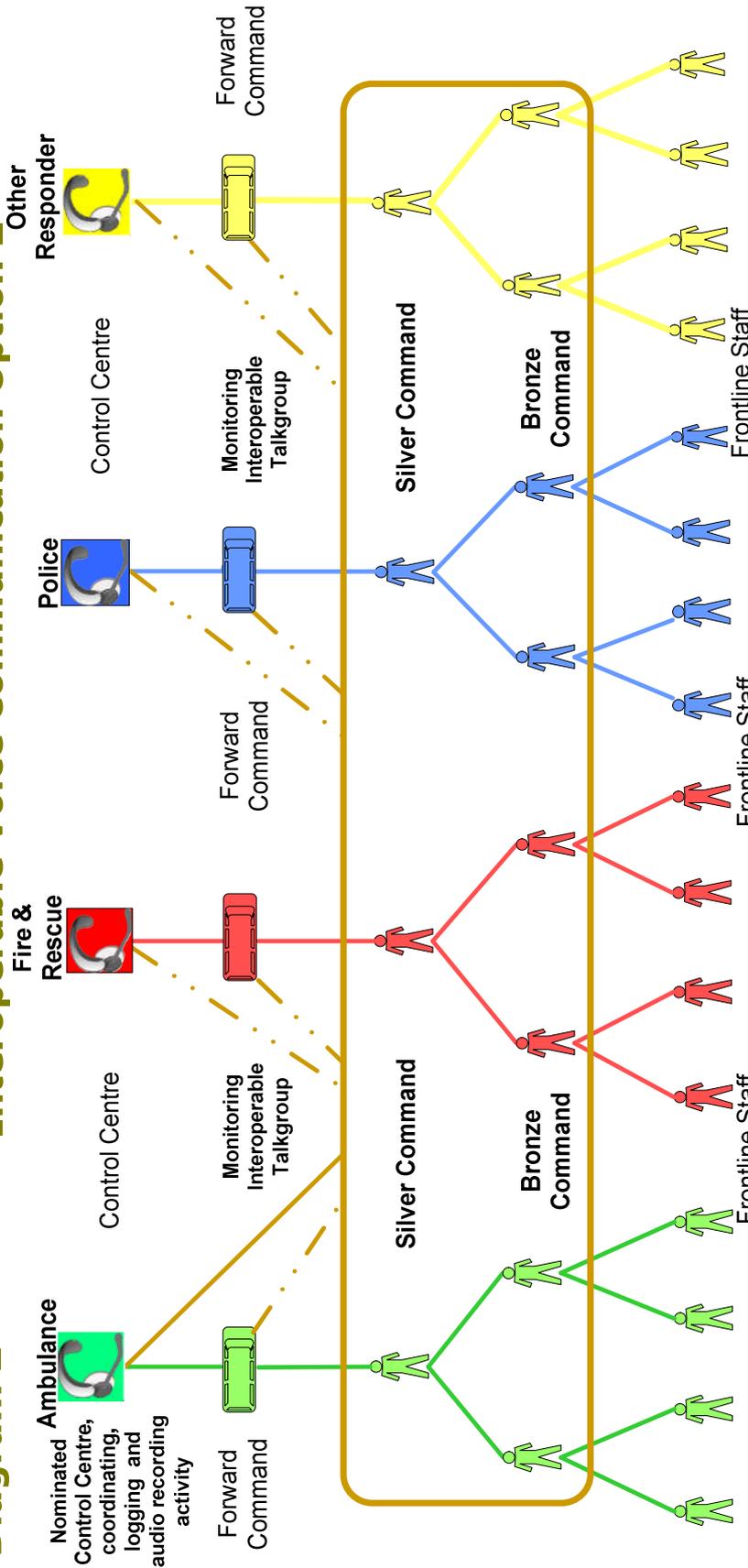
Key

- Ambulance Comms
- Fire Comms
- Police Comms
- Other Responder Comms
- Interoperable talkgroup comms
- Monitoring Interoperable talkgroup

Option 2: (Diagram 2) **All silver (tactical) and appropriate bronze (operational) commanders use an interoperability talkgroup (as authorised by their silver/tactical commander).**

The objective is to exchange mission critical or safety information to help test and share tactical decisions and update the Common Operating Picture. As with Option 1, this tactic does not replace existing conventions involving face-to-face exchanges between commanders in the various Responder Agencies, as well as their own same-service briefings. Instead, it provides an option to use Airwave to conduct them remotely by radio. Again, choosing an IC alpha tag talkgroup would be appropriate for this option too, as this will ensure critical command messages take precedence in the event of call queuing on to the Airwave network.

Diagram 2 Interoperable Voice Communication Option 2



In Option 2, all silver/tactical commanders and selected bronze/operational commanders dealing with the incident have access to an interoperability talkgroup to exchange mission critical or safety information continually to update the Common Operating Picture. This option does not replace the normal arrangements for Silver/Tactical Coordinating Group meetings or bypass a Responder Agency's own command and control arrangements. There must be a single control centre nominated to coordinate, log, and audio record activity on this talkgroup and share the Common Operating Picture. In this example, that role is performed by the Ambulance Service.

Key

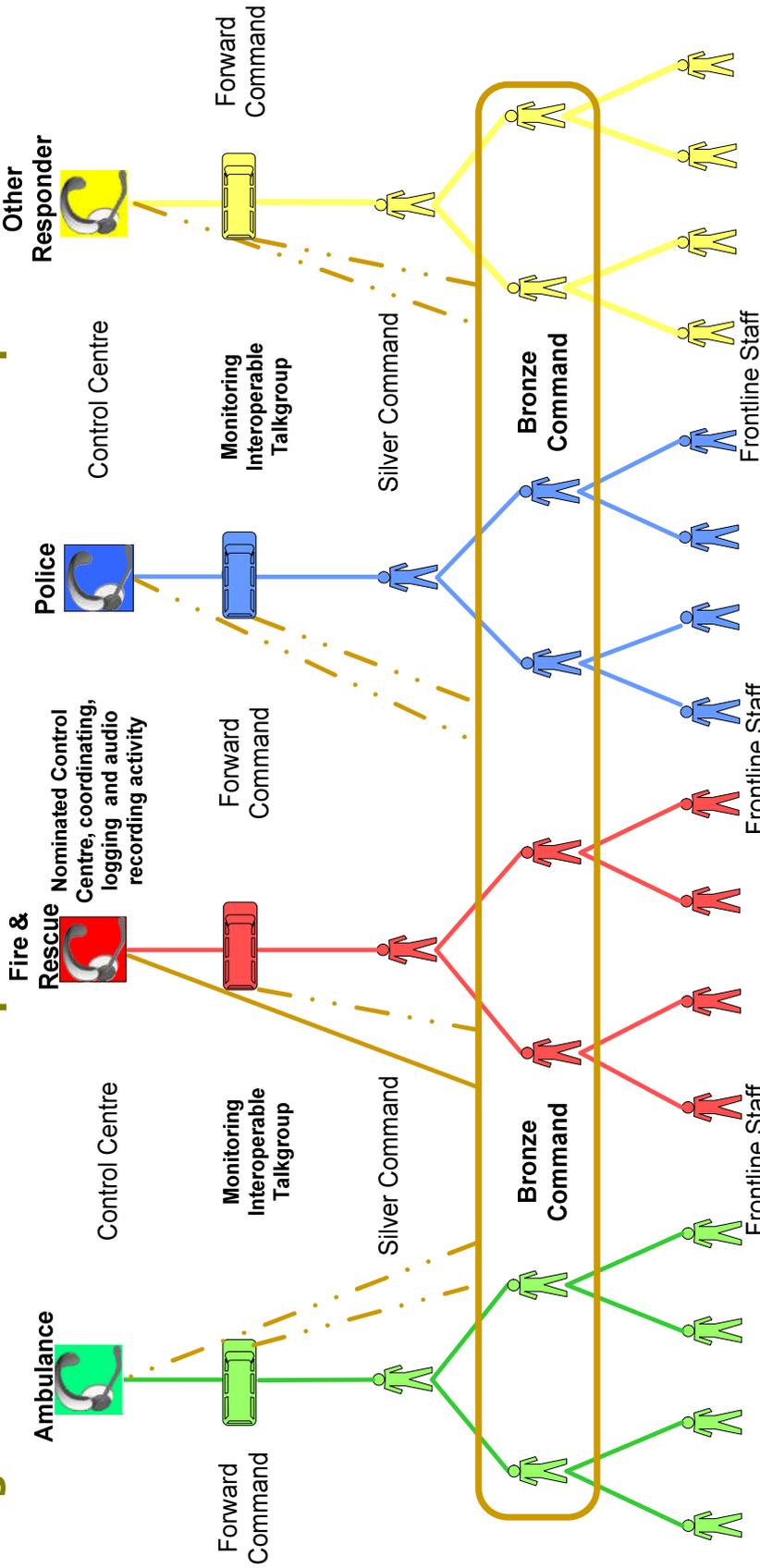
- Ambulance Comms
- Fire Comms
- Police Comms
- Other Responder Comms
- Interoperable talkgroup comms
- Monitoring interoperable talkgroup*

Option 3: (Diagram 3) **Silver (tactical) commanders select appropriate bronze (operational) commanders to use an interoperability talkgroup.**

The objective is to coordinate a specific task involving multiple agencies. The same considerations apply as with the previous two examples. To maintain the integrity of the command, bronze (operational) commanders will need to be given a clear instruction on the limits of their authority. An Emergency Service (ES) alpha tag talkgroup would be appropriate for Option 3.

Note 1: Currently, control centres for the Fire and Rescue Services do not have the capability to the record interoperability talkgroups. This may become available in the future.

Diagram 3 Interoperable Voice Communication Option 3



Incident or Emergency

In option 3, appropriate bronze/operational commanders using Airwave to deal with the incident, with linked roles, to have access to an interoperable talkgroup to pass mission critical or safety information rapidly across the incident site. This interoperability option does not replace the normal arrangements for a Responding Agency's own command and control regime. Bronze/operational commanders require a clear briefing to maintain the integrity of command and to define their specific levels of authority or autonomy. There must be a single nominated control centre to coordinate, log and audio record activity on this talkgroup and share the Common Operating Picture. To illustrate this, the coordinating role is performed by the Fire and Rescue Service in this example.

Key

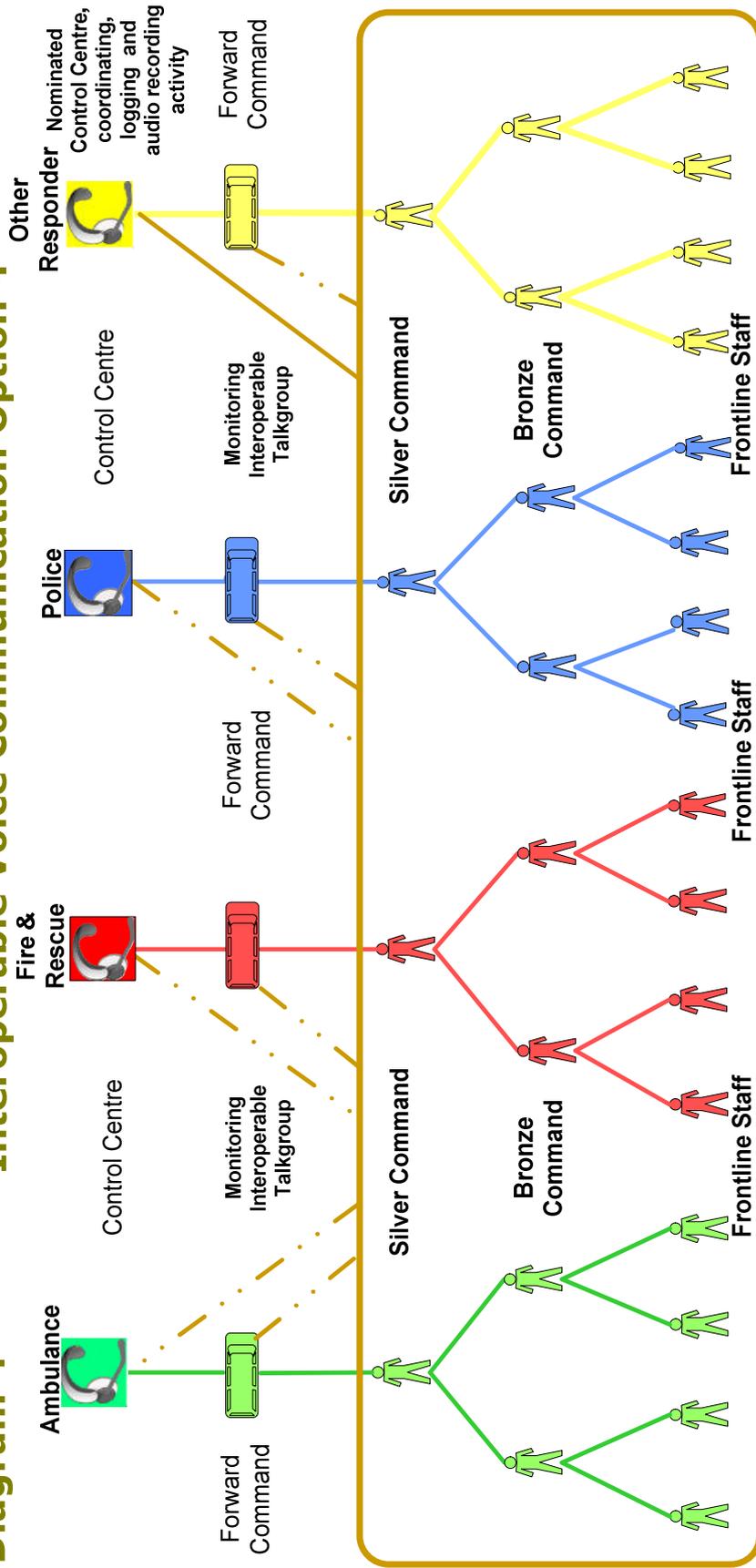
- Ambulance Comms
- Fire Comms
- Police Comms
- Other Responder Comms
- Interoperable talkgroup comms
- Monitoring interoperable talkgroup

Option 4: (Diagram 4) **All responders using Airwave operate on a single interoperability talkgroup for at incident communications.**

The objective is to enable all responders at an incident, regardless of role, to be kept aware of events by focusing all communications on to a single, all-informed talkgroup. One control centre should be nominated to coordinate this activity. Each Responder Agency maintains its own command structure but communicates on the single talkgroup. This option is suitable for establishing quickly Interoperable Voice Communication at local incidents and events, or to assist with coordinating deployments during the critical early stages of what appears to be an escalating incident. This can be achieved by using a MAMA, PMA or IAT talkgroup. Similarly, one of the ES talkgroups can be used where it has been agreed these can be employed as the Default Interoperability Talkgroup (see **section 2.2**).

If handheld terminals are not available to any one of the agencies involved, and there is a clear need to use them, then consideration should be given to deploying the IBIS terminals held by each police force (if still available, or borrowed from another that has retained the capability).

Diagram 4 Interoperable Voice Communication Option 4



Key

- Ambulance Comms
- Fire Comms
- Police Comms
- Other Responder Comms
- Interoperable talkgroup comms
- Monitoring interoperable talkgroup*

In Option 4, all responders using Airwave to deal with the incident, irrespective of agency and role, would use a single interoperability talkgroup for at incident communications, which is coordinated by the single control centre nominated to do so. Each agency will maintain its own command and control structure but its users will operate on the allocated single, all-informed talkgroup. This option is suitable for rapid deployment at local incidents and events or to assist with coordination in the early stages of an escalating incident. In this example, the coordinating role is performed by an agency other than Police, Fire and Ambulance, such as the Maritime and Coastguard Agency in a sea rescue.

Incident or Emergency

4.5 PRACTICAL APPLICATIONS

- 4.5.1 When a single talkgroup is being used for Interoperable Voice Communication, as in Option 4, then monitoring communications is straightforward and can be achieved using the one terminal carried by or available to each commander. However, this can become quite complex with the other Options. This is particularly so if commanders are expected to monitor not only the interoperability talkgroup but also those allocated for command of their own agency and any additional operational/working talkgroups used by resources under their command. Careful consideration must be given to prioritising which talkgroup each commander should monitor themselves and communicate on.
- 4.5.2 It may be appropriate for commanders to appoint an appropriate person to act as a staff officer or aide who can monitor the other talkgroup(s) for them and carry additional terminals for this purpose. Consideration must be given to the span of command of each individual and not overload them with talkgroups all needing to be monitored simultaneously. It should be noted that Responder Agencies, such as the Fire and Rescue Services, also use analogue UHF terminals for at incident communications.
- 4.5.3 Talkgroup management may be more of a challenge for incident commanders when a range of specialist resources are deployed on their own separate talkgroups. To help commanders in every Responder Agency have a common understanding of the situation, it is vital that mission critical and decision critical information is shared between Responder Agencies **on a single interoperability talkgroup**. Transmitting such information in this way does not remove the need for commanders also to relay it over their own same-service/agency talkgroup(s) when necessary.
- 4.5.4 Similarly, commanders need to operate within their own single agency protocols for reporting up and down the chain of command. It should not be assumed that because their own control centre is monitoring the interoperability talkgroup that information affecting the strategy and tactical plan is reaching all relevant commanders. Hence, it may be necessary for a commander to confirm receipt of information and not assume just because it was transmitted it was actually heard by all the appropriate people.
- 4.5.5 The integrity of command within each Responder Agency must be respected. Commanders retain responsibility for the deployment of resources within their individual span of command. The interoperability talkgroup should not be used by a commander in one Responder Agency as a means to bypass the command and control structures, conventions and protocols in another. Nor should the coordinating control centre act in such a way. From an interoperability perspective, the role of the latter is to act as an information conduit: to monitor and record communications and required actions, and to relay that information as widely as

necessary to help maintain current and consistent situational awareness.

- 4.5.6 To help prioritise information being communicated on the interoperability talkgroup, consideration should be given to prefixing any critical message with an alert. For example, AirwaveSpeak advises that police use "Urgent call" while ambulance use "Priority, priority" as call prefixes to indicate an important message is to follow.

4.6 DISCONTINUING INTEROPERABLE VOICE COMMUNICATION

- 4.6.1 The decision to discontinue Interoperable Voice Communication should be made by the senior incident supervisor/commander for the coordinating Responder Agency and with the agreement of their counterparts from the other Responder Agencies. This would naturally follow when there is no longer either an operational requirement for or benefit from Interoperable Voice Communication.
- 4.6.2 Once that decision has been made, it must be communicated in plain speech (identifying the person giving the instruction) to all the Responder Agencies. They should also be advised to revert to their standard working practices (subject to **section 4.6.4**). The coordinating control centre must record these details for later audit and ensure that all incident logs and recordings are made available on request to each of the Responder Agencies.
- 4.6.3 If the interoperability talkgroup(s) selected required activation by ASL, the coordinating control centre must notify them that it is no longer required and that activity has ceased. Monitoring and recording by the coordinating control centre should only cease once it has verified all users have left the talkgroup.
- 4.6.4 When resources deployed on mutual aid from outside the local area leave the incident ground, they should be given a direction on which talkgroup(s) they should revert to while travelling back to their home location. It may not necessarily be a talkgroup specific to their local base, as this could impact adversely on Airwave network capacity for neighbouring emergency services while they transit through their areas. This is particularly important at the immediate scene of the incident where large numbers of Airwave users may still be operating. Good practice directs that Police must switch to the **National Travelling Talkgroup, PMA 91**. Fire and Rescue Services have similar national guidance on their own procedures for returning from an incident. It may also be appropriate to get advice from an Airwave Team or a (police) FOATA.
- 4.6.5 As with all planned events or spontaneous incidents, it is customary good practice to conduct a debrief with all the people involved. When Interoperable Voice Communication has been used, staff should be invited to comment on its success (or

otherwise) and on the entire communications element of the response. The lessons learned should be shared with other Responder Agencies at the appropriate level. There is a role here for the LRF Telecommunications Sub-Group to lead on seeking feedback on the outcomes. Wherever possible, the NPIA Operational Planning and Debrief Team within Uniformed Operations Support should be involved in the debrief too. This will enable organisational learning and good practice to be captured and collated nationally and then fed into future revisions of manuals of guidance and training courses.

Section 5

CONSTRAINTS ON INTEROPERABILITY

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There are a variety of constraints that will have a direct influence on the use of Interoperable Voice Communication. These fall into four general categories:

- Capacity;
- Capability;
- Coverage; and
- Culture.

5.1 Capacity

- 5.1.1 The capacity of the Airwave network is finite and predictive modelling is used to ensure there is sufficient for normal use. Incidents and events place additional stresses on the network when they bring an increased number of Airwave users to a single geographical location. To account for this, the network also has spare 'surge' capacity to allow additional users to operate during a major incident. In addition, the Airwave network operates a queuing system so that, if there is congestion, all messages should get through, **provided users follow the correct procedure.**
- 5.1.2 Careful management of talkgroups used for incidents is essential, so as to ensure every user is able readily to access the Airwave network. As with handheld terminals, all mobile terminals must be set to the appropriate talkgroup for the incident so that unnecessary ones are not 'dragged' into the area and take up vital Airwave network capacity required for the incident. Similarly, the number of users who can operate efficiently on a single talkgroup will vary depending on the Responder Agency. This is due to differences in how each Responder Agency operates. Again, this requires the coordinating control centre to monitor demand and take corrective action. This should be done in consultation with ASL, in-force Airwave Teams (or their equivalents in other agencies) and police FOATAs. It requires continuous assessment of both the number of users who can operate successfully on a talkgroup and the number of talkgroups that can be used on a base station.
- 5.1.3 Working in rural areas or special coverage sites, like the sub-surface stations of the London Underground, requires clear protocols for talkgroup use in order to optimise fully the interoperability benefits of the Airwave network. Capacity in these areas is limited compared to urban and surface environments, and any special local arrangements will need to be communicated to out-of-area Responder Agencies providing assistance at the incident. For an example of these special arrangements, the "Interim (Airwave) Working Practices for London Underground" can be made available electronically by e-mailing the authors of this Guide: interoperability@npia.pnn.police.uk

- 5.1.4 ASL has a number of Emergency Response Vehicles (ERVs) and Mobile Base Stations (MBSs) that can be deployed to bring additional coverage at the location of an incident. ERVs act as a coverage extender specifically for use in the London Underground network. MBSs provide additional base terminals to enhance coverage at other locations. These vehicles cannot, however, be relied on for the early part of a response to an incident due to the time necessary to deploy them, particularly to remote areas. When considering these as options, guidance should be sought from ASL on the actual benefits they can deliver when compared with the requirements. It should be noted that there may be an additional cost for their deployment.
- 5.1.5 Consideration must be given to the impact on network capacity when Airwave is required not only for an incident but also business as usual communications for all Responder Agencies in the surrounding area (and vice versa). This can apply even when only one agency is managing an incident. This may be an issue specific to the Police Service which can deploy to a crime scene, for example, a large number of users from different specialist units, each operating on its own talkgroup.

5.2 Capability

- 5.2.1 The capabilities provided by the Airwave network vary according to the individual contract agreed by each Responder Agency. Transmission to an open talkgroup is the most efficient method to communicate with a large group of Airwave users responding to an incident. Hence, Point-to-Point calls and use of telephony on Airwave must be either prohibited or restricted to essential business related calls at an incident site or large event. They also inhibit maintenance of the Common Operating Picture when others are excluded from the information exchange.
- 5.2.2 It is essential that each Responder Agency control centre has its nationally mandated set of talkgroups configured correctly. It is equally important to have this talkgroup load on the radio terminals available to responders. Without the common talkgroups listed in the respective mandated set, a Responder Agency or individual responder will be incapable of establishing Interoperable Voice Communication with partner agencies.
- 5.2.3 Experience from recent inter-agency exercises, such as "Glamis" in 2009, demonstrates the need for the Police Service and local partner agencies to understand how their own and one another's use of Airwave (and some of its capacity-hungry functions) can impact adversely on each other. This can include communications across and between discreet parts of a single agency, e.g. specialist and non-specialist police units, as well as other agencies in attendance. This is particularly so where there is limited network coverage or capacity at a location. One proposal arising from the lessons of Exercise Glamis is that in potentially protracted multi-agency operations, the partners involved would benefit from creating a joint "Airwave Cell". This involves

technical and operational experts familiar with Airwave from each agency problem-solving together and then negotiating with ASL. The objective is to establish the most appropriate, operational environment that meets the agreed tactical priorities for same service and inter-agency communications over Airwave.

5.3 Coverage

- 5.3.1 **As a minimum**, the Airwave network provides coverage to vehicle-borne terminals along all roads across England, Wales and Scotland. Nevertheless, where investment has been put into the infrastructure, Airwave does support coverage for handheld terminals away from roads in rural as well as urban environments. However, it follows that in very remote areas the coverage offered may be either limited or, in a small number of areas, non-existent. In addition, coverage is not guaranteed in all buildings, although some have a dedicated 'in-building' solution. Similarly, limited coverage can be experienced aboard ships and in tunnels. Communications plans should take into account local coverage availability and ensure that they list resilient options for maintaining interoperability if Airwave coverage cannot be relied on at all times.
- 5.3.2 As indicated in **section 4.1**, ASL ERVs and MBSs can assist in enhancing coverage.

5.4 Culture

- 5.4.1 The command and control culture and conventions of an organisation can be barriers to interoperability and implementing the Common Operating Picture. Although examples of excellent practice in sharing information do exist, it is recommended that Information Sharing Agreements be formalised with partner Responder Agencies. These agreements should reinforce the principles of cooperation stated in the CCA 2004, ensuring that all relevant information or intelligence is passed between Responder Agencies where it will benefit their response.
- 5.4.2 Information should be shared routinely rather than by exception. Control centre operators play a vital role in this task away from the incident scene. They must be encouraged to share all information that relates to the event or incident with partner Responder Agencies. However, care is needed to analyse and evaluate the utility of information prior to communication rather than simply relaying it in a raw state. In a crisis, commanders need information that has been filtered appropriately so that it is timely and relevant operationally to their decision-making. It is also important that information is not overlooked because it is deemed to have no bearing within the initial recipient Responder Agency. It could be critical to another. The analytical skills of control centre operators, therefore, are absolutely critical to this process. They need to be trained to act as the "conscience" for

their commanders as well as their information guardians and gatekeepers.

- 5.4.3 Access to information and intelligence held within the covert policing community is restricted. However, in relation to multi-agency working, it is critical that information held by one agency that may be vital to informing decisions to be made by another is always shared. This should be the rule and not the exception. Confidential information may need to be shared person-to-person at the silver (tactical) commander level. The Airwave system is encrypted, which means it can be used to exchange information up to the Government Protective Marking Scheme RESTRICTED level. Details on the rules concerning Information Sharing Agreements and other advice on handling sensitive information is contained in the ***ACPO (2006) Guidance on the Management of Police Information***.
- 5.4.4 Concerns about how their decision might be perceived by others should not act as a barrier to commanders invoking Interoperable Voice Communication. Such attitudes may delay the right action being taken early and exacerbate invocation later when it becomes urgent. Given the wealth of learning identified from events where failures in Interoperable Voice Communication contributed to a less than effective and coordinated response, and the significant investment made since in Airwave as the solution for a common communications platform, it is unlikely a commander will be criticised unduly for making a prompt decision to invoke. Far better to invoke and then scale back as circumstances become clearer, than not to invoke at all and risk compromising safety.
- 5.4.5 The ***Guidance on Multi-Agency Interoperability*** recommends that cultural barriers can be overcome by appointing senior level interoperability champions in each Responder Agency to promote its use and benefits. Any communication issues arising in a post incident debrief should be reviewed by these champions and, using formal and informal networks, they should work collaboratively to improve the response to future incidents.

Section 6

COMMON STANDARDS

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6.1 Unambiguous Call-Signs

6.1.1 Responder Agencies tend to use their own set of abbreviated or coded call-signs to identify users on their own talkgroups. That call-sign contains more detail than simply the identification of an individual. It will also provide information about their specialist capabilities and, for vehicles, the number of resources and type of equipment carried. For those unfamiliar with the call-sign conventions of other Responder Agencies, using these call-signs can be a major cause of confusion. For example, many police forces do not use the same naming conventions for their specialist units, whereby an "Oscar" unit in one will denote specialist firearms and in another a traffic officer. By contrast, the Fire and Rescue Services have adopted a national naming convention.

6.1.2 This SOP Guide is not recommending a change to established call-sign conventions when resources operate in a single agency context within their local environment. However, it does seek to highlight that when those resources are mobilised and communicate with other Responder Agencies on an interoperability talkgroup, using local coded call-signs may not be appropriate. Instead, naming conventions should be adopted that identify clearly to everyone the resource in plain speech, as set out below:

- Service;
- Role.

e.g. "Ambulance Bronze Equipment", "Police Silver Commander" or "Fire Incident Commander".

6.2 Common Language

6.2.1 Wherever possible, Airwave users are encouraged to use plain speech to avoid confusion when speaking on Airwave. This is particularly the case when communicating with other agencies that will not understand jargon that is specific to just one of those at an incident. "AirwaveSpeak" is a nationally recognised form of words to be used at all times by Airwave users from all police services, some ambulance services and some other Responder Agencies. The purpose is to provide more efficient, disciplined communications between radio users. It is a national standard for radio communications that promotes consistent and concise language. <http://www.npia.police.uk/en/15804.htm>

6.2.3 In addition, the Emergency Planning College has published an aid to promote a common understanding of terms used at incidents, titled the **Civil Protection Lexicon**. A copy can be downloaded at:

http://www.cabinetoffice.gov.uk/ukresilience/useful_links/lexicon.aspx

Note: If a Responder Agency uses specific vocabulary essential to its operation, which is not included in the Lexicon, then the terms should be notified to the authors for future inclusion. By referring to the Civil Protection Lexicon when creating communications plans and training courses, all Responder Agencies should have a common understanding of the language used and so avoid potentially serious misunderstandings.

6.3 Common Radio Procedures

- 6.3.1 Each radio message transmitted on a multi-agency interoperability talkgroup should start with the sender identifying both the individual(s) they want to contact and themselves. If the message is intended for many people, then it would be appropriate to address the group as "All units". The body of the message should be spoken clearly, avoiding service specific jargon.
- 6.3.2 It is good practice to confirm receipt of a message. The AirwaveSpeak guidance says "'Received' shows the other person only that you assume you have heard the message correctly; it does not guarantee that you have heard it correctly or that you have understood it in the way that the other person intended." If it is not then the sender should be asked to "Repeat" or "Say Again". Senders who wish to confirm understanding should end with the instruction "Read back". For further information on repeating and reading back, refer to the AirwaveSpeak guidance.
- 6.3.3 When a message is complete, the sender should close the transmission with the word "Over" to signify an answer is expected or required. "Out" should be used to indicate the conclusion of a series of transmissions and indicate that the talkgroup may be used for another transmission. It is accepted that "Out" is by convention used more by control centres than by responders. Nevertheless, when using an interoperability talkgroup at an incident, operators in the coordinating control centre may not be involved, and so the use of "Out" by responders would be appropriate.

6.4 Emergency Button

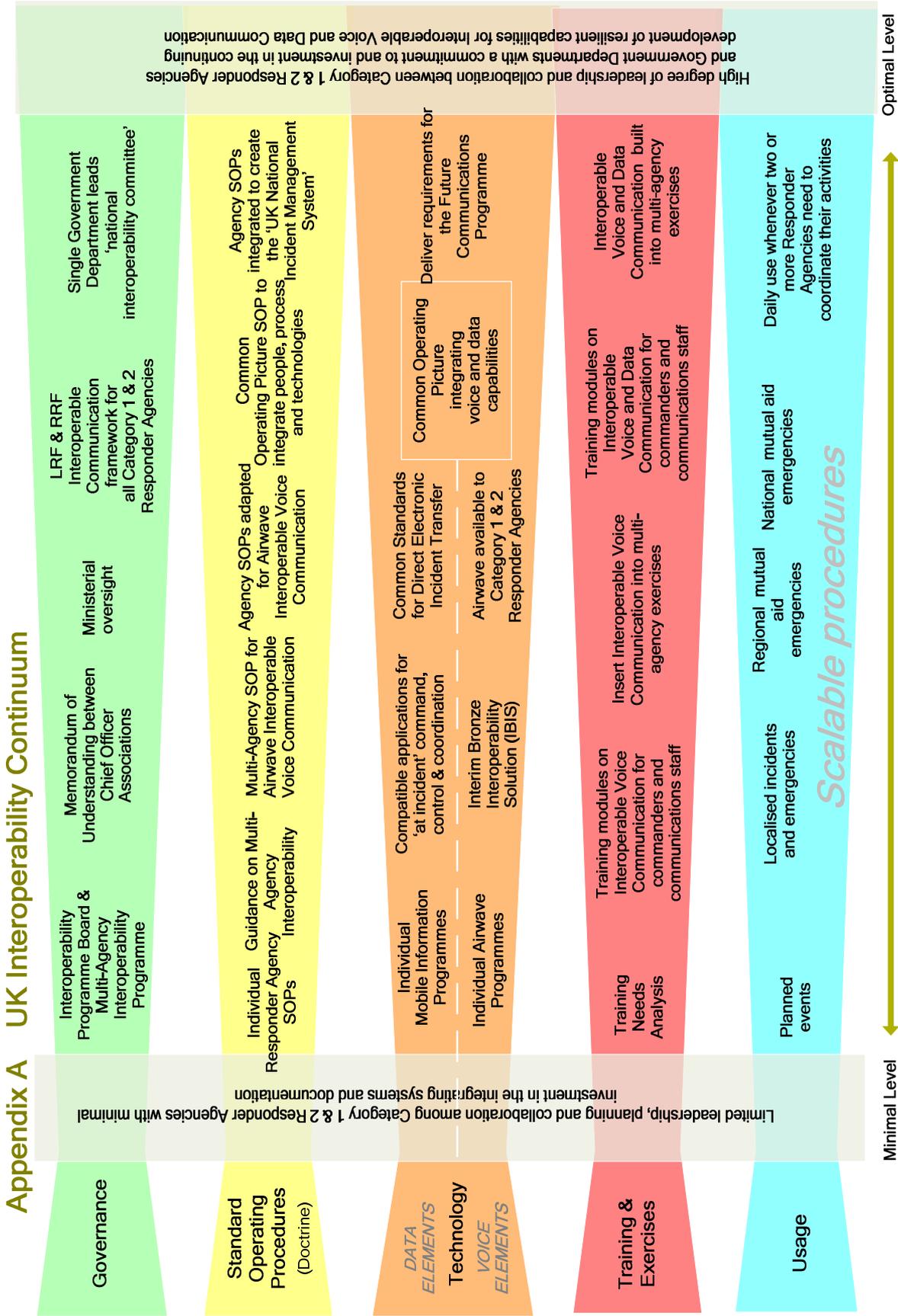
- 6.4.1 Instructions on the use of the Emergency Button vary across the Responder Agencies. Current Fire and Rescue Service guidelines advise that the Emergency Button is for high priority pre-emptive access to the network when a fire user has a high priority message to pass and cannot gain access to the network under normal means, e.g. due to congestion on the network. Activation by the Ambulance and Police Services can be to indicate responders in immediate need of assistance (in day to day operations).
- 6.4.2 Emergency Button activation on interoperability talkgroups will be visible to each ICCS monitoring the talkgroup and all affiliated

terminals. However, unless it has been agreed beforehand that responsibility for the duty of care for **all** resources has transferred to the coordinating control centre, each agency remains responsible for the safety of its responders. That includes ensuring an appropriate response to an activation of the Emergency Button. Clear lines of responsibility should be detailed in the local SOP, including how assistance will be facilitated if the Emergency Button is activated on an interoperability talkgroup.

- 6.4.3 All responders are advised not to use the Emergency Button as a shortcut through the normal procedures for summoning assistance from Police Fire or Ambulance. Instead, they should use 999 on the public telephone networks.

Appendix A

INTEROPERABILITY CONTINUUM



The UK Interoperability Continuum provides a roadmap for implementation and an assessment tool for Local Resilience Forums (or equivalent) to judge what work needs to be done to reach the Optimal Level for this phase of delivering Multi-Agency Interoperability. Its framework has been taken from one created by the US Department of Homeland Security and tailored to the specific needs of the UK. It describes five concurrent activities as work-streams that need to be followed and actions implemented to improve the delivery of frontline services and increase public and responder safety.

Governance:

Taking Multi-Agency Interoperability forward requires an agreed governance structure to reflect the national direction and overcome geographic and cultural boundaries that may lead to divergence.

Standard Operating Procedure:

Building on the good practice from professional policy and procedural manuals which already exist, agreed procedures for incident management should be reflected in SOPs dealing with response at the local, regional and national levels.

Technology:

Consideration must be given towards converging and interoperable technological solutions, whilst making full use of the benefits from existing investments in capabilities.

Training and Exercises:

This must include embedding interoperability into procedures for business as usual. Understanding the capabilities of each Responder Agency and their interdependencies when brought together; whether during day-to-day business, high impact events or major incidents, is critical knowledge that every supervisor, manager and commander must have. Planning, training and exercising together is essential to embed the required culture of interoperability, so it can become an intuitive trait of those in command.

Usage:

Encouraging regular use of common procedures for Multi-Agency Interoperability that employ standard processes, systems and enabling technologies, which are also scalable to suit any incident or event, will help accelerate implementation to ensure it becomes instinctive whenever two or more Responder Agencies work together. .

Whilst no time scales are mandated, Local Resilience Forums (or equivalent) should agree the priorities for closing any gaps identified and do this in partnership to ensure a consistent approach locally, regionally and nationally.

Appendix B

GLOSSARY OF TERMS¹

Glossary of Terms

Airwave Cell³

This is an informal group of technical and operational experts familiar with Airwave from each agency coming together to problem-solve and then negotiate with Airwave Solutions Limited (ASL). The objective is to establish the most appropriate, operational environment that meets the agreed tactical priorities for same service and inter-agency communications over Airwave amongst **all** the Responder Agencies operating jointly at an incident or event.

Airwave Team²

The group of individuals from each Responder Agency who manage Airwave communications and the relationship between their organisation and ASL.

Alpha Tag²

A usable unique alphanumeric character set identifier to describe a talkgroup in a structure common to all Airwave users.

Ambulance Clinician³

A member of staff from an ambulance trust who performs frontline duties. Ambulance clinicians have varying clinical skill levels dependent on their role in their Ambulance Trust.

Bronze⁴

The level of command and control within a single agency below gold (strategic) and silver (tactical) at which the management of hands-on work is undertaken at the incident ground and associated areas. This level is also known as the operational level.

Bronze Commander (Operational Commander in Scotland)

The Bronze Commander is responsible for the command of a group of resources and carrying out functional or geographical responsibilities related to the tactical plan.

Common Operating Picture⁴

Single display of information collected from and shared by more than one agency or organisation that contributes to a common understanding of a situation and its associated hazards and risks, along with the position of resources and other overlays of information that support individual and collective decision making.

Control Centre⁴

The operations centre responsible for the management and coordination of communications for their agency and its response and resource deployment to incidents and events.

Coordinating Control Centre³

For the purposes of this SOP Guide the coordinating control centre takes on the administration of the interoperability talkgroup selected. This control room does not command resources from other Responder Agencies but does take a lead in collating information, recording talkgroup activity and sharing information with partners.

Dynamic Group Number Assignment² (DGNA)

DGNA provides a capability for an agency to share its talkgroups over the air when rapid real-time access to that talkgroup is required.

Direct Mode Operation² (DMO)

DMO provides voice communication between two or more handheld or mobile terminals without use of the Airwave infrastructure. This is equivalent to back-to-back on an analogue radio system.

Emergency⁴

An event or situation which threatens serious damage to human welfare in a place in the United Kingdom (UK), the environment of a place in the UK, or war or terrorism which threatens serious damage to the security of the UK.

ES Talkgroup²

The ES alphanag or Emergency Service Talkgroups are held by the police for multi-agency Interoperable Voice Communication. These talkgroups are police force specific with each having three available. The Metropolitan Police Service, though, holds 5 in total.

First or Initial Responder(s)⁵

This generic term is used to describe the ambulance clinicians, firefighters, fire officers, police officers, police community support officers, special constables or police staff, of whatever rank or grade, who

are the first individuals to attend the scene of a sudden impact incident or emergency.

FOATA² (Force Operational Airwave Tactical Adviser)

Personnel trained by the National Policing Improvement Agency to perform the role Airwave tactical advisers. All police forces in Great Britain have access to this course, and other agencies are also looking to develop a similar capability.

Forward Command Post⁴ (FCP) (Forward Control Point in Scotland)

The command and control facility nearest the scene of the incident responsible for immediate direction, deployment and security. Depending on the circumstances, this might be either a bronze (operational) or a silver (tactical) facility.

Fully Integrated Command and Control System (FICCS)⁵

This is the system that links the command and control computer systems used by the emergency services with telephony, radio and other digital information means of communications. It incorporates all aspects of communications required by an agency to support command, control and coordination.

Group Short Subscriber Identity² (GSSI)

Group Short Subscriber Identity or Group identity number is a unique seven-digit number used by the Airwave network to identify a talkgroup.

Gold⁴

The strategic level of command and control above silver (tactical) and bronze (operational) at which policy, strategy and the overall response framework are established and managed for individual responder agencies. Due to the multi-agency nature of the document, reference should be made to the guidance material created in each agency for a definition.

Note: The Strategic Coordinating Group, which is the multi-agency strategic coordinating body, may colloquially be referred to as the Gold Group; not simply as Gold.

Gold Commander (Strategic Commander in Scotland)⁴

The Gold Commander is ultimately responsible for determining the strategy and any tactical parameters that silver or bronze commanders should follow. Gold Commanders retain strategic oversight and overall command of the incident or operation.

Handheld Terminal²

Portable voice communications equipment carried by an individual and not restricted for use only in a vehicle.

IAT Talkgroup²

IAT alpha tag or inter-agency talkgroup are held by the police for multi-agency Interoperable Voice Communication. These are police force specific with each having one IAT available.

Interoperability Talkgroup²

Any one of the Airwave talkgroups available for inter-agency communication, and configured in terminals for that purpose.

Interoperable Voice Communication³

Use of an Airwave talkgroup for voice communication between responders from more than one agency.

Integrated Communications Control System (ICCS)²

This links telephony, radio and other digital technologies used by an agency with their command and control computer systems. An ICCS incorporates only those systems used for communications that support the command and control function. By contrast, a Fully Integrated Command and Control System (FICCS) can be extended to include every communications system available to an agency.

Individual Short Subscriber Identity (ISSI)

This is the unique number allocated to each Airwave terminal that identifies it to the network when a call is made or the emergency button activated. It can also be dialled by another user to set up a Point to Point call.

Local Resilience Forum⁴ (LRF)

The LRF (and its equivalents) provides a collaborative partnership of Responder Agencies in England and Wales that work together to plan for emergency preparedness and response. Each is aligned with a single police force area.

MAMA Talkgroup²

MAMA alphanag or Multi-Agency Mutual Aid talkgroups are available to all Airwave Sharers on their handheld terminals. There are ten such talkgroups, which are owned by ASL and require their staff to invoke them for use by the Responder Agencies.

Mobile Terminal²

Vehicle mounted voice communications equipment hard-wired for use in a vehicle.

Monitoring Control Centre³

For the purposes of this SOP Guide, when not coordinating an interoperability talkgroup, all other Responder Agencies should be Monitoring control centres. This will allow each Responder Agency to maintain an awareness of relevant communications involving command decisions and contribute to the Common Operating Picture.

National Fleetmap Police Talkgroups²

These are the set of talkgroups mandated by ACPO to be loaded in terminals to provide interoperability nationally. These should be available to all users and control centre operators. The term allows a reader to differentiate between these talkgroups and those configured for communications that are specific to the requirements of an individual force.

National Travelling Talkgroup²

This Police Mutual Aid Talkgroup (PMA91) allows users travelling through or to other police areas to select this one and so reduce their impact on capacity caused by them dragging other talkgroups from their home force on to the local network. The PMA91 talkgroup facilitates communication to the travelling user as required.

Operator

Any individual working in a control centre or mobile command unit using Airwave to communicate with users.

Point to Point²

A call made on Airwave that allows two users to communicate directly with each other instead of using a talkgroup to broadcast to a wider audience. The caller dials the ISSI for the terminal held by the recipient.

Profile (Major Incident)³

A Major Incident Profile is a suite of talkgroups loaded in an Integrated Communication Control System (ICCS) that can be selected automatically by the control centre operator to provide a **one-touch** solution. This would be relevant to both planned events and spontaneous incidents. Its creation involves identifying the range of talkgroups operational staff would require for communications within their own force, between forces and with other Responder Agencies. The benefit of this prior planning and configuration is that it provides operators with an instant, automated solution for selecting the appropriate interoperability talkgroup, removing the need to do so manually.

Regional Resilience Forum⁴

The Forum established by each Government Office to develop civil protection from the regional perspective and to liaise between local and central government on resilience.

Responders⁴

Personnel described by the Civil Contingencies Act (2004) as personnel from the Category 1 and 2 Responder Agencies who attend the scene of an incident.

Short Data Service (SDS)

The capability to send short data messages using the Airwave infrastructure. Note: not all services are using this capability.

Silver⁴

The tactical tier of command and control within a single agency (below Gold level and above bronze level) at which the response to an emergency is managed.

Note: Multi-agency coordination at the tactical level is undertaken by the tactical coordinating group. Due to the multi-agency nature of the document, reference should be made to the guidance material created in each agency for a definition.

Silver Commander (known as a **Tactical Commander** in Scotland)

The Silver Commander commands and coordinates the overall tactical response in compliance with the strategy.

Silver Coordinating Group

An alternative name for a Tactical Coordinating Group.

Silver Control⁵ (also known as **Tactical Control**)

This is a location where the functions can be based to direct and control the tactical operations within the span of command of the silver commander. A silver (tactical) control is normally located away from the scene of a major event, an emergency or major incident. A silver (tactical) control may be located at a suitable police station. A police silver (tactical) commander may be located at the silver (tactical) control, with silver (tactical) liaison officers deployed there from the Ambulance and Fire and Rescue Services. The silver (tactical) control is normally where meetings are held for the Silver/Tactical Coordinating Group.

Strategic Coordinating Group⁴

Multiagency body responsible for coordinating the joint response to an emergency at the local strategic level in England and Wales.

In Scotland Strategic Coordinating Groups are the principal local forum for multiagency cooperation in civil protection. The group has a role in both preparation and response to emergencies. As such, SCGs in Scotland effectively combine the role in England of Local Resilience Forums in preparing for emergencies and of (English and Welsh) Strategic Coordinating Groups in responding to emergencies.

Stun and Kill

ASL provide a capability to temporarily disable a missing terminal using a stun facility. Similarly, if recovery of a lost terminal is highly unlikely then ASL can permanently disable a terminal to protect the integrity of the network, using the Kill facility.

Surge Capacity² (Airwave network)

This is the 20% capacity over and above normal radio traffic (as measured during the busy hour). This is part of the Airwave contractual arrangement with an agency that allows for surges in user activity during an incident or emergency.

User

Anyone using a handheld or vehicle mounted Airwave terminal to communicate.

Tactical Coordinating Group⁴

A multi-agency group of silver (tactical) commanders that meets to determine, coordinate, plan and deliver the tactical response to an incident or emergency.

Talkgroup²

A talkgroup can be described as a radio channel that permits all users monitoring it to exchange voice communications.

Trunked Mode Operation² (TMO)

This is the dynamic and automated process that shares talkgroups between Airwave users.

¹ None of the definitions listed in this SOP Guide supersedes those detailed in the reference material provided by your own Agency.

² Taken from the ARP/DH Talkgroup Workshop Outcome Report – see Bibliography.

³ Developed by MAIP.

⁴ Taken from CCS Civil Protection Lexicon – see Bibliography.

⁵ Taken from the Guidance on Multi-Agency Interoperability – see the Bibliography.

Appendix C

ABBREVIATIONS AND ACRONYMS

Abbreviations and Acronyms

| | |
|----------------------|---|
| ABCD | Accuracy, Brevity, Clarity and Discipline (for radio) |
| ACPO | Association of Chief Police Officers |
| AMB | Ambulance Service |
| ASL | Airwave Solutions Limited |
| CBRN | Chemical Biological Radiological and Nuclear |
| CCA | Civil Contingencies Act (2004) |
| CCS | Civil Contingencies Secretariat |
| CFOA | Chief Fire Officers Association |
| CONTEST | Counter-Terrorism Strategy |
| DGNA | Dynamic Group Number Assignment |
| DMO | Direct Mode Operation |
| ERV | Emergency Response Vehicle (Airwave) |
| ES | Emergency Service (talkgroup) |
| FOATA | Force Operational Airwave Tactical Adviser |
| FRS | Fire and Rescue Service |
| GSSI | Group Short Subscriber Identity |
| IAT | Inter-Agency Talkgroup |
| IBIS | Interim Bronze Interoperability Solution |
| IC | Incident Command (talkgroup) |
| ICCS | Integrated Communications Control System |

- ISSI**..... Individual Single Subscriber Identity
- IVC**..... Interoperable Voice Communication
- LRF**..... Local Resilience Forum
- MAIP** Multi-Agency Interoperability Programme
- MAMA** Multi-Agency Mutual Aid (talkgroup)
- MBS** Mobile Base Station
- MoPI**..... Management of Police Information
- MoU** Memorandum of Understanding
- NPIA**..... National Policing Improvement Agency
- NSID (PSR)** .. National Security, International Relations Development
(Sub-committee on Protective Security and Resilience)
- PMA** Police Mutual Aid
- POL** Police Service
- PTT**..... Press To Talk (button)
- RRF** Regional Resilience Forum
- RTS**..... Request to Speak
- SCG** Strategic Coordinating Group (NB the function of these
differs in Scotland from England and Wales – see Glossary
Appendix B)
- SDS** Short Data Service
- SOP** Standard Operating Procedure
- TeTRa** Terrestrial Trunked Radio
- TG** Talkgroup
- TMO**..... Trunked Mode Operation
- UHF** Ultra High Frequency
- UK** United Kingdom
- USAR** Urban Search and Rescue

Appendix D

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National Policing Improvement Agency (NPIA)

Headquarters

4th Floor

10 – 18 Victoria Street

London

SW1H 0NN

General enquiries

Tel 0800 496 3322

Email enquiries@npia.pnn.police.uk