

SERVICE STANDARD 5.1.3 COMMUNICATION SYSTEMS

ITEM	DESCRIPTION
Version Number	3.1
SOPs	<ul style="list-style-type: none"> ➤ SOP 5.1.3-1 Mobile Radio Equipment ➤ SOP 5.1.3-2 System Planning and Engineering ➤ SOP 5.1.3-3 Installation of Mobile Radio Equipment ➤ SOP 5.1.3-4 Maintenance of Radio and Paging Sites ➤ SOP 5.1.3-5 Paging Systems User Procedures ➤ SOP 5.1.3-6 Paging Systems CAPCODE Administration ➤ SOP 5.1.3-7 Paging Networks and Other Agencies ➤ SOP 5.1.3-8 Issuance of NSW RFS Radio Profiles to Third Parties ➤ SOP 5.1.3-9 Recording Systems ➤ SOP 5.1.3-10 Entering into Site Agreements
Owner	Executive Director, Infrastructure Services
Contact	Director, Assets and Infrastructure
Approved Date	17 May 2019
Effective Date	22 May 2019
Next Review Date	22 May 2022
Document Control	Electronic - Printed Copies are Uncontrolled

1 Purpose

- 1.1 Standardised communications systems and hardware provide a higher degree of reliability for users and provide a more efficient and effective systems support capability.
- 1.2 A standard approach to systems planning, development and implementation of radio and paging communication systems and/or devices will benefit the NSW Rural Fire Service (NSW RFS) by providing all members with reliable communication systems during emergency situations.

2 Definitions

- 2.1 For the purpose of this policy document, the following definitions apply:
 - a. **Australian Communications & Media Authority (ACMA):** the independent statutory authority tasked with ensuring most elements of Australia's media and communications, legislation, related regulations, and numerous derived standards and codes of practice, operate effectively and efficiently, and in the public interest.

- b. **Emergency Service Facility (ESF):** NSW RFS sites where recording of telecommunications occurs that are required under legislation to be declared as an ESF by the Federal Attorney-General.
- c. **Emergency Service Organisation (ESO):** organisations such as NSW Police Force, Fire & Rescue NSW and NSW State Emergency Service.
- d. **Government Radio Network (GRN):** a common platform for NSW government agencies and authorities who use mobile radio communications.
- e. **Government Radio Network Identification Number (GRN ID):** a unique number used in a GRN capable radio to allow access onto the GRN network.
- f. **P25:** a suite of standards for digital mobile radio communications designed for use by public safety organisations.
- g. **Post Office Code Standardisation Advisory Group (POSCAG):** an asynchronous protocol used to transmit data to a paging device.
- h. **Private Mobile Radio (PMR):** a radio network allocated to the NSW RFS with the approved spectrum as granted by ACMA.
- i. **Spok Messenger®** – specialised software platform used to send paging messages to pagers and/or mobile devices.
- j. **Standard Operating Environment (SOE):** a standardised implementation of an operating system, including associated software and custom configuration used by Communications Systems that provides consistency for radio and paging network system planning and engineering.
- k. **NSW Telco Authority (Telco):** a statutory authority within the NSW Department of Finance, Services and Innovation, controlled by the Managing Director in accordance with policies advised by the Board. Telco leads sector-wide reform and delivery of government operational communications (including Agency Owned Networks) to enable stakeholders to better respond to the NSW community.
- l. **Ultra High Frequency (UHF):** radio frequencies in the 300-1000 MHz range programmed into NSW RFS radios and into primary and secondary radios used for voice / data communications.
- m. **Very High Frequency (VHF):** radio frequencies in the 30-300 MHz range programmed into NSW RFS fireground radios and also for paging services.

3 Policy

- 3.1 Communication Systems standards reflect industry best practice and align with NSW Telco Authority policy, guidelines and framework.
- 3.2 District Managers will be advised of their annual budget, which includes all expenses relating to centralised network management and maintenance of the NSW RFS radio and paging systems, which includes site access/licence agreements, ongoing maintenance upgrades/replacements, as well as unscheduled emergency repairs.
- 3.3 District Managers will be responsible to include all other maintenance and repair expenses relating to radio terminals, pagers, voice recorders and fire control centre communications systems maintenance and repairs, or any other communication related expenditure not included in clause 3.2 into their annual budget.

Communications Hardware Procurement

- 3.4 All communications equipment used on NSW RFS radio and paging networks must conform to NSW RFS requirements. These requirements take into account various and required operating parameters defined under state and federal legislation.
- 3.5 All communications equipment intended for use on NSW RFS communications systems must be purchased in accordance with NSW RFS and Government Procurement Policies.

Programming Profiles

- 3.6 All radio and paging communications will operate in the designated and licenced part of the radio frequency spectrum in accordance with legislative requirements on licensed frequencies.

- 3.7 All communications equipment intended for use on NSW RFS communications systems must be programmed with the NSW RFS' standard profiles to ensure standardisation of operating conditions across the Service. Profiles for NSW RFS approved equipment can be provided by the Communication Systems located at NSW RFS Headquarters.

Communication Systems Design and Engineering

- 3.8 All radio and paging communications systems will be engineered, designed and/or approved by Communication Systems. The system design, engineering and site selection is a collaborative effort between the District and Communication Systems, however final approval rests with Communication Systems.
- 3.9 The installation of radio and paging communication systems will be coordinated by Communication Systems. This will be carried out in consultation with the District Manager with the view to using local contractors listed under the appropriate NSW Government Procurement contract. This does not include vehicle radio installation (further information can be obtained from Communication Systems).
- 3.10 All primary NSW RFS radio networks will be Ultra High Frequency (UHF) Private Mobile Radio (PMR) or Government Radio Network (GRN) broadcast systems, in analogue or digital technology, so that when activated, all base stations in the system operate simultaneously.

GRN

- 3.11 Where the GRN is used as the primary network by Districts, this is the only GRN channel/talk-group permanently allocated to a District.
- 3.12 The GRN network also provides for common channels used in joint operations with other Emergency Sector or Government Agencies. These are Emergency Service Organisation (ESO) or Government Liaison (GL) or GRN Operational Channels.
- 3.13 Due to the shared nature, NSW RFS Districts must seek approval from State Operations before the use of the channels listed in clause 3.12.
- 3.14 The channels listed in clause 3.12 cannot be allocated to Districts on a permanent or ongoing basis without the approval of the Manager, Communication Systems.
- 3.15 In support of optimising the GRN capacity for NSW RFS members, GRN talkgroup mapping (or GRN fleet mapping) has been implemented. GRN talkgroup mapping limits a GRN talk group or channel to a certain geographical area, or to specific transmitter sites, thus localising the GRN talkgroup's operation within established boundaries.

VHF

- 3.16 NSW RFS paging systems will use the Very High Frequency (VHF) assignment allocated to the NSW RFS for Statewide paging, and must use POCSAG.
- 3.17 Principally, all fireground radio communications should occur on the licensed VHF frequencies (known as Fireground) using radios identified by Communication Systems. It is important to recognise that these frequencies are licenced as ambulatory, meaning permanent and tower based transmitter installations are not permitted.

Communication Base Sites

- 3.18 All radio and paging communications sites will be licensed in accordance with legislative requirements for all equipment operating at the location.
- 3.19 A tenancy licence agreement, for both site and access, will be in place for all radio sites utilised by the NSW RFS. This will be managed by Communication Systems.
- 3.20 All communications assets are insured by NSW RFS centrally and are managed by Communication Systems.

Guidelines and Security

- 3.21 No information regarding access to any agency's radio and paging communication systems shall be divulged to any persons without authorisation from the District Manager, District Operations Officer,

Regional Communications Systems Officer or Manager, Communication Systems. Refer to policy P5.1.1 ICT Equipment Standards and Security for more detail.

Unlawful Use of Communications Equipment

- 3.22 The use of any telecommunication to make or send fraudulent, unlawful, or abusive information, calls or messages is prohibited.
- 3.23 All members of the NSW RFS have an obligation to report any threatening, intimidating or harassing telephone calls or electronic messages to an officer authorised under NSW RFS policy to receive such reports, or to their Manager.
- 3.24 Any member identified as the initiator of fraudulent, unlawful, or abusive calls or messages may be subject to disciplinary action under Service Standard 1.1.2 Discipline, and/or may be subject to referral to the appropriate authorities for possible investigation which may lead to criminal prosecution.

4 Related Documents

- > [Telecommunications Act, 1997 \(Cth\)](#)
- > [Radiocommunications Act, 1992 \(Cth\)](#)
- > [Telecommunications \(Interception & Access\) Act 1979 \(Cth\)](#)
- > [Telecommunications \(Interception\) Amendment Act 2006 \(Cth\)](#)
- > [Telecommunications \(Interception and Access\) \(New South Wales\) Act 1987](#)
- > [Policy P4.1.3 Procurement](#)
- > [Policy P5.1.1 ICT Equipment Standards and Security](#)
- > [Policy P5.1.6 Records Management](#)
- > [Service Standard 1.1.14 Personal Information and Privacy](#)
- > [Service Standard 1.1.2 Discipline](#)
- > [Service Standard 5.1.4 NSW RFS Appliance Standards](#)
- > [NSW Telco Authority Standards](#)
- > NSW RFS/SES Memorandum of Understanding
- > [Radio Communication Equipment - Standard Operating Environment](#)
- > [Communication System Radio & Accessories Catalogue – SAP Radio Catalogue](#)

5 Amendments

AMENDMENT DATE	VERSION NO	DESCRIPTION
1 September 1999	1.0	Initial release (Titled Communications)
3 April 2008	2.0	<ul style="list-style-type: none"> > Repealed and remade SS 5.1.3 v1.0 > Complete review (change of title to Operational Communications)
17 June 2013	3.0	<ul style="list-style-type: none"> > Repealed and remade SS 5.1.3 v2.0 > Change of title to Communication Systems > Inclusion of SOP 5.1.3-9 Paging Systems – User Procedures > Inclusion of SOP 5.1.3-10 Paging Systems – CAPCODE Administration > SOPs updated to reflect current practice > SOE, Preferred Supplier Agreement and Site License Agreement removed and published as separate documents

17 May 2019	3.1	<ul style="list-style-type: none">➤ Repeals and remakes SS 5.1.3 v3.0➤ Removal of SOP 5.1.3-11 Operational Command Vehicles Standard Equipment➤ Updated to reflect current practice
-------------	-----	---

SOP 5.1.3-1

Mobile Radio Equipment

1 Purpose

- 1.1 The purpose of this Standard Operating Procedure (SOP) is to list the equipment that has been evaluated as the standard equipment capable of meeting the needs of the NSW RFS operationally, in line with NSW Government Telco Authority policy, guidelines and framework.

2 Procedures

- 2.1 Although certain equipment makes and models are specified in this SOP, from time to time new models and makes of radio equipment appear in the market place. The use of any new equipment must be approved by Communication Systems to ensure its suitability before it is installed.
- 2.2 Radios must be purchased through the NSW RFS SAP Equipment catalogue. Communication Systems will maintain a catalogue of all communication equipment listed in SAP.

Radio Repeater Equipment

- 2.3 Specifications of current approved radio repeater equipment manufacturers and models can be sourced from Communication Systems.

PMR/GRN UHF Mobile/Portable Radio Equipment

- 2.4 All NSW RFS operational vehicles will be fitted with a Motorola P25 conventional and trunk mobile radio as the primary radio, which will be GRN ID enabled and activated.
- 2.5 A secondary Motorola PMR/GRN UHF radio may be installed in nominated operational vehicles that is P25 conventional, trunk capable and enabled to operate on Government radio network with GRN ID.

GRN ID Management

- 2.6 All primary or secondary UHF radios will be programmed with a GRN identification number (GRN ID), and will be activated within the GRN network.
- 2.7 GRN IDs will only be de-activated in the following circumstances, with the approval of Communication Systems:
 - a. The radio is stolen or lost and not recoverable
 - b. The radio is damaged/destroyed beyond reasonable repair
 - c. The radio is retired from service and disposed of as per the appropriate asset disposal process
- 2.8 In each of the cases listed in clause 2.7, the de-activation process is permanent.
- 2.9 All requests for additions, transfers or changes to GRN IDs or GRN Accounts must be submitted to Communication Systems for processing by sending an email to: radio.communications@rfs.nsw.gov.au.

VHF Fireground Mobile/Portable Radio Equipment

- 2.10 VHF Fireground mobile radio will be used for NSW RFS fireground use and communication with other agencies as per the standard profile available only from Communication Systems. Some models of these radios maybe identified by having a blue microphone/radio face.

VHF Mid Band (66-88 MHz) Mobile Radio Equipment

- 2.11 VHF 66-88MHz mobile radio will be used for communication with other agencies as per the standard profile. Some models of these radios maybe identified by having a yellow microphone/radio face.

Aviation Band Mobile/Portable Radio Equipment

- 2.12 Aviation band radios will be used for communicating with aircraft in both mobile and portable/handheld applications.

Vehicle Radios

- 2.13 New fire appliances will be fitted with a primary radio for PMR/GRN use and a fireground radio prior to delivery to the District.
- 2.14 Other appliances will be fitted with a primary radio for PMR/GRN use. Other radios maybe installed upon operational capacity assessment and fitted in line with Service Standard 5.1.4 NSW RFS Appliance Standards.
- 2.15 Group Officer vehicles will be fitted with:
- a. A PMR/GRN as the primary radio;
 - b. A secondary PMR/GRN radio; and
 - c. A fire ground radio.
- Other radios maybe installed upon operational capacity assessment and fitted in line with Service Standard 5.1.4 NSW RFS Appliance Standards.
- 2.16 All operational fleet vehicles will be equipped, as required, with primary PMR/GRN radio and a secondary PMR/GRN radio.
- 2.17 Other fleet vehicles may be equipped with a primary PMR GRN as arranged with Engineering Services at the time of acquisition.

3 Related forms

- [Communication System Radio & Accessories Catalogue – SAP Radio Catalogue](#)

SOP 5.1.3-2

System Planning and Engineering

1 Purpose

- 1.1 The NSW RFS has a responsibility to provide and maintain communications infrastructure necessary to support operational responses and activities. Accordingly, the NSW RFS needs to have multiple communications sites in various locations to meet this responsibility.
- 1.2 This Standard Operating Procedure (SOP) sets out the processes necessary to plan and engineer a communications site in accordance with relevant government legislation and operational requirements.

2 Procedures

System Planning

- 2.1 Communication Systems, in conjunction with the District, will ascertain if there is a need to upgrade, relocate or decommission any communication infrastructure.
- 2.2 Communication Systems, in conjunction with the District, will initially identify potential locations for any new communication infrastructure.
- 2.3 Based on local information provided by the District, Communication Systems will complete the network planning and design activities for the proposed communication infrastructure.
- 2.4 Communication Systems will obtain suitable frequency assignments for any proposed radio/paging systems and will obtain frequency allocations from an accredited external provider and licence the frequencies allocated through the Australian Communications and Media Authority (ACMA).
- 2.5 Communication Systems, in conjunction with a nominated District delegate, will liaise with site owners/managers regarding proposed location of antenna equipment and site requirements for equipment storage.
- 2.6 Communication Systems will undertake all the procurement processes for the supply and installation of required equipment to commission the communications site from approved Government contract suppliers.

System Engineering

- 2.7 Consideration must be given to the structural integrity of any towers or other infrastructure being used for the communications site.
- 2.8 Communication Systems is responsible for preparing engineering diagrams to identify the location of equipment, both antennas on towers/structures, as well as the technical equipment located in huts for the site location.
- 2.9 Technical specifications will be supplied by Communication Systems for cabling, antenna and power supply requirements, based on the equipment to be installed, to ensure it operates at maximum efficiency.
- 2.10 All communications sites must have back-up power contingency plans in place, including battery banks set up with charging regulators to maintain power, in the event of a mains failure.
- 2.11 Construction standards for communications equipment huts will be supplied by Communication Systems, including but not limited to:
 - a. maximum and minimum operating temperatures for electronic equipment;
 - b. ventilation;
 - c. optimum storage space required for equipment to be located in the hut;
 - d. site fencing; and,
 - e. site access.
- 2.12 Relevant Australian Standards must be adhered to for communications mast/towers installation.

Installation of Equipment

- 2.13 Communication Systems, in conjunction with the District, will negotiate and approve the relevant site agreement(s), for both access and site, prior to any installation works commencing.
- 2.14 All NSW RFS equipment installations will be carried out by NSW Government contract approved suppliers. Quotes will be sourced by Communication Systems from the approved contract suppliers in the area for construction/installation of the site.
- 2.15 All contractors are to install the equipment in accordance with ACMA, Work Health and Safety legislation and any NSW RFS Radio and/or Paging Communication Equipment SOE that may be in place.
- 2.16 Communication Systems will develop (and update as required) a NSW RFS Radio and/or Paging Communication Equipment SOE. A copy of this SOE may be obtained upon request to the Manager, Communication Systems.

Commissioning

- 2.17 A NSW RFS Communication Systems Officer will attend or engage an external expert to inspect the site after completion to ensure the installation and site commissioning is done in accordance with the scope of works.

3 Related forms

- > None

SOP 5.1.3-3

Installation of Mobile Radio Equipment

1 Purpose

- 1.1 The NSW RFS has a responsibility to provide and maintain communications infrastructure necessary to support operational responses and activities.
- 1.2 This Standard Operating Procedure (SOP) sets out technical considerations for installation of radio equipment into vehicles operated or utilised by NSW RFS personnel.

2 Procedures

Mobile Radio Supply

- 2.1 Mobile radio sets shall be supplied in accordance with accepted trade and manufacturers practice, and be certified as approved for operation within the frequency spectrum intended by ACMA.

Mobile Radio Installation

- 2.2 Mobile radio sets shall be installed into vehicles in accordance with the following procedures.

Fixing

- 2.3 Where any radio mobile equipment is installed in the cabin passenger or driver area of a vehicle, then it shall be attached or fixed so as not to present a danger to the occupants of that vehicle either during normal travel or in the event of an accident;
- 2.4 The radio should be installed in such a way that the controls are readily accessible to the vehicle occupants; and
- 2.5 Local installations or those not undertaken by the NSW RFS contract vehicle commissioning provider will be subject to the NSW RFS Vehicle Risk Assessment process, then endorsed and agreed by the nominated parties.

Wiring

- 2.6 All wiring associated with the installation of mobile radios shall be securely fixed and/or concealed where possible in a professional and protective manner;
- 2.7 All power wiring to mobile radios shall be 4mm² automotive grade as a minimum and be clearly identified as to polarity; and
- 2.8 Wiring should be kept as short as possible.

Fusing

- 2.9 Fusing or an appropriate circuit breaker of the correct type and current rating shall be applied to each circuit of the power wiring and as close to the battery as is practicable.
- 2.10 **Note:** For cellular telephone devices, and as a more detailed guide to antenna placement and other installation procedures for mobile equipment, refer to Australian/New Zealand Standard AS/NZ 4346:1995 (Guide to the installation in vehicles of mobile communication equipment intended for connection to a cellular mobile telecommunication service (CMTS)).

3 Related forms

- NSW RFS Vehicle Risk Assessment Worksheets (as obtained from Engineering Services)

SOP 5.1.3-4

Maintenance of Radio and Paging Sites

1 Purpose

- 1.1 The NSW RFS has communications infrastructure across NSW for radio and paging communications.
- 1.2 This Standard Operating Procedure (SOP) outlines the requirements for maintaining this infrastructure by suitably qualified and approved technicians in order to maintain optimum operational ability.

2 Procedures

- 2.1 All NSW RFS PMR and paging radio sites must be checked, tested and re-aligned annually as a minimum, and in accordance with the maintenance contracts.
- 2.2 Maintenance contracts for radio networks are centrally coordinated and managed by Communication Systems to ensure a standardised approach to equipment maintenance, record keeping and fault/incident reporting. This will also ensure that maintenance is carried out in accordance with approved standards at that time.
- 2.3 Communication Systems is responsible for ensuring maintenance checks are completed at the due times in accordance with the maintenance contracts.
- 2.4 Communication Systems utilise a centralised monitoring system to receive alarms and alerts from P25 PMR radio sites. Information will be provided to Districts as required to alert them of any operational impact.
- 2.5 Districts must be vigilant in monitoring the ongoing functionality of their PMR and paging systems at a local level and advise Communication Systems of abnormal operation. Otherwise, Districts may not be alerted to issues outside of normal business hours and some issues may not be detected by the system.
- 2.6 Analogue PMR and paging equipment are not currently monitored by the centralised monitoring system.
- 2.7 Communication Systems Helpdesk handles Communication Systems related matters. The Communication Systems Helpdesk can be assessed during business hours by calling NSW RFS HQ, and after hours on 1300 677 737. Alternatively, requests can be raised by e-mailing radio.systems@rfs.nsw.gov.au.

3 Related forms

- > None

SOP 5.1.3-5

Paging Systems User Procedures

1 Purpose

- 1.1 The NSW RFS operates a purpose-dedicated radio paging network in most areas of New South Wales. This paging service is primarily intended for time critical alerting of Brigade members and NSW RFS staff to emergency incidents.
- 1.2 NSW RFS Paging services use a specialised software platform, previously known as Commtech Messenger® but is now known as Spok Messenger®.
- 1.3 Pager messages are sent to multiple radio transmitters in the area surrounding the initiating District Office where the server is located. These paging transmitters are connected to the initiating office server via radio link.
- 1.4 Efficient and disciplined use of a paging system will maximise benefit by conserving transmitter power requirements, reducing transmitter and link radio usage, reducing message delivery times and ensuring that congestion does not occur on network radio links and paging transmitters.
- 1.5 This SOP is intended to ensure that the NSW RFS paging system is secure and effective, and that time critical messages are sent and delivered to pagers in the most efficient manner.
- 1.6 This SOP does not address the technical aspects of system design, specification and implementation. Communication Systems will be able to provide advice around system design.

2 Procedures

Server Location

- 2.1 The paging server should be located in a secure communications/ICT server room.

System Login and Access

- 2.2 Spok Messenger® has several levels of login access known as 'permissions'. Permissions are defined by settings within the software and are generally set up at system commissioning time in consultation with the District Manager. Paging operators who do not need the ability to change settings in the higher levels of system administration may login with the user name 'Guest'. This method of login prevents changes being made to system configuration/operation, but allows users to readily send page messages as and when required.
- 2.3 The District Manager should nominate appropriate staff to be trained and given 'administrator' access to Spok Messenger®. Administrator access logins should only be allocated to NSW RFS staff and should always be kept secure.
- 2.4 Changes within the administrator fields of the system setup should only be made by personnel who are trained and/or fully familiar with system operation. Advice may be obtained from Communication Systems or the system supplier.
- 2.5 System training and operating instructions are made available when the system is installed or may be obtained from the supplier. 'Guest' user access is intuitive - however, further training and familiarisation should be provided by District Operations staff for new operators.

Paging Messages

- 2.6 Paging messages sent via the system should be concise and contain only information needed to convey the objective of the paging activation. Salutations, personal greetings, and other unnecessary information should not be sent. Depending on the District and the types of pagers in use, messages longer than the pre-configured number of characters will be automatically split and transmitted as multiple pages.
- 2.7 All Brigade response notifications or critical messaging must be sent via the NSW RFS paging network.

- 2.8 General information messages to groups of personnel are acceptable (i.e. weather warnings, meeting reminders etc.). However, paging messages to individuals is to be avoided if a more appropriate method of communication exists (i.e. mobile phone, SMS or PMR radio as circumstances permit).
- 2.9 Paging messages should be prefixed with a time and date stamp, selectable from the operating page of the Spok Messenger® user software.
- 2.10 Each Spok Messenger® system is set up with “All Call” activation. This single contact, or recipient as defined on the Spok Messenger® screen, will send a pager message to all pagers on a local network, using only a single activation of system transmitters and radio links. This facility should be used wherever possible, thus avoiding multiple repeats of the same message to many different recipients (pager contacts) and consequent delays. This is particularly important in the case of repeats of general messages intended for multiple recipients.

SMS and smart phone/device applications

- 2.11 SMS and smart phone/device applications are suitable for administrative, non-time critical messaging applications, but must not be used for Brigade response purposes as there is no guarantee of message response times.
- 2.12 Congestion and delays will occur when using SMS / smart phone applications during periods of peak activity. Districts implementing the smart phone/device application must not tamper with Spok Messenger® software or any hardware integrated within the Paging system.
- 2.13 All ongoing cost associated with SMS service or smart phone/device solution will be borne by the Districts.

3 Related forms

- > None

SOP 5.1.3-6

Paging Systems CAPCODE Administration

1 Purpose

- 1.1 This SOP is intended to ensure that the NSW RFS paging system is operated in an efficient manner such that time critical messages are sent and delivered to pagers in the most reliable and fastest way possible.
- 1.2 Efficient and disciplined use of a paging system will maximise benefit by conserving transmitter power requirements, reducing transmitter and link radio usage, reducing message delivery times and ensuring that congestion does not occur on network radio links and paging transmitters.
- 1.3 This SOP concerns the programming of pagers and the recipient database within Spok Messenger® software. This SOP assumes some knowledge of pager programming methods, database creation and changes within Spok Messenger®.
- 1.4 A pager contains a radio receiver that constantly monitors a specific radio frequency. The pager will remain silent until it receives a specific number as a string of data which tells it to alert and display a message. This number string is known as a CAPCODE.
- 1.5 A pager may contain four or more CAPCODES in its memory, and will respond to any of these codes by alerting and displaying. The CAPCODE is represented by a seven-digit number programmed into pagers with a corresponding number allocated in the Spok Messenger® database.
- 1.6 Further information on other pager features such as rostering, call escalation, departments etc. may be obtained from the supplier or from Communication Systems.

2 Procedures

- 2.1 The programming and configuration of pagers is the responsibility of the District Manager and/or designated staff members, however Communication Systems can assist with advice or information regarding the programming of pagers.

Pagers CAPCODES

- 2.2 CAPCODES are strictly administered by Communication Systems and allocated to Districts in accordance with a specific numbering plan, based on the Local Government Area (LGA) boundaries.
- 2.3 The three leading digits of the CAPCODE are used to delineate Districts in which the pager users normally reside (staff, Brigades etc.). The remaining four digits of the CAPCODE number are for allocation by the District to Brigades and individuals within that District according to previously agreed guidelines. This numbering convention is available from Communication Systems. Districts must use this numbering plan when programming pagers and the Spok Messenger® database of contacts.
- 2.4 A CAPCODE may be programmed into a single pager or may be programmed into many pagers (groups of pagers).
- 2.5 Pagers must be programmed:
 - a. With a District "All Call" CAPCODE. This code must be programmed into every pager used on the local District paging network;
 - b. With the NSW RFS paging frequency i.e., 148.5875 MHz in a 25 kHz channel;
 - c. To a data rate of 512 baud which is common to all NSW RFS pagers; and
 - d. With the additional CAPCODES relevant to the individual pager.
- 2.6 There are many types of pager programs and programming hardware. Each type has differing features and settings. If any difficulty is experienced in using pager programming devices or software, users should consider having their pagers programmed by the supplier or their local approved contractor. Assistance in programming may also be obtained from Communication Systems.

Spok Messenger®

- 2.7 Spok Messenger® servers are provided as part of a District's paging system installation and must have no other applications apart from Spok Messenger® paging software installed. This equipment is for the dedicated use of Spok Messenger® only.
- 2.8 A recipient in Spok Messenger® is defined as the name of the individual or group of individuals to whom a page message is intended. Recipients may be allocated a Pager Number known as a Local ID. This ID should have four digits, and is not related to a CAPCODE.
- 2.9 The Spok Messenger® Contacts name field should always contain individual staff positions, staff and administration groups, senior member positions, Captains by Brigade and Brigades by Brigade name etc. Personal names of Brigade members should not be used.
- 2.10 Grouping of recipients using the Group facility of Spok Messenger® results in the same pager message repeated for each Group member. This is a particularly inefficient method of sending pager messages and should be avoided wherever possible. Grouping pager recipients should never exceed three members per group. If the group is considered to be a permanent necessity, consideration should be given to grouping by adding a CAPCODE and re-programming the pagers concerned.

Pager Activation by Telephone (“Man-in-the Box”)

- 2.11 Spok Messenger® has the capability of allowing users to send selected messages remotely via a telephone keypad if the Spok Messenger® server has been installed with a PBX interface. This method, known as “man in the box”, will send a message selected from a numbered list of pre-determined messages to a recipient ID.
- 2.12 Where joint District paging networks are used, i.e. the network uses more than one server, District Operations staff must ensure that the Paging (PBX) Message list is common to both servers. If changes are made to the PBX Message list, these must be agreed and implemented at both servers. The District Managers are responsible for ensuring that the databases on their respective servers are kept synchronised.

Pager Activation by Web Access

- 2.13 Spok Messenger® also has the capability of allowing users with internet access from laptops, tablets or smart phones to send messages remotely.
- 2.14 This method allows full messaging capability via the web browser however, no Spok Messenger® administrative activities can be undertaken via this facility.

3 Related forms

- None

SOP 5.1.3-7

Paging Networks and Other Agencies

1 Purpose

- 1.1 The NSW RFS is responsible for a paging network in NSW which, in some areas of the state, is utilised by other Emergency Service Organisations (ESO), provided a Memorandum of Understanding (MOU) or other agreement is entered into.
- 1.2 This SOP sets out the process for the development of formal agreements which must be in place to ensure the system usage is monitored and recorded.

2 Procedures

- 2.1 Those bodies requiring access to NSW RFS District paging networks should initially contact Communication Systems at NSW RFS Headquarters or the District Manager, stating their need for access to the paging network and providing a written outline of their requirements from the system.
- 2.2 If the system is capable of providing the service required by the requesting ESO, the District Manager and Communication Systems will develop a MOU outlining services to be provided to the agency requesting the service.
- 2.3 This MOU will be prepared by the Manager Communications Systems.
- 2.4 The MOU will be executed by the Manager Communication Systems and an equivalent representative from the requesting Emergency Service Organisation.
- 2.5 The MOU will remain in force for 3 years from date of signing, with an annual review between the agencies at a local level.
- 2.6 CAPCODES for use on the paging network will be supplied by Communication Systems from the state CAPCODE database in accordance with SOP 5.1.3-6 Paging Systems - CAPCODE Administration.

3 Related forms

- > None

SOP 5.1.3-8

Issuance of NSW RFS Radio Profiles to Third Parties

1 Purpose

- 1.1 All radios ordered and purchased by the NSW RFS have standard radio profiles programmed into them upon supply. These profiles are necessary to ensure a standard operating environment is maintained across the communications fleet throughout rural fire Brigades.
- 1.2 This SOP provides guidance for the release of secure information pertaining to the use of NSW RFS radio profiles.

2 Procedures

- 2.1 Communication Systems has profiles written for the radio equipment which can be made available for programming of communications equipment for NSW RFS Districts by authorised suppliers.
- 2.2 Profiles supplied by Communication Systems are for exclusive use in NSW RFS fixed and handheld radio equipment and must not be supplied for use in private or personal radios.
- 2.3 Profiles supplied from Communication Systems must not be modified in any way, prior to programming of radio equipment by suppliers.
- 2.4 Profiles are available through secure internet access for approved suppliers, subject to completion of a Non-Disclosure Agreement and can be obtained by contacting Communication Systems.
- 2.5 Breaches of this SOP will be subject to disciplinary action.

3 Related forms

- Non-Disclosure Agreement (available on request from the Manager Communication Systems)

SOP 5.1.3-9

Recording Systems

1 Purpose

- 1.1 The NSW RFS has a need to record emergency related messages, which must be undertaken in accordance with legislative requirements.
- 1.2 This Standard Operating Procedure (SOP) sets out the process for purchasing appropriate voice recording devices, and the procedures for managing the information captured during the recording process.

2 Procedures

Legislative Requirements

- 2.1 Under the *Telecommunications (Interception and Access) Act 1979*, all NSW RFS sites where recording of telecommunications occurs must be declared an Emergency Service Facility (ESF) by the Federal Attorney-General.
- 2.2 District Managers are responsible for ensuring that the location at which they propose to carry out recording has been declared an ESF by Communication Systems.
- 2.3 Once a facility has been declared an ESF by the Federal Attorney-General, appropriate signage must be posted at each entrance stating that communications to and from the facility may be monitored and recorded.
- 2.4 Communication Systems is the conduit between the District Office and the Attorney-General.

Recording System Planning and Installation – New product purchases

- 2.5 All new voice recorders must be ordered in consultation with Communication Systems to ensure local and Headquarters server compatibility needs are met.
- 2.6 The following information must be supplied to Communication Systems to assist in selecting the appropriate voice recording equipment:
 - a. Complete the Voice Recorder Quote Request;
 - b. Details of any current recording equipment in place;
 - c. Make, model and specifications of the current telephone/PABX system in use at the ESF; and,
 - d. Details of the communications circuits/channels to be recorded.
- 2.7 Communication Systems will evaluate the ESF needs based on the information provided, to select the most appropriate system available through State Government contract.
- 2.8 Communication Systems will verify whether the fire control centre is a declared ESF.
- 2.9 Communication Systems will source the quote and provide the quote to the District, who will raise the order through the approved NSW RFS purchasing system and undertake all the associated processes.
- 2.10 The equipment supplier will build the system and arrange to install and commission the equipment at the ESF.
- 2.11 Communication Systems will manage the recording system remotely from NSW RFS Headquarters, setting up users in the system and access permissions.
- 2.12 During major incidents, the District Manager and/or Incident Controller will ensure that all telephone communications are undertaken via recorded telephones (where possible) and that all area command and control radio channels being utilised in the Fire Control Centre are recorded.

Recording System Business Rules – All Devices

- 2.13 District Managers must ensure that all recording systems are operated in accordance with the *Telecommunications (Interception & Access) Act 1979*, the *Radiocommunications Act 1992* and any other requirements.
- 2.14 The use of electronic recording systems does not replace the need to keep handwritten logs of events.

What should be Recorded

- 2.15 As a minimum, a District office is to maintain an audio recording of the:
- a. “000” (fire line);
 - b. main operational telephone line(s);
 - c. all command and control radio channels; and
 - d. all operational telephone handsets.
- 2.16 District Managers should assess the need for additional recording lines in order to provide an optimum record of District operations.
- 2.17 The rapid recall function available on some systems must only be used for clarification of details passed in a recent conversation.
- 2.18 All ESF locations must provide the option of one non-recorded telephone line as personal privacy considerations need to be taken into account. Mobile phones may be appropriate for this purpose.

Device Location and Access

- 2.19 All recording devices must be situated in a secure area, with restricted physical access (for example a lockable rack).
- 2.20 Access to the local voice recorder system software will be restricted by means of a password, known only to the District Manager and/or designated staff members.
- 2.21 The District Manager will maintain a current register of people with access to the system.
- 2.22 The District Manager must advise Communication Systems when a staff member has changed roles or otherwise no longer requires access.
- 2.23 Access to the centralised recording system located at NSW RFS Headquarters will utilise the staff members NSW RFS network credentials.
- 2.24 The District Manager and/or designated staff members will be responsible for retrieving recording(s) as required for legal or substantiation purposes. Where there is a large number of recordings required, the District Manager must identify the channel number(s), start and finish date(s) & time(s) and submit a written request for assistance through Communication Systems.

Storage Media and Access

- 2.25 All recorders must archive recordings to a central server managed by Communication Systems at NSW RFS Headquarters.
- 2.26 The ongoing management of the recorded data archive is the responsibility of Communication Systems.
- 2.27 If access to a recording is required and the criteria set out in Service Standard 1.1.14 Personal Information and Privacy is met, it can be retrieved as per the standard records process.

Maintenance of Voice Recorders

- 2.28 Communication Systems will be responsible for the maintenance of the main recording system located at NSW RFS Headquarters.
- 2.29 Districts will be responsible for the maintenance of the recording system located at their District Office or any satellite office.
- 2.30 The District Manager will ensure an ongoing annual maintenance agreement is in place with the supplier or an appropriate contractor.

3 Related forms

- Emergency Service Facility Signage (available on request from Communication Systems)
- List of Approved Emergency Service Facilities (available on request from Communication Systems)
- [Voice Recorder Quote Request](#) (available on request from Communication Systems)

SOP 5.1.3-10

Entering into Site Agreements

1 Purpose

- 1.1 The NSW RFS requires multiple communications sites in various locations so as to provide the communications infrastructure necessary to support operational responses and activities. As such, a site and/or access agreement for each site is required to be in place between the NSW RFS and the operator of the site.
- 1.2 This SOP) sets out the processes necessary to meet these responsibilities in occupying space on a communications site which is not owned or managed by the NSW RFS.

2 Procedures

- 2.1 Following identification of a communications site, the District must have a formal site and/or access agreement(s) in place prior to any site works being commenced.
- 2.2 The following site details are required in order to facilitate occupation of the preferred site. These details must include:
 - b. Land owners name details (ABN required);
 - c. Lot and DP numbers;
 - d. copy of formal council Development Application approval (if applicable); and
 - e. other site occupier details.
- 2.3 Communication Systems, in conjunction with the District Manager, will assist in the negotiation on behalf of the Local Government Authority(ies) a legal occupation and/or access agreement(s) with the site owner. This agreement shall be in accordance with any Service Level Agreement between the NSW RFS and the Local Government Authority(ies) that may be in place.
- 2.4 Once the occupation and/or access agreement(s) has been finalised and signed off by all parties, a copy will be registered on the relevant electronic document management system on the site specific electronic file and relevant District electronic file.
- 2.5 Communication Systems will then grant approval for the site works to commence.
- 2.6 The District is to contact Communication Systems to obtain a copy of the relevant agreement documents that are used by the NSW RFS.
- 2.7 A licence agreement, for both site and access, must be in place for all radio sites utilised by the NSW RFS.

3 Related forms

- Site Agreement template (available on request to the Manager Communication Systems)