LONDON FIRE BRIGADE

**Freedom of Information request:** Reference number FOI2026/01491

**Date of request:** 16th November

**Request:**

This goes a bit off the typical intention of a FOI request, but I am curious if there is any documentation regarding the various tabards firefighters would wear at incidents, such as the ones worn by Incident Commanders, Fire Investigators, etc. I'd be interested in knowing what the extent of roles in LFB is and how many different roles can be taken at an incident.

**Response:**

Thank you for your request for information received under the Freedom of Information Act 2000.

In relation to the identification surcoats (tabards) worn by personnel at incidents and the roles associated with them, this information has previously been released in response to FOI2025/00151. That response is available via the Brigade's disclosure log at the following link: https://london-fire.disclosurelog.co.uk/disclosures/ac988259-29c5-4556-87e4-c528b0e2e53c

In relation to the full range of roles that can be taken at an incident, this information is contained within Policy PN0987 – Organisation at incidents – knowledge, skills and competence – NOG, a copy of which is attached. Section 3 of that document sets out the identification surcoats used for each command role, and Section 8.69 lists the full range of roles that may be assigned at an incident, which includes sector commander, operations commander, command support officer, monitoring officer, breathing apparatus sector commander, cross-border liaison officer, damage control officer, equipment officer, evacuation officer, fire sector commander, fire survival guidance coordinator, fire survival guidance sector commander, inner cordon controller, inner cordon recorder, inner cordon sector commander, lobby sector commander, marshalling officer, mass decontamination sector commander, resources officer, safety officer, safety sector commander, search sector commander, water officer, and welfare officer.

We have dealt with your request under the Freedom of Information Act 2000. For more information about this process, please see the guidance we publish about making a request on our website: https://www.london-fire.gov.uk/about-us/transparency/request-information-from-us/

LONDON FIRE BRIGADE

Policy number: **0987**

Version date: 28 October 2024

# Organisation at incidents - knowledge, skills and competence incident command - NOG

## NEW POLICY POSITION

This policy should be read with:

PN0987-POLa – Effective communications – organisational procedure - NOG
PN0987-POLb – incident command – command control – Brigade control - NOG
PN987a – equipment officer – incident command – organisation at incidents – SOP
PN987b – advanced command support – incident command – organisation at incidents – SOP
PN987c – intermediate command support – incident command – organisation at incidents – SOP
PN987d – BA sector commander – incident command – organisation at incidents – SOP
PN987e – damage control officer – incident command – organisation at incidents – SOP
PN987f – evacuation sector commander – incident command – organisation at incidents – SOP
PN987g – initial command point operative – incident command – organisation at incidents – SOP
PN987h – monitoring officer – incident command – organisation at incidents – SOP
PN987i – lobby sector commander – incident command – organisation at incidents – SOP
PN987j – inner cordon sector commander – incident command – organisation at incidents – SOP
PN987k – inner cordon recorder – incident command – organisation at incidents – SOP
PN987l – inner cordon controller – incident command – organisation at incidents – SOP
PN987m – FSG sector commander – incident command – organisation at incidents – SOP
PN987n – FSG coordinator – incident command – organisation at incidents – SOP
PN987o – fire sector commander – incident command – organisation at incidents – SOP
PN987p – resources officer – incident command – organisation at incidents – SOP
PN987q – welfare officer – incident command – organisation at incidents – SOP
PN987r – water officer – incident command – organisation at incidents – SOP
PN987s – sector commander – incident command – organisation at incidents – SOP
PN987t – operations commander – incident command – organisation at incidents – SOP
PN987u – search sector commander – incident command – organisation at incidents – SOP
PN987v – marshalling officer – organisation at incidents – SOP
PN987w - duty Brigade control senior commander - incident command - organisation at incidents - SOP
PN0987x - command support officer - command control - brigade control – incident command – organisation at incidents – SOP
PN0987y – operations review team officer – incident command – organisation at incidents – SOP
PN0987-TSa – organisation at incidents – training specification - NOG
PN0987-ORPa – organisation at incidents – organisational procedure - NOG
PN0987-ORPb – command support at incidents – organisational procedure - NOG
PN0987-ORPc – effective communications – organisational procedure – NOG
PN0987-ORPd - Operational audits – organisational procedure - NOG

Official

# Policy summary

This publication complements and supports the **Organisation at incidents policy**. It provides the detail required for incident commanders to use the incident command system to manage and fulfil their incident plan. This includes the various resources available for deployment, including sources of specialist advice. It is an essential guide for the safe systems of work required at incidents and provides essential reading for all incident commanders, operational personnel and Brigade Control personnel.

The material contained within this document provides the content that underpins the Brigade's **Incident command training specifications**.

- Responsible Head of Service is the Assistant Commissioner – Operational Policy and Assurance
- Responsible team is Operational Learning Team

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# 1. Introduction

1.1 This publication complements and supports the Organisation at incidents policy. It provides the detail required for incident commanders to use the incident command system to manage and fulfil their incident plan. This includes the various resources available for deployment, including sources of specialist advice. It is an essential guide for the safe systems of work required at incidents and provides essential reading for all incident commanders, operational personnel and Brigade Control personnel.

1.2 The material contained within this document provides the content that underpins the Brigade's Incident command training specifications.

# 2. Effective communication

2.1 The aim at every incident is to integrate communications and decision-making between the incident commander, operational personnel, and fire control rooms.

2.2 Effective communication is fundamental to achieving successful and safe resolution of incidents. It provides the incident commander with knowledge about the situation and progress of tasks. Obtaining accurate and timely information is crucial to underpin situational awareness and subsequent decision-making. It helps the incident commander perform the role in a confident and determined manner and thereby assert their leadership and authority.

2.3 Communication also plays a vital role in co-ordinating activities, completing tasks and handover of command. Sharing accurate and timely information is also critical for helping others to have a common understanding of the situation, what is happening and what needs to happen next. Even the most effective plans will only work if the people putting them into practice understand them.

2.4 As well as exchanging information, good communication helps to build relationships between people. These relationships are important so that people are effective when they carry out their tasks to resolve the incident. Incident commanders should be aware that effective communication is essential for good leadership and makes it easier for people to follow instructions, understand briefings and have confidence in what is being stated.

2.5 Effective communication should:

- Provide information that is:
  - Clear
  - Relevant and concise
  - Timely
- Be easily understood.
- Be delivered confidently.
- Include active listening.
- Ensure verbal and non-verbal communications are aligned.
- Ensure assumptions are questioned.

2.6 Key principles should be considered when establishing an effective communication strategy to ensure:

- The communication structure and strategy is appropriate for the size, type, and location of the incident.
- Communications will be effective and resilient.

- That information received in support of the incident is accurate, appropriate, and timely.
- That information is obtained from a reliable and credible source, or if not that it is checked and verified.
- That digital main-scheme point to point transmission, mobile or fixed telephony are used to communicate information if there are security implications, or the need to relay sensitive or distressing information.
- The appropriate recipients are provided with relevant information, via an appropriate method.
- The relevance of the information.

2.7 No single communication system is appropriate for all uses and situations that could be encountered at incidents. As an incident progresses, or grows in size or complexity, the communication plan for the incident should be reviewed to ensure communications remain effective.

2.8 The Cabinet Office guidance on resilient telecommunications recommends the use of layered fall-back arrangements to improve the ability of the communication plan to cope with equipment failure, unavailability, or congestion. When developing the communication plan, incident commanders should identify suitable alternative, contingency and emergency communications options to reduce the risk of situational awareness being impaired. The mnemonic PACE should be used to identify these options:

- **Primary** – the main method that should be used for communications for that area of operations.
- **Alternative** – secondary means of communication that can be used in place of or alongside primary method.
- **Contingency** – contingency measures to reduce probability of, or recover from propagation, interference or congestion affecting communications.
- **Emergency** – emergency measures to be used in the event of communications failure.

2.9 The below table shows example PACE plans for different communication uses at incidents:

| Communication Type | Primary | Alternative | Contingency | Emergency |
|---|---|---|---|---|
| **Breathing apparatus** | Radio Channel 11 | Radio Channel 14 | Repeaters with Leaky Feeder – Channel 10, 13 or 18 | Bodyguard telemetry communications |
| **General incident communication** | Incident ground channel 9 | Incident ground channel 19 | Digital main scheme radio talk group | Runners |
| **Incident command** | Incident ground channel 9 | Incident ground channel 10 (repeater) | Digital main scheme radio talk group | Mobile phone<br>Runners |
| **Command support** | Incident ground channel 12 | Incident ground channel 9 | Digital main scheme radio talk group | Mobile phone |

Table 1: Example PACE Plans for communication activities

2.10 A good flow of information is one of the most important assets for an incident. An incident commander should ensure they:

- Gather information, issue orders, and receive situation reports.

- Issue orders to personnel.
- Receive situation reports from all areas, including sector commanders.
- Assess and provide for the needs of other agencies, and plan to meet with them.
- Carry out a risk assessment and add this to the briefing on arrival.
- Brief personnel about the tasks they need to perform and the hazards and risks they face.
- Thoroughly brief personnel to share any safety critical information.

2.11 Incident commanders should use the **structured briefing model**, see Policy number 986 - Command skills - knowledge, skills, and competence – NOG, to prepare briefings. At a multi-agency incident, IIMARCH (Information, Intent, Method, Administration, Risk assessment, Communications and Humanitarian issues) template, may help. Further information on this approach can be found in Policy number 971 – Joint emergency services interoperability principles - JESIP – NOG and a Word version of the IIMARCH template, can be found on the JESIP website. The JESIP Mobile App includes a prompt for use of the IIMARCH briefing tool, with the ability to share.

2.12 For multi-agency incidents the M/ETHANE message protocol should be used to exchange information about the incident with other responders via the Brigade Control and other agencies' control rooms.

2.13 It will be necessary to organise safety briefings. As the incident develops, or if the risk of injury increases, those briefings may need to be more comprehensive.

2.14 Incident commanders should also establish suitable arrangements for communications. This is usually the role of command support under the guidance of the incident commander, and may include:

- Establishing communication links with Brigade Control.
- Ensuring they correctly assign radio channels and call signs.
- Establishing communications with other agencies.
- The use of talk groups.
- Requesting the support of a communications tactical adviser.
- Establishing communications with sector commanders and other command support functions to receive regular situation reports.
- Ensuring sector commanders can communicate between themselves.
- Using local systems; London Underground premises, some new and complex buildings, and structures, including those extending underground, have communication systems installed for use by emergency services.

## Call signs

2.15 To clearly identify the role of the user with incident ground radios, call signs should be used. These must be based on the following:

- Command team members – role title, for example 'Sector 1 commander' or 'Water Sector Commander'.
- Appliance commanders - station and appliance followed by 1, for example "Barking pump ladder one".
- Appliance driver – station and appliance followed by 2.
- BA teams - station and appliance followed by 3 or 4.

- Individual personnel – Rank and Surname followed by station, for example "Firefighter Smith Stratford".

2.16 When using the digital main scheme radio, all users are also identified by a call sign. Appliances may need to use two types of call-sign:

- On London talk-groups (e.g., FLON-OPS05, FLON-OPS06, FLON-MTM1) the call-sign will consist of the alpha-numeric station number, (e.g., G31), followed by a number specific to each individual appliance type (see appendix 1), e.g., G311 (Northolt's pump ladder).
- At "cross-border" incidents or when working with other agencies, appliances may be required to communicate with other Brigades or agencies. To avoid confusion, the use of self-evident call-signs is essential. Call-signs will comprise of the station name in full, followed by the type of appliance in full, e.g., 'London Fire Brigade, Northolt Pump Ladder'.

2.17 Senior officers are allocated call-signs by reference to the post held. These are to be used on London talk-groups. At incidents involving officers from other Brigades, the officer's role and name will be used, e.g., 'London Fire Brigade, Station Commander Orange'.

2.18 Brigade Control utilise two call signs – London East for incidents on FLON-OPS05, and London West for incidents on FLON-OPS06.

2.19 When using interagency talk-groups call signs the service, level of command, and role should be used. For example:

2.20 "Police operations, sector commander marshalling...from...fire bronze, sector commander resources; request status update on access road to incident, over".

## Voice procedure

2.21 Voice procedure is designed to provide the fastest and most accurate method of speech transmission. All messages should be pre-planned, brief, and straightforward. Where possible, messages should be written down: even brief notes reduce the risk of error. Messages should be constructed clearly and logically in order not to confuse the recipient.

2.22 The correct use of audio equipment and clear, concise speech over the radio are essential if transmissions are to be successfully received and understood at the first attempt.

2.23 In many situations, particularly in noisy or difficult conditions, it may be beneficial to move away from sources of noise.

2.24 For best results, the following method of speech should be followed. The key words to remember are Rhythm, Speed, Volume and Pitch (RSVP):

- **Rhythm** - Use short sentences divided into sensible phrases which maintain a natural rhythm; they should not be spoken word by word. Where pauses occur, the press-to-talk should be released to minimise transmission time and permit personnel to break in if necessary.
- **Speed** - Speak slightly slower than for normal conversation. Where a message is to be written down by the recipients, or in difficult conditions, extra time should be allowed to compensate for the receiving personnel experiencing the worst conditions. Speed of transmission is easily adjusted by increasing or decreasing the length of pauses between phrases, as opposed to altering the gaps between words; the latter will create an unnatural, halted style of speech, which is difficult to understand.
- **Volume** - Speak at a volume that is for normal conversation. Shouting causes distortion.
- **Pitch** - The voice should be pitched slightly higher than for normal conversation to improve clarity.

## Radio discipline

2.25 Radio discipline is the correct and concise use of radio equipment and procedures. It is a fundamental ingredient of voice procedure, without which a communications system cannot function efficiently. In addition to reducing communications efficiency and accuracy, inadequate radio discipline can result in a serious degradation of situational awareness.

2.26 All personnel should maintain correct radio discipline at all times. The incident commander should monitor and maintain discipline on communications systems. They may choose to delegate this responsibility to the command support function.

2.27 During difficult conditions, or as an incident escalates in severity or complexity, communication efficiency can deteriorate rapidly if the radio discipline is not maintained.

2.28 In order to maintain radio discipline, all personnel should always:

- Use correct voice procedure as detailed below.
- Maintain awareness of radio traffic as this can build awareness of the incident. All aspects of voice procedure are based on the assumption that personnel will respond to the call immediately.
- Ensure that the correct channel is in use.
- Answer calls without delay.
- Listen carefully before transmitting to ensure that the channel is clear.
- Release the press-to-talk switch promptly.
- On releasing the press-to-talk switch, ensure that the radio returns to the receive condition.
- Limit transmissions only to necessary information.
- Use callsigns to identify message senders and recipients.
- Speak at a speed where the recipient could transcribe the message.
- Use appropriate language at all times.

## Phonetic alphabet

2.29 To help identify spoken letters of the alphabet a standard phonetic word alphabet is used. Each letter of the alphabet is represented by a uniquely pronounced word to enable consistent and accurate pronunciation. For example, BRAVO is the phonetic equivalent of the letter B and DELTA equates to the letter D.

2.30 The NATO phonetic alphabet should be used when passing messages by speech radio to:

- Spell difficult words; and,
- Pass separate letters, e.g., 4WE - Four Whisky Echo.

2.31 Spelling words phonetically uses considerable airtime, and its use is to be restricted to those circumstances where it is necessary. Numbers should also be pronounced phonetically (other than when part of a call-sign).

# Communications systems

## Tait TP9355 incident ground radio

2.32 All senior officers of station commander and above who are not part of the Specialist Entry and Recovery Team (SERT) are issued with a Tait TP9355 incident ground radio with two batteries. The Tait TP9355 is not intrinsically safe and must not be used in flammable or explosive atmospheres, additionally this radio must not be worn with breathing apparatus. It is set to a transmission power of 4 Watts ERP (effective radiated power). It uses the LFB incident ground channel plan and is fully interoperable with other radios used.

## Tait TP9361 Atex IIA intrinsically safe incident ground radio

2.33 A Tait TP9361 Atex IIA radio is allocated to all station based riding positions and senior officers who are part of SERT, it is supplied with a Remote Speaker Microphone (RSM) and a spare battery. It is for use on the incident ground and with BA, it is compatible with the Savox HC-1A bone conduction microphone and speaker. It is set to a transmission power of 4 Watts ERP (effective radiated power). It uses the LFB incident ground channel plan and is fully interoperable with other radios used.

2.34 The Tait TP9361 Atex IIA is a certified intrinsically safe radio set conforming to all current aspects of the Dangerous Substances and Explosive Atmospheres Regulations of 2002 (DSEAR) for use within potentially explosive atmospheres. It is certified to an intrinsically safe standard of Ex ib IIA T3 and T4 which is suitable for use in most flammable or explosive atmospheres, however there are certain gases for which the Atex IIA radio is not rated as intrinsically safe for, these are detailed in the section on intrinsic safety.

2.35 For more information on the intrinsic safety ratings please see intrinsic safety.

## Tait TP9361 Atex IIC intrinsically safe incident ground radio

2.36 A Tait TP9361 Atex IIC radio is allocated to all Fire Rescue Units (FRU) and is supplied with a RSM and a spare battery, it is compatible with the Savox HC-1A bone conduction microphone and speaker. It is for use at incidents where an additional level of intrinsic safety beyond what is provided by the Tait TP6361 IIA is required. It is set to a transmission power of 1 Watts ERP (effective radiated power) and this reduced transmission power should be factored into any deployment plan as additional controls such as repeaters may need to be deployed.

2.37 It uses the LFB incident ground channel plan and is fully interoperable with other radios used.

2.38 The Tait TP9361 Atex IIC is a certified intrinsically safe radio set conforming to all current aspects of the Dangerous Substances and Explosive Atmospheres Regulations of 2002 (DSEAR) for use within potentially explosive atmospheres. It is certified to an intrinsically safe standard of Ex ib IIC T3 and T4 which is suitable for use in a flammable or explosive atmosphere.

2.39 For more information on the intrinsic safety ratings please see intrinsic safety.

## Incident ground radio channel plan

2.40 The channel plan contains 21 channels for use at operational incidents. To make certain that radio transmissions between individuals at incidents are correctly received, personnel should remain on their assigned radio channel except in an emergency, or when ordered to do so by the Incident Commander or the communications operator. Duplex channels can only be used when a fixed or portable repeater is in operation.

2.41 The channel plan is aligned to the National Operational Guidance channel plan to provide enhanced interoperability with other Fire and Rescue Services and has both digital and analogue channels programmed in. At cross border incidents the agreed process is that analogue channels are to be used.

This should be coordinated with other attending FRS'. The LFB is only using analogue channels at the moment as the digital channels are reserved for future use.

2.42 Channels 1 to 8 along with 17 and 18 are all digital and have analogue equivalents on channels 9 to 16 and 19 and 20. These channels transmit on the same frequencies, for example channel 1 (digital) and channel 9 (analogue) and anyone transmitting on a digital channel will cause significant interference for all users of the equivalent analogue channel.

2.43 It is not possible to transmit between analogue and digital channels, for a transmission to be successful all users must be on the same mode.

2.44 For more information on the interference caused by digital and analogue signal conflict, see interference (section 2.103).

| Channel | Primary Use | Mode | Simplex / Duplex | Tx Frequency (MHz) | Rx Frequency (MHz) |
|---|---|---|---|---|---|
| 1 | **Digital channels, reserved for future use** | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | General incident and Initial Command | Analogue | Simplex | 457.0375 | 457.0375 |
| 10 | Portable repeaters | Analogue | Duplex | 462.5875 | 457.0875 |
| 11 | Breathing Apparatus Comms | Analogue | Simplex | 457.4875 | 457.4875 |
| 12 | Command support | Analogue | Simplex | 457.1875 | 457.1875 |
| 13 | Fixed site | Analogue | Duplex | 462.6375 | 457.1375 |

| Channel | Primary Use | Mode | Simplex / Duplex | Tx Frequency (MHz) | Rx Frequency (MHz) |
|---|---|---|---|---|---|
| | repeaters (LUL or subsurface) | | | | |
| 14 | BA Sector / Functional roles | Analogue | Simplex | 457.2375 | 457.2375 |
| 15 | Incident defined | Analogue | Simplex | 450.1000 | 450.1000 |
| 16 | Incident defined | Analogue | Simplex | 464.1000 | 464.1000 |
| 17 | **Digital channels, reserved for future use** | | | | |
| 18 | | | | | |
| 19 | Incident defined (not with 20) | Analogue | Simplex | 455.9875 | 455.9875 |
| 20 | Repeaters | Analogue | Duplex | 462.6125 | 455.9875 |
| 21 | Site specific repeaters | Analogue | Duplex | 462.5375 | 455.9875 |

Table 2: LFB incident ground radio channel plan

## Legacy leaky feeder systems on channels 5 and 8

2.45 It is possible that personnel will encounter leaky feeder or repeater communication systems installed in buildings that use the previous channel plan numbers, they may be labelled as channel 5 or 8. The frequencies used have not changed, only the numbering on our handsets and as such the system will still function as intended except instead of channel 5, personnel should use channel 13.

2.46 If the incorrect channel is used, the user will not be able to communicate with personnel using the system, and it will also cause interference that will prevent the system functioning effectively.

2.47 When using a legacy communications system incident commanders must ensure that the correct channels are used, this should be tested before use to ensure it is functioning correctly, this should also be part of any SHOPAC briefings to ensure the information is fully understood.

2.48 Following the incident, the ORD records for the premises should be reviewed and updated if required to include references to use of the old channel plan in signage or information made available and a follow up visit arranged.

2.49 During pre-planned ORD visits station personnel must check the status and signage of any installed communications system and ensure the ORD us updated to reflect any use of the previous channel plan. The details of the property should also be sent to the incident communications team mailbox, this should include the address and outline of the system, along with any contact details for a responsible person.

## Received Signal Strength Indicator (RSSI)

2.50 All Tait incident ground radios have a built in Received Signal Strength Indicator (RSSI). The RSSI measures the amount of power present in a radio signal. It is an approximate value for signal strength received on an antenna. Measuring the signal strength at the receiving antenna is one way to determine the quality of a communication link.

2.51 This is not an absolute measure of the quality of the transmission and voice quality may vary depending on other factors such as interference. The RSSI is not a measure of outgoing transmissions and is unable to indicate if a transmission has been received.

2.52 The RSSI can be used to help identify areas of poor communications and potential locations for portable repeaters, communications will begin to degrade significantly once the dBm exceeds -100 dBm so repeaters should be positioned in an area where the signal strength is fair, or better.

| RSSI | Signal Strength |
|---|---|
| > -70 dBm | Excellent |
| -70 dBm to -85 dBm | Good |
| -86 dBm to -100 dBm | Fair |
| < -100 dBm | Poor |
| -110 dBm | No signal |

RSSI Signal Strength comparison table

## Fixed-site and portable repeaters

2.53 It may not always be possible to use radios in 'simplex' mode (direct radio-to-radio) to cover an entire incident ground; the signal coverage may weaken because of the distance and the number of obstructions between radios. Repeaters, also called 'talk-through base stations', can be used to extend the range of handsets; they act as a 'middle agent' to rebroadcast radio messages.

2.54 Repeaters may be permanently installed in fixed locations, such as shopping centres, tall buildings, tunnels, and hospitals. Fixed repeaters give fire and rescue services the benefit of knowing the coverage they provide before they need to be used.

2.55 Fixed repeaters have been installed in a number of locations, including London Underground Ltd premises. These are provided to ensure signal coverage throughout the premises. The fixed channel 13 base station at sub-surface LUL premises is not intended to cover any other surrounding premises. It should not be relied upon for communications outside the boundary of the sub-surface station, or beyond the immediate vicinity of the rendezvous point (RVP). Where a leaky feeder extends from the station into running tunnels, coverage is provided as far as the tunnel mid-point. The deployment of portable repeaters using channels 10, 13 or 20 (carried on CUs) should be considered at any sub-surface premises where fixed equipment is either not working or not present. Portable repeaters must not be used on the same channel as any operating fixed site repeater.

2.56 Personnel should avoid using channels 10 and 13 in close proximity to each other as there is a potential for them to cause interference. When multiple duplex channels are required use channel 20 in combination with either channels 10 or 13.

2.57 Some manufacturers have designed portable repeaters that are battery powered and easy to deploy. These portable repeaters can be deployed quickly and easily in areas that have no power sources. Fixed repeaters may give better coverage because of better planning and installation.

2.58 In simplex mode, radios transmit and receive on the same frequency. When radios use a repeater to communicate, they operate in half-duplex mode. In half-duplex mode, the radios transmit and receive using different frequencies, although this is invisible to the user.

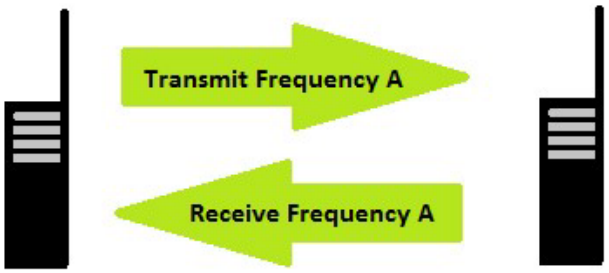



Figure 3: Radios operating in simplex mode (direct radio-to-radio)

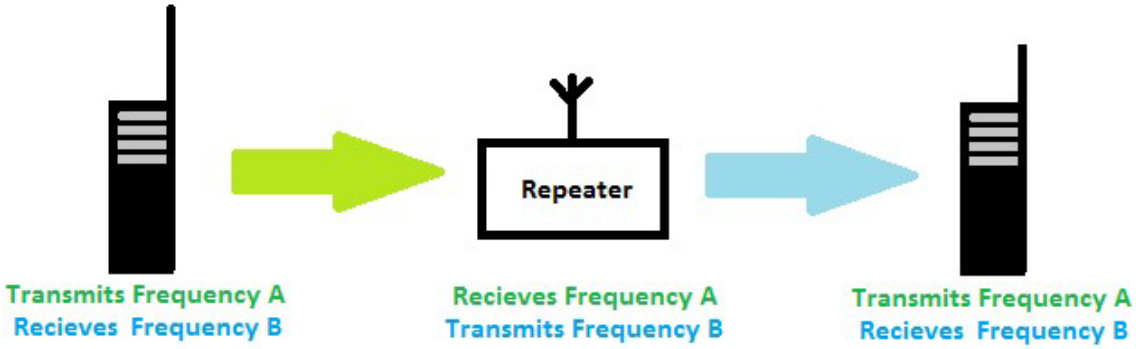



Figure 4: Radios operating in half-duplex mode (via a repeater)

2.59 Radios must be within the coverage range to access a repeater. If two radios have selected a half-duplex channel and no repeater is available, they will not be able to communicate, no matter how close they are.

2.60 When tasked to deploy a repeater, teams should conduct regular communication tests while travelling with the equipment into the risk area, in addition to communication checks the RSSI should be monitored. At the point communications issues begin, teams should retreat until communications are-re-established, and deploy the repeater at that point ensuring that communications checks are carried out to ensure clear communications.

2.61 Repeaters in series mode can be extended to provide signal coverage over a wider area. If communications issues recur, command support should prepare an additional repeater for deployment. Teams should then connect it at the end of the series before transporting it to the point at which communications issues begin to extend coverage.

## Leaky feeders

2.62 A leaky feeder is a deployable aerial in cable form, which emits and receives radio signals along its length. A 200m leaky feeder cable, fitted to a cable drum, is carried on all command units.

2.63 The standard whip antenna supplied with the RC-L1 UHF transportable repeater can be replaced by a leaky feeder cable if necessary. This may be beneficial when entering locations where deployment of additional RC-L1 repeaters is impractical or not necessary, or where poor signal penetration has been experienced due to building design. One practical application for the use of leaky feeder is to extend the effective range of the final RC-L1 repeater, when deployed in series mode.

2.64 Leaky feeder cable can be used with the RC-L1 repeaters when they are deployed in either stand-alone or series mode.

## Digital main-scheme radio

2.65 The London Fire Brigade (LFB) uses digital radio terminals that allows inter-agency and cross border communications. The digital main scheme radios conform to the European TETRA (Terrestrial Trunked Radio) standard. The radios operate by accessing a communications network managed by Airwave Solutions Limited.

2.66 Digital mobile radios communicate via a national network of masts and base stations enabling national roaming. This means that a radio user can remain in contact with their own control room wherever they are located across the country. As all information is carried digitally, the system provides clear voice quality whilst allowing transmission of both voice and data. All voice and data traffic is encrypted preventing any third party who is not a registered user of the system from intercepting data or voice traffic.

2.67 Some of the advantages of the digital radio system are:

- Clear radio voice quality.
- Greater system resilience and security.
- The capability for wider radio interoperability with other fire and rescue services, police, and the ambulance service.
- Data communications.

2.68 All personnel assigned with a digital main scheme radio should carry it on the incident ground. This device is to remain switched off unless required to avoid capacity issue on the local Airwave base repeater. There may be circumstances when use of the digital main-scheme radio would enhance the communications at an incident. For example:

- Where the officer performs a specialist function, such as NILO, ORT, or HMEPO and the radio is needed to communicate with personnel outside of the incident ground but in support of the incident being attended.
- At incidents where communications issues are encountered.
- Where the incident commander and the tactical commander of another attending blue-light agency have agreed that there is an urgent operational need for communications between agencies using airwave radios.

## Talk-groups

2.69 Digital radios are programmed with a number of talk-groups, which can be considered as similar in use to analogue radio channels. Any speech transmitted on one talk-group can be received by other digital radios if they are programmed with the same talk-group, are within the geographic coverage area for the talk-group, and it is selected on the radio terminal. Only one transmission is possible at any one time on any one talk-group (simplex operation).

2.70 Brigade Control has the ability to override an incoming transmission (called "audio interrupt"). This feature allows them to communicate with the rest of the talk-group, the overridden radio will display "Call Pre-empted" together with a tone indicating to the user that their transmissions have been interrupted.

2.71 Normal speech radio from mobile resources to Brigade Control will be via one of the operational talk-groups.

2.72 When mobilised or attached to an incident, radio traffic on the assigned talk-group should be monitored to maintain effective communication with Brigade Control. If attached to an incident (in other FRS area) the nominated operational talk-group associated with the FRS in which the incident occurs should be used. This may be indicated on the mobilising message by Brigade Control; if not, the first FRS operational talk-group should be used (e.g., FESX-OPS01 when attending an incident in Essex FRS).

2.73 Initiating a "Request to Speak" (key 7) or "Urgent Request to Speak" (key 9) indicates to control that the appliance wishes to send a message. Any request to speak will be acknowledged by Brigade Control with the message "(call-sign) go ahead with message, over". Voice messages are only to be sent after Brigade Control have given the go ahead.

2.74 During busy periods Brigade Control may have a list of appliances waiting to send a message. If this situation occurs, the appliance waiting the longest will be answered first. An "Urgent Request to Speak" will always jump to the top of the list and will be answered as soon as is practicably possible. Note: the "request to speak" (RTS) facility does not function when communicating with surrounding FRS mobilising controls. Radio communication is initiated by pressing the PTT and requesting permission to continue with your message.

2.75 If additional digital main scheme radio talk-groups are required for use at an incident, for example to enable communication across a wide geographical area, or to reduce congestion on incident ground radio channels, they should be requested from Brigade Control who will allocate talk-groups to be used.

## Interagency talk-groups

2.76 The digital main scheme radio system provides a number of talk-groups over which groups of radios can communicate. Some of these talk-groups are common to radios from several agencies and are reserved specifically for interagency voice communication (IVC).

2.77 Whenever an incident requires the coordinated response of two or more emergency services, shared talk-groups can be used. It is most likely to be used at major incidents but can be used wherever interoperability is required to support communications between agencies.

2.78 Interagency talk-groups are suggested for use at tactical and/or operational levels. It should be used to facilitate interagency communications in areas of common operational activity, allowing different services to work alongside each other on a shared talk-group.

2.79 Interagency talk-groups would normally be used during a large multi-agency incident at tactical level when there is a need for two or more responding agencies to communicate directly with each other, but where face to face communications cannot easily be achieved. This may be due to geographical distance or physical boundaries (e.g., rivers, collapsed buildings or structures, large woodland areas).

2.80 Incident commanders should ensure that sufficient digital main scheme radio handsets are available for all nominated personnel. If re-allocation of a handset takes place an airwave loan form should be filled out; these are stored on command units. As soon as reasonably practicable the rank, call-sign, and names of LFB personnel who will be using the nominated interagency talk-group are to be recorded on the command unit (CU), if available, using the Command Support System (CSS). If no CU is available, the information is to be recorded on the command support pack (CSP).

2.81 The following options are examples of how interagency talk-groups can enhance radio communications at incidents:

- **Tactical level:** Used for exchanging incident or safety critical information, sharing tactical decisions or updating the current incident status across services. This allows tactical commanders to share information over a large area of operation in order to alert all agencies to an imminent risk, to advise other agencies of tactical updates or to co-ordinate resources.
- **Operational level:** Used for sharing safety information, co-ordinating activities and updating the current incident status at the operational level of all agencies. For example, where the incident commander wishes to inform partner agencies of marshalling arrangements for resources or personnel at an incident.
- **Specific resources:** Implemented when local radio communications are required with a specific resource from another emergency service to direct for specific tasks during the incident. An example would be to allow the incident commander or command support personnel to communicate directly with the NPAS helicopter to direct the focus of the police helicopter cameras.

2.82 The following table lists the talk-groups programmed into LFB digital main-scheme radios and gives a brief overview of their intended use.

| Talk-group name | Use |
|---|---|
| FLON-NULL | Talk-group used only when an appliance is status 1 at station. Data is received, but no voice communications can occur on this talk-group. |
| FLON-OPS01 to FLON-OPS60 | Operational talk-groups for voice communications with control. The primary talk groups used for incidents are:<br>• FLON-OPS01 M2FH (Spare London Wide)<br>• FLON-OPS02 M2FS (No longer in use)<br>• FLON-OPS03 M2FE (Spare London Wide)<br>• FLON-OPS04 M2FN (No longer in use)<br>• FLON-OPS05 London East (Eastern Area)<br>• FLON-OPS06 London West (Western Area) |
| FLON-MAT01 to FLON-MAT03 | Mutual Aid talk-groups mandated by Firelink. These are intended to facilitate inter-regional same-service interoperability where high numbers of simultaneous calls (call overflow) mean that the normal Operational talk-groups are under high demand. |
| FLON-M2M01 to FLON-M2M02 | Talk-groups recommended by Firelink to support mobile to mobile communications where necessary. |
| FLON-GOLD | Brigade wide communications at gold level only. Allowing for strategic decision making for single large scale, or multiple simultaneous events. |
| FLON-BM | For strategic decision making at Brigade manager level outside of the 'Gold' arena. |
| FLON-AM | Talk-group specifically for deputy assistant commissioners/ area managers to allow contact with each other and by Brigade managers; may be used at silver level. |
| FLON-SILVER | Brigade silver level talk-group, allowing secure communications across a range of management roles outside that of incident command. |

| Talk-group name | Use |
|---|---|
| FLON-ILO01 to FLON-ILO03 | Brigade wide secure communications for National Interagency Liaison Officer (NILO) personnel. Allowing for the rapid dissemination of security issues, both at Gold and Silver level where appropriate, for single or multiple events. |
| FLON-ORT | Brigade-wide communications for Operations Review Team (ORT) personnel. Used for the dissemination of information from numerous simultaneous incidents, giving a wider strategic view at Silver level. |
| FLON-HAZ | To enable technical support information to be rapidly communicated to the incident ground by other hazmat and environmental protection officers (HMEPO). |
| FLON-USAR01 to FLON-USAR04 | Provided for Brigade wide communications between Urban Search and Rescue (USAR) personnel for co-ordination of activities (including vehicle movements) within the USAR environment. |
| FLON-TNG01 to FLON-TNG05 | Training related talk-groups for use at training events within London, with one specifically for London Resilience Training. |
| FLON-OPS33 | Training talk-group used by Brigade Control. |
| FLON-EVENT01 to 04 | For use during Pan London planned specific events (e.g., London Marathon), to co-ordinate specific LFB action, and allow for transmission of event specific information. |
| FLON-EPGOLD | Emergency planning (EP) "Gold" talk-group, for use when situations require the Local Authority "gold room" to be established. This will facilitate communications between EP Gold and the EP control room. |
| FLON-EPLLACC | Emergency planning London-wide talk-group, intended for use with Local Authorities when the London Local Authority Control Centre is in operation. |
| PMPSSHG1 | Metropolitan Police "Sharers Hailing Talkgroup". |
| PCITYSHG1 | City of London Police "Sharers Hailing Talkgroup". |
| PBTPSHG1 | British Transport Police "Sharers Hailing Talkgroup". |
| PLON-ES1 to PLON-ES6 | Metropolitan Police "Blue Light" interagency talk-groups. |

Table 6 – Digital main scheme talk-groups

## Mobile to mobile

2.83 Two mobile-to-mobile talk-groups are also available, allowing voice communications between mobile appliances attending an incident. The mobile to mobile talk-groups are as follows:

- FLON-MTM1
- FLON-MTM2

2.84 This facility exists to allow messages between operational appliances attending an incident. This would only be necessary if the appliances are too remote to talk via hand-held incident ground radio. Two talk-groups, MTM1 and MTM2 have been made available for mobile to mobile communications. Their use is initiated as follows:

- Appliance requesting mobile to mobile, press and hold key 7 for "Request to Speak" (RTS).
- Brigade Control acknowledge RTS (e.g., "F211 from London East, Go Ahead with message, over").
- Appliance request talk-through with specific appliance (e.g., "London East from Foxtrot Two One One request talk through with F441 on mobile to mobile talk-group, over").
- Brigade Control will accept such messages, by using the mobile call-sign followed by "Go ahead with talk through on talk-group...". Brigade Control will allocate either MTM1 or MTM2.
- Both appliances will need to change to the relevant talk-group for mobile to mobile communications to take place.
- On completion of any mobile to mobile communications, both appliances are to return to the operational talk-group relating to the incident they are attending.
- The initiating appliance is then to press and hold key 7 for RTS, then once acknowledged and given the "Go Ahead" by Brigade Control, they are to confirm that the talk-though is now complete.

## Point to point

2.85 The digital main-scheme radio provides a facility to initiate a private call between two parties which is unheard by other radio users. This facility is to be used for operational messages between mobile resources and Brigade Control where the subject matter contains sensitive information such as details of firefighter injuries or of multiple fatalities. A request for a point-to-point call is initiated in the following way:

- Press and hold key 1 PRTS (Private Request to Speak).
- Await point-to-point call from Brigade Control (this will cause a ringing tone to be heard at the radio terminal).
- Answer the point-to-point call by pressing the PTT switch.
- Brigade Control will acknowledge the call by using the mobile call-sign followed by "Go ahead with your point-to-point call, over".
- Standard radio procedures are to be used during all point-to-point calls.

2.86 Point to point calls to other radio users can be made if the ISSI number for their radio is known. This can assist if frequent contact is required between two users to avoid congesting talk-groups. However, it is important to remember that the users will not be able to monitor any talk-groups while engaged in a point to point call.

2.87 The digital main-scheme radios have been programmed with a number of London-specific talk-groups, providing a communication facility between various specialist operational personnel. Talk-groups for all other Fire and Rescue Services within England are available within the digital main-scheme radios. These allow for communications by LFB resources outside of the LFB area; for example, when

attending an incident in Essex it will be possible to talk directly to other Essex appliances and to their mobilising control.

2.88 Digital main scheme radios also provide access to a national inter-agency communications infrastructure, allowing communications with other 'blue light' agencies and other services that provide an emergency response.

2.89 Digital main scheme radios should be used by monitoring officers when they have been informed of an incident and are required to monitor radio traffic remotely. Operational talk-groups are only to be used when there is an operational commitment to an incident (e.g., when paged and informed, or attached and required to attend). At all other times, hand-held radio terminals should remain on the LFB-NULL talk group or be turned off.

## Duty Radio Office

2.90 The Brigade duty radio officer supports the incident commander by providing advice where a communication problem is perceived or may potentially exist and where command units are experiencing communication difficulties. They will be clearly identified with a surcoat; red/white check with yellow body marked "RADIO OFFICER".

2.91 Tactical advisors are also available through National Resilience for:

- High volume pumps (HVP).
- Marine.
- Wildfires.

2.92 If tactical advisers are present the incident commander still has ultimate responsibility for tactics, deployment, and safety. Tactical advisers should not take command of an incident; they are there to advise and assist. They should ensure they understand the aims and objectives of the incident commander, and that any advice they provide is understood and recorded if appropriate.

2.93 Non-uniformed specialist personnel of the radio group fulfil the role of duty radio officers (DRO). The DRO can provide support and advice to improve the effectiveness of communications at operational incidents. The DRO can be requested via Brigade Control and should be requested when a communications problem is perceived or may potentially exist.

## Operational communications tactical advisor

2.94 An Operational Communications Tactical Advisor (Comms Tac Ad) is an officer that has attended a Metropolitan Police communications (Airwave) advisor course. Most of the ORT cadre, and a few other selected operational officers and a number of operations managers from control have attended this course to meet the requirements of a Communications Tac Ad to assist in the devising and implementation of an appropriate communications plan.

## Mobile Phones

2.95 All operational personnel of the rank of station commander and higher are issued with a mobile communication device. All fire appliances, command units, fireboats and specialist appliances are also issued with a mobile telephone. They provide the ability to communicate across the incident ground if necessary. However, they are not intrinsically safe and should be used as a contingency or an emergency option to avoid congestion on digital main scheme or incident ground radio channels.

## Runners

2.96 It may be appropriate for messages to be passed across the incident ground by personnel to ensure the message is delivered. However, runners should be used as an emergency option, as it is slow in comparison to other communication methods, and the sender cannot be sure the message has been

delivered until the runner returns. Additionally, it potentially exposes personnel to hazardous areas and physiological stress when delivering messages across the incident ground.

## Factors that affect communication systems

2.97 There are four main factors that affect communication systems, summarised by the mnemonic EPIC:

- **E**quipment Failure.
- **P**ropagation (signal strength).
- **I**nterference.
- **C**ongestion.

2.98 The flowcharts below outline the methods of managing each of these factors.

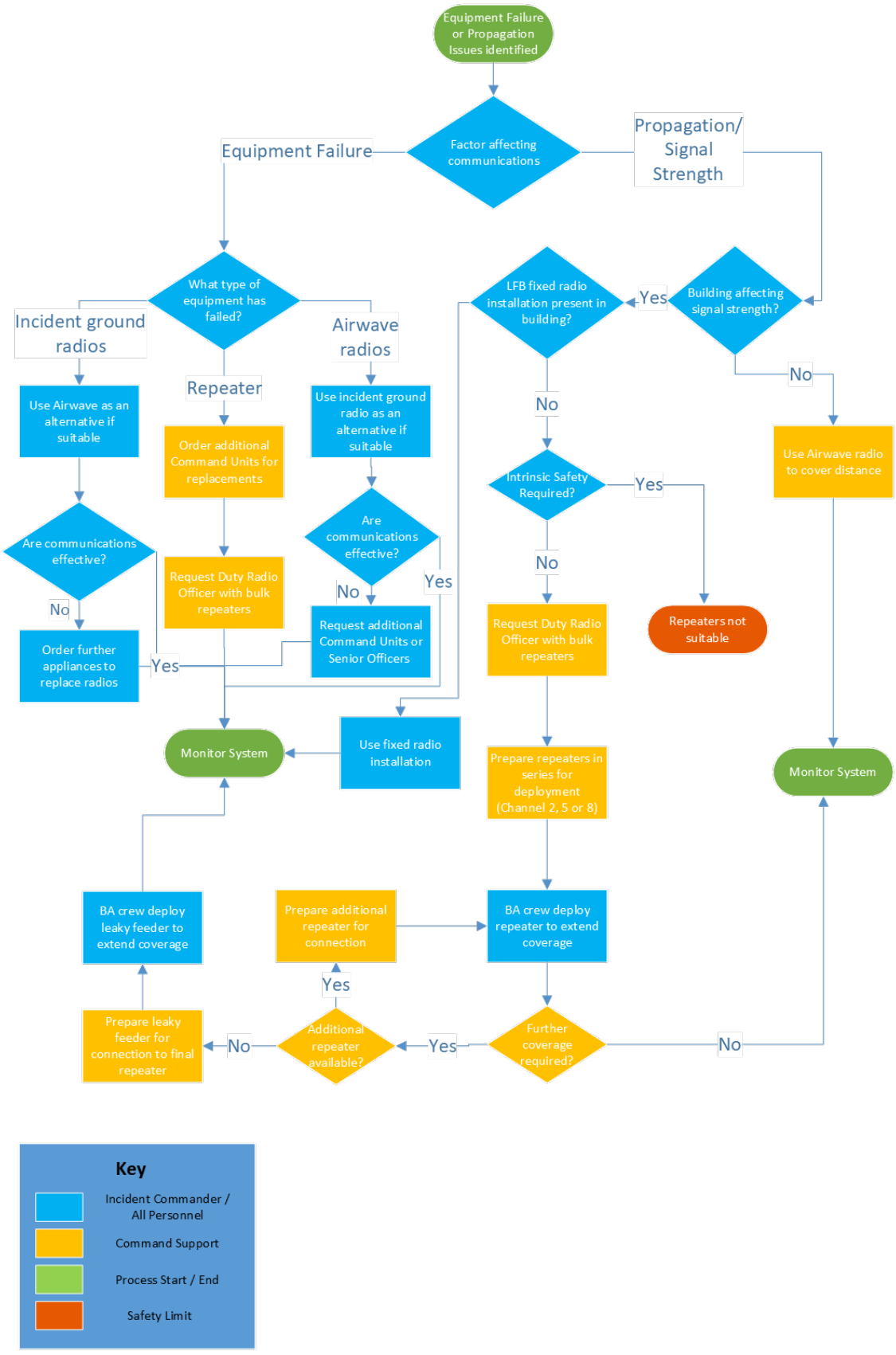



Figure 1: Managing equipment failure or propagation issues

## Equipment failure

2.99 Any electronic equipment carries the risk of failure. Equipment that is not functioning correctly or that fails should be replaced as soon as possible to limit the impact on communications. If incident ground radios or Savox HC-1A bone conduction microphones and speakers become defective, additional appliances should be requested for replacements. If airwave radios fail, additional senior officers or command units (which carry 2 handsets) can provide replacements. If portable or fixed repeaters fail, additional command units should be requested as necessary.

## Propagation/signal strength

2.100 Propagation, or signal strength, refers to the distance that a signal can travel to. This signal strength defines the area communication can occur over. Radio waves spread from an antenna horizontally and in a straight line, reducing in intensity by a factor of four each time the distance doubles; this is known as 'free space path loss'. Obstructions such as hills, trees and buildings will affect the radio waves, weakening the signal.

2.101 The relationship between power output and radio propagation is complex. Radio coverage can generally be improved by increasing radiated power, but this affects battery life. The current licensing condition from Ofcom for fireground radios is a maximum of five watts of radiated power for handheld devices.

2.102 The primary method of increasing signal propagation for incident ground radios is the use of fixed or portable radio repeaters to increase the area of effective communications. However, if an incident requires communication over a wide geographic area, the use of digital main scheme radio may be more effective. If signal propagation issues are encountered with the digital main scheme radio system, the duty radio officer should be requested who can offer support and assistance.

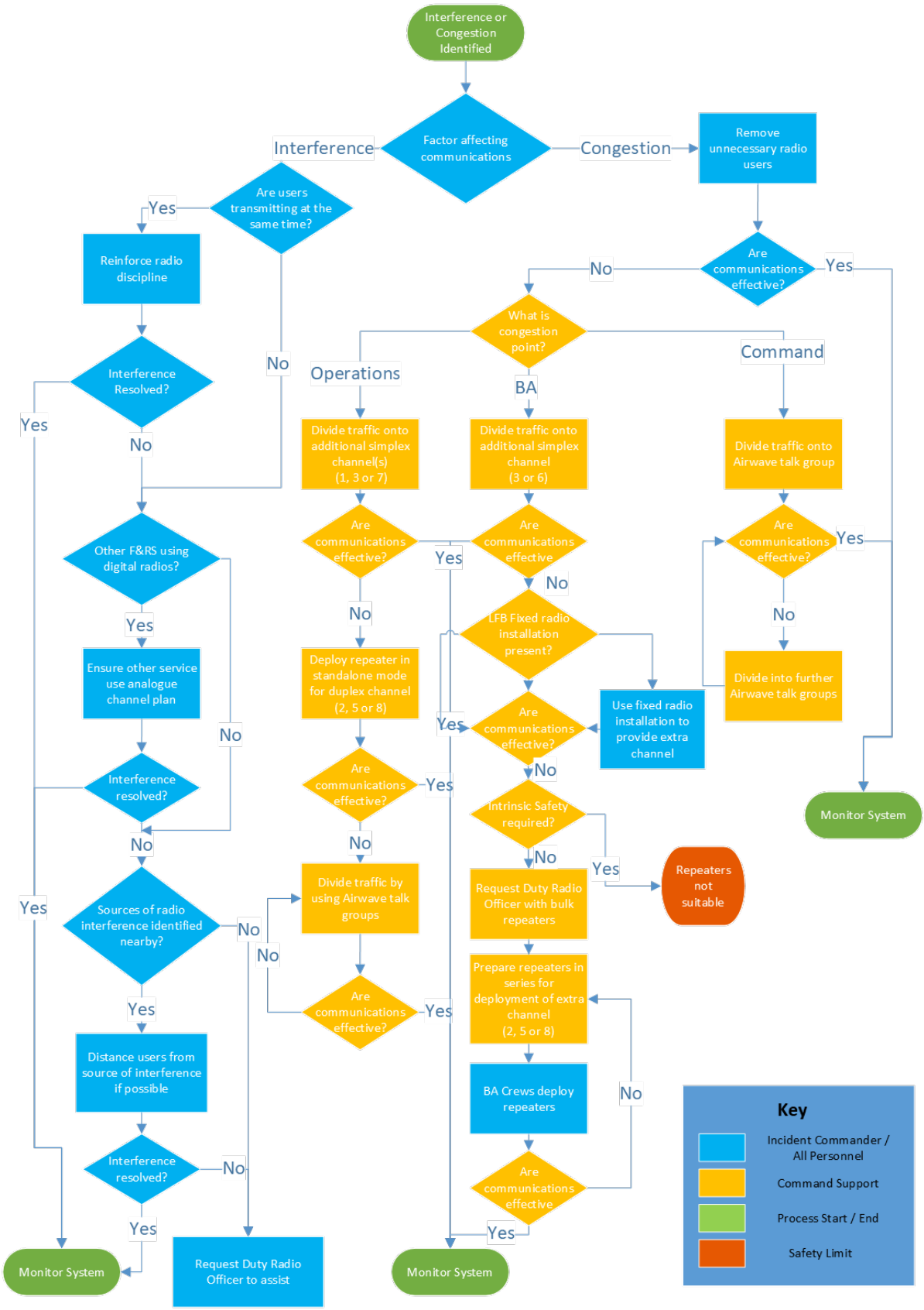



Figure 2 – Managing interference or congestion

## Interference

2.103 Radio-frequency interference can arise from several sources, not all of which can be controlled by regulation (atmospheric conditions, for example). Symptoms of radio-frequency interference can include reduced range, messages not being received, distortion, unwanted signals or noises (typically whistling, popping or buzzing). If detrimental interference arises, it is important to first establish that the source is not locally generated (e.g. faulty equipment) before reporting it to the duty radio officer who can support further investigations and report to Ofcom if required.

2.104 All hand-held radios and mobile telephones should be switched off whilst on the command unit, as this equipment can cause interference and unnecessary background noise within the command unit.

2.105 The terms 'base station' and 'repeater' both describe equipment used to perform the same function, that is, to enable the operation of a duplex channel (channels 10, 13 and 20). It is essential that two base stations are not operated on the same channel within range of each other, as interference will occur. This includes fixed installations such as at sub-surface LUL stations. Duplex channels will not operate without a functioning base station.

2.106 Fireground radios for voice communications were originally operated using analogue radio technology. From 1993, fire and rescue services have operated handheld fireground radios according to an analogue channel plan agreed with the Home Office. The introduction of new technology has led to fire and rescue services procuring and using digital mobile radio, though the analogue channel plan will continue to operate for fire and rescue services that choose not to adopt digital technology.

2.107 Digital and analogue radios both work on the same frequencies they just send the information in different ways. Therefore, if you are on an analogue radio transmitting on Channel 9 a user with a digital radio would not be able to hear your transmission, but if they transmitted on channel 1 themselves this would override your transmission and vice versa, this can cause significant disruption to the management of an incident and cause the transfer of critical information to be delayed or lost.

2.108 Analogue and digital radios within range of each other that are operating on the same frequency will cause interference; messages sent are unlikely to be received. To ensure cross-border interoperability it is essential that all personnel are aware that transmitting on an analogue radio using the same frequency as a digital radio is likely to generate issues for one or both services.

2.109 At incidents where both analogue and digital radio technologies are in use, or occasions where radio equipment may be within range (e.g., service boundaries), an effective communications plan is essential and should be implemented at the earliest opportunity. It should clearly define the channels nominated, including whether they are analogue or digital.

2.110 When LFB appliances are attending incidents with neighbouring brigades a communications strategy is required to be agreed with the host FRS to ensure that digital and analogue radios are transmitting using different channels. At incidents in London the incident commander should ensure that when neighbouring brigades are in attendance, they use their analogue channel plan only.

| Fire and Rescue Service | Device Type | Radio |
|---|---|---|
| **Berkshire** | Analogue | Entel HT783 |
| **Buckinghamshire** | Analogue | Motorola GP340 |
| **Essex** | Dual Mode (Analogue and Digital) | Motorola DP4600/1 |
| **Hertfordshire** | Dual Mode (Analogue and Digital) | Motorola DP4600/1 |
| **Kent** | Dual Mode (Analogue and Digital) | Motorola DP4600/1 |
| **Surrey** | Analogue | Entel HT783 |

Table 7: Radio types in use by surrounding Brigades

## Congestion

2.111 Congestion is caused by too many users attempting to access a single radio channel or talk-group. It results in users having to wait to transmit a message, leading to communication delays. Additionally, it increases the possibility of users attempting to transmit at the same time and cancelling out each other's transmission. In order to avoid this, monitor the desired channel to ensure it is clear. When receiving a signal, wait until the signal stops before transmitting.

2.112 In order to avoid congestion causing communication failures, incident commanders should ensure that the communications capacity of different systems is considered when developing a communications strategy. If incident ground radio channels are at risk of becoming congested, alternative channels should be used, deploying repeaters if required to enable duplex channels. If further capacity is required, digital main scheme radio talk-groups can be used at the incident to provide additional capacity. This should be requested from Brigade Control who will allocate talk-groups for use.

2.113 Dividing communication at incidents onto different channels and talk-groups can improve congestion and reduce the risk of system failure. However, it is important to ensure that situational awareness is not impaired. Commanders should ensure that sufficient communications operators are appointed to allow all required talk-groups and channels to be monitored effectively.

## Intrinsic safety

2.114 The Dangerous Substances and Explosive Atmospheres Regulations of 2002 (DSEAR) says that where a dangerous substance is, or is liable to be, present at the workplace, employers must make a suitable and sufficient assessment of the risks to their employees.

2.115 In the DSEAR, an explosive atmosphere is defined as a mixture of dangerous substances with air under atmospheric conditions in the form of gases, vapours, mist, or dust which, after ignition has occurred, combustion spreads to the entire unburned mixture.

2.116 The incident commander must determine the probability of an explosive atmosphere being present and the gases that are either suspected or confirmed to be present.

| Radio | Atex rating | Gas protection |
|---|---|---|
| Tait TP9355 – Non intrinsically safe radio | None | None |
| Tait TP9361 IIA | Atex IIA | All gases except for:<br>• Di-ethyl ether<br>• Ethylene<br>• Ethanol<br>• Methyl ethyl ketone (MEK)<br>• Propane-1-ol (n-propyl alcohol)<br>• Acetylene<br>• Hydrogen |
| Tait TP9361 IIC | Atex IIC | All gases |

2.117 In all circumstances when BA is being used the Tait TP9361 IIA must be used as the default method of communications, this can be with or without the Savox HC-1A bone conduction microphone and speaker.

2.118 If it is known or suspected that any of the gases in group IIC are present then the Tait TP9361 IIC radio must be used, this can also be with or without the Savox HC-1A bone conduction microphone and speaker, these are carried on FRU's.

2.119 If personnel committed in BA with the Tait TP9361 IIA radio identify the presence of a gas that requires a TP9361 IIC rated radio, they should withdraw as soon as possible and obtain the appropriate radio.

### Radio interference with sensitive devices

2.120 The Home Office has previously published information regarding problems caused by the use of mobile phones in proximity to hospital equipment. Trials have also been conducted using Fire Brigade and Police hand-held radios; these showed that some disruption to electronic hospital equipment can be caused by use of incident ground radios if they are used in hospitals and similar establishments.

2.121 No incident ground radio can be considered totally safe to transmit when electronically sensitive equipment is present. As the location of medical equipment potentially at risk may not be known by Brigade personnel, no transmission distance can be specified as safe within hospitals or similar establishments.

2.122 Digital main scheme radio equipment is fitted with a facility to inhibit radio transmissions, it will be safe to use within close proximity to electronically sensitive equipment as long as transmit inhibit mode has been selected. Consult the appropriate technical information note for instructions on activating and deactivating transmit inhibit mode.

## Tactical actions

2.123 Incident commanders must:

- Ensure that intrinsically safe communications equipment is used in potentially explosive atmospheres.
- Ensure the correct level of intrinsic safety is implemented at incidents.
- Ensure that the use of radios inside hospitals/medical establishments is only in unavoidable circumstances to maintain crew safety.
- Use digital main scheme point to point transmission, mobile or fixed telephones to relay sensitive or distressing information.

2.124 Incident commanders should:

- Establish and maintain an incident ground communication plan considering other agencies and remote resources.
- Identify the requirement for repeaters and leaky feeders to provide adequate signal propagation.
- Manage the risk of interference from nearby fire service incidents, analogue/digital radios and other users of the radio spectrum.
- Seek advice from the duty radio officer if communications issues are encountered.
- Exchange information about the incident with Brigade Control in a timely way.
- Provide regular situation updates to all responders.
- Establish resilient telecommunications with other responding agencies and consider interagency talk-groups.
- Communicate objectives, priorities, and tactics to be adopted in resolving the incident.
- Ensure that the location of personnel is accurately reported and recorded.
- Deliver clear, concise, and timely briefings to crews, command support functions and other agencies.
- Provide an effective handover when handing over command.
- Receive an effective handover when taking over command.

- Maintain an accurate record of information received from the incident ground.
- Use the M/ETHANE message protocol to exchange information about the incident with other responders via Brigade Control.

2.125 All personnel should:

- Use the correct call sign when transmitting radio messages.
- Maintain radio discipline and voice procedures.
- Monitor and remain on their assigned radio channel or talk-group to receive messages.
- Transmit when a radio channel is clear to avoid interference.
- Deploy repeaters and leaky feeders at suitable locations to assist signal propagation.

2.126 Command support personnel should:

- Prepare repeaters and leaky feeders when required to provide adequate signal propagation.
- Prevent congestion by allocating appropriate radio channels and talk-groups and inform personnel.

# 3. Organisation at an incident

3.1 Managing and supervising personnel on the incident ground is an essential part of the safe system of work. The incident command system is a framework that supports the management of resources at an incident.

3.2 The incident commander may delegate authority for some of the operations, including responsibility for tasks and functions. However, the incident commander remains the nominated competent and responsible person, including having accountability for health and safety at the incident. The most senior officer present always holds organisational accountability, which cannot be passed to another person.

3.3 Understanding and effectively applying the incident command system enables spans of control to be maintained at manageable levels and improves control and communications. Taking these steps will prevent the incident commander from becoming overloaded with information, which supports effective situational awareness and decision-making. This way the incident commander can maintain control under conditions of high pressure and rapid change.

3.4 The incident commander should anticipate the likely scale and complexity of the escalating incident and develop the necessary command structure at the earliest opportunity. There may need to be remote operational support for the incident.

3.5 The command team will involve personnel who carry out a variety of roles. It is important to make sure they can be easily identified using appropriate surcoats and call signs. This is particularly important at incidents that cross borders and at large incidents, where commanders who may not know each other need to work together.

- Command teams.
- Technical or specialist support.
- Tactical advisers.
- Command support function.

## Identification of command roles

| Role | Surcoat configuration | Image |
|---|---|---|
| **BA entry control operative**<br>• BA entry control officer<br>• BA communications officer<br>• BA entry control point supervisor | Chequered black and yellow yoke with yellow body |  |
| **Command support**<br>• Command support officer<br>• Command unit team leader<br>• Command support officer<br>• FSG Coordinator<br>• Inner cordon controller<br>• Inner cordon recorder<br>• Radio officer | Chequered red and white yoke with yellow body |  |
| **Incident commander**<br>• Incident commander<br>• Monitoring officer | White yoke with yellow body |  |

| Role | Surcoat configuration | Image |
|---|---|---|
| **Operations commander** | Red yoke, red body |  |
| **Safety officer**<br>• Safety observer<br>• Safety officer<br>• Safety sector commander | Blue yoke, yellow body |  |
| **Sector commander**<br>• Operational sectors<br>• Damage control<br>• Water<br>• Fire<br>• Search<br>• Lobby<br>• Evacuation<br>• Fire Survival Guidance<br>• BA<br>• Inner cordon | Red yoke, yellow body |  |

| Role | Surcoat configuration | Image |
|---|---|---|
| **Tactical advisor**<br>• Senior fire safety officer<br>• Fire investigation officer<br>• Press liaison officer<br>• Senior accident investigator<br>• Cross border liaison officer<br>• Operations review team<br>• Scientific advisor<br>• National interagency liaison officer<br>• USAR advisor<br>• Bulk media advisor<br>• CBRNe<br>• Hazardous materials and environmental protection | Chequered red and white yoke with red body |  |
| **Mass decontamination officer** | Purple and green chequered yoke, yellow body |  |

Table 8: Identification surcoats

3.6 It is important that all personnel, at the incident ground and in Brigade Control, understand the different roles and responsibilities that are in place as the incident progresses. This helps maintain common expectations which feed into shared situational awareness.

3.7 Appendix 1 show how the command structure and sectorisation methodology can be used to keep individual spans of control to an acceptable level.

## Tactical actions

3.8 Incident commanders should:

- Organise the incident, using an appropriate structure and personnel.

- Consider requesting technical or specialist support.
- Ensure command team members can be easily identified on the incident ground.
- Ensure personnel, at the incident and in Brigade Control, are kept informed about the structure of the incident.

# 4. Command Support arrangements

4.1 Command support and its related support sectors are critical to resolving incidents. An incident commander cannot manage a complex and rapidly developing incident alone. The Brigade's command support arrangements provide effective and structured support systems, that can vary with needs of an incident's size and demands.

4.2 The aim at every incident is to ensure clear communications and decision-making between the incident commander and personnel. To this end, command support should be used at all incidents. It should be put into place as soon as is practically possible. The importance of establishing command support in the early stages of an incident cannot be over emphasised.

4.3 The incident command system and command support arrangements described in this knowledge, skills, and competence document, provides a framework to assist the incident commander and those working within the command team. This in turn helps the incident commander to organise and deploy available resources in an assertive, effective, and safe way.

4.4 To achieve this, it is important that everyone understands the different roles and responsibilities in the command support function. This helps maintain common expectations which feed into shared situational awareness.

4.5 Command support should be used at all incidents to help the incident commander manage an incident. It should be put into place as soon as is practically possible.

4.6 The incident command point will be identified by the use of headlights and blue beacons on the vehicle that has been identified as the incident command point (ICP). All other beacons on other appliances, where this does not jeopardise the safety of personnel or other road users should be switched off.

4.7 Appliance commanders and senior officers are to report to the ICP to hand in their nominal role boards, so their attendance on scene can be recorded.

4.8 Where the incident commander is not immediately available, they should gather any relevant information regarding the incident from command support, to assist them with their situational awareness.

4.9 Where an incident has been sectorised and advanced command support arrangements have been implemented, command points in each sector may be established to assist with the recording of information and other functional support duties of a particular sector. This will be achieved by utilising command support packs and staff competent in the duties of an initial command support operative.

4.10 Appliances or crews reporting to a sector, should report to the sector's command support point for a briefing prior to deployment.

4.11 The command support points within sectors will be identified by the use of blue flashing light, utilising a Tildawn lamp.

4.12 Those carrying out the role of command support are identified by a surcoat with a yellow body, red and white chequered yoke with the words 'COMMAND SUPPORT' and are only to be utilised for those carrying out command support duties.

4.13 The incidents attended can vary in size, demands and complexity. To ensure incidents are managed as safely and as effectively as possible, the command support function will comprise of the following levels of command support:

- **Initial** – Competent firefighter and above.
- **Intermediate** – Trained command unit staff.
- **Advanced** – Station and Group Commanders.
- **Remote** – Station and Group Commanders.
- **Enhanced logistics support** – National Resilience.

4.14 It is important that everyone understands the different roles and responsibilities in the command support function. The above levels will help maintain the common expectations and provide a structure that reflects the training requirements to achieve and maintain competence.

## Incident commander

4.15 The incident commander and sector commanders will need to establish a suitably located command point, where they can track progress and observe visual cues, which may prevent delays in information gathering and assist with shared situational awareness.

4.16 A well-positioned command point should prevent oncoming crews or other agencies from having to enter an area of higher risk. It will also allow briefings and other activities to be carried out away from a noisy environment and make communications more effective. Incident commanders should use knowledge of any pre-planning or operational risk database (ORD) information to assist them in determining the most suitable location.

4.17 When multi-agency command vehicles are likely to be present, the command point site needs to be carefully selected, with enough space to avoid any radio or satellite interference between agencies. The command point may require relocating as the incident develops.

4.18 All support sectors should report to the incident commander via the command support function. This is important to maintain spans of control.

4.19 As incidents increase in size and complexity, incidents commanders should implement the appropriate level of command support as described in the document, this will ensure there is the appropriate level of competence fulfilling the role.

4.20 Where an incident commander appoints someone for the role of command support, they should ensure they understand their role and responsibilities, along with any relevant authority and autonomy.

4.21 At very large, complex, or protracted incidents, or during spate conditions, incident commanders should consider the use of remote command support, through the establishment of the **Brigade Coordination Centre (BCC)**.

4.22 Where there is a need for the deployment of National Resilience resources, as part of national mutual aid arrangements, there may be a requirement for enhanced logistics support for those resources that deploy into London as part of the response. Incident commanders should make an early consideration for the provision of enhanced logistics support.

## Initial command support

4.23 Initial command support should be established as soon as possible, whenever more than one pumping appliance is in attendance.

4.24 The importance of establishing effective command support in the early stages of an incident cannot be over emphasised. How it is implemented in the initial stages will impact on both the intermediate and advanced levels should the incident escalate and may have a significant impact during the later stages.

4.25 Initial command support should be established as a focal point at an incident when the command unit (CU) is not in attendance. This will allow police, ambulance, or other agencies to identify a location to contact the incident commander.

4.26 It will also be the default muster point, until any other suitable location is identified. This will allow for an effective roll call to take place, following the declaration of an **emergency evacuation** of Brigade personnel.

4.27 A suitable appliance should be utilised for the use of initial command support, which will be defined as the initial command point (ICP). This should not be the base pump, or any pump which is involved in other pumping duties.

4.28 The rank of firefighter, (or above) can undertake the role of initial command support and will be known as the initial command point operative (ICPO). The incident commander should designate an appropriate person to the role as soon as resources permit.

4.29 The initial command point operative (ICPO) in a dedicated role and anyone designated this role should only carry out that role and not engage in any other duties, such as pump operator or breathing apparatus entry control officer.

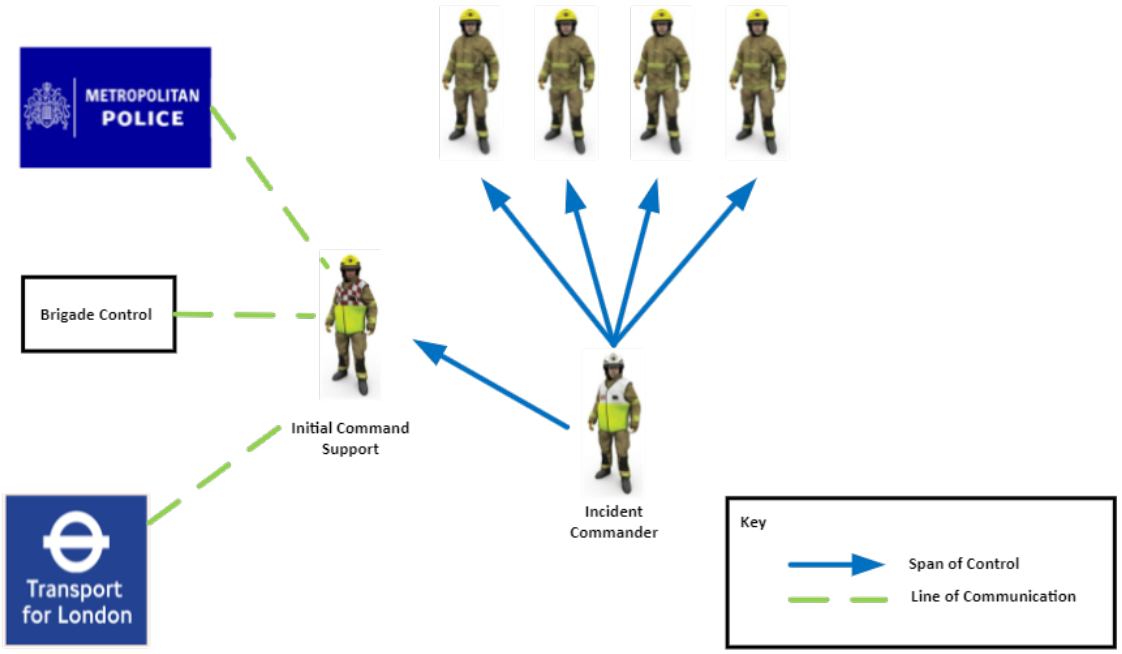



Figure 3 – Spans of control

# Duties of initial command point operative (ICPO)

## Confirm duties

4.30 The initial command point operative will need to confirm with the incident commander or any other relevant person, such as the team leader performing the intermediate command support function, on the tasks and duties they will need to perform. These duties should only be in relation to command support and should reflect their role, responsibilities, ability, and experience.

4.31 The ICPO should continue to function as initial command support for the duration of the incident or until the command support role passes to the intermediate level.

4.32 The ICPO may be instructed to continue their command support role by supporting the intermediate role of command support. Intermediate command support can be supported further by other relevant crew members that have received initial command support training.

4.33 Where this occurs, any initial command support operative should report to the identified intermediate command support officer, who will be responsible for all initial command support operatives that have been assigned.

## Clearly identify initial command support point by:

4.34 Turning on headlights and blue flashing beacons on the vehicle used for initial command support and ensuring all other vehicles blue flashing beacons are turned off, where safe to do so. This will enable all personnel to clearly identify where the command unit is located on arrival at an incident. It will also enable other personnel, such as multi-agency partners or contractors etc. to be easily directed to this location.

4.35 Anyone performing the role of command support, including the initial command support operative will need to don the command support surcoat. This will enable direct and clear identification, where personnel are not at the command point e.g., when undertaking the mapping of an incident ground.

## Establish effective communications

4.36 The ICPO should establish **effective communications** on the incident ground, as well as to and from Brigade Control. The use and allocation of appropriate radio channels can have a significant effect on communications, particularly where an incident may escalate, such as multi-agency talk-groups, dedicated fire survival talk-groups etc.

## Gather, manage, and log incident information

4.37 As part of the ICPO role or where working to support the intermediate command support function, the ICPO should gather, manage and log incident information accurately for current and post incident use by:

- Locating and establishing a command support pack (CSP).
- Collect nominal roll boards from appliances already on the scene and deposit nominal roll boards in the command support pack (CSP).
- Enter preliminary incident details on the incident information board.
- Record the declared tactical mode at the incident.
- Provide basic line drawings of the scene of the incident.
- Receive nominal roll boards from oncoming appliances and senior officers.

- Notify the incident commander of the available resource at the initial command point (ICP) .
- Notify oncoming officers/crews of the requirements of the incident commander, recording brief details on the incident information board.
- Receive and store analytical risk assessments, where in use.
- Receive and store any key decision logs, where in use.

### Support incident commander with the formulation of messages

4.38 The initial command support function should assist the incident commander by formulating draft radio messages. This should be in accordance with policy number 518 – Messages from incidents.

### Access mobile data terminal for information to support decision making

4.39 The mobile data terminal provides access to a wealth of information. The initial command support operative should access the mobile data terminal MDT to provide information requested by the incident commander, this information may include:

- Operational risk database (ORD).
- Policies and procedures.
- Mapping and cordon sizes.
- Hydrant and water supplies.

### Liaise with other responding agencies

4.40 The initial command support function will be the focal point for oncoming resources to an incident, including those other agencies that are required to respond. This should allow any relevant safety briefings to take place or be an area where the incident commander can co-locate and make contact where necessary.

4.41 It is important for the ICPO to liaise with representatives from other agencies and inform the incident commander of their attendance, so early communications can take place.

### Operate safely within your agreed role, responsibility and level of accountability

4.42 During their duties, an ICPO should carry out and continually perform an individual risk assessment and share any safety concerns with appropriate people, which should include their reporting line within the incident command structure.

### Effectively work with others

4.43 The ICPO should effectively work with those they interact with at incidents, such as sector commanders, safety officers, as well as any multi-agency partners that may be in attendance in ways that:

- Encourages cooperation, utilising Joint Emergency Services Interoperability Principles (JESIP) where necessary (see Policy number 971 - Joint emergency services interoperability principles - JESIP – NOG).
- Supports common understanding and shared situational awareness.
- Promotes a positive image of the Brigade.

### Return resources after use and make sure they are secured

4.44 The ICPO should ensure any resource or equipment is replaced, replenished or retuned after use. The ICPO should use their diligence to ensure this includes all command support related materials and not just those they may have been directly associated with.

### Make the incident commander aware of any incident information that needs to be returned post-incident

4.45 The ICPO should ensure the incident commander is aware of any incident related information that they may have collated, recorded or processed as part of their command support role. These information sources may include:

- Analytical risk assessments forms.
- Decision logs.
- Key decision logs.
- Control Information Forms (for Fire Survival Guidance).
- Standard Message Pads.
- National Environmental Risk Assessments (NERAs).

## Intermediate command support

4.46 The intermediate command support function will be implemented and resourced through the use and mobilisation of dedicated staff on the Brigade's command units.

4.47 At larger incidents intermediate command support will usually work more closely with the other responding agencies. Those carrying out the role of intermediate command support should work with others in ways that:

- Encourages cooperation.
- Supports common understanding.
- Promotes a positive image of the Brigade

4.48 A command unit will be mobilised to perform the intermediate level of command support at incidents which have a predetermined attendance of 4 pumping appliances.

4.49 Increases in predetermined attendance and specific incident types that will attract the mobilisation of command units can be found in Policy number 412 - mobilising policy.

4.50 The implementation of intermediate level of command support will usually require an evaluation or review of the initial command support provision, whilst maintaining the key functions of command support.

4.51 When the intermediate command support function is in place, the team leader of the command unit will report directly to the incident commander as the intermediate command support officer, taking responsibility for the support functions of the incident.

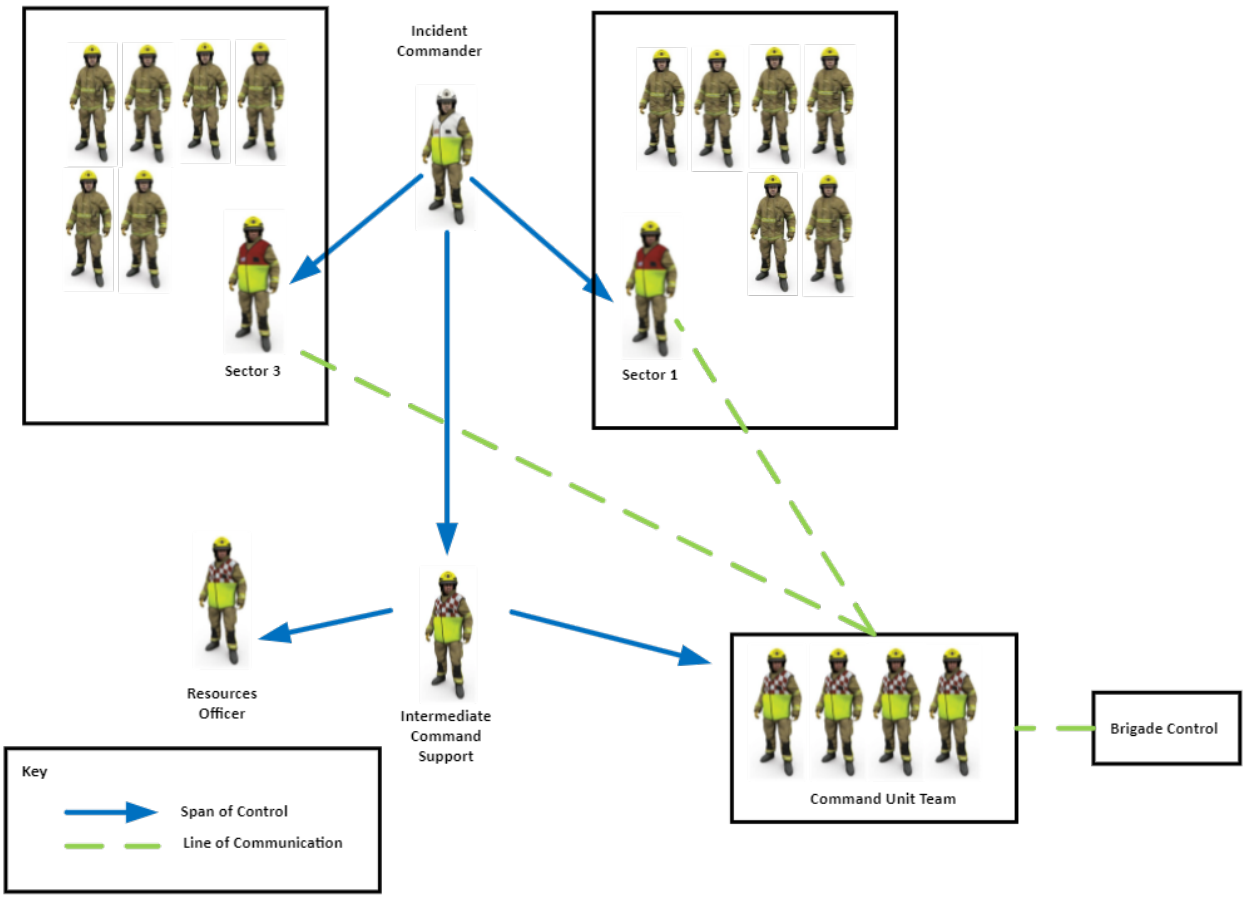



Figure 4 - Intermediate command support

4.52 Where additional command support is required within sectors to support the sector commanders, the command support operatives will report directly to the sector commander and establish communication direct lines of communication to maintain shared situational awareness.

4.53 Using the information passed directly from the sectors, the intermediate command support function can maintain effective resource management and planning support and information management to support the incident commander.

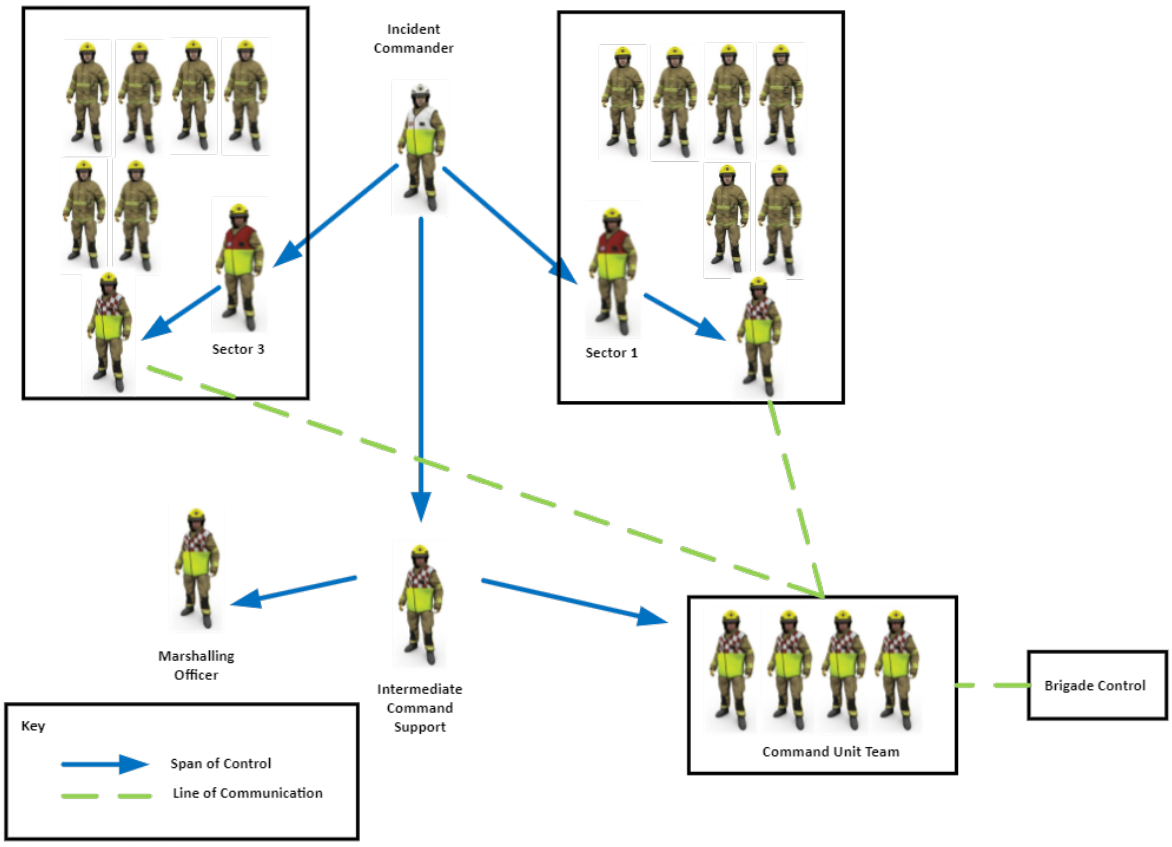



Figure 5 - Intermediate command support with command support operatives

4.54 Additional command units may be requested at any incident to provide dedicated functions. These functions may include:

- Dedicated conference facility i.e., multi-agency briefings or tactical co-ordinating group (TCG) at scene.
- Acting as a media liaison point, at a distance from the main operations.
- Provide dedicated support to BA sector commander.
- The team leader will ensure the CU personnel provide accurate information relating to the incident and that this is displayed via CSS to assist the incident commander to manage the incident.
- Maintain and update the plan of the incident, including the recording of the duties and location of senior officers and operational crews committed at the incident.
- Maintain an operational overview of the reserve appliances and crews held at the marshalling area (if in operation).
- Transmit and record information/messages to and from Brigade Control or the Resource Management Centre (RMC) as appropriate to the incident.

## Functional areas of intermediate command support

4.55 Intermediate command support provides a dedicated command support function at incidents and will take over any previous functions of initial command support. There are four defined functional areas of intermediate command support provided by the command unit team:

- Operations support.
- Communications support.
- Resource management.
- Planning Support and Information Management.

### Operations Support

4.56 Personnel trained in the intermediate command support function, are able to deliver dedicated support to the command team. They can provide advice on the appropriate level of command support required for an incident and detail of the defined functions intermediate command support can provide.

### Communications Support

4.57 Intermediate command support can deliver enhanced communications support by providing a dedicated role in the monitoring of main scheme and fireground radios and the drafting and sending of messages authorised by the incident commander.

4.58 The command support unit mobilised as part of the intermediate command function can provide additional functionality that can enhance incident communications with the following facilities:

- Main scheme and incident ground fixed radio systems.
- Dedicated command channel on channel two provided by an onboard radio repeater.
- A mobile repeater is available to provide communication facilities at incidents where radio propagation/signal strength are evident.
- A leaky feeder cable for enhancing radio communications at sub-surface incidents or where communications are difficult.
- A downlink capability to view images from the NPAS helicopter.
- Message conferencing facility for all users actively logged into an incident accessed via the CSS Conferencing Screen".

4.59 Staff carrying out the role of intermediate command support should have a clear knowledge and understanding of the barriers to communication, to ensure they can identify these during an incident and implement any contingency measures as necessary.

### Equipment failure

4.60 If a repeater fails in use, additional command units should be requested to provide a replacement, and the attendance of the duty radio officer with spare repeaters should be requested.

### Radio propagation/signal strength,

4.61 Where factors affecting communications are identified due to propagation/signal strength, within a building and intrinsic safety is not required, intermediate command support can provide improved communications with enhanced wattage outputs by introducing duplex radio frequencies, using

channels 10, 13 or 20. Intermediate command support can prepare radio repeaters, carried on command units, which can then be deployed 'in series' by BA teams within a building.

4.62 There are a total of 8 RC-L1 UHF transportable repeaters available for use at incidents to enhance analogue radio communications. Each command unit carries one repeater, one link cable drum (100m) and a (200m) leaky feeder cable drum. If additional repeaters are needed to cover a greater distance, then the attendance of the duty radio officer with additional repeaters, link cables and back to back adapters should be requested.

4.63 A single repeater unit can be rapidly deployed by one BA crew; however, if the repeater is to be used in series mode, then a number of crews may be necessary as the correct deployment is labour intensive and may take some considerable time.

4.64 If repeaters are being deployed in series to cover large distances within a building, the attendance of the duty radio officer with additional repeaters should be requested.

4.65 If an incident is protracted, consideration should be given to monitoring the battery charge levels and attach the external backup battery if needed. Maximum deployment distances are dependent on the number of repeaters and link cables available. Breathing apparatus turnaround times will also affect the distance of deployment.

4.66 The repeater should not be used in premises where a working LFB fixed radio channel installation is in operation (e.g., LUL stations, Heathrow airport, Wembley stadium), as the two systems will cause radio interference with each other. The duty radio officer can provide advice regarding the deployment of the RC-L1 UHF transportable radio repeater.

4.67 Where necessary this distance can be extended even further through the deployment of a leaky feeder. A leaky feeder is a deployable aerial in cable form, which emits and receives radio signals along its length. A 200m leaky feeder cable, fitted to a cable drum, is carried on all command units. Leaky feeder cable can be used with the RC-L1 repeaters when they are deployed in either stand-alone or series mode.

4.68 The standard whip antenna supplied with the RC-L1UHF transportable repeater can be replaced by a leaky feeder cable if necessary. This may be beneficial when entering locations where deployment of additional RC-L1 repeaters is impractical or not necessary, or where poor signal penetration has been experienced due to building design. One practical application for the use of leaky feeder is to extend the effective range of the final RC-L1 repeater, when deployed in series mode.

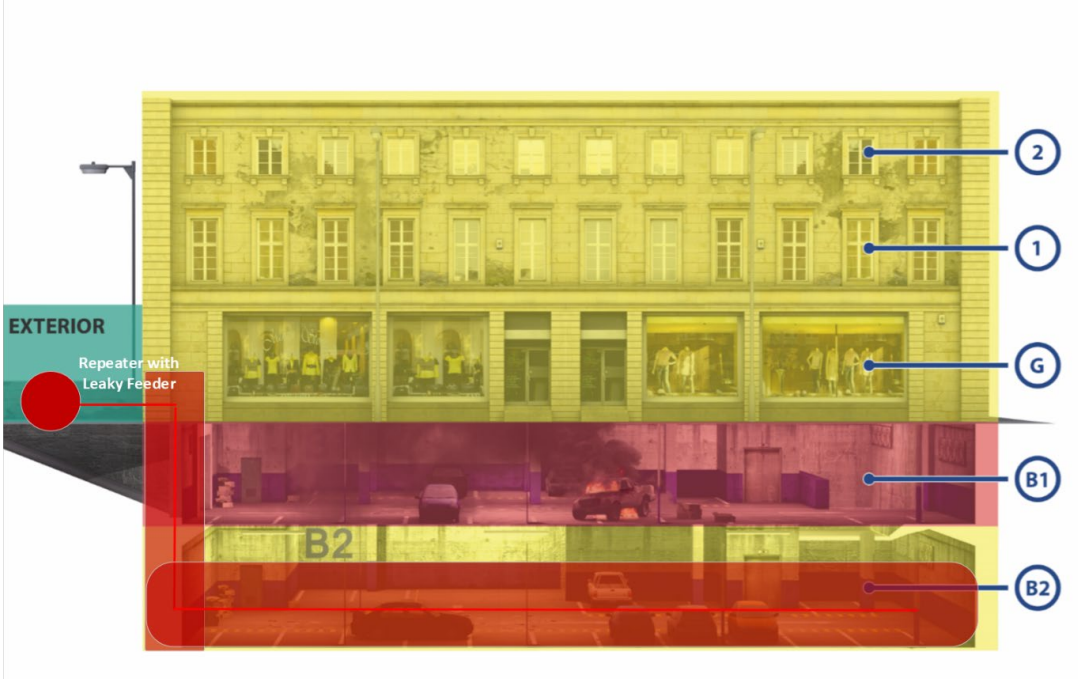



Figure 6 - Image showing leaky feeder deployment and coverage provided

4.69 Where propagation issues are caused by distance only, intermediate command support are able to provide additional Airwave radio equipment, that can operate over any distance (within the UK), providing a mobile data connection can be established.

See Figure 1: Managing equipment failure or propagation issues.

## Radio congestion

4.70 When attempting to reduce congestion, the incident ground should be assessed to identify the number of users accessing each channel or talk-group. This will identify the congested areas of the communication system. Where factors affecting communications are identified due to congestion, intermediate command support can reduce congestion of radio channels by establishing and managing clearer discipline radio channel allocation, and provide additional radio channels and talk-groups, where necessary.

4.71 Where radio allocation discipline alone does not effectively reduce congestion, intermediate command support can provide communication solutions in the following circumstances:

## General operations

4.72 Deployment of radio repeaters standalone mode with enhanced wattage outputs using channels 10, 13 or 20 or the use of Airwave channels.

4.73 In stand-alone mode, RC-L1 UHF transportable repeaters are not linked together using the supplied link cables. A single repeater is deployed in stand-alone mode to achieve signal coverage at an incident, and this can be monitored by a radio operator or positioned remotely and left unattended.

4.74 The repeater should be positioned as close to the centre point between users to ensure the widest possible signal coverage, as demonstrated in the diagrams below. Green dots show radio users able to communicate on the same channel, red dots indicate those unable to.




Figure 7 - Radio Coverage without a repeater




Figure 8 - Repeater positioned close to radio 1




Figure 9 - Repeater positioned centrally between users

## BA operations

4.75 Tait TP9361 IIA radios have a 4W transmission power, however where intrinsic safety is not required, deployment of radio repeaters in series using channels 10, 13 or 20 can be used to create extended coverage. If the Tait TP9361 IIC radio is being used, repeaters may also be used however they must not be in a location with a potentially flammable or explosive atmosphere.

4.76 When deployed in series mode, the repeaters are inter-connected by link cables. It is possible to continue connecting multiple RC-L1 UHF transportable repeaters and link cables in series mode up to a distance of 1000 metres. When sufficient radio coverage has been achieved through deployment of the repeaters and link cables, a RC-L1 repeater should be connected at the end point.

4.77 It is possible to build a complex radio communications network with the RC-L1 UHF transportable repeater, as each unit is capable of having up to three link cables connected to it. These can be laid out in three separate directions, with additional repeaters subsequently being deployed should they be required at an incident.

4.78 The following diagram (figure 10) shows an example of series mode deployment of the RC-L1, where the BA entry control officer can communicate with crews dealing with an incident in a sub-basement on UHF Channel 13; in this example, the incident command channel is Channel 9.

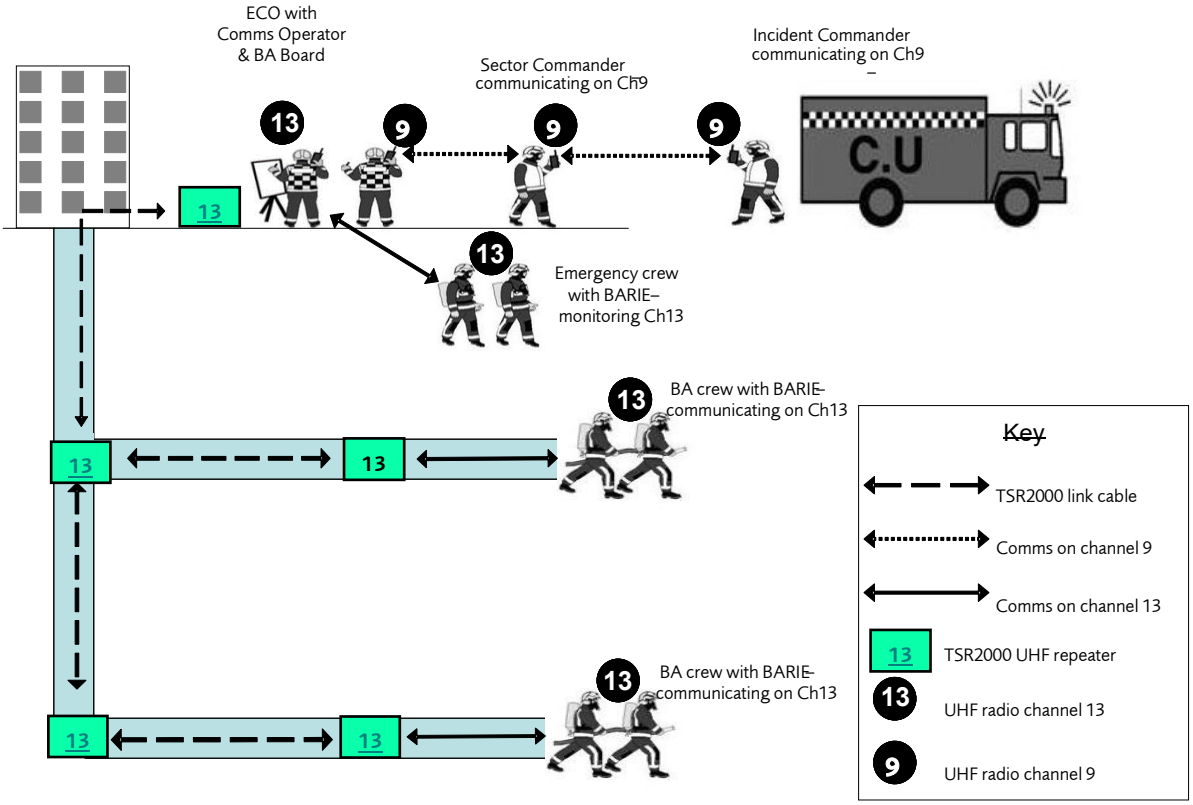



Figure 10 - Example repeater deployments

4.79 The following diagram gives an example of how repeaters can be used to provide multiple communication channels and full radio coverage within a high rise residential building. Communications for BA teams in the fire sector can use channel 11, with the lobby sector using channel 10 through the deployment of a repeater at the entrance to the building connected to one at the bridgehead. This would give effective communication between lobby, fire and search sector commanders. Additionally, a second series repeater deployment provides channel 13 communications for BA teams operating throughout the search sector.

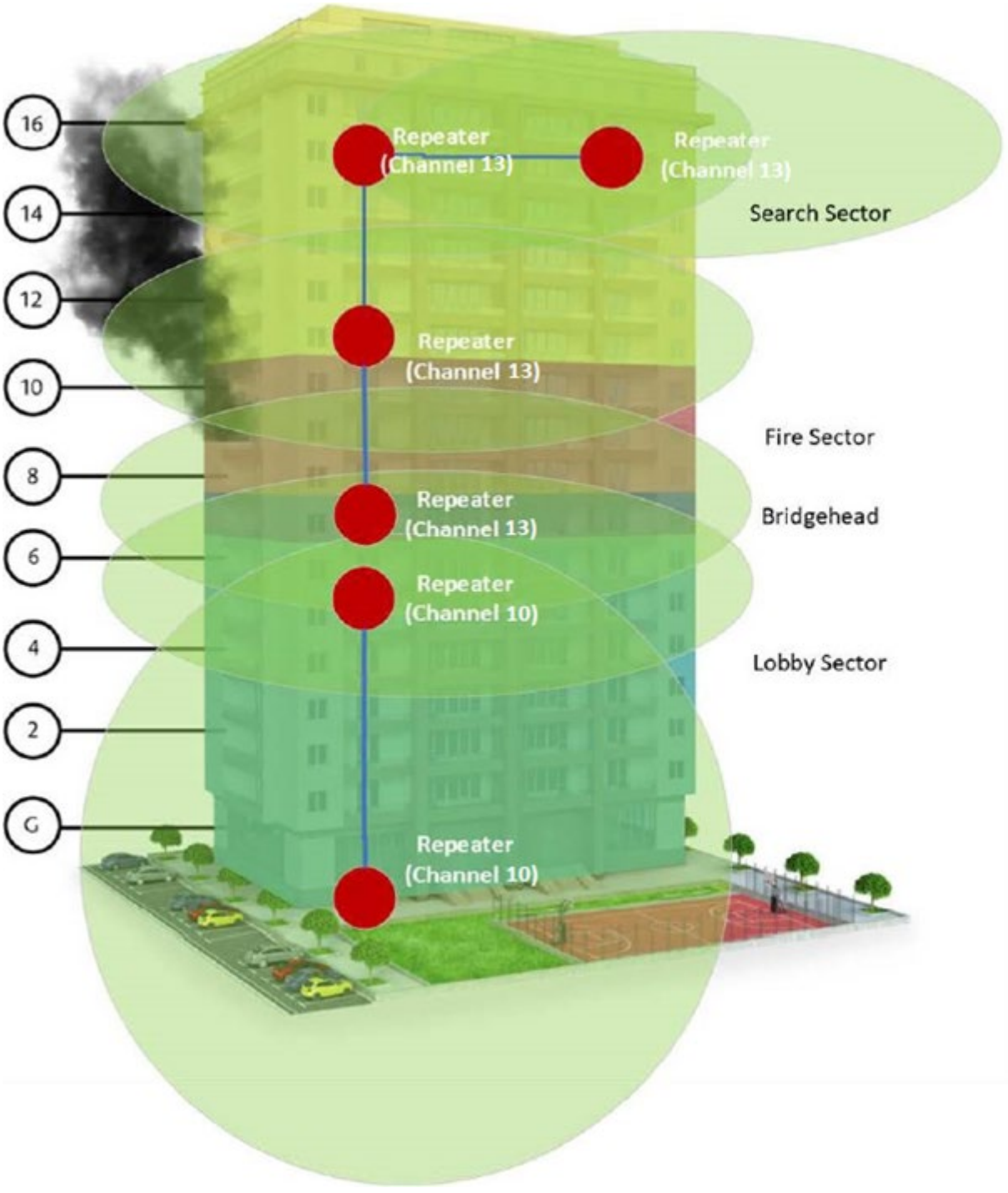



Figure 11 – Repeater radio coverage in a high rise residential building

4.80 If repeaters deployed in series mode need extending, command support team members should configure an additional repeater with a link cable connected. This can then be provided to a BA team for deployment.

## Command operations

4.81 Intermediate command support can provide additional Airwave devices and establish dedicated talk-groups in liaison with Brigade Control.

See Figure 2 – Managing interference or congestion.

## Resource management

4.82 Command support points provide a focal/rendezvous point for booking-in appliances, senior officers and other agencies attending operational incidents or to crews when utilised within sectors.

4.83 Intermediate command support can assist in the preparation and implementation of relief plans and providing information on projected resource requirements, including any specialist crews and equipment.

## Planning support and information management

4.84 By utilising the full functionality of the command unit to record and display information, the command support function can improve shared situational awareness and support the incident commander's decision making.

4.85 Command units can provide an enhanced pictorial representation of the incident, detailing resources and operational strategies i.e., location and designation of sectors etc.

4.86 Hard copies of any documentation relating to an incident should be collected by intermediate command support.

4.87 The incident commander or command support officer, where advanced command support is in operation, should consider what documentation is retained for archiving. This depends on the type or impact of the incident e.g., loss of life or significant economic loss.

4.88 Documentation relating to information that is not automatically recorded on Brigade systems should be considered multi-agency briefings agendas, minutes and persons present forms, any documents relating to fire survival guidance calls or messages confined to the incident ground.

4.89 Documents created electronically on command units must be uploaded into command support software (CSS). Where CSS is unavailable, they may be downloaded onto a USB device.

4.90 Any hard copies and USB devices should be placed in the relief wallet and envelope addressed to Incident Command Policy (HQ) for archiving. The Incident Command Policy Team will then send a blank wallet in return. The last command unit team leader must ensure the envelope is posted in the internal mail.

## Command unit strategic locations

4.91 To provide a robust response that delivers a command support function, the Brigade have strategically located eight dedicated command units across London.

- Brigade Control CU 1– Charlie Uniform One.
- Holloway CU 2 – Charlie Uniform Two.
- Plaistow CU 3 – Charlie Uniform Three.
- Dockhead CU 4 – Charlie Uniform Four.
- Forest Hill CU 5 – Charlie Uniform Five.
- Richmond CU 6 – Charlie Uniform Six.
- Park Royal CU 7 – Charlie Uniform Seven.
- Mitcham CU 8 – Charlie Uniform Eight.

## Crewing of command units

4.92 Command units will be staffed by 1 x station officer/sub officer, 1 x leading firefighter and 1 x firefighter.

4.93 The station officer/sub officer and leading firefighter will both undertake the role of intermediate command support, and the firefighter will undertake the role of initial command support. The station officer/sub officer will be the command unit team leader and will have overall responsibility and authority for the function of the command unit, unless relieved by the role of the command support officer, following the implementation of advanced command support arrangements.

## Duties of intermediate command support

### The intermediate command support personnel should:

4.94 **Clearly identify intermediate command support point by**:

- Turning on headlights and blue flashing beacons on the vehicle used for intermediate command support and ensuring all other vehicles blue flashing beacons are turned off, where safe to do so. This will enable all personnel to clearly identify where the command unit is located on arrival at an incident. It will also enable other personnel, such as multi-agency partners or contractors etc. to be easily directed to this location.
- Anyone performing the role of command support, including the initial command support operative will need to don the command support surcoat. This will enable direct and clear identification, where personnel are not the command point e.g., when undertaking the mapping of an incident ground.

4.95 **On arrival liaise with the incident commander to provide advice in relation to the defined functional areas that intermediate command support can provide**:

- The command unit team leader should identify themselves to the incident commander and provide the relevant advice and support in how the functional areas of the intermediate command function may assist them in delivering their objectives.

4.96 **Confirm with the relevant people the responsibility, authority, accountability, and autonomy of the role of intermediate command support function**:

- The command unit team leader should confirm with individuals working within the command team, including any supporting roles of the intermediate command support function areas of responsibility, authority, accountability, and autonomy. This may include additional staff working as initial command support operatives, either in operational sectors or across the wider incident.
- It is important all staff working within the command support function understands their levels of responsibility, authority and accountability and the autonomy they may hold to make command decisions. This will ensure spans of control are adequately managed and effective communication structures can be implemented.

4.97 **Evaluate and reinforce the initial command support function where necessary**:

- Where initial command support is in operation prior to the arrival of the intermediate command support function, the command unit team leader should evaluate the requirements for any further initial command support functions for the whole of the incident. This should include the command support functions within each operational or functional sector.
- Where further support may be required, the command unit team leader should liaise with the incident commander and agree any subsequent command support arrangements, so this can be adequately resourced.

4.98 **Establish the intermediate command support function, unless relieved by an advanced command support officer**:

- The command unit team leader should establish the intermediate command support function until relieved by the advanced command support officer.

4.99 **Confirm with Brigade Control the call sign of the command unit where intermediate command support is now operating from**:

- The radio operator of the intermediate command support function should confirm with Brigade Control where command support is operating from once the transition from initial command support to intermediate command support has concluded. Where there is more than one command unit in operation at an incident, it is important confirm the call sign of the command support function.

4.100 **Manage incident information as per the command support software (CSS) start-up protocols including**:

- Mapping progress.
- Nominal role for FRS and additional agencies including identified evacuation point.
- Logging decisions.
- Constructing incident timeline.
- Mapping the incident ground.

4.101 **Transmitting and receiving information/messages to and from the those who make up the command team**:

- The command support function is key to effective communications and is a central hub where communication streams such as verbal, non-verbal, written, and electronic can come together. Intermediate command support should ensure effective communications are established between those operating as part of the command team and Brigade Control. This is to ensure information is passed on effectively, allowing decision-making to be based on information that is the most accurate and current as possible.

4.102 **Create a shared situational awareness of the current stage of the incident and deployed resources**:

- The role command support plays in providing shared situational awareness cannot be overstated. Creating effective shared situational starts even upon arrival at an incident, with regards to how the command unit is positioned, so that visual cues can easily be seen, that prevents any delay in information gathering.
- Intermediate command support staff should use the command support systems, mapping processes and effective communication systems, to help ensure effective situational awareness can be shared across the incident ground.

4.103 **Enter preliminary incident information as per the CSS start-up protocols**:

- See Command Support Systems (section 5).

4.104 **Transmit and receive messages to and from Brigade Control**:

- Intermediate command support staff should establish clear and dedicated lines of communications with Brigade Control.
- Good interpersonal communication skills are important when carrying out the intermediate command support function. See Policy number 986 - Command skills - knowledge, skills and competence – NOG, Interpersonal communication.

4.105 **Liaise with oncoming crews, officers, specialist units and other agencies**:

- The command support point should be a central focal point of an incident, where effective communication, cooperation and coordination takes place.

- Mutual trust between team members is essential for effective communication and co-operation, which drives co-ordination, as they affect shared situational awareness and decision-making. Command support staff will be the initial interface of oncoming crews, specialist units and other agencies and can have a positive impact by using effective liaison skills of communication, co-operation, and co-ordination.
- Communication is the mechanism to exchange information between team members and how information is communicated will inform attitudes, understanding and behaviours.
- Co-operation is motivated by the attitudes, beliefs and feelings towards teamwork and helps in achieving common goals.
- Co-ordination involves the use of knowledge, skills, and behaviours to turn planned activities into actions to achieve a common goal.
- See Policy number 986 - Command skills - knowledge, skills and competence – NOG, Teamwork.

4.106 **Brief designated personnel and appointed functional officers of their tasks and safety critical information**:

- To assist the management of spans of control, an incident or operations commander may assign the intermediate command support staff the duties of briefing designated personnel and appointed officers carrying out a function/support role at an incident.
- Where possible, briefings should be structured using the structured briefing model, to help ensure information is delivered consistently and that safety critical information is not missed.

4.107 **Manage incident ground organisation, including**:

- Receive/issue nominal roll boards from/to appliances and senior officers, ensuring details match those on CSS.
- Cordon/gateway control.
- Access routes.
- RVP.
- Marshalling and positioning of appliances.
- Evacuation Point.

4.108 **Co-ordinate multi-agency briefings**:

- Intermediate command support should liaise between the incident or operations commander and any agencies at an incident, to effectively co-ordinate multi-agency briefings. This will help ensure all necessary agencies are present, providing the best opportunity for Joint Emergency Services Interoperability Principles (JESIP) to take place.

4.109 **Anticipate and arrange specialist crews and equipment in conjunction with command team**:

- Where specialist crews are required at incidents, the intermediate command support function should liaise with the incident, operations, and relevant sector commanders to understand the extent and timeliness of the resources required. Using this information intermediate command support staff should anticipate and arrange specialist crews and equipment, to ensure their deployment and use are used effectively.

4.110 **Collate analytical risk assessments (ARA's) in the absence of a Safety Sector Commander**:

- Where analytical risk assessments are in use, to assist the safety sector commander or where one is yet to be appointed, intermediate command support staff should collate all analytical risk assessments at an incident, so they can inform decision-making and be used in incident briefings.

- See Policy number 985 - Operational safety management - knowledge skills and competence – NOG, Analytical risk assessment (ARA) Process.

4.111 **Operate safely within your agreed role, responsibility, and level of accountability and in line with Brigade health and safety procedures**:

- During their duties, intermediate command support staff should carry out and continually perform an individual risk assessment and share any safety concerns with appropriate people, which should include their reporting line within the incident command structure.

4.112 **Keep accurate records and provide these to others where appropriate**:

- Intermediate command support staff should use the command support system to assist with the accurate recording of information. This will assist the incident or operations commander with information assurance, providing confidence that decisions being made are based on the most relevant, accurate and current information.

4.113 **Manage reliefs including crew rehabilitation and welfare, unless these have been allocated as dedicated roles**:

- At larger incidents crew reliefs and welfare arrangements can be complex, due to the nature of how and when appliances arrive at an incident and to the extent in how these appliances, equipment or crews are being utilised.

- Intermediate command support staff plays a pinnacle role in creating a shared situational awareness of the current stage of the incident and deployed resources within it. This understanding allows the management of reliefs and deployment of welfare arrangements to be more effective. Where a resource office has been appointed, they should utilise the knowledge and experience of the intermediate command support function to assist the creation of any relief plan.

4.114 **Return resources after use and make sure they are secured and stored in line with Brigade procedures**:

- Using accurate records and incident mapping, intermediate command support can assist with location of equipment and resources in use, as well as any incident command support resource that may be in use.

4.115 **Identify any individual or organisational learning and highlight this in any debrief**:

- As part of accurate record keeping, incident timelines and decision logs, the intermediate command support function can assist in the recording of operational learning. Intermediate command support staff should consider how information received and recorded during an incident, such as decision logs, analytical risk assessments, incident mapping or timelines, could assist in any debrief process that will support the organisation improvement process.

4.116 **Prevent radio congestion by allocating appropriate radio channels and talk groups and inform personnel**:

- Intermediate command support provides additional equipment, knowledge and experience that can improve communications at an incident. Command unit staff, in consultation with the incident or operations commander, are responsible for the allocation of radio channels and talk-groups.

- Appropriate allocation of these can make incident ground communications and communications between the incident ground and Brigade Control far more effective.

- Intermediate command support staff should monitor radio communications and provide advice and guidance to the command team and where necessary allocate radio channels and talk-groups to ensure communications remain as effective as possible.

- See 'Factors that affect communication systems' (section 1).

4.117 **Prepare radio repeaters and leaky feeders when required to provide adequate signal propagation**:

- Where radio repeaters and leaky feeders are deemed necessary, intermediate command support are responsible for the provision and preparation of this equipment. Where this equipment is subsequently deployed by others, such as BA crews deploying within a building, intermediate command support should ensure staff deploying this equipment are appropriately briefed and understand the correct deployment techniques. Intermediate command support should carry out performance tests prior to and during deployment and continue to monitor the performance of any equipment throughout its use.
- See 'Factors that affect communication systems' (section 1).

4.118 **Organise the effective transition between intermediate command support function and the initial command support function before leaving an incident**:

- Before leaving an incident, the CU team leader will make sure that a CPO has been designated and that an Incident command point (ICP) is identified. All relevant information is then transferred to the CPO, and they are supplied with the latest situational information, messages and maps. The ICP will assume its designated role re-utilising the command support pack (CSP). Prior to leaving an incident the CU on site will ensure that Brigade Control is notified that the ICP is now in operation and confirm its call sign.

## Advanced command support

4.119 Advanced command support will usually be set up at large or complex incidents and will therefore work more closely with the other responding agencies. Those who carry out the advanced command support role require a greater understanding of the needs of strategic command, and local and national government.

4.120 Advanced command support will review and assume overall command of the key functional command support activities of an incident. The functional requirements should be identified and agreed in liaison with the incident commander.

4.121 All associated personnel within the intermediate command support function and any functional/support officers will report directly to the command support officer.

4.122 Station or group commanders will undertake the role of advanced command support and will be known as the command support officer (CSO), this role will form part of the command team. The incident commander should designate an appropriate person to the role, where there is an identified need to reduce their spans of control due to the functional support requirements of an incident.

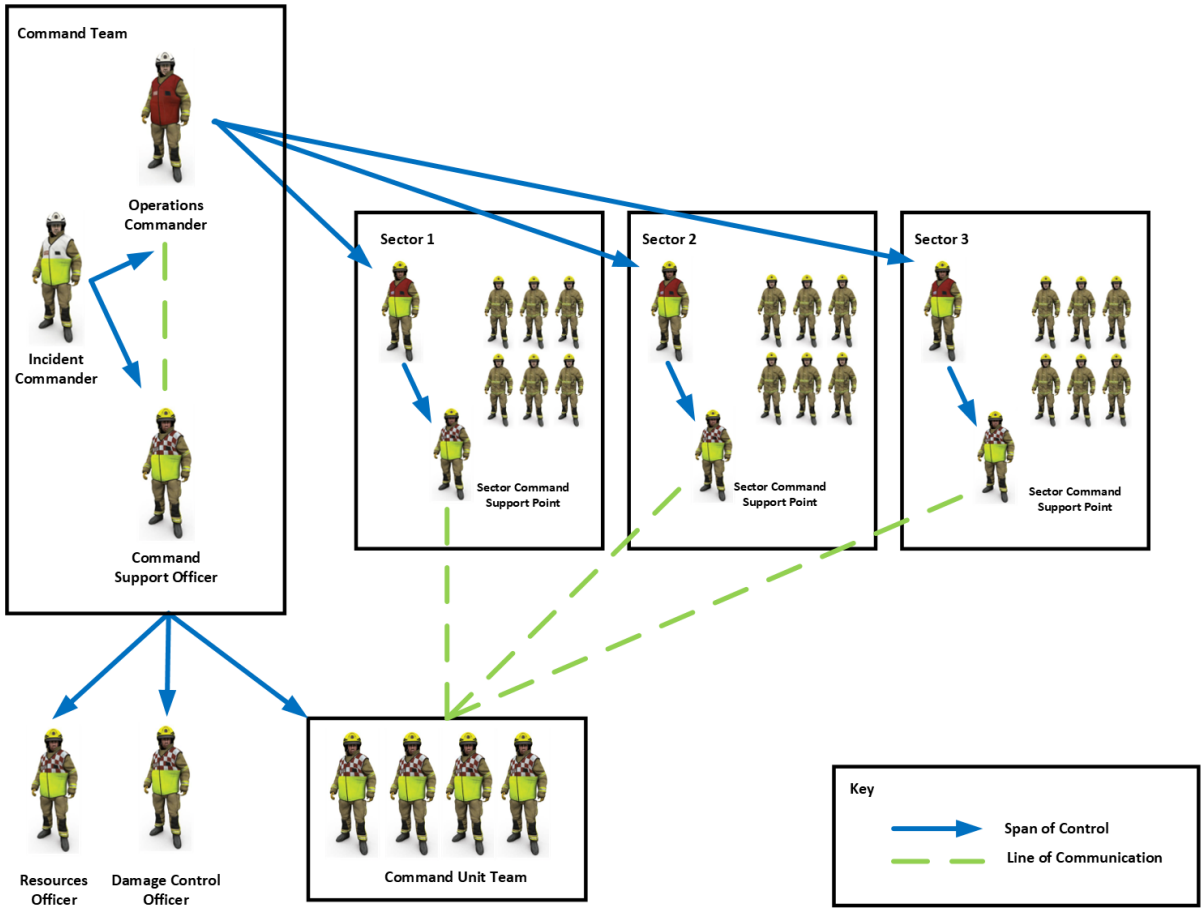



Figure 12 - Advanced Command Support

## Duties of command support officer - Advanced Command Support

4.123 **Confirm with others your tasks and duties in relation to Advanced Command Support in line with your role, responsibilities, ability, and experience**:

- For command support to be effective, the command support officer should work closely with all officers that make up the command team, to clarify the support requirements for the incident. This will create the objectives of their plan and should be directed and agreed with the incident commander, to ensure it aligns with the overall objectives and plan of the incident.
- It is important that everyone understands the different roles and responsibilities in the command support function, including any supporting roles of the intermediate command support function. This helps maintain common expectations which feed into shared situational awareness.
- During complex or protracted incidents, it may be necessary to expand the command support function. All functional sectors will report to the command support officer.
- It is important all staff working within the command support function understand their levels of responsibility, authority, accountability, and the autonomy they may hold to make command decisions. This will ensure spans of control are adequately managed and effective communication structures can be implemented.
- See 'Sectorisation' (section 6).

4.124 **Establish a command support sector taking command of the intermediate command support function, personnel, and resources**:

- Upon appointment the command support officer should formally establish a command support sector, taking command of the intermediate command support function. The command support

officer should request a brief from the team leader of the intermediate command support function, to enable an effective handover to take place.

4.125 **Manage the effective transition from intermediate to advanced command support**:

- Following the handover, the command support officer should evaluate the status of intermediate command support and put in place any further measures or resources that might be required to effectively deliver the four functional areas of command support.

4.126 **Foster a relationship between command support and incident commander understanding your responsibility, authority, and autonomy**:

- The command support officer should work closely with the incident commander to identify the support functions currently in place and those still required.
- The command support officer should clarify the understanding of their responsibility, authority and autonomy with incident commander and the wider command team. This will ensure that the team can work harmoniously, creating a more effective shared situational awareness across the incident.
- See Policy number 986 - Command skills - knowledge, skills and competence – NOG, Teamwork.

4.127 **Manage the effectiveness of an incident communications strategy**:

- In order to manage an effective communications strategy, the command support officer should establish suitable arrangements for communications. This may include:
  - Establishing communication links with Brigade Control.
  - Ensuring they correctly assign radio channels and call signs.
  - Establishing communications with other agencies.
  - The use of talk-groups.
  - Establishing communications with sector commanders and other command support functions to receive regular situation reports.
  - Ensuring sector commanders can communicate between themselves.
  - Using local systems; some new and complex buildings and structures, including those extending underground, have communication systems installed for use by emergency services.
  - Requesting the support of a communications tactical adviser where necessary.
- See 'Effective communication' (section 2).

4.128 **Examine communications with respective responding agencies, own FRS, and Brigade strategic response arrangements (remote command support)**:

- The command support officer should examine the communication arrangements with the other responding agencies. This is to ensure effective communications links are established to promote Joint Emergency Services Interoperability Principles (JESIP).
- Where Brigade strategic response arrangements have been established, the command support officer should establish a direct line of communication to facilitate a clear interface between the command support functional areas and the remote command support functional areas of the Brigade Coordination Centre.
- See Policy number 699 - London Fire Brigade strategic response arrangements.

4.129 **Review, evaluate and reinforce the intermediate command support function and identify barriers in communications and liaison**:

- See 'Effective communications' (section 2).

4.130 Lead the command support sector and resources, review capabilities and limitations:

- The command support officer should liaise with the team leader of the intermediate command support function and use the four defined functional areas as a structure to undertake a review of the capabilities and limitations of the command support function.
- The command support officer should also liaise with command team members to clarify the performance of the command support function, to identify any improvements that can be made or limitations that can be jointly understood.

4.131 **Appoint, brief, and lead any functional/support officers who report to command support**:

- Sector commanders carrying out support functions should directly report to the command support officer. The command support officer should appoint functional roles to support the operational aspects of the incident.
- The command support officer should use the structured briefing model to brief officers undertaking the support roles.

4.132 **Create and update shared situational awareness and a common recognised information picture for FRS and other emergency responders to use at all command levels to resolve the incident**:

- See 'Effective communications' (section 2).

4.133 **Liaise with oncoming officers, tactical advisors, specialist units and other agencies**:

- The command support point should be a central focal point of an incident, where effective communication, cooperation and coordination takes place.
- Mutual trust between team members is essential for effective communication and co-operation, which drives co-ordination, as they affect shared situational awareness and decision-making. Command support staff will be the initial interface of oncoming crews, specialist units and other agencies and can have a positive impact by using effective liaison skills of communication, co-operation, and co-ordination.
- Communication is the mechanism to exchange information between team members and how information is communicated will inform attitudes, understanding and behaviours.
- Co-operation is motivated by the attitudes, beliefs and feelings towards teamwork and helps in achieving common goals.
- Co-ordination involves the use of knowledge, skills, and behaviours to turn planned activities into actions to achieve a common goal.
- See Policy number 986 - Command skills - knowledge, skills and competence – NOG, Teamwork

4.134 **Brief designated personnel, appointed functional officers, and other agencies of their tasks and safety critical information**:

- Where possible briefings should be structured using the structured briefing model, to help ensure information is delivered consistently and that safety critical information is not missed.

4.135 **Ensure incident information is being effectively managed including**:

- Mapping progress.
- Nominal role for FRS and additional agencies including identified evacuation point.

- Logging decisions.
- Constructing timelines.
- Mapping the incident ground.

4.136 **Oversee the management of incident resources**:

- Effective deployment of appropriate resources may be key to the success or failure of an incident commander's strategy or plan to resolve incidents. Any failure or delay in requesting the mobilisation of sufficient and appropriate personnel, equipment, specialist skills and other agencies to an incident may:
  - Delay operational intervention.
  - Increase the risk to the public, including casualties.
  - Reduce the safety of personnel or other emergency responders.
  - Result in loss of or damage to property.
  - Have a detrimental effect on the environment.
  - Affect the reputation of the fire and rescue service.
  - Impact on levels of public confidence.
  - Delay community recovery.
- The command support officer should liaise with command team members and clarify projected resource requirements, including any specialist crews and equipment to effectively manage the incident. The command support officer should then liaise with the incident commander to ensure management of incident resources are adequately managed.

4.137 **Manage reliefs including crew rehabilitation and welfare in conjunction with any appointed resource or welfare officers and the Brigade Coordination Centre (BCC), if in operation**:

- At larger incidents crew reliefs and welfare arrangements can be complex, due to the nature of how and when appliances arrive at an incident and to the extent in how these appliances, equipment or crews are being utilised.
- The command support function plays a pinnacle role in creating a shared situational awareness of the current stage of the incident and deployed resources within it. This understanding allows the management of reliefs and deployment of welfare arrangements to be more effective.
- Where a resource officer has been appointed, they should utilise the knowledge and experience of the command support function and work with the command support officer in the creation of any relief plan.
- The command support officer should maintain direct communications with the BCC, to enable effective strategic cover moves across the Brigade at the same time as managing large relief plans for the incident. This is of particular importance when the Brigade is experiencing spate or spike conditions.

4.138 **Plan and where necessary facilitate multi-agency situational awareness briefings in accordance with the JESIP**:

- The command support officer should liaise between the incident or operations commander and any agencies in attendance at the incident, to effectively co-ordinate multi-agency briefings. This will help ensure all necessary agencies are present, providing the best opportunity for Joint Emergency Services Interoperability Principles (JESIP) to take place.

- Where the command support officer has been nominated to facilitate a multi-agency briefing on behalf of the incident commander, they should make adequate preparation and gain all relevant information that needs to be shared with multi-agency partners.
- They should also confirm with members of the command team any information they may require from the multi-agency partners during the multi-agency briefing, that will assist with shared situational awareness, joint understanding of risk and shared situational awareness.
- Following a multi-agency briefing facilitated by the command support officer, they should brief the relevant members of the command team on any decisions made, information shared or tactics agreed.

4.139 **Anticipate and arrange specialist crews and equipment in accordance with National Co-ordination and Advisory Framework (NCAF) and in conjunction with incident commander, tactical and strategic command**:

- The National Coordination and Advisory Framework (NCAF) co-ordinates fire and rescue service National Resilience assets. Home Office (HO) National Resilience and Fire Directorate (NRFD) and the Office of Security and Counter Terrorism (OSCT) work with other government departments, partner organisations and devolved administrations during no notice and rising tide major incidents to provide policy advice, ministerial briefings, co-ordination across government and management of communications. NCAF enables decision makers, both locally and nationally, to receive clear and unambiguous advice on how best to co-ordinate the fire and rescue service response to relevant emergencies.
- Where a need for national resilience assets has been identified at an incident, the command support officer should appoint a marshalling officer to identify a suitable strategic holding areas (SHA) or multi-agency strategic holding area (MASHA), that has the adequate space and facilities to accommodate the necessary resources.
- See Policy number 263 - Major incident procedure.

4.140 **Oversee the management of incident ground organisation, including**:

- Cordon/gateway Control.
- Access Routes.
- RVP.
- Marshalling and positioning of appliances.
- Evacuation Point.

4.141 **Co-ordinate safety and welfare with appointed functional officers and command team**:

- The command support officer should liaise with the safety sector commander to assist the co-ordination of safety on the incident ground.
- The command support officer should ensure effective recording and collation of any analytical risk assessments produced as a result of the safety provision at the incident. There should also liaise with the safety sector commander to maintain a record of the safety resources across the incident.
- Where a dedicated welfare role has been appointed at an incident the command support officer should liaise with the welfare officer to ensure adequate resources can be appointed and areas designated at a suitable location.

4.142 **Co-ordination of media liaison in conjunction with Strategic Command**:

- At larger incidents a press liaison officer (PLO – usually a station commander) leads on dealing with any media at the scene after receiving guidance from the incident commander and the Communications Department.

- All media is usually directed to the command unit at the incident. Where this command unit is inside a cordon, the command support officer should liaise with the PLO to determine the requirement for a media marshalling point to be established.
- See Policy number 425 - Contact with the media and online communications.

4.143 **Ensure own and others safety and welfare with regard carrying out the Advanced Command Support role**:

- As with all sector commanders who are appointed to be in charge of a defined physical, geographical, or functional area of operations. The role of the command support officer to command resources and deliver the achievement of their objectives within their sector is the same. This includes their responsibility and focus for the health and safety of personnel within their sector.
- See Policy number 985 - Operational safety management - knowledge skills and competence – NOG.

4.144 **Keep accurate records and provide these to others in line with Brigade requirements**:

- The command support officer should ensure command support staff use the command support system (CSS) to assist with the accurate recording of information. This will assist the incident or operations commander with information assurance, providing confidence that decisions being made are based on the most relevant, accurate and current information.

4.145 **Organise the effective transition between advanced command support function and the intermediate command support function before leaving an incident**:

- Before leaving an incident, the command support officer should provide an effective handover to the command unit team leader. All relevant information is then transferred to the CU team leader and they are supplied with the latest situational information, messages and maps.

4.146 **Ensure resources are returned after use and make sure they are secured and stored in line with Brigade requirements**:

- The command support officer should ensure accurate records and incident mapping, are effectively carried out to support and assist with location of equipment and resources that are in use. This will help ensure resources are returned, secured, and stored throughout an incident.
- The command support officer should also ensure all command support and associated communications equipment that may be in use is also secured and stored appropriately.

4.147 **Identify any individual or organisational learning and highlight this in any debrief**:

- As part of accurate record keeping, incident timelines and decision logs, the command support function can assist in the recording of operational learning. The command support officer should consider how information received and recorded during an incident, such as decision logs, analytical risk assessments, incident mapping or timelines, could assist in any debrief process that will support the organisation improvement process.

## Remote command support

4.148 The Brigade recognises that some command support functions are achieved more effectively remote from the incident. This is particularly the case at major or multi-agency incidents, or where multiple incidents are occurring, for example, during wide-scale flooding.

4.149 The Brigade's remote command support function is delivered as part of the Brigade Coordination Centre (BCC). The following BCC functional cells can be established as required:

- Resources/logistics.

- Planning.
- Operations.
- Communications.

4.150 The BCC will operate from the London Operations Centre or from LFB headquarters or other location designated by the Commissioner's Continuity Group (CCG).

4.151 Further detail of the function of the Brigade Coordination Centre can be found in Policy number 699 - London Fire Brigade strategic response arrangements.

# 5. Enhanced logistics support (ELS)

5.1 The primary function of the enhanced logistics support (ELS) capability is to enhance the fire and rescue service command and control capability, by allowing effective and scalable deployment of National Resilience resources to any national level incident.

5.2 The capability has personnel with the necessary knowledge and skills to manage the organisational and control aspects at the nominated strategic holding area (SHA) or multi-agency strategic holding area (MASHA) for the incident.

5.3 The ELS capability will be requested by a National Resilience Assurance Team (NRAT) officer, based on the needs of the incident and the National Resilience capabilities (NR) attending the incident.

5.4 The success and effectiveness of the ELS capability is dependent on the suitability of the SHA or MASHA; these should be established as detailed in the Guide to the Identification, Inspection and Establishment of Multi-Agency Strategic Holding Areas. Further information can be found on the website, multi-agency strategic holding areas: a guide.

5.5 SHAs and MASHAs are identified by individual fire and rescue services, in conjunction with statutory resilience forums. The SHA and MASHA addresses and mapping co-ordinates are held on the National Coordination and Advisory Framework (NCAF) electronic support system. This information is used by the National Resilience Fire Control (NRFC) when mobilising National Resilience assets.

5.6 The equipment provided by the ELS resources includes:

- Systems for communications and IT.
- Computer systems and printing facilities.
- Lighting.
- Electrical systems and support systems.
- Warning systems.
- Identification signs.

5.7 ELS can provide an enhanced briefing facility (EBF) for use within the MASHA or SHA. This is a tent structure that includes:

- Rest facilities for firefighters, including tables and chairs.
- Lighting and heating (heating provided in conjunction with Mass Decontamination Units).
- Briefing facilities, including display and projection equipment.

5.8 The ELS functions include:

- **Operations support**:

- Safety briefing of personnel.
- Inter-service liaison.
- Resource co-ordination.
- Liaison with the incident commander.
- Marshalling within the MASHA or SHA.

- **Logistics support**:
  - Co-ordination and provision of sufficient resources to the MASHA or SHA.
  - Personnel welfare and consumables.
- **Planning support and information management**:
  - Proposing and reviewing information.
  - Planning resource and relief plans.
  - Planning meetings, briefings, and debriefings.
- **Communications support**:
  - Communication and recording of actions and decisions.
  - Maintenance of relevant logs within the MASHA or SHA using online asset management software.

5.9 The affected fire and rescue service should mobilise a liaison officer to the SHA or MASHA to assist with welfare and communication issues.

5.10 The enhanced logistics support officer (ELSO) role is carried out by a National Resilience Assurance Team (NRAT) officer. Their responsibilities include managing enhanced logistics support (ELS) activities and logistics activities including:

- Managing the strategic holding area (SHA) or multi-agency strategic holding area (MASHA) in liaison with the affected fire and rescue service.
- Managing ELS briefings and updates.
- Providing liaison between:
  - The SHA or MASHA.
  - Affected fire and rescue service.
  - Home Office Operations Centre.
  - National Resilience Fire Control (NRFC).
- Facilitating requests for support from the incident commander using the agreed communications channels.
- Liaising with other NRAT officers.
- Managing the logistical needs of the SHA or MASHA.
- Liaising with and providing logistical support as required to the affected fire and rescue service, including welfare issues and liaison with local authority partners.
- Establishing appropriate communication links with key stakeholders.

5.11 The enhanced logistics support role is to support the ELSO by:

- Co-ordinating the mobilised resources into, within, and out of the SHA or MASHA; mobilisation requests should be directed through the affected fire and rescue service fire control room or via the communication channel agreed with the incident commander.
- Facilitating logistical support for incidents including:
  - Urban search and rescue (USAR).
  - Mass decontamination (MD).
  - Flood response.
  - High volume pumps (HVP).
  - Hazardous materials, including CBRN(e).
  - Marauding terrorist attack (MTA) personnel.
- Co-ordinating crew reliefs and facilitate affected fire and rescue service welfare arrangements under the request and direction of the affected fire and service's incident commander.
- Conducting briefings, safety briefings and debriefings in the SHA or MASHA under the request and direction of and the request of the affected fire and service's incident commander.
- Facilitating the maintenance, repair and replacement of National Resilience equipment and vehicles, in order to maintain the required level of resources for the duration of the incident.

5.12 Facilitating the structured return of personnel and equipment to their fire and rescue service under the request and direction of and the request of the affected fire and service's incident commander.

### Tactical actions

5.13 Incident commanders should:

- Mobilise a strategic holding area liaison officer to assist with welfare and communication issues.

5.14 Specialist responders should:

- Fulfil the roles of the enhanced logistics support officer (ELSO) and the enhanced logistics support personnel.

## 6. Command support systems and equipment

6.1 The Brigade provide suitable management information systems to help the command support officer and their personnel to effectively carry out their role. Providing risk-critical information and site-specific plans at an incident is essential to planning and ensuring safe operations. A lack of risk information, or not passing on information, can have a significant impact on command decision-making.

6.2 All incidents have unique features. The reason for providing good, up-to-date information is to help the commander to make the best decision at the time.

6.3 With the systems, equipment and training provided, this enables an appropriate means of recording information at command points and in sectors. This information will include the tactical mode, the number of personnel working in the area, together with key risks and hazards.

## Command support system (CSS)

6.4 The command support system (CSS) is a software application designed to assist incident commanders to manage operational incidents from a command unit.

6.5 CSS is a dedicated computerised command support resource and should only be operated by suitably trained personnel who undertake the intermediate command support function.

6.6 CSS can display and record relevant information about an incident in one location. The information can be organised in various ways to assist the incident commander and other officers with their decision-making process to assist with the successful resolution of an incident.

6.7 CSS will gather live incident information about resources automatically from other LFB ICT-based systems, such as the brigade's mobilising and dispatch system and the staff attendance recording system (StARS).

6.8 All automatically created data from the beginning of an incident is downloaded to every CU regardless of whether or not they have been mobilised to that incident, using the LFB wireless network at stations or a mobile broadband connection.

6.9 CSS can be used as a tool for incident briefings, either inside or outside the CU. Incident information is displayed on a large screen and can be controlled using simple touch-screen controls, a mouse, or keyboard.

6.10 As well as being available on CUs, CSS can be accessed remotely by group managers and above, and other designated users such as resource management centre (RMC) and control staff. This enables remote users to gather information and monitor the progress of incidents.

6.11 Remote users are limited to "read only" access and cannot make alterations to the information within CSS. However, remote users are able to communicate with any CU, or with other users, via the CSS conferencing facility.

6.12 The system will only allow a maximum of 20 users access to CSS at any one time, so it is important that users log off to maintain this capacity once they have finished using the system.

6.13 Intermediate command support should be able to use CSS to provide the incident commander with a default incident related information screen, which should include a map and an organisational command chart.

6.14 As the incident develops, the incident commander and CU crew should ensure that appropriate and sufficient use is made of all the relevant CSS functions, as this will enhance operational control of the incident, and ensure accurate recording of events.

6.15 At the early stages of a dynamic incident the incident commander should be aware of the number of CU personnel in attendance and their workload.

6.16 The incident commander's objectives in relation to the provision of command support, including using CSS and populating it with data, should reflect the number of personnel immediately available. CU personnel should advise the incident commander if the command support requirements require the attendance of an additional CU.

6.17 CSS relies on remote access using data over a mobile telephone network for some of its information gathering.

6.18 There may be occasions when a network signal failure occurs, which will require some data to be assigned and entered manually. Manual data entry within CSS will take longer than if it is completed automatically.

6.19 CSS has a range of functions which can be used operationally by the incident commander and members of the command team.

6.20 The following is a brief summary of the CSS icons and their functions; a comprehensive guide to these functions is available within the CSS user guide.

| | |
|---|---|
| | Home screen – point from which any live, training or historical incident can be joined. |
| **Information gathering tools** | |
| | Browser screen – provides internet access, including 9 'favourite' web link buttons including hotwire, Google and Sky News. |
| | Imagery manager - access to images imported into the system. |
| | Documents - allows a range of documents and information to be captured or imported into CSS for viewing and storage. |
| | Organisational chart – a live application that shows all resources mobilised to an incident and those already in attendance. For creating and displaying a command structure. |
| | BA main control – an electronic replica of the breathing apparatus (BA) main control board to help establish additional control to co-ordinate and directly supervise BA resource needs. This provides a means to record and share BA resource allocation. |
| **Gathering and thinking tools** | |
| | Decision log - a recording tool to capture important decisions from an incident. |
| | Tasking module - allows tasks to be allocated to individual roles (once deployed on the org chart) and the progress of these actions captured. |

6.21 CSS can provide support to the BA Sector commander, through the use of an electronic replica of the breathing apparatus (BA) main control board. This can help establish additional control to co-ordinate and directly supervise BA resource needs. This provides a means to record and share BA resource allocation.

6.22 Timeline – brief summaries of key events are automatically entered in chronological order. Future events can be added manually, such as planned multi-agency briefings or TCG meetings.

6.23 Once an incident has been resolved, the incident should not be stopped via CSS. Incidents will close automatically after approximately 24 hours.

6.24 All information and actions carried out within CSS are captured and recorded and cannot be deleted.

6.25 The information is accessible for command reviews or investigations via email request via the Incident Communications mailbox - IncidentComms@london-fire.gov.uk.

6.26 As the information recorded within CSS may be used to support subsequent post-incident inquiries, appropriate levels of care should be taken to ensure that manually entered data is accurate, current and complete.

6.27 The following policies and training material should be read in conjunction with this policy document: CSS Operating manual Version 1.7.

## Command support packs

6.28 The command support pack provides a secure arrangement for holding nominal roll boards and will be used when initial command support is established. The command support pack may be positioned in any suitable location close to the incident command point (ICP).

6.29 The incident information board will be used to collate preliminary details of the incident and to brief oncoming personnel.

6.30 The command support pack will facilitate a speedy and efficient transfer of nominal roll boards and information between initial command support function and the intermediate command support

function. The team leader of the intermediate command support function will be responsible for the safe transfer of this information.

6.31 Intermediate command support will then swap the command support pack with a spare that is held on command unit and replace back onto the pumping appliance it was taken from, ensuring the surcoat is re-stowed.

6.32 The command support pack can be used to hold vital information such as:

- Message pads
- Analytical risk assessment forms
- Decision Logs
- Special Service forms
- HFSV paperwork/requests

# 7. Sectorisation

7.1 Span of control reflects the number of lines of relatively constant communication that must be maintained. Understanding the span of control concept is important when managing a large amount of activity and information. Dividing an incident into sectors may support this by providing a clear reporting structure. Sectors should only be used if necessary and commanders should keep the structure as simple as possible. This is in order to reduce the possibility of barriers to the flow of information between personnel and the incident commander.

7.2 Spans of control should ideally be limited to five lines of direct communications, to ensure that commanders do not become overburdened. In a rapidly developing or complex incident the span of control may need to be as small as two to three lines. If the incident is more stable, or communication requirements are less frequent, the span of control may be increased.

7.3 In Figure 12 below, the incident commander is responsible for two working crews at an incident and three individuals each carrying out a specific task, which involves regular contact. The span of control for this incident commander is five.

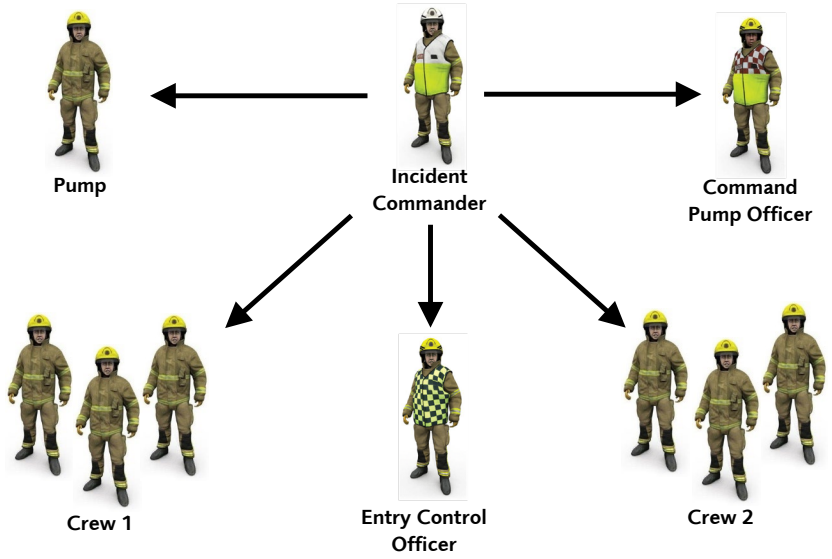



Figure 12 - Span of Control

7.4 An incident commander may be able to effectively control small incidents without the need to implement additional command arrangements. If they can monitor tasks by moving around the incident ground, it is unlikely that sectors are needed.

7.5 However, operations often take place in more than one location during an incident, for example, at the front and rear of a building. This may result in the incident commander being unable to effectively manage operations and supervise safety, in which case sectorisation should be considered.

7.6 Sectors should only be established on the instructions of the incident commander. They should be introduced when the demands placed on an incident commander are high. In these cases, it is essential to delegate responsibility and authority. This ensures that the level of command and safety monitoring is appropriate for all activities. Sectorisation ensures that an appropriate span of control is exercised at all times by allowing for additional officers to be introduced into the command structure before the demands on any individual's attention become excessive.

7.7 When designating sectors, the incident commander must clearly identify their boundaries. These boundaries should be defined according to the purpose of the sector:

- **Operational sector** – An area of responsibility defined by a physical area of the incident ground. Sectors can apply to a defined area of a building, such as the vertical features of tall buildings, or to geographical features. Sectorisation at transport incidents can be more complex to define. Where possible, clearly identifiable boundaries such as floors or walls should be used.
- **Functional sector** – An area of responsibility defined by a support role and the resources it commands.

7.8 The incident commander should also consider appointing sector commanders to supervise personnel and command areas of operations if the scale of operations grows.

7.9 If an incident becomes more complex with a growing number of sectors in use, the incident commander may choose to appoint an operations commander. This is to manage the sectors and reduce the span of control for the incident commander. If the number of sectors grows, they may need to group the sectors under more than one operations commander. For example, if an incident were to have four operational sectors and a variety of functional sectors, the incident commander's span of control is likely to be at its limit. e.g., multiple operational sectors could be condensed to one line of communications using an operations commander. The all-hazards command approach is able to scale up to any situation as required.

7.10 The incident commander should brief sector commanders and operations commanders on their specific role and responsibilities by the incident commander using the structured briefing model (see Policy number 986 - Command skills - knowledge, skills and competence – NOG).

7.11 Even when tasks are delegated, the incident commander remains responsible at all times for overall incident management. They should remain focused on command and control, the use of resources, incident planning and the co-ordination of sector operations.

7.12 The working protocols with neighbouring fire and rescue services is contained within Policy number 857 – working with neighbouring brigades. The LESLP Major Incident Procedure Manual contains the joint working protocols for multi-agency incidents in London. Personnel should be made aware of the various command team roles and functions in the host fire and rescue service and assisting fire and rescue services. It is important to take steps to ensure that the roles and functions are also understood by other agencies.

7.13 Key information about the sectorisation should be recorded, including:

- The tactical mode
- Number of personnel working in the sector
- Identified hazards and risks

7.14 Information recording may be happening at multiple locations; care needs to be taken to ensure critical information is recorded and retained.

7.15 In order to enable the recording of information at command points, Command Support System software is provided on all command units and Incident Command Wallets are stored on all pumping appliances. Forward information boards are provided on all pumping appliances, in order to allow the recording of information at the command point, or in sectors.

7.16 The creation of sectors should only occur on the instruction of the incident commander to meet the demands of an incident. Operational sectors can apply to a defined area of a building, such as the vertical features of tall buildings, or to geographical features. Sectorisation at transport incidents can be more complex to define.

7.17 Functional sectors can also be used to control functional areas, such as a safety sector. Functional sectors should be named according to its function, such as Water sector or Damage Control sector. As with operational sectors, the boundaries of a functional sector should be clearly defined but focused on the support function to be managed including the expected outcome and resources rather than physical boundaries.

7.18 Unless there are exceptional circumstances, the use of sectors should follow the standard models.

**Four sectors**




Figure 13 – Four sectors

**Five sectors**

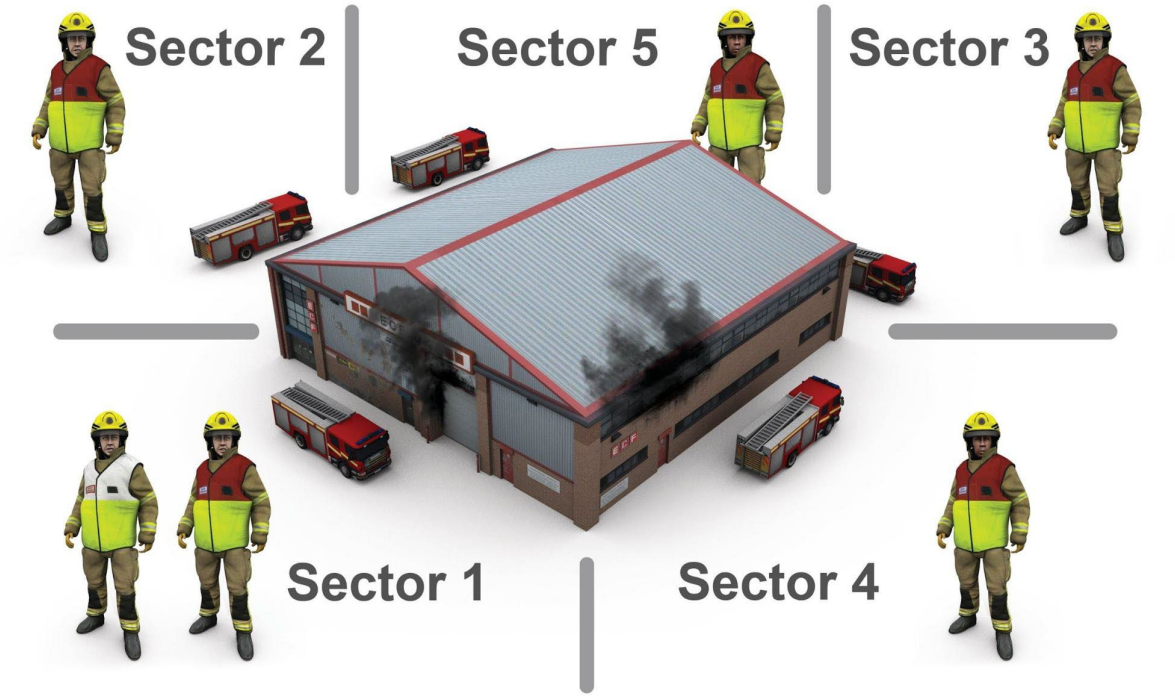



Figure 14 – Five sectors

7.19 Using this approach, the front of a simple building is Sector 1. Progressing in a clockwise direction, Sector 3 is normally at the rear. Sector 1 could also be the main scene of operations if this is not the front. Where this is the case, all personnel should be made aware. Sectors should be allocated according to their location, rather than the order in which they are established.

7.20 This will ensure consistency at major or cross-border incidents where crews attend from two or more services. A plan showing demarcation of sectors at the command point can be useful for briefing purposes.

7.21 There may be some buildings or environments that do not suit the standard model. In these cases, it is important to designate the sectors carefully. There needs to be a good understanding of the physical boundary and operating parameters, and this should be communicated to avoid confusion.

## Vertical sectors

7.22 The standard model of Sector 1 being the main scene of operations would be difficult to use in some situations for example, in a multi-storey building or structure where operations are over several levels. This includes incidents involving high-rise building or basements with areas of operations above and below each other. The vertical sector model is used to maintain effective spans of control when sector commanders are remote from their scene of operations.

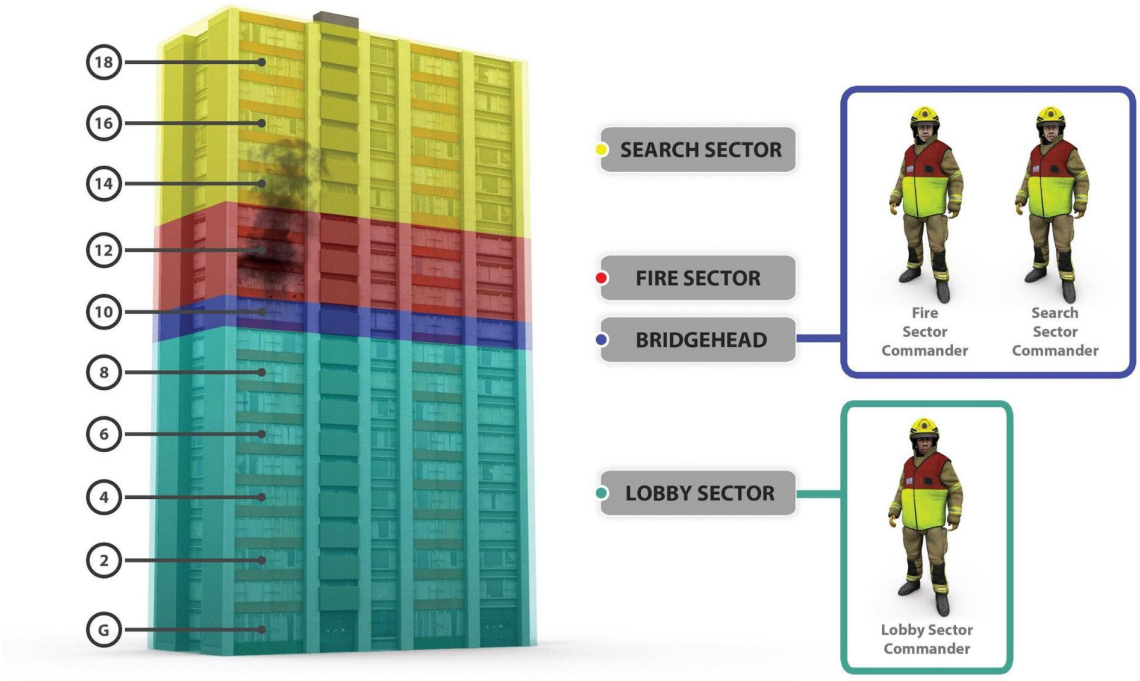



Figure 15 – Vertical sectors

7.23 Sectorisation should take account of the restrictions of operating in an environment where the fire floor is a barrier to accessing the areas above. The entire area above the bridgehead should be considered a hazard area in a tall building.

7.24 It may only be necessary to operate a single operational sector internally, with firefighting and support sectors operating outside. More than one internal sector may be required at an incident where a large number of personnel are firefighting, searching, or ventilating; this is to ensure that the commander's span of control is not exceeded. The zones of activity within the structure, for example, internal firefighting operations, should be identified using the following examples.

## Fire sector

7.25 This is an operational sector and would be the main area of firefighting and rescue operations. It consists of the floors from the bridgehead to the fire, the floors directly involved in fire, plus one level above. The fire sector commander will, on most occasions, need to be located at the bridgehead directing operations.

## Bridgehead

7.26 This is normally two floors below the fire floor, provided they are clear of smoke. It is a location rather than a sector on its own. If the distance from the ground floor lobby to the bridgehead is more than two or three floors, and spans of control require it, the use of a lobby sector should be considered.

## Search sector

7.27 This is an operational sector and is located above the fire sector where search and rescue, ventilation and other operations are taking place. Where possible, the search sector commander should be located at the bridgehead with the fire sector commander. If this is not possible, they should be

located one floor below the bridgehead, or where not practical, the nearest suitable alternative location.

## Lobby sector

7.28 This is a support sector and would cover the area of operations from the ground floor lobby to the bridgehead. The lobby sector commander will act as the co-ordinator of all the logistics needed by the fire sector commanders and search sector commanders. The lobby sector commander would also co-ordinate all operations beneath the bridgehead, including salvage and ventilation. The lobby sector commander is normally located at the building access point.

7.29 This system of sectorisation provides for flexibility. There may be times when other approaches are needed. For example, it may be necessary to have more than one sector per floor in a complex building, or a tall building may require two fire sectors, each with its own bridgehead. These may be operating in different stairwells with an operations commander co-ordinating from the lobby area.

7.30 These principles can be applied to other situations where vertical, internal sectors are necessary, for example at basement fires. In this case the search sector may extend above and below the fire, and the lobby sector may be located outside the building.

7.31 Using the example of an incident in a high-rise building, external sectorisation, if required, would follow the original sectorisation model, with sectors identified by number.

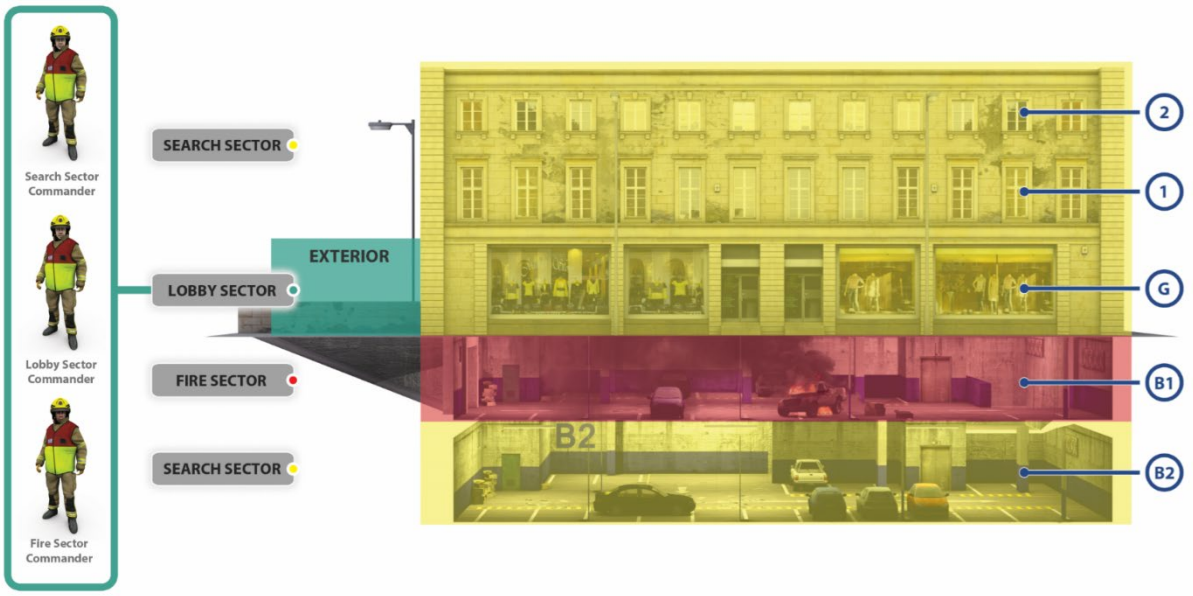



Figure 16 – Vertical sectors in a basement incident

## Sectorisation of vessels

7.32 Sectorisation of a vessel will depend on the access point to the vessel. Because of the risk of fire spread through ventilation shafts or large compartments adjacent to multiple decks, there may also be a need to divide sectors into deck levels. Alternatively, on a vessel where only an individual compartment or a larger area may be involved, sectorisation can be undertaken by giving the sector a name, for example, forward hold or engine room.

## Sectorisation of wildfires

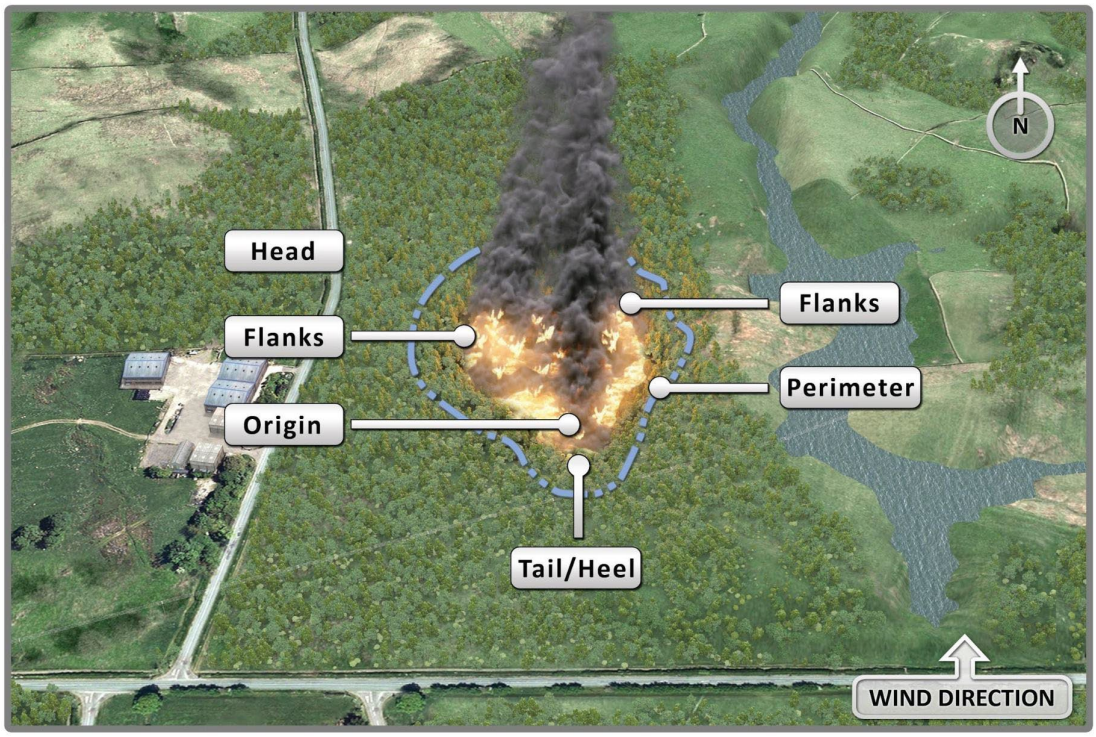



Figure 17 –Wildfire features

7.33 At large, complex, or protracted incidents, where the fire behaviour is likely to change, it will be necessary to provide clarity regarding the geographical area covered by each sector. This can be achieved by setting sector perimeters based on easily identified features on the landscape, whether natural or man-made, which provide visual conformation of the sector limits and areas of responsibility.

7.34 In the following example, the fire has been divided into four sectors which use topographical features or changes in vegetation to clearly differentiate the sectors.

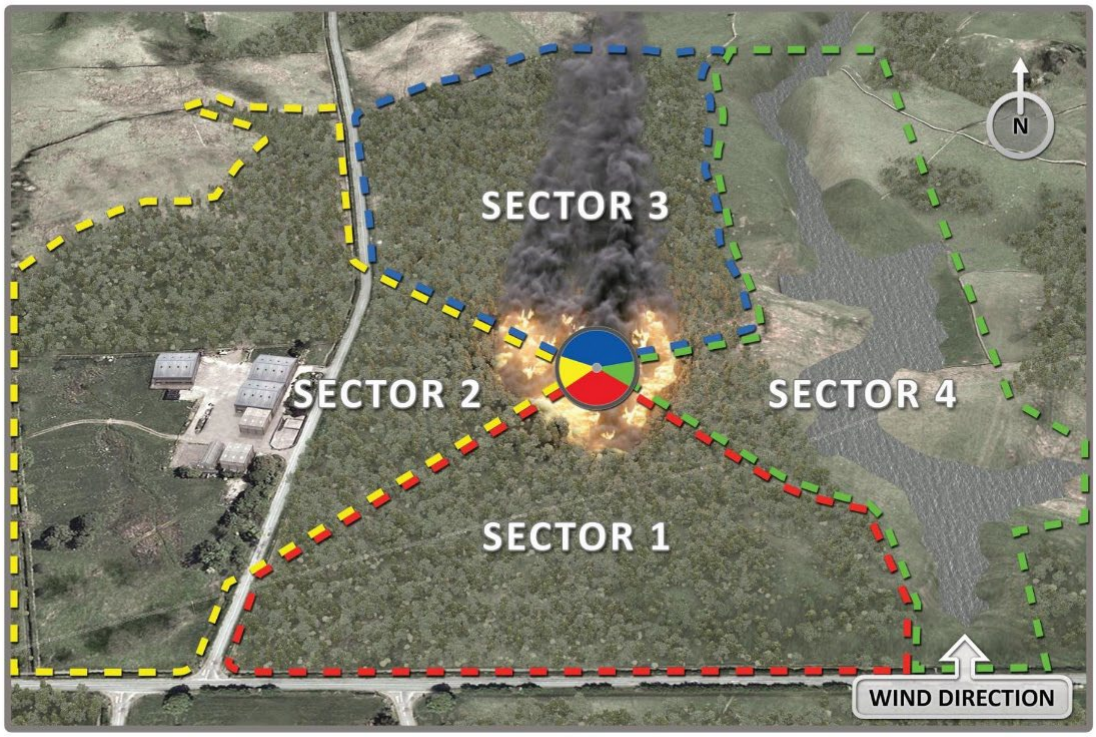



Figure 18 – Sectorisation at wildfires

## Sectorisation for road traffic collisions

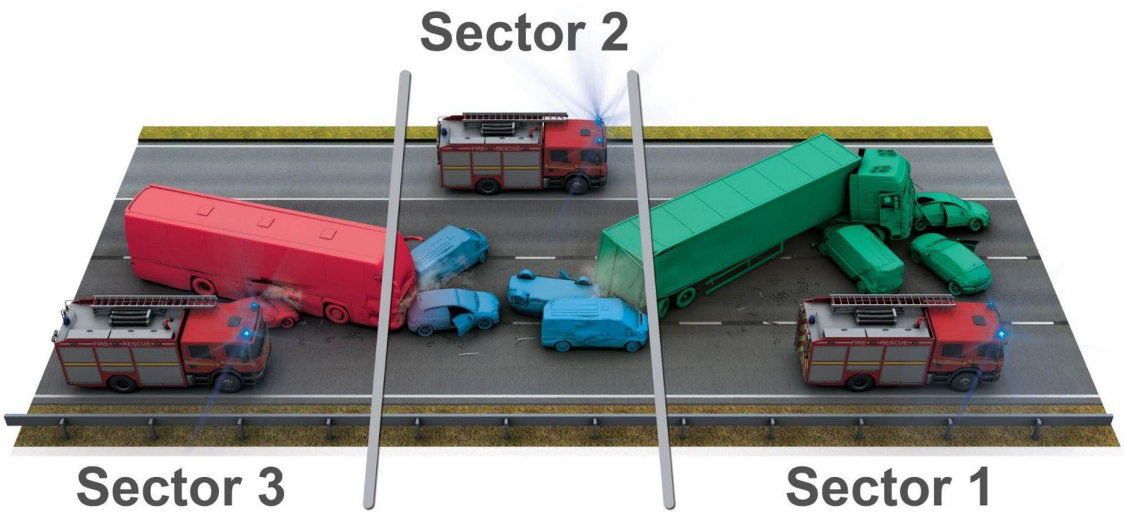



Figure 19 – Sectorisation for road traffic collisions

## Sectorisation for a cabin fire in an aircraft

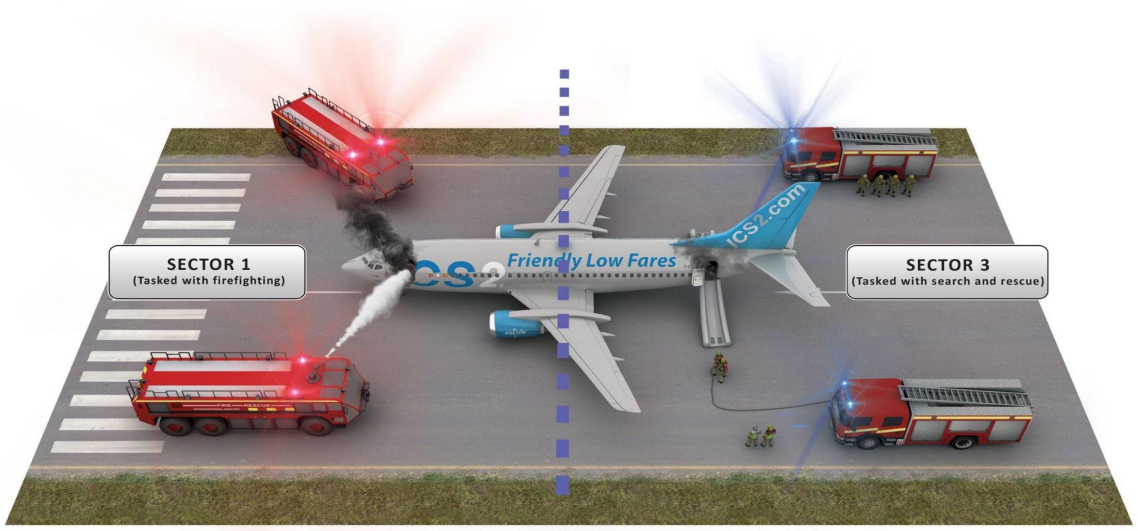



*Figure* 20 – Sectorisation for a cabin fire in an aircraft

## Sectorisation for an engine fire in an aircraft

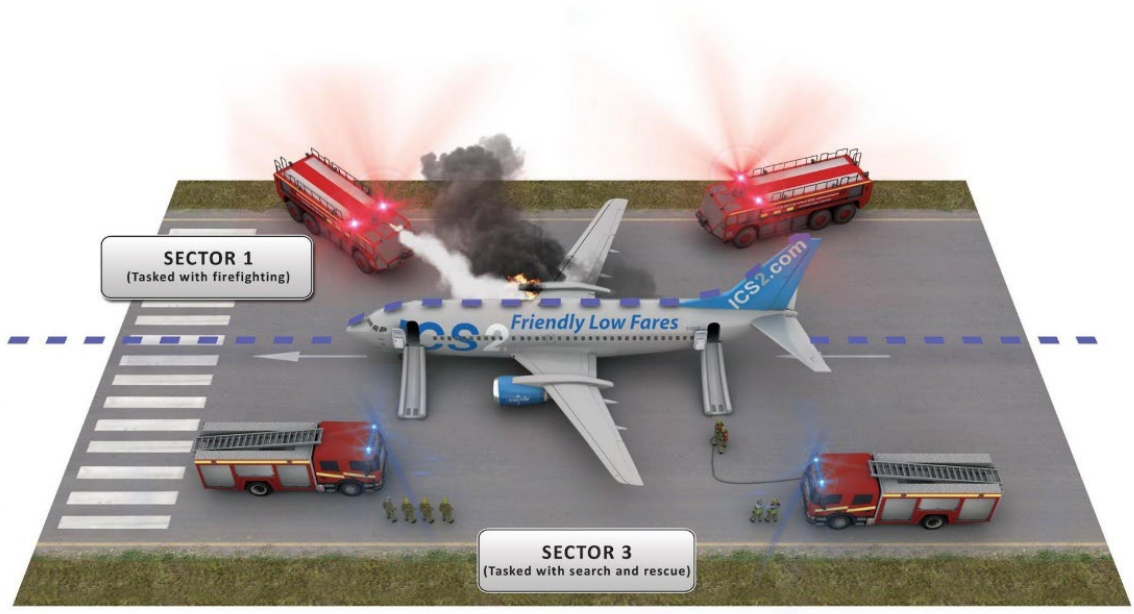



Figure 21 – Sectorisation for an engine fire in an aircraft

7.35 Appendix 1 shows how an incident can be scaled up or down using operation commanders and sector commanders to ensure the span of control does not become too great for any member of the command team.

## Tactical actions

7.36 Incident commanders should:

- Establish sectorisation appropriate to the type, size, and complexity of the incident.
- Brief sector and operations commanders on their role and responsibilities using the structured briefing model.
- Consider the use of command support systems and equipment where required.
- Ensure operational personnel and Brigade Control are aware of the sectorisation and incident command structure arrangements.
- Keep a record of all key information, including the number of personnel operating in a sector.
- Carry out regular roll calls.

# 8. Command roles and responsibilities

8.1 For the incident command system to operate effectively, the incident commander and those in other command roles should be clearly identifiable. The surcoats used for identifying command roles visually is outlined in Identification of command roles (see section 3).

8.2 The incident command system provides a structure that ensures a competent person is responsible for command and control at operational, tactical and strategic levels. Personnel, sectors, and functions should be appropriately supervised to achieve the incident plan. The system should be flexible enough to meet the demands of each type of incident.

8.3 The declaration of a major incident may instigate the requirement for additional resources from multiple agencies and hence additional strategic management which would be established both on-scene and at remote locations. For further information, see Policy number 699 - London Fire Brigade Strategic Response Arrangements (Strategic Gold Command).

## The role of the incident commander

8.4 The incident commander has overall responsibility on the incident ground. In order to resolve an incident assertively, effectively and safely they should:

- Command and control the incident.
- Identify hazards and manage risk.
- Assess resource requirements.
- Determine an incident plan.
- Co-ordinate and deploy available resources.
- Evaluate progress against the plan.

8.5 There are common elements to all incidents. Where they differ, incident commanders will need to adapt their actions using their experience and knowledge. They will need to consider the hazards they face and the resources available to deal with them.

8.6 It is vital for the incident commander to have accurate situational awareness. This will allow them to make early decisions, develop an incident plan and commit resources. On arrival at an incident the incident commander will carry out an immediate evaluation, including a dynamic risk assessment. Refer to **Dynamic risk assessment,** see Policy number 985 - Operational safety management - knowledge skills and competence - NOG.

8.7 As soon as time permits commanders should conduct a detailed assessment of the situation. They should use the decision making model (DMM) to help set objectives and organise their actions. Refer to policy number 986 – Command Skills – knowledge, skills and competence - Situational awareness and policy number 986 – Command Skills – knowledge, skills and competence - Decision making.

8.8 Throughout the incident, the commander must ensure a suitable and sufficient risk assessment is in place and is regularly updated. They should ensure control measures are in place and any significant findings recorded. Refer to **Analytical risk assessment**, see Policy number 985 - Operational safety management - knowledge skills and competence - NOG.

8.9 Incident command becomes more complex with greater scale and duration. An individual cannot be expected to manage and control all aspects of command on their own at a larger incident. Refer to Span of control (Section 7.1). It is important for the incident commander to create an appropriate command structure. This may include:

- Setting appropriate reporting lines.
- Delegating levels and tiers of authority and responsibility.
- Agreeing spans of control for each commander.
- Establishing what role the outgoing incident commander will take to maximise their situational awareness.

8.10 Effective communication is important at all incidents. Accurate information has to pass between the incident commander and all persons on the incident ground. A thorough briefing of crews should take place before deployment. Crews need to know which tactics the commander wants to use, as well as sharing safety critical information. Without such briefings there is the potential for crews self-deploying or operating outside the incident plan.

8.11 Incident commanders should be aware of activity and developments on the incident ground and have a responsibility to ensure messages and information pass to Brigade Control. This ensures a record is maintained that captures an accurate picture of an incident. Refer to policy number 986 – Command Skills – knowledge, skills and competence - Situational awareness.

8.12 Care should be taken not to create a 'command gap' because the incident commander is unavailable. This could be because they are undertaking a survey of the incident ground, or because they are in a briefing. The incident commander can mitigate this, for example, by being available by radio.

8.13 The incident commander should establish effective arrangements for communication are in place to ensure a good flow of information is maintained.

8.14 An incident commander should make sure that they can:

- Gather and share information.
- Issue instructions to personnel.
- Receive situation reports from all areas, including sector commanders.
- Assess and provide for the needs of other agencies.

8.15 Incident commanders may hold briefings enroute to an incident. On arrival they should carry out a risk assessment and add this to the briefing. Refer to **Effective communication (section 2).**

8.16 The extent of the briefing will depend on the type, size, and complexity of the incident. For example, the pre-briefing for small fires may be straightforward. Where personnel have little experience of the type of incident, or there is high risk, a more comprehensive brief may be appropriate.

8.17 It is also important to debrief personnel that have withdrawn from a working area during an incident. Debriefs are a good source of safety information and this should not be overlooked.

8.18 The incident commander should ensure there are clear communications with sector commanders. This is critical to maintaining situational awareness.

8.19 The incident commander needs to gather information, issue instructions, and receive situation reports. They also need to assess the needs of other agencies and plan to meet them. They should establish suitable arrangements for communications.

8.20 These tasks will usually be the role of command support, under the guidance of the incident commander, in order to:

- Establish communication links with Brigade Control.
- Ensure radio channels and call signs are correctly assigned.
- Establish communications with other agencies.
- Establish communications with sector commanders and receive regular situation reports.
- Ensure sector commanders can communicate between themselves.
- Make use of site-specific communication systems; some complex buildings and structures, including those extending underground, have communication systems installed for use by emergency services.

## Levels of command

8.21 It is the responsibility of fire and rescue services to ensure that commanders at all levels achieve and maintain appropriate command competence. For further information on levels of command, command competence and validation and revalidation refer to Policy number 986-POLa - Command skills policy and policy number 0986-ORPc – Command competence – organisational procedure

8.22 There are four nationally agreed levels of command qualification for fire and rescue service operations:

- Level 1 – Initial.
- Level 2 – Intermediate.
- Level 3 – Advanced.
- Level 4 – Strategic.

### Responsibilities of the incident commander at Level 1 - Initial

8.23 Command and control of operations at a task-focused supervisory level or a more senior level at a serious escalating incident.

8.24 When the incident commander arrives at an incident their aim is to protect life, property, and the environment. In doing so, they will have a range of information to consider. This will become even more complex and difficult if the incident escalates. The incident command structure should be introduced at the earliest opportunity. This includes command support and any additional functions to support operations at the scene.

8.25 The incident commander may need to access technical advice to help them make decisions and set tactical priorities.

8.26 Commanders should consider interoperability if a joint and co-ordinated approach is required. They should have the capability to declare a major incident and communicate a M/ETHANE message, to provide information to their own and other agencies if required.

## Responsibilities of the incident commander at Level 2 – Intermediate

8.27 Command and control of operations at a tactical middle manager level.

8.28 On the arrival of a more senior officer, they should decide if the existing incident commander should remain in charge. This decision should include assessing whether the existing incident commander is sufficiently capable to remain in that role, based on the type, size and complexity of the incident.

8.29 Following the initial actions of Level 1 commanders, Level 2 tactical commanders should maintain the primary aims to protect life, property, and the environment. Fire and rescue service tactical commanders are usually located at the scene and should establish the tactical priorities. Tactical commanders should review whether the command structure in place is appropriate for the requirements of the incident.

**8.30** Where required, tactical commanders should establish a Tactical Co-ordinating Group (TCG) to ensure there is co-ordination between agencies. For further information refer to '**Levels of command and control at multi-agency incidents'**.

8.31 The use of tactical advisers should be considered to provide specialist advice and support.

## Responsibilities of the incident commander at Level 3 – Advanced

8.32 Tactical command at the scene of a large and serious incident. There is a requirement for tactical co-ordination and of having reached the stage of using a developed command support and a full incident command system structure.

8.33 On the arrival of a more senior officer, they should decide if the existing incident commander should remain in charge. This decision should include assessing whether the existing incident commander is sufficiently capable to remain in that role, based on the type, size and complexity of the incident.

8.34 Large and serious incidents have a potential impact on the community and the resource availability for a fire and rescue service and its partners. Strategic leadership may be required with the formation of a Strategic Co-ordinating Group (SCG) (in England, Wales and Northern Ireland) or Regional Resilience Partnership (RRP) (in Scotland).

8.35 As the tactical commander will usually be in place before the strategic commander, they should determine and communicate priorities, ensuring these are reviewed once strategic command has set a strategy.

8.36 When the SCG or RRP has been established, the tactical commander will interpret strategic direction, and where appropriate tactical parameters, by developing and co-ordinating the tactical plan.

8.37 For further information refer to Levels of command and control at multi-agency incidents.

## Responsibilities of the incident commander at Level 4 – Strategic

8.38 The fire and rescue service strategic commander often leads a service in multi-service operations such as major incidents. In most circumstances, they operate remotely from the scene and do not directly oversee activity at the incident ground, taking a longer term view of the incident response and recovery.

8.39 Strategic command is associated with commanding remotely or within a Strategic Co-ordinating Group (SCG) (in England, Wales and Northern Ireland) or Regional Resilience Partnership (RRP) (in Scotland).

8.40 A Level 4 incident commander is responsible for the wider strategic considerations, which include:

- Protecting life, property and the environment.
- Establishing policy and, if necessary, providing guidance and parameters for tactical commanders.
- Continuity of fire and rescue service provision.
- If appropriate, securing strategic resources in order to resolve the incident and prioritising the allocation of resources.
- Identifying and establishing appropriate resources, communicating availability and limitations appropriately.
- Prioritising requirements of multiple incidents and allocation of resources, maintaining operational resources across their service.
- Reviewing and ensuring the resilience and effectiveness of the command team.
- Attending or chairing a SCG or RRP meeting.
- Developing and agreeing a set of strategic objectives with partner agencies.
- Providing response to government.
- Local and national resilience.
- Agreeing a media strategy.
- Business continuity.
- Public health.
- Planning beyond the response phase for recovery and a return to normality.
- Considering issues that have affected intraoperability or interoperability.
- Supporting debriefs and shared learning through Joint Organisational Learning (JOL).

## Levels of command and control at multi-agency incidents

8.41 At a multi-agency incident, agencies may use three levels of command and control:

- Operational.
- Tactical.
- Strategic.

8.42 These levels relate to roles not rank; the titles do not represent seniority, but instead provide the function of that person or group.

8.43 It is important that officers understand the levels of command and control and can be flexible in using them.

## Operational

8.44 The operational commander will control and deploy the resources of their respective service within a functional or geographical area and implement direction provided by the tactical commander. As the incident progresses and more resources attend the scene, the level of supervision will increase in proportion. Sector commanders will be at the operational level.

## Tactical

8.45 The tactical commander will be located where they can maintain effective tactical command of the operation. Invariably the fire and rescue service incident commander will be in attendance at the scene, supported at the tactical level by operations commander(s) if appointed. If a Tactical Co-ordinating Group (TCG) is established, either the incident commander or a nominated liaison officer should attend meetings. The TCG may be located remote from the incident.

## Strategic

8.46 The strategic commander in overall charge of each service is responsible for formulating the strategy for the incident. Each strategic commander has overall command of the resources of their own organisation but will delegate implementation decisions to their respective tactical level commanders. When strategic commanders from respective agencies meet, they are known as a Strategic Co-ordinating Group (SCG) (in England, Wales and Northern Ireland) or Regional Resilience Partnership (RRP) (in Scotland).

8.47 The fire and rescue service ordinarily structures incidents without using strategic command. However, if agencies form a SCG or RRP, the fire and rescue service should structure the levels below as Tactical and Operational.

8.48 Depending on the circumstances, different emergency services may choose to command from different locations. The fire and rescue service incident commander may choose to command from an established command location at or near to the scene of operations.

8.49 If a fire and rescue service representative is required to attend a meeting at an off-site command location, this should be either the incident commander or a nominated member of the incident command team. The designation and responsibilities of command reside with the on-scene incident commander.

8.50 The person attending an off-site meeting needs to be empowered to make decisions on behalf of their service. If the command authority remains on-scene, communication between the two service representatives needs to be robust.

8.51 Incident commanders should be aware that when working with military personnel they use the terms operational and tactical in the reverse of the fire and rescue service incident command system.

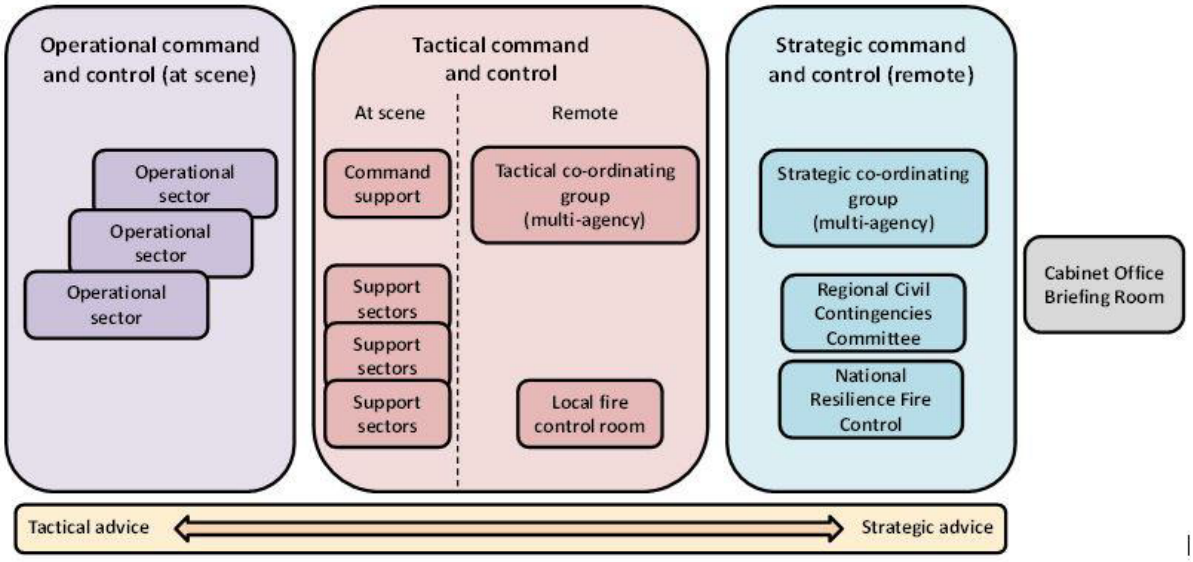



Figure 22 – Multi-agency incident – levels of command for roles

## Interoperability and intraoperability

8.52 Multi-agency interoperability is essential for incidents of all sizes. The **Joint Emergency Services Interoperability Principles Joint Doctrine** (see Policy number 971 - Joint emergency services interoperability principles - JESIP - NOG ) aims to promote greater consistency across emergency services. This includes the use of key terms and common terminology, which helps to develop a common understanding of the situation.

8.53 There is no legislation that states the primacy of one agency over another. The Joint Doctrine gives further guidance on co-ordination between emergency services.

8.54 The key principles of effective joint working are:

- Co-location.
- Communication.
- Co-ordination.
- Joint understanding of risk.
- Shared situational awareness.

8.55 It is important that fire and rescue services can provide an effective response to local, cross-border and national incidents. The national frameworks support the principles of national resilience.

## Assuming command

8.56 The following table shows the command thresholds for the Brigade, incorporating the four fire and rescue service levels of command, multi-agency levels of command and control and resourcing thresholds.

| | Rank | Command Threshold (pumping appliances) | Command Level | Multi-agency level of command and control | | |
|---|---|---|---|---|---|---|
| | | | | Operational (at scene) | Tactical (at scene or remote) | Strategic (remote) |
| LFB level of command | Leading Firefighter<br>Sub Officer<br>Station Officer | 1<br>4<br>4 | Level 1 – Initial | ✓ | | |
| | Station Commander<br>Group Commander | 5-6<br>7-10 | Level 2 – Intermediate | ✓ | ✓ | |
| | Deputy Assistant Commissioner | 11-15 | Level 3 – Advanced | | ✓ | |
| | Assistant Commissioner | 15+ | | | | |
| | Deputy Commissioner<br>Commissioner | Monitoring Officer at 15+ pumping appliance | Level 4 - Strategic | | | ✓ |

Table 9: Command thresholds

8.57 For leading firefighter and sub officer ranks, if a development or temporary officer is in command and a substantive officer of an equal or higher rank arrives at the incident, they must take command of the incident.

8.58 There is no differentiation in authority levels for station officer, or higher ranks up to and including principal officers, i.e., a substantive officer is not senior to one in a temporary or development role.

8.59 The incident commander is the nominated competent and responsible person. The appliance commander of the first appliance to arrive at an incident is responsible for command of the incident unless relieved by an officer of higher role. They can delegate some responsibilities to others; however, they remain accountable for health and safety at an incident. The most senior officer present always holds organisational accountability, which cannot be passed to another person.

8.60 Ongoing commanders should review the tactical priorities and command structure in place, are appropriate for the requirements of the incident.

8.61 At a more challenging incident it may be appropriate for a senior officer to assume command. However, it may be more important to maintain continuity of incident command, rather than

automatically hand this over on the arrival of a more senior officer. This arrangement allows a senior officer to take a variety of other roles, including providing tactical advice, mentoring, and monitoring.

8.62 When making this decision, the on-coming senior officer should assess whether the existing incident commander is sufficiently capable to remain in that role, based on the type, size and complexity of the incident as outlined in the command thresholds table above. If the incident exceeds the command threshold of the current incident commander, the senior officer must take command.

8.63 When command of an incident changes it should be disciplined and formal. Ensuring there is an effective handover between commanders is a crucial step in the handing over of command. It is an important stage in the formation of the new commander's situational awareness, which will be partially based on the situational awareness of the current commander and will be further developed from the range of information that will be gathered. Failure to conduct an effective handover can lead to poor situational awareness and can result in inappropriate or ineffective decisions being made.

8.64 In every case a clear and precise exchange of information should be undertaken to confirm the status of the incident or sector, before assuming command or delegating responsibility. It is the responsibility of the person handing over command to ensure that all relevant information is provided. The best method of transferring command is through face-to-face briefings between the outgoing commander and the incoming commander. The following should be considered when taking over command:

- The rationale for taking over.
- Whether the incoming commander has sufficient situational awareness or requires additional information.
- Whether to confirm or amend the plan according to the agreed operational priorities and objectives, risk assessment and tactical mode.
- Ensuring safe systems of work are in place and maintained.
- Checking resources are adequate and deployed to match the tactical priorities.
- Reviewing communications, to include other emergency responders.
- Whether the command structure is appropriate.

8.65 Transfers should be kept to the minimum needed to resolve the incident or manage welfare. The transfer of command should be a formal handover process that is acknowledged and communicated. This is equally important when an incident escalates or scales down.

8.66 Everyone in the command structure should be informed of changes of incident commander, including Brigade Control who can advise others. This should be appropriately recorded at the incident, as well as by Brigade Control. There should be no doubt as to who is in command. Clear demarcation of the transfer of command is provided by the incoming commander using the agreed phrase – 'I am taking over'.

8.67 If the senior officer decides that it is appropriate for them to assume command, the transfer of command should be structured as follows:

- The outgoing incident commander should provide a brief using the structured briefing model to maintain the level of situational awareness.
- The incoming incident commander should clarify and confirm the structured briefing to confirm their level of situational awareness.
- The incoming incident commander should formally declare the handover of command by stating 'I am taking over'.
- The incoming incident commander should don the incident commander surcoats.
- The change of command should be notified to Brigade Control and the incident ground.

## The command team

8.68 The command team comprises the incident commander and any other personnel that are operating in a commanding role, for example, command support, operations commanders, and sector commanders.

8.69 The degree of control an incident commander needs to maintain may depend on the size and demands of an incident. In addition to the normal command team role, at larger incidents they may assign specific areas to appointed officers. These may include:

- **Sector commander** (see Policy number 987s - Sector commander - incident command - organisation at incidents - SOP).
- **Operations commander** (see Policy number 987t - Operations commander - incident command - organisation at incidents - SOP).
- **Command support officer** (see Policy number 987b – Advanced command support – incident command – organisation at incidents – SOP)
- **Monitoring officer** (see Policy number 987h - Monitoring officer – incident command – organisation at incidents – SOP).
- **Breathing apparatus sector commander** (see Policy number 987d - BA sector commander – incident command – organisation at incidents - SOP).
- **Cross-border liaison officer** (see Policy 857 – Working with neighbouring brigades)
- **Damage control officer** (see Policy number 987e - Damage control officer – incident command – organisation at incidents - SOP).
- **Equipment officer** (see policy number 987a - Equipment officer - incident command - organisation at incidents - SOP).
- **Evacuation officer** (see Policy number 987f - Evacuation sector commander – incident command – organisation at incidents - SOP).
- **Fire sector commander** (see Policy number 987o - Fire sector commander - incident command - organisation at incidents - SOP).
- **Fire survival guidance coordinator** (see Policy number 987n - FSG co-ordinator - incident command - organisation at incidents - SOP).
- **Fire survival guidance sector commander** (see Policy number 987m - FSG sector commander - incident command - organisation at incidents - SOP).
- **Inner cordon controller** (see Policy number 987l - Inner cordon controller - incident command - organisation at incidents - SOP).
- **Inner cordon recorder** (see Policy number 987k - Inner cordon recorder - incident command - organisation at incidents - SOP).
- **Inner cordon sector commander** (see Policy number 987j - Inner cordon sector commander - incident command - organisation at incidents - SOP).
- **Lobby sector commander** (see Policy number 987i - Lobby sector commander – incident command – organisation at incidents - SOP).
- **Marshalling officer** (see Policy number 987v - Marshalling officer - incident command - organisation at incidents - SOP).
- **Mass decontamination sector commander** (see Policy number 808 – Mass decontamination).

- **Resources officer** (see Policy number 987p - Resources officer - incident command - organisation at incidents - SOP).
- **Safety officer** (see Policy number 985 - Operational safety management - knowledge skills and competence – NOG).
- **Safety sector commander** (see Policy number 985 - Operational safety management - knowledge skills and competence – NOG).
- **Search sector commander** (see Policy number 987u - Search sector commander - incident command - organisation at incidents - SOP).
- **Water officer** (see Policy number 987r - Water officer - incident command - organisation at incidents - SOP).
- **Welfare officer** (see Policy number 987q - Welfare officer - incident command - organisation at incidents - SOP).

8.70 Fire and rescue services will have different approaches towards deciding which roles and functions form part of the command team. However, the main aim is to enable clear communications and decision-making between the incident commander and those performing operational tasks.

8.71 It is important to keep the span of control for tactical roles as narrow as possible. Personnel should not have so many aspects to consider that they cannot give them enough attention. The incident command system provides a structure which maintains manageable spans of control.

8.72 The system provides for additional roles within the incident command structure. This reduces the burden on the incident commander. The command team concept can also be applied to operations command, sector command, and functional command support activities. When building their command team, incident commanders should consider the complexity of tasks or scale of resources in a sector or area. They should use this to determine the required rank of officer required to lead that function.

8.73 Incident commanders need to maintain open and effective communications. Examples include direct or indirect reports from individuals, crews, or sectors. Other parties will also be communicating; other emergency services, responding agencies and fire control rooms. When assessing the span of control, the incident commander should consider how to manage communications and the pressure this may create.

8.74 It is important to limit direct communication and information flows to manageable levels. Spans of control should ordinarily be limited to five lines of direct communications; this may be excessive if these channels are intense and active. For example, if an incident were to have four operational sectors and a variety of functional sectors, the incident commander's span of control is likely to be at its limit. e.g., multiple operational sectors could be condensed to one line of communications using an operations commander. In a rapidly developing or complex incident the span of control may need to be as small as two to three lines. If the incident is more stable, or communication requirements are less frequent, the span of control may be increased.

8.75 At all incidents a command support function should operate. This should be scalable depending on the type, size, and complexity of the incident to assist an incident commander to manage reporting lines. It can ensure that critical information and advice reaches the right people on the incident ground, in a timely manner.

8.76 The specific arrangements vary with the circumstances of the situation and the stage of the incident. The command team approach offers an incident commander the means of managing complex situations. It creates a team of commanders working together who can function better than an individual.

8.77 An incident commander may be able to manage and oversee small incidents on their own. Once there are a number of personnel present, the incident commander should consider appointing sector commanders to supervise them.

8.78 If an incident becomes more complex, with a number of sectors in use, the incident commander may choose to appoint an operations commander. This role will manage the sectors and reduce the span of control for the incident commander. If the number of sectors continues to grow, they may need to group the sectors under more than one operations commander. The system is able to scale up to any situation as needed.

8.79 Despite delegating responsibilities, the incident commander is responsible at all times for the overall incident management. They should focus on the command and control, the use of resources, incident planning and the co-ordination of the sector operations.

8.80 A formal hand-over should take place whenever there is a change in the command structure. Prior to them commencing their duties each nominated commander should receive a briefing on their specific role and responsibilities. This briefing should be based on the structured briefing model.

## Sector commanders

8.81 A sector commander may be appointed to be in charge of a defined physical, geographical or functional area of operations. The role of the sector commander is to command resources within their sector. They will be clearly identified by a surcoat, red yoke with a yellow body and an insert that describes their area of responsibility.

8.82 The sector commander forms part of the command team and will report to the incident commander, operations commander, or command support. They will take responsibility for the resources and the achievement of objectives within their sector. The sector commander will mainly focus on implementing the incident plan, effective command and control, resource deployment, and operational activity. They have control on how they are going to meet their objectives agreed with the incident commander. They need to set priorities and objectives for their sector, working within the incident commander's overall objectives and incident plan. Importantly, they will focus on the health and safety of their personnel. Sector commanders should continually monitor conditions and operational priorities in their sector and ensure that the prevailing tactical mode continues to be appropriate. Prior to them commencing their duties each nominated commander should receive a briefing on their specific role and responsibilities. This briefing should be based on the **structured briefing model**.

8.83 Despite having control of resources within the sector, any change in tactical mode should have the explicit approval of the incident commander or operations commander. This applies except if they need to withdraw people from a hazardous area. In such a case they should tell the incident commander as soon as is practical and update the tactical mode.

8.84 However, if a rapid change in circumstances occurs, the sector commander should revise the risk assessment. There may be occasions when they need to act first in the interests of safety and then inform the incident commander of their decision.

8.85 Sector commanders provide direct and visible leadership. They should be in direct communication with personnel in their sector and remain available to the crews they are responsible for and ensure shared situational awareness. The progress of operations in each sector should be communicated to the incident commander or operations commander. The officer assigned to command a sector should adopt the incident ground radio call sign for that sector, for example 'sector one commander'.

8.86 There are times when an incident commander may require a sector commander to leave their post. This might be for a briefing or another purpose. They should be replaced by someone with appropriate competence and authority to maintain continuous supervision. Personnel operating in the sector need to know about this change. This prevents the creation of a command gap. When there is a change in sector commander, personnel in the sector, together with the command team and Brigade Control, should be notified of these changes.

8.87 It is good practice for sector commanders to have their own command support resource to help them manage their sector. This will depend on the size and nature of an incident but is particularly the case for large incidents.

8.88 Sector commanders should use a **Forward Information Board** or **Incident Command Wallet** in their sector to record information, including:

- Key risks and hazards.
- The tactical mode.
- Numbers of personnel operating within the sector.
- A means of accounting for personnel.

## Operations commanders

8.89 The operations commander supervises and co-ordinates operations. This is to allow the incident commander to maintain a workable span of control. The operations commander is a member of the command team, operates on behalf of the incident commander, and can approve changes to tactical mode, where that responsibility has been delegated by the incident commander. They will be clearly identified by a surcoat marked 'Operations Commander', red yoke, and red body.

8.90 There is no advantage in over structuring an incident. An operations commander should only be introduced at complex incidents with excessive spans of control. For example, if the incident were to have four operational sectors and a variety of functional sectors, the incident commander's span of control is likely to be at its limit. The four operational sectors could be condensed to one line of communications using an operations commander.

8.91 An operations commander's level of responsibility will be dependent on the complexity of the tasks within the sectors. Each nominated operations commander must receive a briefing on their specific role and responsibilities.

8.92 Prior to them commencing their duties each nominated commander should receive a briefing on their specific role and responsibilities. This briefing should be based on the structured briefing model.

8.93 The operations commander should avoid becoming involved in activities other than operations, for example, command support, functional sectors or dealing with the media. This allows the operations commander to co-ordinate sector commanders to ensure that:

- Operational activity is co-ordinated.
- Support is offered.
- Resourcing issues are addressed.
- Risk assessments are performed at the right times to support the priorities and objectives.
- Assessments are appropriately recorded and of the expected quality.

8.94 At incidents where only one operations commander is used the call sign will be 'Operations Commander'. If an incident needs more than one operations commander to maintain the span of control, it is essential that their call signs can be distinguished by descriptive or by alphabetical terms such as operations commander factory block. Sectors also need to understand exactly which operations command they fall within.

8.95 Operations commanders should establish and maintain clear lines of communication between each of the sectors they are responsible for and with the incident commander. Different incident ground radio channels can be allocated to each operations commander.

## Monitoring Officer

8.96 The monitoring officer will provide support, advice, and guidance to the incident commander to resolve the incident. They will also gather and record information on the effectiveness and efficiency

of the operational performance of individuals and the organisation at incidents, acting in an active monitoring role. They will be clearly identified by a surcoat marked 'Monitoring officer', white yoke with yellow body.

8.97 London Fire Brigade has a duty to put in place suitable arrangements to manage health and safety. The health and safety guidance document HSG65 has been accepted by London Fire Brigade and uses it as the framework to assist them in doing it effectively. The framework uses a Plan, Do, Check, Act approach that aims to achieve a balance between the systems and behavioural aspects of management. The role of the monitoring officer should help either validate the incident commander's actions and where members of the operations review team (ORT) are not present, ensure that organisations policies and procedures are correctly implemented (for further details see policy number 985 - Operational safety management - knowledge skills and competence – NOG).

8.98 Effective monitoring will not just identify learning but will help the individual and/or organisation understand what the underlying cause is and what sort of changes are needed to address them, which should feedback into the operational improvement process. Individual and organisational learning are key elements in ensuring continual improvement of service delivery.

8.99 When members of ORT are present at the incident, they will take over the assurance of the effective implementation of organisational procedures to ensure safe systems of work are correctly implemented. This will leave the monitoring officer to focus on providing support in the form of coaching and mentoring to the incident commander during the incident.

8.100 Monitoring can be carried out either remote from the incident or by direct observation at scene.

## Undertake remote monitoring of incident when required

8.101 An officer of appropriate rank will be informed by Brigade Control as the remote monitoring officer of an incident, or when a subordinate senior officer is attending an incident as a monitoring officer.

8.102 When informed by Brigade Control to undertake a remote monitoring role, all available sources of information should be interrogated to support their assessment of risk and build situational awareness. Information sources should include where possible:

- Information from Brigade Control.
- Messages from the incident.
- BOSS.
- iMapping (including street view images).
- Operational risk database (ORD).
- Farynor.

8.103 Using professional judgement, based on their knowledge, skills and experience, the monitoring officer should use their situational awareness and assessment of risk to determine whether to remain remote from or to attend the incident. This decision should be based on the potential for the incident to escalate and/or whether their attendance to provide coaching and mentoring to the incident commander would be of value. If the decision is to remain remote a communications link should be established with the attending monitoring officer, once they are on scene, to gain further situational awareness and offer proactive advice and support.

## Conduct a risk assessment

8.104 It is important to remember that the incident commander is the nominated competent and responsible person and should make all command decisions at the incident. However, the most senior officer present holds organisational accountability, even when they have not taken over as incident commander and this cannot be passed to another person.

8.105 On attending an incident, the officer performing the monitoring role should assess the existing operational plan and priorities and conduct a review of the current risk assessment and apply a risk/benefit analysis. Their finding should then be compared to that of the incident commander. Any differences should be discussed with the incident commander and a decision made as to any action that may be required. This assessment forms part of the command process and will help decide whether to take over command or to take on the role of active incident monitoring.

### Take over command if appropriate

8.106 The officer performing the monitoring role should take command of the incident if, using their professional judgement, they determine the incident is beyond the capability of the incident commander or the incident is likely to escalate beyond the command thresholds of the current incident commander. Any change in incident commander must be communicated to Brigade Control and the incident ground as soon as practicable.

### Provide support, advice, and guidance to the incident commander

8.107 If following an assessment, the decision is made to continue in a monitoring role the monitoring officer's primarily function is to support the incident commander and assist in the effective and efficient resolution of the incident. Their focus should be on the individual and how they command the incident and manage their team.

8.108 The monitoring officer should use their experience, knowledge and command skills to coach and mentor the incident commander. This will assist in building their situational awareness, help the incident commander predict the likely outcomes of their action and anticipation of the likely development of the incident (see Policy number 986 - Command skills - knowledge, skills and competence – NOG).

8.109 The monitoring officer should also utilise the decision making model (DMM) to assist the incident commander in making effective analytical decisions and the use of decision controls to help identify the rational for the decisions.

8.110 In the absence of members of operations review team it may be appropriate for the monitoring officer to tour the incident ground and evaluate the operational plan, the safe systems of work in place and command structure and feedback their findings to the incident commander.

### Provide feedback on performance in a supportive environment

8.111 The monitoring officer should provide feedback in a supportive and constructive manner during and at the end of the incident with regards to observations on personal and organisational performance. Feedback on performance should be given in line with re-validation criteria that is aligned to National Occupational Standards for the appropriate role.

8.112 Any positive or developmental areas of personal performance should be discussed directly with the relevant individual at the time. However, there may be times when this is best undertaken away from the incident at a later date and in a supportive environment.

### Gather and recording observations to contribute to incident debrief

8.113 Evidence should be gathered and recorded regarding operational performance which should also include observations on behaviour, attitude, conduct and any other relevant observations. These should be objective and balanced. The use of contemporaneous notes should be considered to assist with providing comments to any subsequent informal and formal debriefs. Findings regarding improving service delivery and good practice should be recorded on the Incident Monitoring Process database (IMP).

## Breathing apparatus sector commander

8.114 The breathing apparatus (BA) sector commander is a functional role, to coordinate and support BA resourcing, logistics, operations, and welfare at incidents where a large number of additional BA resources are required.

8.115 The BA sector commander will be a minimum rank of station commander. For further information see Policy number 466 – Respiratory Protective Equipment - breathing apparatus - operational procedures – NOG.

## Cross-border liaison officer

8.116 The cross-border liaison officer (CBLO) is a functional role, to support the officer in charge of LFB resources at cross-border incidents and secure and monitor liaison between the impacted fire and rescue service and LFB. For further information see policy 0857 – working with neighbouring brigades.

## Damage control officer

8.117 The damage control officer is a functional role and will be responsible for coordinating damage control and salvage operations. They will be clearly identified by a surcoat marked "Damage Control", red yoke and yellow body. For further information see Policy number 850 – Damage control.

## Equipment officer

### Identify, establish, and maintain appropriate communications links.

8.118 The equipment officer will assist the incident commander by coordinating the availability and movement of equipment from appliances to forward holding position and onto the incident ground where and when it is required. They will be clearly identified by a surcoat marked "EQUIPMENT", red yoke, and yellow body.

### Establish an equipment holding area

8.119 At large or protracted incidents the use of an equipment holding area or areas should be considered. The location should provide for a convenient area where equipment can be assembled and distributed. This will assist with the coordinated movement and safe storage of equipment on the incident ground.

8.120 Liaison between the sector commanders, incident commander and the marshalling officer will need to be established so that requests for equipment can be predicted and made available in a timely manner.

### Identify and record the availability and location of equipment at an incident

8.121 Consideration should be given to keeping records of where the equipment came from, where it is being used on the incident ground and when it has been returned to an appliance.

8.122 It is important that whenever possible every appliance leaving the incident is to take with it the full complement of its own equipment. However, this must not in any way affect operations that are underway.

8.123 A record of any equipment that cannot be released from the ongoing operations or the equipment holding area should be made and provided to the command unit for scanning and storage.

### Ensure appliances are restowed before leaving the incident

8.124 Where possible the appliance commander should replenish the items of equipment that are still being used at the incident from the equipment holding area in consultation with the equipment officer. It is vital that only items of equipment that they can confirm are currently being used in operations are released.

8.125 It is important that personnel are reminded that any equipment used at the incident is tested on return to station.

### Report any defective, lost, or stolen equipment

8.126 Any defected equipment will need to be reported and any damaged or lost equipment will require investigation which should be overseen by an equipment officer or other person delegated this role.

### Coordinate the repatriation of equipment following the closure of an incident

8.127 At the conclusion of the incident the repatriation of any equipment will need to be coordinated this will help ensure that it is returned without undue delay.

## Evacuation sector commander

8.128 The evacuation officer is a functional role to coordinate search and evacuation activities. To do this they will need information from people leaving the building, information from callers and information from personnel deployed to search the building. The evacuation officer should manage information to help identify areas that have been searched or evacuated. This will prevent duplication of effort and potential delays in covering unsearched areas.

8.129 The evacuation officer is responsible for co-ordinating credible sources of information on the location of casualties and providing this information to the incident commander for them to use when developing tactical plans.

8.130 They will be clearly identified by a surcoat marked 'Evacuation', red yoke, and yellow body.

## Fire sector commander

8.131 The fire sector commander is an operational role and is responsible for the main area of firefighting and rescue operations. This consists of the floors above the bridgehead to the fire, the floor(s) directly involved in fire and one floor above. They will be clearly identified by a surcoat marked 'fire sector' with a red yoke and yellow body.

8.132 The rank of the fire sector commander should be proportionate to the scale and complexity of the incident and will be a minimum of leading firefighter.

## Fire survival guidance coordinator

8.133 The FSG coordinator is a functional role. They are responsible for coordinating FSG information sharing and rescue activities between Brigade Control and operational sectors. The FSG Coordinator will be clearly identified by a surcoat marked 'FSG Coordinator', red and white check yoke with a yellow body.

## Fire survival guidance sector commander

8.134 The FSG Sector Commander is a functional role. They are responsible for creating an effective FSG communications structure to enable information sharing and shared situational awareness between the incident commander, Brigade Control and the bridgehead or deployment point. The FSG Sector

Commander will be clearly identified by a surcoat marked 'FSG Sector Commander', red yoke with a yellow body.

## Inner cordon sector commander

8.135 The inner cordon sector commander is a functional role and is responsible for ensuring that effective cordon controls are maintained at major or multi-agency incidents when inner cordon gateway control arrangements are used. They will be clearly identified with a surcoat marked 'Inner Cordon', red yoke, yellow body.

8.136 See 'Cordon controls' (section 9).

## Inner cordon controller

8.137 The inner cordon controller is a functional role and is responsible for maintaining effective cordon controls at an entry/exit point to an inner cordon when inner cordon gateway control arrangements are used. They will be clearly identified with a surcoat marked 'Inner Cordon Controller', red and white check yoke, yellow body.

8.138 See 'Cordon controls' (section 9).

## Inner cordon recorder

8.139 The inner cordon recorder is a functional role and is responsible for recording details of personnel committed to the inner cordon before entry/exit points were established. They will be clearly identified with a surcoat marked 'Inner Cordon Recorder', red and white check yoke, yellow body.

8.140 See 'Cordon controls' (section 9).

## Lobby sector commander

8.141 The lobby sector commander is an operational role and is responsible for coordinating the logistics needed by the fire and search sector commanders and also coordinating operations from the ground floor to the bridgehead, including salvage and ventilation. They will be clearly identified by a surcoat marked 'Lobby', red yoke, and yellow body.

## Marshalling officer

8.142 The marshalling officer is a functional role and will assist the incident commander by establishing and managing of a marshalling area. They will be clearly identified by a surcoat marked 'Marshalling officer', red/white check and yellow body.

8.143 The Marshalling officer assist the incident commander by establishing and managing of a marshalling area.

### Identify and establish a marshalling area appropriate to the type, size, and complexity of the incident

8.144 At large or protracted incident or where the numbers of resources required could have an adverse impact on the local community or infrastructure, an area, away from the immediate scene of operations may be required for their assembly and onward movement in a controlled manner.

8.145 The area to be used for marshalling of appliances, resources and equipment must be large enough to accommodate the anticipated attendance of the Brigade as well as resources from other agencies. It should have clear access routes in and out of the area and not affect the access to and egress from the

incident. It will need to have enough room for appliance to turn around and must be capable of supporting the combined weight of all the attending appliances and resources from other agencies. A large supermarket carpark, heavy goods vehicle yard or similar would be ideal.

8.146 When the area has been identified consultation should take place with the incident commander to ensure that it meets with their requirements and the police to ensure it fits in with their traffic management strategy.

### Ensure the location of the marshalling area has been communicated to all relevant personnel and agencies

8.147 Once established the incident commander must be informed via command support. The exact location along with the best access route should then be sent to Brigade Control so that all appliances on route can be re-directed to it and all additional resources and appliances can be mobilised directly to it.

8.148 If a marshalling area has been established at a major incident the joint emergency services control centre (JESCC) and outer cordon rendezvous point (RVP) should also be informed so that all oncoming resources can be directed to it.

### Identify, establish, and maintain appropriate communications links

8.149 The marshalling area acts as a holding point for resources before being despatched on to the incident ground. It is therefore vital that a communications link is established with the command unit booking in point so that they can be regularly apprised of the availability of resources at the marshalling area and resources can be ordered onto the incident ground via the command unit booking in point. Any make-up of the incident should also be communicated to the marshalling officer so that they can make arrangement to accommodate the additional appliances and resources.

### Ensure booking in procedure are followed by the attending appliances

8.150 It is important that all oncoming appliances understand that they should book in attendance with Brigade Control (status 3) on arrival at the marshalling area or RVP (in the case of a major incident), the nominal roll board retained, and crews are to remain with their appliance until called forward to the command unit booking in point where the nominal roll board will be handed in.

8.151 There will be times when crews will be required to attend the scene of operations without their appliances which will be left in the marshalling area. It is important that the appliance remains unlocked, and the equipment officer is informed of appliances that are available in the marshalling area without a crew.

### Keep command unit (booking in point) apprised of the availability of appliances, resources, and equipment

8.152 The marshalling officer should ensure the appropriate command support officer is kept informed of the availability of appliances, resources, and equipment. Particular scrutiny should take place where these are of limited availability such as aerial appliances, FRUs etc.

### Dispatch appliances, crews, and equipment on request

8.153 Following a request from command support, the marshalling officer should confirm the number and type of appliances and equipment and the location and timeframe required, before briefing the relevant crews or incident commander. This should include any relevant safety briefing or special requirements.

8.154 Apprise the command support officer when the availability of either appliances, crews or equipment fall below a predetermined level

8.155 The marshalling officer should maintain a suitable level of vigilance with regards to the future availability of resources or equipment, to ensure the resource demands of the incident can be met.

## Resources officer

8.156 The resources officer will assist the incident commander with co-ordinating, the availability, movement and location of personnel at an incident including relief planning. They will be clearly identified by a surcoat marked "Resources", red yoke, and yellow body.

### Establish and record of the location and availability of personnel at an incident

8.157 It is vital that information regarding the disposition of all attending personnel is known for their effective and efficient use at an incident. This includes personnel deployed throughout the incident ground and those in reserve waiting for deployment. This should be recorded and continually updated to assist the incident commander with their situational awareness.

### Determine the predicted resource requirements for the incident

8.158 In liaison with the sector commanders, functional and operational the predicted resource requirements for each sector should be established considering the work rate and turn-over of personnel (e.g., breathing apparatus crews and personnel working in arduous conditions). This will help determine the predicted on-going resource requirements for the incident.

### Identify, establish, and maintain appropriate communication links

8.159 Liaison between the sector commanders, incident commander and the marshalling officer will need to be established so that requests for further resources can be predicted, requested, and dispatched in a timely manner.

### Dispatch resources on request

8.160 The rotation of crews should be considered to ensure that activities are shared effectively and efficiently and utilising those with specialist skills. To ensure the continuity of operations and that sector are appropriately resourced it is important that personnel are dispatched promptly to the where they are required on request.

### Apprise incident commander when the availability of personnel falls below a predetermined level

8.161 An essential element of the incident commander's plan is that it is resourced appropriately. To assist with this, in liaison with the incident commander, a predetermined level of reserve resources should be set. When the predetermined level has been reached the incident commander should be made aware so that they can make and appraisal of whether further resources are required.

### Prepare a relief plan

8.162 As part of ongoing resourcing arrangements there may be a requirement to formulate relief plans. Liaison between the resources officer and command support will be necessary to establish the resources currently deployed at the incident and the resources required to be maintained and for how long. Relief planning will be required to meet the short, medium, and longer term operational needs of the incident. It is also vital that Brigade Control are aware of the relief requirements to enable them to mobilise the resources.

## Gather information on the on-going resourcing requirements of the incident

8.163 The resources officer is to manage the smooth transition of resources with the minimum impact on the operational plan in liaison with the sector commanders and other functional officers.

8.164 At smaller incidents this may simply be a case of ordering a single appliance whilst protracted incidents may require a more complex plan. This can be logistically challenging and require large scale co-ordination and manoeuvring of appliances, personnel, and resources.

8.165 All relief plans should consider the following:

- Its effect on the incident objectives.
- The welfare of personnel.
- The organisational impact on Strategic Resource (SR) and normal daily activities.
- Minimise the need for staff to work beyond their change of shift.

## Identify the time scale for the periodic replacement of resources

8.166 The effectiveness of teams and individuals will deteriorate as they tire. To sustain the regular and continuous deployment of crews an assessment of the appropriate exposure time of crews and implement timely reliefs. To make this assessment the following should be considered:

- The physical aspect of the role and work crews and individuals have been tasked with.
- Exposure to adverse weather and temperatures.
- Access to food, drink, shelter and hygiene facilities (inc. toilets).
- Condition of PPE due to water penetration, contamination and other adverse effects.
- Guidance on wear time of, for example, breathing apparatus (BA).
- Dose limitations at confirmed radiation incidents.
- Releasing appliances from neighbouring fire and rescue services at the earliest opportunity.
- Travel distance.

8.167 The optimum time to implement reliefs will be a balance between the need to maintain the continuity at the incident, the welfare of operational personnel and the effect on day to day running of the Brigade.

8.168 To make this assessment, account should be taken of the quantity, type, and duration of work that crews are detailed to perform and the environment and conditions they will be working in. Consequently, the timings of reliefs will vary, however, every three hours should be used as a guide for firefighting teams and personnel performing non-physical roles can remain at the incident for longer periods.

8.169 Crews who were heavily involved at the early stages (often the initial attendance) or those who were given particularly arduous tasks must be identified to be relieved first.

8.170 As a general guide, reliefs should be ordered at least 90 minutes before they are required. This will give Brigade Control sufficient time to organise and mobilise appliances and senior officers. It is preferable to inform Brigade Control early of expected relief requirements and reduce these in line with changing circumstances nearer the time of the relief than to delay informing them of the relief plan due to uncertainty about the resources required.

8.171 Consideration should be given when ordering reliefs around the change of shift. Ordering reliefs for 'as soon after change of shift' will help ensure that it does not interfere with the movement of standbys and personnel hanging on for extended periods.

8.172 If planned correctly, relief appliances will proceed at normal road speed and book in at the incident in sufficient time to enable the relief to be implemented as scheduled. Emergency mobilisations for reliefs are however sometimes necessary for urgent operational risks but can generally be considered indicative of poor planning and should be avoided.

### Identify specialist resources that will need to be replaced

8.173 The relief timings of specialist crews such as Urban Search and Rescue (USAR) can be different from firefighting personnel as USAR teams may be able to work shifts of up to 12 hours.

8.174 The decision as and when to relieve specialist crews should be made in consultation with the tactical advisor and the crews. Consideration should be given to the physical efforts undertaken and the likely future physical effort required.

8.175 Consideration should also be given to travelling time, particularly of special appliances, to the incident and the time it takes for relief appliances and operational personnel to take over from those in attendance.

### Identify any risk critical activities that could be affected by the replacement of resources

8.176 The replacement of crews this will need to be arranged to minimise the adverse impact on the operational tactics. Consideration should be given to maintaining continuity when developing the relief plan to ensure the minimum interruption to essential incident activities. Appliances performing key roles, such as supplying water for firefighting jets and aerial monitors must be identified and scheduled in a way that does not threaten the successful conclusion of the incident.

### Identify any transitional arrangements that will need to be implemented while resources are being replaced

8.177 The resources officer is to manage the smooth transition of resources with the minimum impact on the operational plan in liaison with the sector commanders and other functional officers. A wholesale changeover of resources on the incident ground can, in some instances, hinder the progress being made and even cause an incident to deteriorate This may be through the use of staggered reliefs to minimise the impact on operational tactics.

### Implement the relief plan

8.178 Once the plan has been prepared it must be approved by the incident commander prior to implementation and then communicated to Brigade Control at the earliest opportunity.

8.179 When requesting appliance reliefs, the following information should be provided to Brigade Control:

- The quantity and types of appliances required.
- Any specialist equipment required to be carried on an appliance.
- The level of officer required on those appliances if above leading firefighter.
- The time they would like the resource to arrive at the incident.
- The location of the RVP and approach route, giving consideration to any police traffic plans in place.
- The tactical mode of the incident.

8.180 When requesting the relief of officers, the following information should be provided to Brigade Control:

- The number of officers required.

- The level (rank) of those officers.
- The quantity of specialist officers required.
- The time they would like the officer to arrive at the incident.
- The location of the RVP and approach route.
- The tactical mode of the incident.

8.181 Further co-ordination with the officer of the watch (OOW) at Brigade Control will provide a more structured and informed relief process.

### Make arrangements to have personnel relived if appliances cannot be released from the incident

8.182 There may be occasions when appliances cannot be released from the incident, potential evidence in a scene of crime or locked into the incident for example. In this case liaison with the officer of the day or Brigade Coordination Centre (if established) will be required so that arrangements can be made to transport personnel.

## Search sector commander

8.183 The search sector commander is an operational role and will be responsible for the area above the fire sector where search, rescue, ventilation, and other operations are taking place. They will be clearly identified by a surcoat marked 'Search', red yoke, and yellow body.

## Water officer

8.184 The water sector commander is a functional role and will be responsible for ensuring that water supplies are used to the best advantage. They will be clearly identified by a surcoat marked 'Water'; red yoke and yellow body.

## Welfare officer

8.185 The welfare officer will assist the incident commander with the safe and effective management of personnel and provide them with welfare support, whether physical or psychological and help reduce physical and mental fatigue at an incident. They will be clearly identified by a surcoat marked 'Welfare', red yoke, and yellow body.

8.186 It is vital that the negative effects that stress and fatigue can have are understood, and welfare arrangements to reduce the effects of stress are introduced.

8.187 Physical fatigue of personnel should be recognised, and consideration should be given to work rotation, rest, recovery, and reliefs. This should take account of activities undertaken and weather conditions when identifying the level of welfare to be introduced. The principles of rotation should be considered both within a crew or rotating whole crews to share the workload. This will ensure that activity levels are shared appropriately and effectively.

8.188 At larger and protracted incidents provision should be made for a rest area, away from the hazard area which provides shade and or shelter; has suitable sanitary and hygiene facilities; nutritional arrangements and an adequate supply of drinking water should be provided for all personnel where appropriate. It is also important that an appropriate level of first aid equipment is available at the rest area and at the incident.

8.189 Mental fatigue affects concentration and thought processes. Although mental and physical fatigue are different, they often occur at the same time. Physical work and extremes such as temperature and weather can have an impact.

8.190 The welfare officer should be aware of and recognise the signs and symptoms of mental fatigue and stress and identify any personnel that have been affected by the incident (firefighter injury, critical and fatal incidents etc.). They should provide support to individuals and/or teams and consider what further welfare needs may be required. They should consider passing on any relevant details to the incident commander and/or other relevant personnel (senior accident investigator, LAS, counselling and trauma team, line manager etc.).

8.191 The welfare officer will need to consider any incident specific issues with regards the contamination of personnel and ensure records are kept of any firefighter contamination.

8.192 In the event of a safety event any injured personnel will need to be supported and taken care of. The welfare officer should ensure that they are protected from the elements, are assessed by ambulance service personnel, and receive an appropriate level of medical treatment. Details of those injured and the treatment they receive should be recorded and passed to the incident commander. Liaison with the assigned senior accident investigator will be needed to assist with the investigation of the safety event. The welfare officer should also liaise with the officer of the day or Brigade Coordination Centre (if established) to ensure that a senior officer is mobilised to meet any injured staff that are transported to hospital.

8.193 Following any potential traumatic incidents contact should be made with the duty counselling and trauma team counsellor so it can be highlighted. This will assist with any post incident measures being implemented in a timely manner.

### Tactical actions

8.194 Incident commanders should:

- Assign command roles and communicate to other responding agencies.
- Ensure a formal handover process is used whenever command of an incident is transferred, using the phrase 'I am taking over' and by donning the incident commander surcoat.
- Ensure everyone in the command structure and Brigade Control are informed of the change of incident commander.
- Record the details of the transfer of command; this should be done at the incident ground and in the Brigade Control.
- Consider the JESIP principles at all incidents involving multi-agency operations.

## 9. Cordon controls

9.1 Fire and rescue services have the power to restrict the access of people to premises or a place in an emergency. Commanders must consider the safety of personnel, members of other agencies and the public. Cordons are an effective way of controlling resources and maintaining safety. A cordon may be considered as a boundary, physical or otherwise, used to identify the perimeter of a hazardous area to anyone approaching it and can be implemented at any type of incident.

9.2 Where practical, the police will establish and maintain cordons at appropriate distances to allow the emergency services and other responding agencies to save life, protect the public and property, and care for casualties.

9.3 The size of each cordon will be dependent on the nature of the incident. Consideration should be given to the potential for the incident to escalate. It is necessary to identify the actual position of the cordon and where the most suitable points for access and egress are. This can be achieved by the use of:

- Atlas and acetate – each pumping appliance is provided with an atlas and clear acetate overlay, indicating a range of cordon sizes.
- Command Support System (CSS) – each command unit has CSS software with mapping which can be used to mark a variety of scaled cordons onto maps. These can then be printed for reference and to assist briefings.
- Mobile data terminal (MDT) – each pumping appliance and command unit is equipped with a tablet that can be used to plot cordons on a map.

9.4 In order to establish a cordon effectively, everyone on the incident ground must be informed of its existence and extent at the earliest opportunity. If a command unit is in attendance the CSS should be used to assist with this. Incident commanders should inform Brigade Control when a cordon has been established, providing detail on areas involved and suitable approach routes or rendezvous points (RVPs) for oncoming personnel or agencies.

9.5 Once a cordon has been established, its size and effectiveness should be reviewed periodically as part of the incident commander's ongoing risk assessment.

9.6 The LESLP Major Incident Procedure Manual identifies that London Fire Brigade will assist in managing gateways into the inner cordon, establish who should be granted access and keep a record of people entering and exiting.

9.7 Personnel from other agencies may need to work within cordons that are under the safety management of the fire and rescue service. Briefings should be provided using the IIMARCH format.

9.8 Further information on cordons can be found in the Cabinet Office publication, Emergency Response and Recovery.

9.9 After the initial cordon has been established to secure the scene, the incident is usually divided into two distinct areas:

- Inner cordon.
- Outer cordon.

## Inner cordon

9.10 The inner cordon denotes the hazard area and controls access to the immediate scene of operations. This provides an increased measure of protection for personnel working in that area. Incident commanders should restrict access to the lowest numbers needed for safe and effective operational activity. At small incidents this could be an existing physical barrier, or a safety officer briefed to restrict access.

9.11 At incidents where a higher degree of control is required, those entering the inner cordon should report to a designated scene access control point and register their arrival. Incident commanders should ensure a suitable number of personnel are nominated to manage and supervise the inner cordon. It may be appropriate to nominate a senior officer as inner cordon sector commander for this role. This ensures that they can be safely accounted for should there be any escalation of the incident, and affords an opportunity for briefing about the hazards, control measures, emergency arrangements and other issues. Nobody should be permitted to enter the inner cordon without an appropriate level of personal protective equipment (PPE). It is necessary to ensure that those leaving the inner cordon register their departure.

9.12 Incident commanders must account for people's safety and location. If an incident is using sectors they can delegate this responsibility to the sector commander, who should be aware of the people and personnel who are active in their sector. An inner cordon gateway control system should be established and should include:

- **Inner cordon controller** appointed to oversee each entry/exit point.
- **Inner cordon recorders** deployed to gather information on personnel operating within the inner cordon prior to the establishing of gateway controls.
- Written record of all people entering and exiting the inner cordon area on form IC1 or IC2 (available on all command units).
- Provision of safety briefing and agreed evacuation signal – repeated blasts on the Acme Thunderer whistle.
- Provision of identification armbands to all personnel operating within the inner cordon.
- Checks to ensure appropriate personal protective equipment (PPE).
- Personnel to escort non-fire and rescue responders.
- Details of working locations.
- Tasks of other agencies.

## Inner cordon controller

9.13 The inner cordon controller is a functional role and is responsible for maintaining effective cordon controls at an entry/exit point to an inner cordon when inner cordon gateway control arrangements are used. They will be clearly identified with a surcoat marked 'Inner Cordon Controller', red and white check yoke, yellow body.

## Inner cordon recorder

9.14 The inner cordon recorder is a functional role and is responsible for recording details of personnel committed to the inner cordon before entry/exit points were established. They will be clearly identified with a surcoat marked 'Inner Cordon Recorder', red and white check yoke, yellow body.

9.15 The fire and rescue service will be responsible for safety management within the inner cordon until responsibility for the scene is transferred to another body. Overall responsibility for the health and safety of personnel working within the inner cordon remains with individual agencies. Such agencies should ensure that personnel arrive at the scene with appropriate PPE and are adequately trained and briefed for the work they are to undertake within the cordon.

9.16 Information about the control of the inner cordon is detailed in the Cabinet Office publication, Emergency Response and Recovery.




Figure 23 – Inner cordon barrier tape

9.17 Where practical the inner cordon should be identified with the use of red and white barrier tape.

## Outer cordon

9.18 An outer cordon may be established around the vicinity of the incident to control access to a wide area. This will allow the emergency services and other agencies to work unhindered and in privacy. Access through the outer cordon for essential non-emergency service personnel should be by way of an access control point.

9.19 This cordon limits access to an area being used by the emergency services and other relevant agencies. The police will usually control outer cordons and may also establish traffic cordons to prevent unauthorised vehicular access. However, it may take some time for the police to establish a large enough presence on the scene to carry out this role. Incident commanders may need to order additional resources to control the outer cordon while awaiting the arrival of the police. The police will identify safe routes in and out of the cordon for emergency vehicles and other agencies. Rendezvous points and marshalling areas will usually be located within the outer cordon.




Figure 24 – Outer cordon barrier tape

## Hot, warm and cold zones

9.20 At certain incident types, there may be a need to divide cordons into hot, warm and cold zones. This will depend on the level of risk faced by emergency responders and the range of corresponding control measures identified and implemented. The use of these zones should be agreed by all emergency responders. As example, for a CBRN(e) incident, JESIP provides the following definitions:

- **Hot zone** – The area where the initial release occurs or disperses to. It will be the area which may pose an immediate threat to the health and safety of all those located within it and is the area of greatest risk.
- **Warm zone** – An area uncontaminated by the initial release of a substance, which becomes contaminated by the movement of people or vehicles. The warm zone will be extended to include the area of decontamination activity. These areas cannot be guaranteed as free from contamination.
- **Cold zone** – The uncontaminated area between the inner cordon and the outer cordon where it has been assessed that there is no immediate threat to life.

## Exclusion zone

9.21 Some hazards may present such a significant danger to the safety of personnel, other agencies and the public that no control measures will adequately reduce the risk. Incident commanders should consider establishing an exclusion zone within the inner cordon to which precludes access for all personnel and responders from other agencies.




Figure 25 – Exclusion zone barrier tape

9.22 Where practical, exclusion zones should be identified with the use of black and yellow 'hazard do not cross' barrier tape.

## Air exclusion zones

9.23 It is important that fire and rescue services notify air traffic control as soon as possible if there is a possibility that an incident may represent a hazard to aircraft in the area. Air traffic control can then issue warnings and instructions to aircraft in the vicinity of the fire. If required, the police can request that air traffic control create an air exclusion zone around a fire, to prevent unauthorised aircraft or drones (classified as a type of unmanned aircraft system by the Civil Aviation Authority) from flying over, or near, the incident.

## Tactical actions

9.24 Incident commanders should:

- Ensure that appropriate inner and outer cordons are established and communicated following an assessment of risk to all people present.
- Control access to the inner cordon using methods proportionate to the type, size and complexity of the incident.
- Establish a scene access control point to log all people operating within the inner cordon when appropriate.
- Appoint suitable personnel to perform the roles of inner cordon controller and recorder.
- Implement exclusion zones if intolerable risks to safety are identified.
- Request police assistance to establish a traffic cordon or air exclusion zone if necessary.
- Ensure all materials used to implement cordon controls are collected when no longer required.

# 10. Additional resources

10.1 As no two incidents are the same, it is imperative that incident commanders are able to correctly identify the resources currently available to take immediate action. They should also consider requesting additional resources that are needed to deliver a full incident plan.

10.2 Incident commanders should begin assessing the need for additional resources as soon as they are mobilised to an incident. Their assessment, which may give indications of required resources, should be based on:

- The number of calls received.
- Information received by Brigade Control.
- Predetermined attendance.
- Visual indications enroute.
- Knowledge gained on visits and through pre-planning.
- Operational Risk Database (ORD) or Electronic Premises Information Plate (EPIP) information

10.3 At large-scale incidents, fire and rescue services and the incident commander may need to consider additional resources that may be required as part of a protracted deployment. These may include fuel supplies for emergency fire vehicles and equipment, particularly for firefighting pumps that may remain in position for days or even weeks at a time.

10.4 Incident commanders should be aware of the type, number and disposition of emergency fire vehicles and personnel within the Brigade and in nearby service areas and should have a working knowledge of the responsibilities and capabilities of other Category 1 and Category 2 organisations they may call on for assistance. Resource availability for all Brigade vehicles and personnel can be found on the BOSS system. This shows both the availability and attributes associated with each vehicle or officer, and can be accessed on station, using a Brigade computer, or at the incident ground, using the computers available on a command unit.

10.5 Incident commanders should have a thorough knowledge of the capabilities of available resources to ensure they select the correct resource for the incident. They should also be aware of those that could be requested to help minimise the number of responding resources and personnel needed to deal with that particular incident. Their knowledge of the risks in their response area will be supported by regular visits and deployment planning, enabling incident commanders to assess the additional resources required at an incident.

10.6 Suitable arrangements should be put in place for the arrival and positioning of the additional resources, which may include establishing a strategic holding area (SHA) or multi-agency strategic holding area (MASHA).

### Tactical actions

10.7 Incident commanders should:

- Request sufficient and appropriate additional resources.
- Consider the deployment of oncoming resources when positioning personnel and vehicles.
- Consider the use of a rendezvous point (RVP), strategic holding area (SHA) or multi-agency strategic holding area (MASHA).

## 11. Specialist resources

11.1 A variety of specialist resources may be required at an incident, either from within the fire and rescue service, external specialist resources or partner agencies.

### Fire and rescue service specialist resources

11.2 LFB Specialist resources include:

- Operational support units.
- Aerial fire appliances.
- Lightweight portable pumps.
- Hose laying units.
- High volume pumps.
- Bulk foam.
- Marine firefighting.
- Water rescue and flood response.
- Line operations.
- Technical Rescue (including Urban search and rescue).

- Extended duration breathing apparatus (EDBA).
- Animal rescue.
- Fire investigation units.
- Hazmat/CBRN(E) Rapid Response Team.
- Major lighting units.
- Motorised rescue trolley .
- Brigade Drone (classified as a type of unmanned aircraft system by the Civil Aviation Authority).
- Cobra ultra-high pressure lance technology (mobilised through the duty NILO).
- National Resilience capabilities.

11.3 Some of these resources may be accompanied by or only mobilised on the provision or guidance of a specialist adviser – See 'Specialist advice' (section 12).

## External specialist resources

11.4 There is a wide range of external specialists who may be able to provide assistance at incidents, including:

- Search and rescue organisations.
- Local authorities.
- Police specialists.
- National police air support helicopter.
- Environmental specialists.
- Maritime and Coastguard Agency (MCA).
- Government departments responsible for the natural environment.
- Hazardous materials companies.
- Defence Fire and Rescue Service.
- Military specialists.
- Dangerous structures engineers.
- Utility providers.
- Transport network specialists.

## Partner agencies

11.5 The incident commander may also require specialist assistance from partner agencies, such as the police, ambulance service or environmental agencies. These can be requested through Brigade Control. The duty National Interagency Liaison Officer (NILO) can assist in identifying other agency capabilities that can assist, for more information see 'Specialist advice' (section 12).

## Tactical actions

11.6 Incident commanders should:

- Consider requesting specialist resources from own or neighbouring fire and rescue services, or partner agencies.
- Consider requesting external specialist resources appropriate to the type, size and complexity of the incident.

# 12. Specialist advice

12.1 As it is not possible for an incident commander to have in-depth knowledge of all types of incidents, they may need to request specialist advice from a competent person, subject matter expert (SME) or a tactical adviser (Tac Ad) to deal with an incident safely and effectively.

12.2 The incident commander may need to access technical advice to help them make decisions and set tactical priorities. Any person providing technical or specialist support attends an incident to provide assistance; the incident commander remains in charge, with the overall responsibility for decision-making and the incident plan.

12.3 If personnel are working on technical or widespread operations, specialist support sectors may assist them. Examples of technical or widespread operations include the National Resilience capabilities of high volume pumping (HVP), mass decontamination (MD) or urban search and rescue (USAR).

12.4 The extent and urgency for requesting specialist advice will be dictated by the size, complexity and type of the incident. The amount, quantity and quality of information required will depend on the incident.

## Competent person

12.5 A competent person is someone who has sufficient training and experience or knowledge and other qualities to provide advice for an incident. The level of competence required will depend on the complexity of the situation and the type of advice required.

12.6 A competent person should be able to provide accurate and relevant information in their specific area of work. They should also be able to interpret and translate such understanding into information that would be useful to support operational priorities.

## Subject matter expert

12.7 A subject-matter expert (SME) is a person who is an authority in a particular area or topic. Incident commanders should ensure, so far as practicable, that the individual is an expert in the relevant field.

## Subject matter adviser

12.8 Subject matter advisers (SMA) are members of the fire and rescue service who regularly work with National Resilience capabilities. The SMA will provide detailed tactical capability advice to the incident commander. They can only be mobilised by the National Resilience Fire Control (NRFC). If required, their attendance should be requested through Brigade Control who will contact NRFC.

## Tactical adviser

12.9 Incident commanders can request the attendance of tactical advisers (TacAds); they are trained and recognised specialists with specific references within local or National Resilience capabilities. They are available to provide advice and support to any incident irrespective of location. However, their usual role is within their host fire and rescue service.

12.10 A tactical adviser has in-depth knowledge from a business and organisational perspective, which can significantly enhance performance when shared with others. Tactical advisers (TacAds) can be used at any size of incident; at more complex incidents, several advisers may be used by emergency services.

12.11 If advisers are deployed by more than one emergency service it may assist with effective communication between responders. There should be a common understanding of risks, hazards and tactics to inform the overall plan for resolving the incident.

12.12 Tactical advisers are currently available from the following fields:

## Senior fire safety officer (SFSO)

12.13 Senior fire safety officers support the incident commander and provides advice on active and passive fire safety measures and the performance of structure in fire to support their tactical plan and assist with operations. They also provide advice on whether legislation for which the authority is the enforcing authority applies and decide what further action may be required They will be clearly identified with a surcoat marked "Fire Safety Officer" red/ white check yoke with orange body.

## Fire investigation officer (FIO)

12.14 The fire investigation officer supports the incident commander with Tier 1 fire investigations or to undertake dedicated Tier 2 fire investigations. The investigative process involves, establishing the most likely cause and origin of the fire; also, to investigate the development and progression of the fire, human behaviour and any trends. They also provide advice on powers of entry and scene preservation and any forensic strategy. They will be clearly identified with a surcoat marked "Fire Investigation Officer" red/white check yoke with orange body.

## Press liaison officer (PLO)

12.15 The press liaison officer supports the incident commander by providing information and interviews to press/media as advised by the press office, the incident commander and the senior police officer (at major or non-fire incidents) and ensure that media activities do not interfere with or jeopardise operational procedures. They will be clearly identified with a surcoat marked "Press Liaison Officer" red/ white check yoke with orange body.

## Senior accident investigator (SAI)

12.16 The senior accident investigator supports the incident commander and will investigate all accidents and occurrences reportable under the "Reporting of injuries, diseases and dangerous occurrence regulations 1995" (RIDDOR). These include fatalities, serious injuries, dangerous occurrences and 'near misses'; Distress to wearers and incidents where Brigade personnel are unaccounted for following a firefighter emergency. They will be clearly identified with a surcoat marked "Senior Accident Investigator" red/white check yoke with orange body.

## National Inter-agency Liaison Officer (NILO)

12.17 The national inter-agency liaison officer supports the incident commanders (Silver) and provides advice to police, medical, military and other Government Agencies on the Brigade's operational capacity and capability to reduce risk and safely resolve incidents at which a Brigade attendance may be required. They will be clearly identified with a surcoat marked "National Inter-Agency Liaison Officer" red/white check yoke with orange body.

12.18 The NILO is the London Fire Brigade 'tactical advisor' for:

- Conventional terrorism.
- CBRN terrorism.
- Firearms related incidents.
- Public disorder.
- Crisis management.

## Operations review team (ORT)

12.19 Operations review team officers provide the operational assurance function for the Brigade at operational incidents, training events and exercises, including thematic reviews. They should be independent of command duties. They also act as incident command assessors, including validation and revalidation. They undertake direct observation of operational incidents, training and exercises to audit operational performance, including safe systems of work and operational procedures. They will be clearly identified by a surcoat marked "Operations Review Team", red and white checked yoke with red/orange body.




*Image– Operations Review Team surcoat*

12.20 Operational audits should be used to ensure the organisation is in a state of readiness for operational response. This process is good practice and may also support London Fire Brigade's duties. For example, under the Fire and Rescue National Framework for England, there is a requirement to produce an annual statement of assurance.

12.21 Operational audits can help to improve the effectiveness and implementation of:

- Policies and procedures.
- Hazard identification.
- Risk assessments.

- The operational response.
- Operational assurance of incidents.

12.22 The process requires the appointment of operational assurance officers from the operational review team, who will be appropriately trained to assess and monitor the performance of other personnel.

12.23 They will gather information about operational performance; however, the assurance process will not be limited to operational incidents as useful learning can also be gathered from exercises and training. Observations and information gathered from the incident, exercise or training will be uploaded into the incident monitoring process database (IMPD). This will help to identify the effectiveness of operational procedures, notable practices, identify trends and potential themes for future audit, provide information for debriefing processes and provide evidence of performance for later evaluation. Operational audits will also be used as a source of information for operational learning and risk.

12.24 It must be remembered that everyone has a role in identifying and reporting learning that could improve public and firefighter safety. All staff should consider matters where there may be an impact on firefighter safety or where there is potential for operational improvement and record them on the IMPD database. It is also important that an open and active reporting culture is encouraged and fostered by the operational review team officers.

12.25 The operations review team establishment will consist of Station and Group Commanders. These officers provide cover for the operations review team rota in addition to performing their nominated managerial role. A maximum of sixteen officers will make up the operations review team, with four officers assigned to each of the four rota groups.

## Attend standardisation meetings to understand operational audit themes

12.26 All ORT officers are required to attend team meetings that will take place at least twice a month. These meetings will be used to review the current operational audit themes, and also to calibrate the officers in the standards each theme should be measured against to prepare them to complete effective audits.

12.27 ORT officers will be informed of incident types that form part of the agreed operational audit themes, and where available will attend training exercises that may involve an agreed operational audit theme.

12.28 The operational audit process is directly linked to the Operational Improvement Process (OIP) (policy number 825), to ensure that audit themes are selected in a prioritised manner based on operational learning,

12.29 Audit themes will be selected based on three key trigger areas:

- Periodic – audit themes will be considered in advance of the periodic review dates policies and procedures, in order to provide information on their effectiveness and to identify any areas that should be considered for improvement as part of the review.
- Acute learning – audit themes will be considered based on identified learning from incidents. This may be from a variety of sources, including debriefing and post-incident reviews, the use of operational discretion, serious accident investigations. This will be impact assessed based on the significance of the learning, to identify audit themes to examine the effectiveness of Brigade operations in this area.
- Trend analysis – as part of the OIP, any trends in operational performance are considered. This is to identify any lower severity issues that may occur with regularity. Where an increased likelihood is identified as part of the OIP, it will be considered for inclusion in operational audit themes.

12.30 The OIP is administered by the Operational Learning team within Operational Policy and assurance. It gathers identified learning from a variety of sources, including:

- Operational incidents.
- Review of policy, procedure or training.

- Training exercises.
- Health and safety investigations.
- National Operational Learning (NOL).
- Joint Organisational Learning (JOL).
- Fire safety learning.
- Fire investigation reports.
- Operational audits.

12.31 As part of the OIP, this identified learning is analysed and subjected to an impact assessment to determine its significance and provide a standardised measure of the risk level to the Brigade. This will assist in ensuring reviews consider both high-impact, low frequency areas alongside more frequent occurrences that present a lower impact.

12.32 Additionally, any recommendations for change are also impact assessed for their organisational significance. These impact assessments will be used to identify and prioritise thematic areas for operational audits.

12.33 These operational audit themes will be selected to ensure that changes delivered as part of the learning process have been delivered successfully and are effectively embedded in Brigade operations. They will also be targeted based on leading trend indicators, to provide the earliest possible identification of any potential vulnerabilities in the Brigade's management of risk.

## Undertake remote monitoring of incidents when notified

12.34 Operations review team officers will be notified by Brigade Control of pre-determined incident types. These will be subject to regular review as part of the Operational Improvement Process and will include areas of thematic review where these have been identified.

12.35 When informed by Brigade Control they should undertake remote monitoring of the incident. All available sources of information should be interrogated to support their assessment of risk and build situational awareness. Information sources should include where possible:

- BOSS.
- Information from the officer of the watch at Brigade Control.
- 999Eye.
- Messages from the incident.
- iMapping (including street view images).
- Operational Risk Database (ORD) records.
- Farynor.

12.36 Using professional judgement, based on their knowledge, skills and experience, the operations review team officer should determine whether to remain remote from or to attend the incident. This decision should be based on the potential for an operational audit theme to be encountered at the incident and/or whether their attendance to provide an assurance role for the organisation would be of value.

12.37 This should consider whether the assurance role is likely to identify information to support continual improvement in relation to:

- Preventing injury or illness of personnel and other emergency responders.
- Managing and mitigating risks in the community.

- Continual improvement in providing accurate, relevant and timely operational information.
- Compliance with the legislative duties of fire and rescue authorities in relation to operational risk information.
- Compliance with policies and procedures.
- The Brigade's ability to meet their operational and strategic objectives.

12.38 ORT officers also have discretion to mobilise to any operational incident they become aware of where a current operational audit theme may be encountered.

## Attend incidents to review operational performance

12.39 On arrival at the incident the ORT officer should rig appropriately in full structural firefighting PPE, don their surcoat and book in at the command unit. They should introduce themselves to the monitoring officer (or incident commander if there is no monitoring officer in attendance) and without causing an interruption to the incident command team receive a brief of the current situation.

12.40 It is important to remember that the incident commander is the nominated competent and responsible person and should make all command decisions at the incident. There may be occasions when the ORT officer is the most senior officer in attendance at an incident and will hold organisational accountability. As a general rule, ORT officers remain outside the command chain at incidents due to the nature of their work. However, there may be occasions when consideration should be given to intervene or take command of an incident if there are grounds for concern over safety or the incident appears to be beyond the ability of the incident commander and no other officer is available immediately. Having taken over, the ORT officer must remain in charge of the incident until another suitable officer is in attendance. This may necessitate a priority message being transmitted from the incident to Brigade Control.

12.41 If during an incident any other incident(s) occur within the Brigade that would attract an ORT officer attending a decision should be made to leave the incident and attend a different incident using a risk/benefit analysis. This analysis should consider the progress of the current operational review and the priority of the audit theme related to the newer incidents. If the ORT officer decides to attend another incident they should inform the monitoring officer at the incident they are at and Brigade Control.

12.42 The ORT officer will normally remain in attendance at the incident until it is scaled down, or the implementation of the first relief whichever is appropriate.

## Allow the incident command team to perform without unnecessary interruption

12.43 It is important to remember that the role of the ORT officer is independent of the incident command team and so they should ensure that they allow the command team to perform their role without unnecessary interruptions and interference. The role of the ORT officer is to audit the incident ground not the command team. The perceived extra scrutiny of the operations review team officer on the command team can, if not carefully managed, become a performance influencing factor and increase the potential for human error. ORT officers should always conduct themselves in a positive and supportive manner. Constructive and positive two-way communications should be established between the ORT officer, monitoring officer and incident commander to ensure information flow is efficient and effective.

12.44 Complete systematic audits to review the effectiveness of operational performance

12.45 Operational audits are defined by the Institute of Internal Auditors as a systematic review of effectiveness, efficiency and economy of operations under management's control and reporting to appropriate persons the results of the evaluation along with recommendations for improvement.

12.46 Operational audits help ensure the Brigade is in a state of readiness for operational response. This process is good practice and supports the Brigade's duties. For example, under the Fire and Rescue National Framework for England, there is a requirement to produce an annual statement of assurance.

12.47 Operational audits help to improve the effectiveness and implementation of:

- Policies and procedures.
- Hazard identification.
- Risk assessments.
- Operational response.
- Operational assurance of incidents.

12.48 The process requires the appointment of operational assurance officers, who are appropriately trained to assess and monitor the performance of other personnel.

12.49 Operational audits are a key source of information for the Operational Improvement Process and risk management planning.

12.50 Operational audits help the Brigade to understand the responsibilities and risks faced by their personnel. An audit can help in determining if there are efficient, effective and reliable processes in place for the gathering of operational information and data, and for managing risk. The audit process will review performance against predetermined areas. Effective audits can support the Brigade in:

- Preventing injury or illness of personnel and other emergency responders.
- Managing and mitigating risks in the community.
- Continual improvement in providing accurate, relevant and timely operational information.
- Compliance with the legislative duties of fire and rescue authorities in relation to operational risk information.
- Compliance with policies and procedures.
- The Brigade's ability to meet their operational and strategic objectives.

12.51 Audits will take place on a regular basis to carry out a full and critical appraisal of the service's operational risk management system. These audits will:

- Support continual improvement and address weaknesses in policies or the organisation.
- Identify the need for an independent audit as part of a robust review programme.
- Assess the level of control exercised by management.
- Identify opportunities for improvement.
- Provide senior managers with an understanding of the degree to which management has achieved its responsibilities and has put in place systems that reduce operational risk, including:
    - Reliability and integrity of operational information.
    - Effectiveness and efficiency of operations.
    - Safeguarding of assets and data.
    - Compliance with legislation, regulations and contracts.

12.52 ORT officers will be provided with performance criteria for each audit theme by the Operational Learning team. These audit criteria will be derived from the relevant operational risk assessments for an incident type, including identification of relevant hazards and the effectiveness of control measures.

The criteria will also include the relevant strategic organisational actions or tactical actions of personnel to give a clear indication of how effectively the Brigade is managing risk.

## Hazard and control measure identification

12.53 When auditing operations, ORT officers should use the audit criteria for the thematic area to conduct a review of the hazards and control measures of the risk assessment and compare them to those present at the incident. A review of any completed analytical risk assessment should also be conducted to ensure all foreseeable hazards and risks at the incident have been identified and recorded along with the control measures to help prevent and mitigate them. The effectiveness of the control measures implemented should also be reviewed and assessed.

12.54 The review of the risk assessments may help identify any new hazards and/or control measures that are present at the incident that have not been accounted for on the incident type risk assessment. These should be recorded and reported to relevant department to ensure currency and accuracy of the incident type risk assessments.

**Review of relevant tactical actions**

12.55 Operations review team officers should have unencumbered access to the incident ground so that they can monitor and review the activities of teams dealing with the incident, while recognising any appropriate hazard zone or areas that require specific personal protective equipment or respiratory protective equipment. Using their professional judgement based on knowledge, understanding, training and experience they should review the actions being taken against the tactical actions identified in the audit criteria, to determine any areas of Brigade policy and procedure that are not being implemented effectively.

12.56 Where operational performance was not at the expected level, or hazards have not been controlled effectively, ORT officers should use the audit criteria to consider the causal factors that may have contributed to the operational performance observed. These causal factors should be considered in relation to people, plant and process. For example, if equipment required for the control measure did not function as required, or negatively impacted operational performance, this can provide information for improving equipment provision in future.

12.57 If the existing operational procedures were not sufficient to meet the needs of the incident, amendments to policy or procedure may be required to provide suitable guidance to personnel who may respond to that incident type in the future.

12.58 When considering causal factors that may affect the performance of Brigade personnel, ORT officers will consider and record the human factors that may have contributed to the outcome. The Health and Safety Executive (HSE) define human factors as the "environmental, organisational and job factors, and human and individual characteristics, which influence behaviour at work in a way which can affect health and safety". Examples of these human factors are:

| | |
|---|---|
| Job factors | • Illogical design of equipment and instruments.<br>• Constant disturbances and interruptions.<br>• Missing or unclear instructions.<br>• Poorly maintained equipment.<br>• High workload.<br>• Noisy and unpleasant working conditions. |
| Individual factors | • Low skill and competence levels.<br>• Tired staff. |

| | |
|---|---|
| | • Bored or disheartened staff.<br>• Individual medical problems. |
| Organisation and management factors | • Poor work planning, leading to high work pressure.<br>• Lack of safety systems and barriers.<br>• Inadequate responses to previous incidents.<br>• Management based on one-way communications.<br>• Deficient coordination and responsibilities.<br>• Poor management of health and safety.<br>• Poor health and safety culture. |

*Table – Performance influencing factor categories and examples (taken from HSE publication HSG48)*

12.59 An assessment should also be made by the operations review team officer of whether the activities are in line with and how they are contributing to the plan of the incident commander. The ORT officer, when making their assessment, should have regards to the objectives and priorities of the sector and how they contribute the overall objectives and priorities of the incident commander.

## Provide supportive feedback and recommendations for action to the command team

12.60 There may be times when the ORT officers have observed deficiencies on the incident ground and have recommendations as to how these can be rectified. Any recommendations should be provided for the consideration of the command team.

12.61 While touring the incident ground, any areas of concern should be brought to the attention of the sector commander in the first instance. Where any risk critical safety issues are identified the ORT officer should intervene, where safe to do so and initiate any corrective action before updating the safety officer and sector commander, monitoring officer or incident commander as necessary.

12.62 Following a tour of the incident ground the ORT officer should provide guidance and comment on their review and observations of the incident ground. The ORT officer should report back the findings of their audit to the command team so that informed and timely decisions can be made as to how any areas of underperformance can/should be rectified. This should include the progress of the incident against the incident commander's priorities and objectives and contribute to their overall situational awareness.

12.63 Any guidance, comment and recommendations provided by the ORT officer should be based on their knowledge, experience and training and conducted in a supportive and constructive manner ensuring that this does not unduly interrupt or interfere with the command team and their resolution of the incident.

## Confirm any identified learning with the command team

12.64 Any organisational learning as well as areas of best practice that have been identified by the operations review team officer should be shared and confirmed with the appropriate members of the command team before leaving the incident ground. This should include the incident commander and the monitoring officer. This should include any individual or organisational performance issues, to ensure that these contribute to the effective debriefing of the incident (for further information on debriefs refer to Operational safety management – Debriefing and post incident review).

## Record audit outcomes using appropriate systems

12.65 The ORT officer should use a variety of methods, including photographs, contemporaneous notes and/or body worn cameras to record organisational performance on the incident ground. These should be kept secure and in line with the Brigade's data protection and retention policy.

12.66 The evidence captured can then be used to help identify areas for improvement in operational performance. Analysis of these trends can then contribute to identifying themed reviews and audit activities for the operations review team.

12.67 The outcomes of the systematic audit should be recorded to identify organisational learning as well as confirming best practice. Any use of operational discretion should also be captured. These should then be recorded on the Incident Monitoring Process database (IMP) at the conclusion of the incident. The IMP user guide provides guidance on the use of the system, and the comments quick guide gives a concise overview of how to add comments. This will help ensure that learning from incidents is carried out consistently and effectively and that it can be shared and acted upon to contribute to the continuous improvement in operational performance and the safety of fire service personnel and other emergency responders.

12.68 The findings of the operational audits completed by the operations review team will be reviewed and subjected to a root cause analysis by the Operational Learning team. The outcomes of all audits will then be fed into the Operational Improvement Process, including recommendations for change to ensure the identified learning is acted upon to deliver improvement.

12.69 In order to maintain an understanding of the level of activity undertaken by ORT officers, the ORT details section of the IMP database allows the recording of time undertaken monitoring or attending incidents. All ORT officers have access to this area, it can be reached by right clicking on an incident in the search tab of IMS and selecting 'ORT Details' from the pop-up menu, or by clicking on the ORT details hyperlink in the IMP database (see figure 1 below):

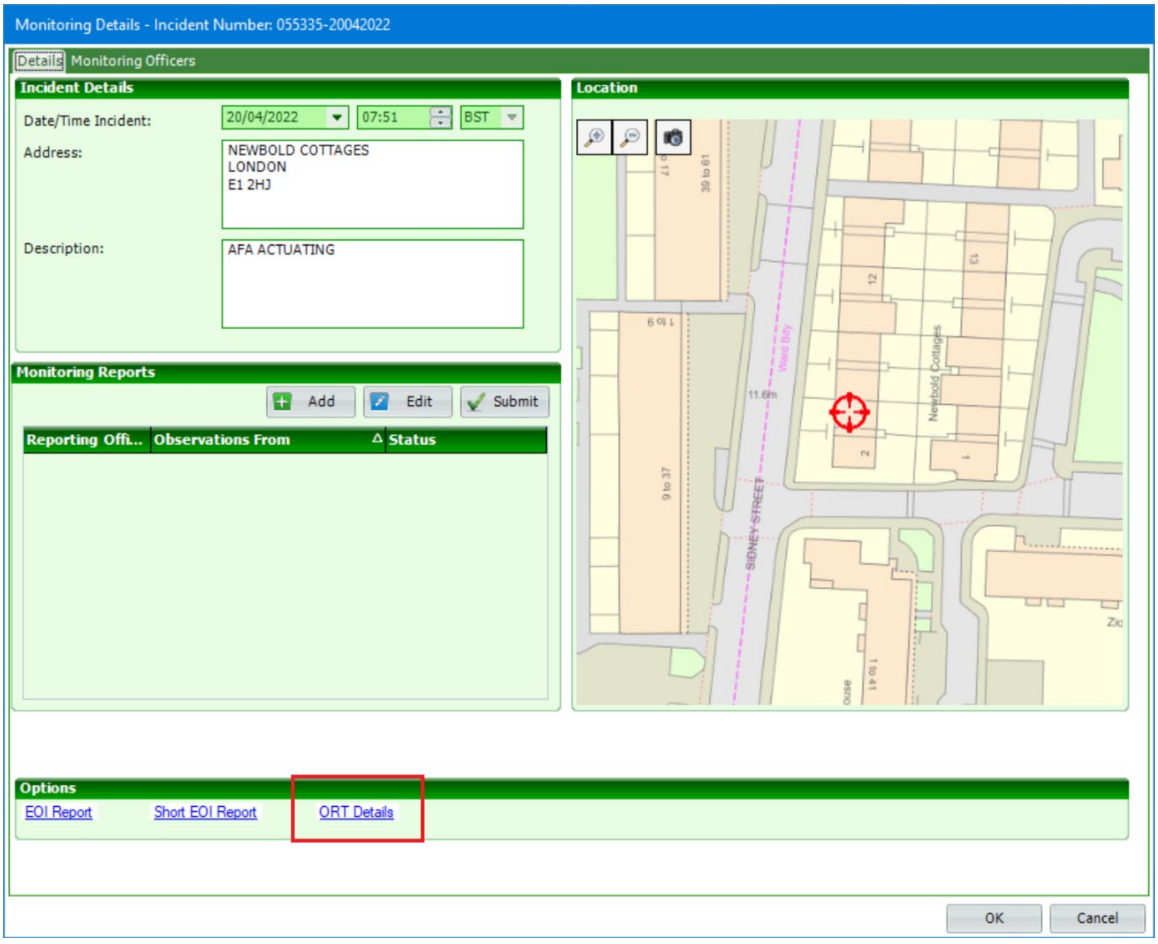



*Figure 1: Location of ORT details access on IMP database*

12.70 ORT officers should populate the ORT details section (figure 2 below) for any incidents they are informed of, whether they attend or conduct remote monitoring. All fields should be completed, and when multiple ORT officers are involved in assurance activities associated with the incident, the times recorded should be the combined total of all officers involved.

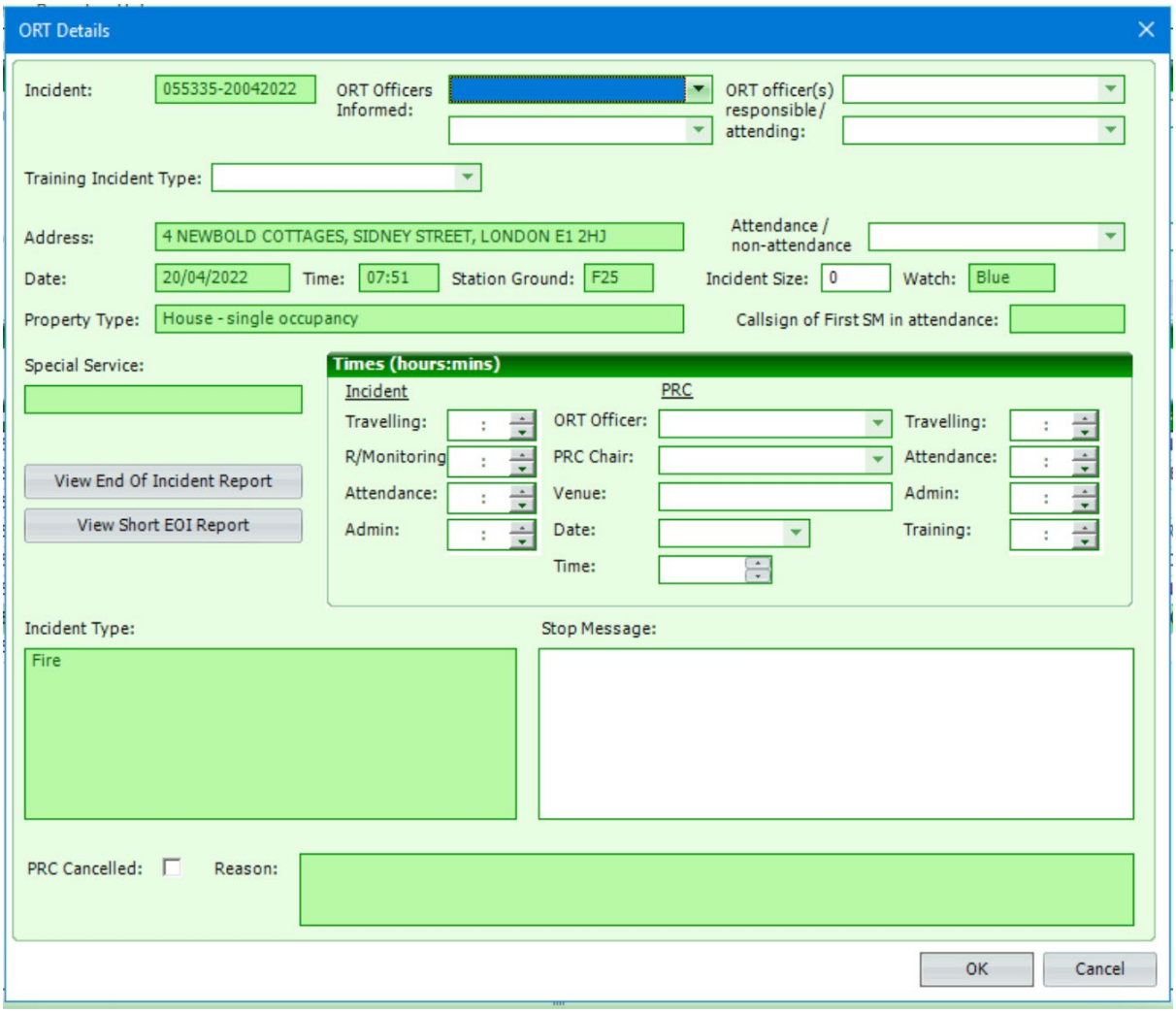



*Figure 2- The ORT Details section of the IMP database*

## Notify the Operational Learning Team of any urgent learning that requires action

12.71 There may be occasions where significant or urgent learning is identified due to the nature of the incident, e.g. the use of operational discretion, fatal fires, injuries to personnel or incidents subject to an investigation or inquiry. In order to ensure that the Operational Learning team can coordinate an effective and efficient post-incident review process, any ORT officer that identifies urgent or significant learning such as the examples above should communicate that to the Operational Learning team as soon as possible via the IMP Mailbox. The officer should provide a comprehensive overview, including the provision of any records made by the ORT officer.

## Provide information to the Operational Learning Team to support the identification of thematic reviews and focus areas

12.72 The operations review team attend regular meetings where any learning or best practice identified at incidents of note and training events are discussed in detail and peer reviewed. Analysis of the observations and findings recorded on the Incident Monitoring Process database (IMP) will be used at these meetings to support the identification of thematic reviews and areas that may require more

focused review by ORT officers. Observations, findings and recommendations captured through these processes will be forwarded to the Operational Learning team to support operational learning.

## Urban search and rescue (USAR)

12.73 The urban search and rescue advisor (UA) provide support and guidance to incident commanders at USAR incidents and will undertake the role of operations/sector commander at USAR incidents. They will be clearly identified by wearing orange PPE, white helmet and surcoat marked "Urban Search and Rescue" red/white check yoke with orange lower body.

## Bulk media advisor (BMA)

12.74 The bulk media advisor (BMA) supports the incident commander and provides guidance and advice on the provision of and tactics to be applied when using bulk firefighting media at incidents. This include advice on water supplies, firefighting foam and dry powder agents. They can provide advice on the deployment of High Volume Pumps (HVP), Bulk Foam Units (BFU) and Hose Laying Units (HLU). They should also liaise with water and sewerage undertakers regarding provision of water supplies and/or the control/removal of incident run-off or flood water from the incident ground. They will be clearly identified with a surcoat marked "Bulk Media Advisor" red/white check yoke with orange body.

## Hazardous materials and environmental protection officer (HMEPO)

12.75 The hazardous materials and environmental protection officer supports the incident commander and provides advise on the appropriate operational procedures and relevant decontamination procedures that should be implemented at incident involving hazardous materials. They can act as the radiation protection supervisor for incidents involving radiation. They can also act as the liaison between the incident commander and any site scientific or technical staff. They will be clearly identified with a surcoat marked "HMEPO" red/white check yoke with orange body.

## Scientific advisor

12.76 Scientific advisor will support the incident commander and provide subject matter expert advice on hazardous material incidents, COMAH sites and incident involving radiation, where they will act as radiation protection adviser (RPA). They will be clearly identified with a yellow tabard marked "Scientific Advisor" with blue PPE and white helmet marked SA.

## Technical rescue advisor - TRA

12.77 The technical rescue advisor (TRA) supports the incident commander and provide advice and guidance regarding all operational aspects of the deployment of specialist teams for line operations, water rescue/flood operations and large animal rescue including safe systems of work and the safe resolution of the incident. They can also undertake the role of functional sector commander at incidents requiring technical rescue advice. They will be clearly identified by with a surcoat marked "Technical Rescue Advisor" red/white check yoke with orange body.

## Flood rescue advisers

12.78 Flood rescue tactical advisers have additional skills and knowledge to provide support and advice to Strategic Coordinating Groups and Defra as a lead government department. A number of flood rescue advisers have been trained in the European Union Civil Protection Mechanism to assist Host National

Support (HNS) for international agencies. They will be clearly identified by with a surcoat marked "Flood Rescue Advisor" red/white check yoke with orange body and will attend incidents to:

- Provide advice to tactical and strategic commanders, primarily at Tactical Coordinating Groups TCGs).
- Operate at all levels of incidents as required.
- Credentialing assets within the multi-agency strategic holding area (MASHA).
- Assess specific risks to support operational response.
- Support National Resilience Fire Control.
- Provide water and flood response safety briefings to organisations e.g. Ministry of Defence.
- Support the Host Nation Support (international assets).

12.79 Chemical, Biological, Radioactive, Nuclear (explosive) (CBRN(e)).

12.80 The Chemical, Biological, Radioactive, Nuclear (explosive) tactical adviser is not mobilised to any incident by London Fire Brigade. However, they do form part of an 'information group' who are informed of any CBRN(e), marauding terrorist firearms (MTFA), 'white powder' incident, suspect package incident etc. The group should then communicate amongst themselves and consider if their attendance would be beneficial – they can, however, be mobilised by the duty NILO.

12.81 The role is a national resilience asset and will assist the incident commander with understanding how National Resilience will support an incident by actions such as bringing in mass decontamination assets to a co-ordination point ready for final deployment to the incident. They will be clearly identified by with a surcoat marked "CBRN advisor" red/white check yoke with orange body.

## Waste fires

12.82 The waste fire tactical adviser is not mobilised to any incidents as part of a pre-determine attendance in London. They are also not part of an 'information group' but role is a national resilience asset.

12.83 The role focuses on waste fires at places such as waste transfer stations and also both official and unofficial waste sites. The role includes specialist knowledge with regards techniques and equipment that can be used to provide a more effective response to waste fires. This also includes requesting equipment and support from other fire services with bringing specialist personnel to the incident for the use of mechanical diggers etc.

12.84 Waste fire tactical advisors also provide proactive advice to their host service and local agencies regarding waste sites and how they can support enforcement actions. If required waste fire tactical advisors can be requested to provide advice by phone or attend incidents through the established NCAF arrangements.

## Operational communications tactical advisor

12.85 An operational communications tactical advisor (Comms Tac Ad) is an officer that has attended a Metropolitan Police communications (Airwave) advisor course. Most of the ORT cadre, and a few other selected operational officers and a number of operations managers from Brigade Control have attended this course to meet the requirements of a Comms Tac Ad to assist in the devising and implementation of an appropriate communications plan.

## Petroleum inspector

12.86 The petroleum inspector supports the incident commander and provides advice and assistance with incidents involving petroleum or petroleum products. This will include attendance at such incidents during office hours. Outside office hours these will be attended by senior fire safety officers. They will be clearly identified by a yellow surcoat.

## Respiratory protective equipment logistics officer (RPELO)

12.87 The duty respiratory protective equipment logistic officer supports the incident commander and provides advice on all matters relating to respiratory protective equipment. They will coordinate the operations of the OSG and manage its resources in the event of a major or catastrophic incident. They will also provide support and resources to the incident ground such as bulk supplies of air and/or hot cutting oxygen cylinders and co-ordinate the operations of OSG and manage its resources in the event of a major or catastrophic incident. This includes managing and deploying the OSG personnel recall system when appropriate. They will also assist accident investigators with RPE related safety events. They will be clearly identifiable with a yellow surcoat; marked "RPELO".

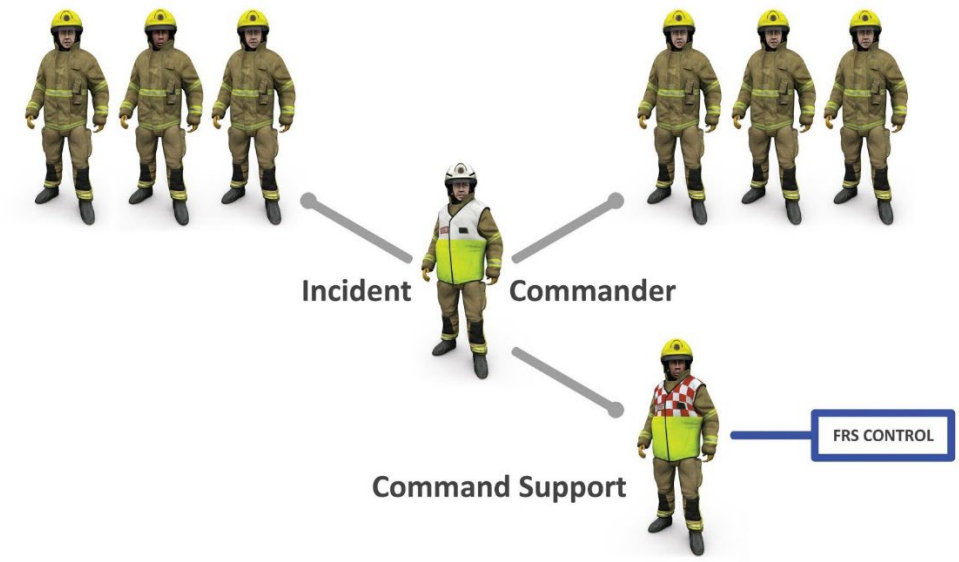
## Tactical actions

12.88 Incident commanders should:

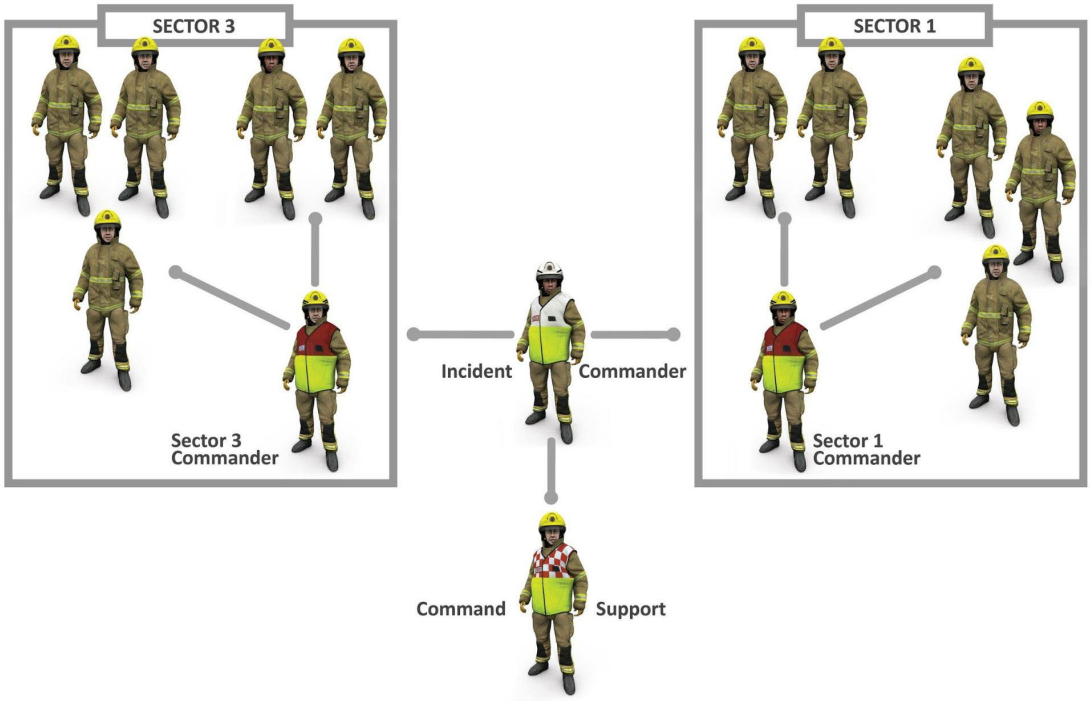
- Consider requesting appropriate specialist advice.
- Ensure specialist advisers are fully briefed on the aims and objectives for the incident.
- Check for understanding of the advice received, and record if appropriate.

# Appendix 1: Command structure and sectorisation methodology

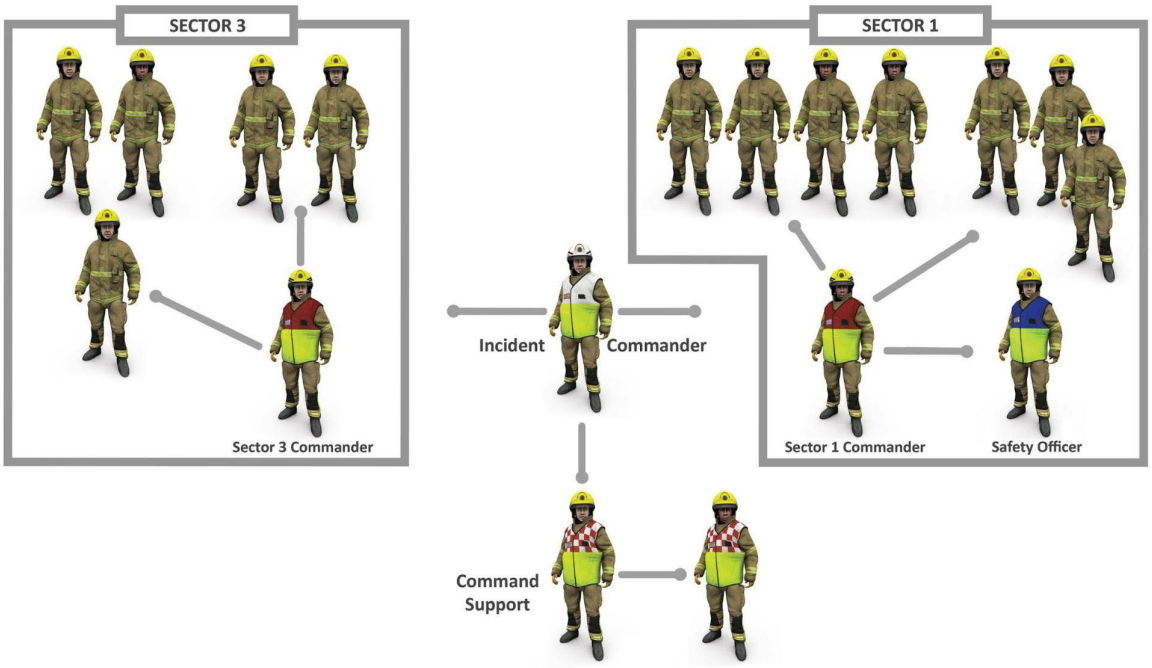
### Two pump incidents



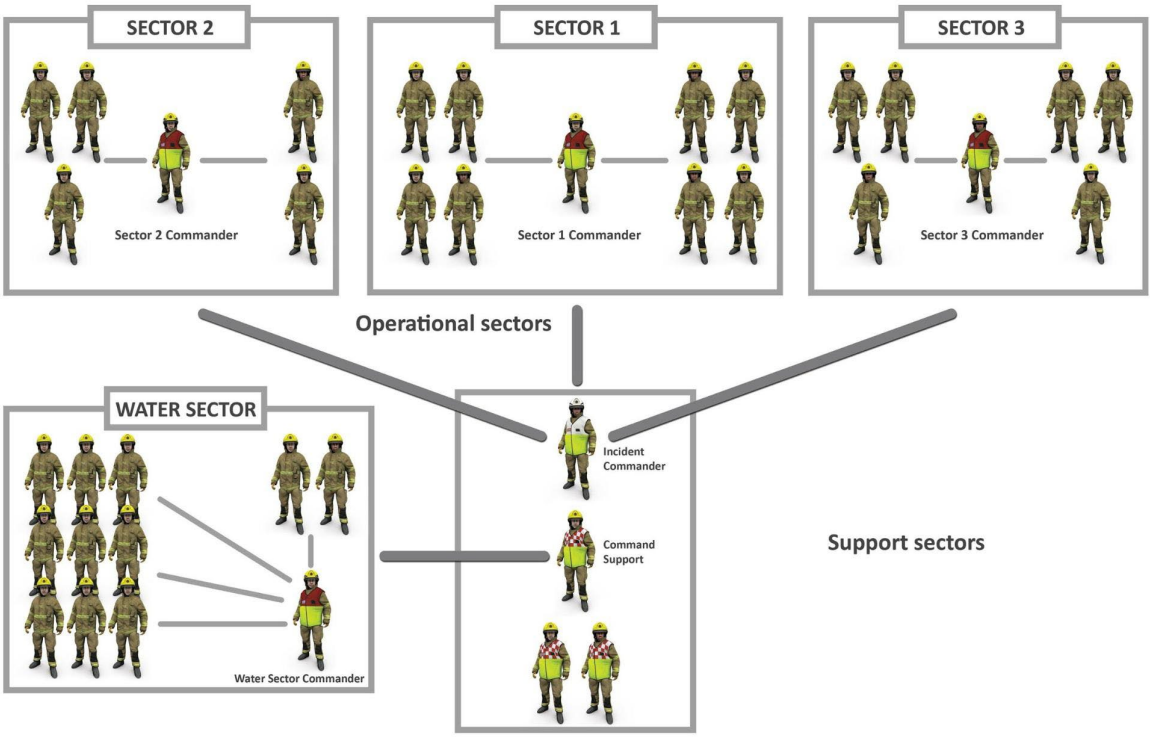

### Four pump incidents



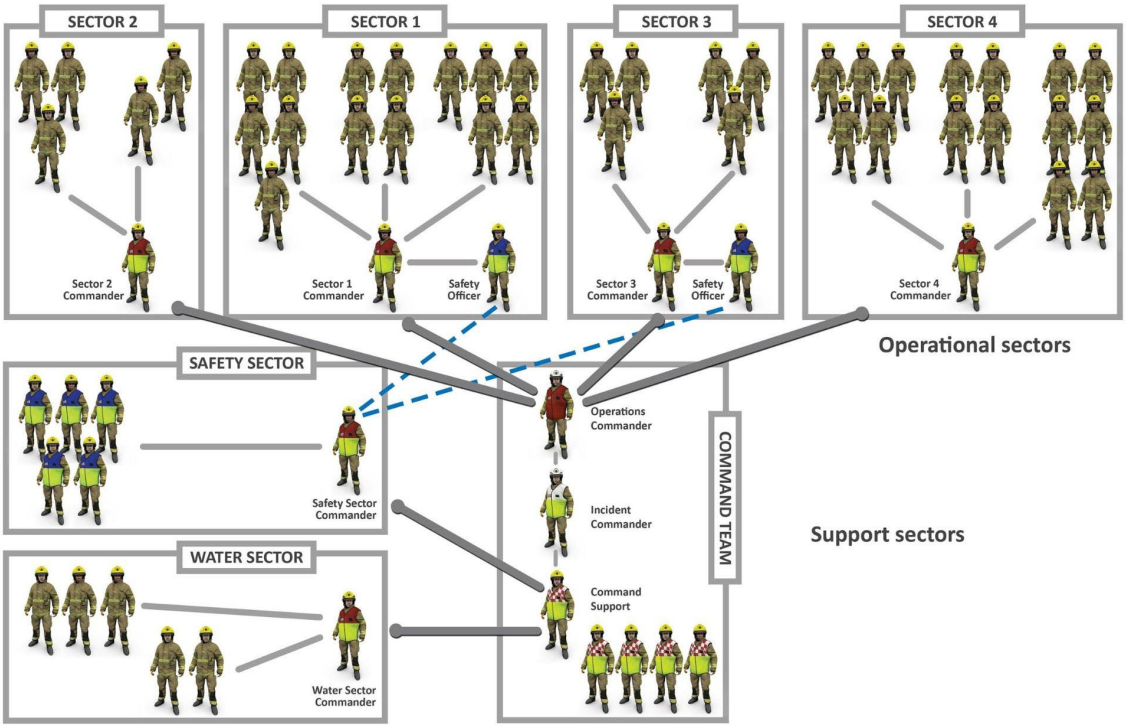
## Five pump incidents




## Eight pump incidents



## 15 pump incidents



# Document information

## Dates

| Issue status | Date |
|---|---|
| Issued | 28 October 2024 |
| Reviewed as current | |
| Last amended | |
| Next review due | 28 October 2027 |

## Assessments

An equality, sustainability or health, safety and welfare impact assessment and/or a risk assessment was last completed on:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| EIA | 06/04/2023 | SDIA | 06/04/2023 | HSWIA | 06/04/2023 | RA | 06/04/2023 |

## Audit trail

Listed below is a brief audit trail, detailing amendments made to this policy/procedure.

| Page/Paragraph nos. | Brief description of change | Date |
|---|---|---|
| | | |

## Related policies

Listed below are all the related policies:

| Policy number | Name of policy |
|---|---|
| PN987a | Equipment officer – incident command – organisation at incidents – SOP |
| PN987b | Advanced command support – incident command – organisation at incidents - SOP |
| PN987c | Intermediate command support – incident command – organisation at incidents - SOP |
| PN987d | BA sector commander – incident command – organisation at incidents - SOP |
| PN987e | Damage control officer – incident command – organisation at incidents - SOP |
| PN987f | Evacuation sector commander – incident command – organisation at incidents - SOP |

| Policy number | Name of policy |
|---|---|
| PN987g | Initial command point operative – incident command – organisation at incidents - SOP |
| PN987h | Monitoring officer – incident command – organisation at incidents - SOP |
| PN987i | Lobby sector commander – incident command – organisation at incidents - SOP |
| PN987j | Inner cordon sector commander – incident command – organisation at incidents - SOP |
| PN987k | Inner cordon recorder – incident command – organisation at incidents - SOP |
| PN987l | Inner cordon controller – incident command – organisation at incidents - SOP |
| PN987m | FSG sector commander – incident command – organisation at incidents - SOP |
| PN987n | FSG coordinator – incident command – organisation at incidents - SOP |
| PN987o | Fire sector commander – incident command – organisation at incidents - SOP |
| PN987p | Resources officer – incident command – organisation at incidents - SOP |
| PN987q | Welfare officer – incident command – organisation at incidents - SOP |
| PN987r | Water officer – incident command – organisation at incidents - SOP |
| PN987s | Sector commander – incident command – organisation at incidents - SOP |
| PN987t | Operations commander – incident command – organisation at incidents - SOP |
| PN987u | Search sector commander – incident command – organisation at incidents – SOP |
| PN987v | Marshalling officer – organisation at incidents – SOP |
| PN987w | Duty Brigade control senior commander - incident command - organisation at incidents - SOP |
| PN987x | Command support officer - command control - brigade control – incident command – organisation at incidents – SOP |
| PN987y | Operations review team officer – incident command – organisation at incidents – SOP |
| PN987-POLa | Effective communications – organisational procedure - NOG |
| PN987-POLb | Incident command – command control – Brigade control - NOG |

| Policy number | Name of policy |
|---|---|
| PN987-ORPa | Organisation at incidents – organisational procedure - NOG |
| PN987-ORPb | Command support at incidents – organisational procedure - NOG |
| PN987-ORPc | Effective communications – organisational procedure – NOG |
| PN987-ORPd | Operational audits – organisational procedure - NOG |
| PN987-TSa | Organisation at incidents – training specification - NOG |