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Introduction

This strategic-level corporate guidance aims to assist fire and rescue authorities in providing an operational response while taking into account:

- Legislative responsibilities
- Data management
- Risk management
- Health and safety management
- Site-Specific Risk Information
- Emergency response plans
- Operational assurance
- Competence and training
- Operational learning
- Legal proceedings

As many of these topics have interdependencies, it is suggested that the publication be considered in its entirety. Each topic is accompanied by a list of suggested corporate actions.

This corporate guidance is not intended to prescribe the approach that individual fire and rescue authorities adopt. Its main aim is to support the implementation of National Operational Guidance by fire and rescue services.

Hazard - Corporate guidance for operational activity

Hazard Knowledge

National Operational Guidance

National Operational Guidance uses strategic actions to assist services in identifying actions that will help them meet their legislative requirements and record them using the Strategic Gap Analysis tool.
The guidance aims to provide its users with a clear understanding of what must be done, their absolute duties, what should be done and what may be done. It uses lead sentences such as ‘Fire and rescue services must’ and ‘Fire and rescue services should’.

The following definitions have been applied to the National Operational Guidance, including this corporate guidance.

‘Must’ – actions that are required by legislation. For example:

*Every fire and rescue service must* assess the hazards and risks in their area, with site-specific risk plans established for locations where hazards and risks are significant.*

‘Should’ – actions that are recommended. If policies or procedures follow a different action, or do not include the recommended action, they are likely to attract criticism; this could be at managerial level or in a review process such as an inquest. For example:

*So that fire and rescue service personnel can operate safely and effectively at incidents involving fires in waste sites, they should develop an appropriate understanding of site design and layout, the type of materials being stored and the method of storage.*

‘May’, ‘can’ or ‘could’ – used when an action does not fall into either of the categories above, but is considered to be an appropriate method of controlling or eliminating the hazard. For example:

*It may be appropriate to use thermal imaging cameras or on-site thermal scanning equipment to identify the extent of heat within large quantities of waste; this may reveal the effects of combustion that are not visible to the naked eye.*

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**Control measure - Legislative responsibilities**

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**Control measure knowledge**

Fire and rescue authorities have a responsibility to reduce the risk from fire and other emergencies to the community they serve, and the environment in which they operate.

UK legislation states that a fire and rescue authority must make provisions for:

- Extinguishing fires in its area
- Protecting life and property at fires in its area
- Rescuing and protecting people at a road traffic collision
• Rescuing and protecting people in emergencies

This legislation places a responsibility on the fire and rescue authority to make arrangements for obtaining the information needed for that purpose.

While delivering these core services, there are many other relevant legislative responsibilities that fire and rescue authorities need to consider in parallel, including:

• Data and information management
• Risk management
• The health, safety and welfare of their employees

These additional legislative responsibilities extend beyond the operational activities of a fire and rescue service, to any function that they perform.

**Strategic actions**

Fire and rescue services should:

• Deliver their operational legislative responsibilities, with due regard to all other relevant legislative responsibilities

**Tactical actions**

There are no tactical actions associated with this control measure.

**Control measure - Data and information management**

**Control measure knowledge**

Fire and rescue services capture data and information to support their core functions, including:

• Operations, including fire control room functions
• Fire safety
• Emergency planning
Fire and rescue authorities should take into account the legal responsibilities placed on them regarding the use, storage and transfer of data. In particular there is a requirement that all relevant data held by the fire and rescue service should be available and should be used to reduce and manage operational risk, whether this be to personnel, other service employees or others for whom the fire and rescue authority is responsible.

**Data and information strategy**

Fire and rescue services should develop a data and information strategy to determine:

- What data and information is collected and stored
- How the data and information can be stored, used or shared
- How data and information will be security classified
- How data and information will be kept secure
- Who is allowed to access data and information
- How long data and information will be retained for
- The information management systems that will be used, including:
  - Whether they are standalone or integrated
  - The implications of their structure
  - How they support operational activity
  - Contingency arrangements
- What assurance processes will be used to check on adherence to the strategy

The data and information strategy should also set out to ensure that all information-related activity complies to current legislation and regulations, including:

- [Data Protection Act](#)
- [General Data Protection Regulation](#)
- [Security Policy Framework](#)
- [Freedom of Information Act](#)
- [Human Rights Act](#), for storage and movement of photographic or video records

Processes should be put in place to identify any changes in legislation or regulations, that will require changes to be made to the data and information strategy. There should also be processes in place for updating relevant personnel on any changes in the data and information strategy.

The data and information strategy should also be considered when fire and rescue authorities develop their risk management plan and should consider types of information including:
Operational data and information

Operational data and information is a critical resource, that assists with functions, such as:

- Planning
- Mobilising
- Organising, leading and controlling an incident

To effectively support operational activity, data and information needs to be:

- Available – to the processes and procedures used to gain it, and provided to those who need to use it
- Accurate – as determined by measuring the information against actual events or occurrences
- Timely – current when it is received
- Relevant – it concerns the situation or problem at hand, and can help solve a problem or contribute to a solution

Information management

Information management involves collecting and managing information from one or more sources and distributing the information to one or more audiences. This sometimes involves those who have a stake in, or a right to, that information.

Information management is a discipline that governs accountability for the structure and design, storage and security, movement, quality, delivery and usage of information required for management and business intelligence purposes.

Information management systems

An information management system (IMS) collects, transmits, processes, and stores information that supports the management functions of an organisation. In fire and rescue services, an IMS may also support operational decision-making and appropriate responses to incidents.

Fire and rescue services may decide to use tailored systems to deliver information to personnel, such as vehicle-mounted data systems, often referred to as mobile data terminals (MDTs).

Report writing and note taking
Legislation, such as the *Criminal Procedures and Investigation Act*, the *Criminal Justice Act* and the *Criminal Justice Act (Northern Ireland)* should be referred to regarding the legal standpoint for official report writing and note taking. This includes the need to:

- Record the information as soon as practicable
- Retain the information in its original and complete format
- Reveal the information when requested
- Review the information for accuracy, procedural applications and assessment of corporate or operational risks and threats

**National incident recording system**

The incident recording system (IRS) is a fully-automated electronic data capture system, which enables data on all incidents attended by the fire and rescue service to be collected. It provides a national standard of data collection to assist with:

- Gaining an understanding of how each service operates
- Planning
- Providing key performance indicators (KPIs)

The IRS also helps to continually improve the timeliness and accuracy of data, and may be used to underpin research and development.

Gathering high quality information from attended incidents is key to understanding and managing risks using the appropriate resources. The use of a core set of questions may assist with this process.

If fire and rescue services input poor quality or inconsistent information, it may result in:

- Inaccurate KPIs
- Inaccurate planning, risk management and decision-making
- Inaccurate shared information, which may affect partners and stakeholders

**Information security**

The data and information strategy should aim to minimise the risk of inappropriate access to electronic or paper sources of data or information. The following three levels are identified in Her Majesty's Government (HMG's) [Government Security Classifications](#):

**OFFICIAL**: The majority of information that is created or processed by the public sector. This includes routine business operations and services, some of which could have damaging consequences if lost, stolen or published in the media, but are not subject to a heightened threat profile. There is no requirement to mark routine OFFICIAL information.
SECRET: Very sensitive information that justifies heightened protective measures to defend against determined and highly capable threat actors. For example, where compromise could seriously damage military capabilities, international relations or the investigation of serious organised crime.

TOP SECRET: HMG’s most sensitive information requiring the highest levels of protection from the most serious threats. For example, where compromise could cause widespread loss of life or else threaten the security or economic wellbeing of the country or friendly nations.

There are four key principles for security classification:

**Principle one:** All information that HMG needs to collect, store, process, generate or share to deliver services and conduct government business has intrinsic value and requires an appropriate degree of protection.

**Principle two:** Everyone who works with government (including staff, contractors and service providers) has a duty of confidentiality and a responsibility to safeguard any HMG information or data that they access, irrespective of whether it is marked or not, and must be provided with appropriate training.

**Principle three:** Access to sensitive information must only be granted on the basis of a genuine ‘need to know’ and an appropriate personnel security control.

**Principle four:** Assets received from or exchanged with external partners must be protected in accordance with any relevant legislative or regulatory requirements, including any international agreements and obligations.

It will be necessary to identify which employees require access to secure data or information. They will need to undergo security clearance if they need access to data or information which has higher levels of security classification.

Further information about security classifications can be found on the [GOV.UK website](https://www.gov.uk).

**Strategic actions**

Fire and rescue services should:

- Have a data and information strategy

- Procure or develop appropriate information management systems

- Conform to legislation and regulations relating to collecting, using, storing, sharing and
disposing of data and information

- Conform to Government Security Classifications

- Identify employees who need to undergo security checks before granting them access to data or information

- Ensure all employees understand their individual responsibility for the data and information entrusted to them

- Consider inputting data to the national incident recording system (IRS) to support and improve the national standard of data collection

- Consider using the data from the national incident recording system (IRS) to improve planning and performance

**Tactical actions**

There are no tactical actions associated with this control measure.

**Control measure - Risk management**

**Control measure knowledge**

There is a legislative requirement for fire and rescue authorities to have effective arrangements for gathering risk information, and to make this readily available to personnel. These arrangements should include an effective audit and review system to ensure that the information remains current.

The risk management planning process identifies and manages risk through:

- Pre-planning for and managing emergencies
- Fire safety
• Crime and disorder initiatives
• Training
• Carrying out day-to-day activities

Most operational risks are foreseeable. However, the risks posed by events such as adverse weather conditions or civil contingencies are not easily quantifiable. A combination of operational risk information, risk assessments, local knowledge and professional judgement should ensure that appropriate risk management processes are put in place.

An operational risk information management system should:

• Incorporate relevant information from other systems
• Develop and support a common approach to the strategic and dynamic analysis of risk
• Determine the appropriate application of resources and processes to address the risks that affect personnel, other emergency responders, members of the public and the environment

There should be clearly-defined strategic responsibilities for the development of policies and procedures within each fire and rescue service. Operational risk information should be managed as part of an integrated approach to managing risk and ensuring safe systems of work for all employees. Therefore managing risk should be considered alongside health and safety management.

The operational risk management process should also take into account other aspects and systems of the service, including fire safety, operational data, organisational skills and resourcing.

External sources of information should be considered with planning and carrying out risk management activities, including:

• Legislation and regulations
• Approved guidance and research
• Health and safety resources

**National Risk Assessment**

The UK National Risk Assessment (NRA) is a yearly process aimed at identifying, characterising and comparing all the major hazards and threats of national significance that may cause significant impacts in the UK on a five-year horizon. Led by the Civil Contingencies Secretariat of the Cabinet Office, it involves a large multi-agency process that allows ranking risks based on the likelihood and impact of the ‘reasonable worst-case scenario’.

According to the Civil Contingencies Act, the NRA constitutes the fundamental basis for capabilities-based planning to support emergency preparedness and response from national to local level. Following on from carrying out the NRA, the Cabinet Office publishes the National Risk Register of
Civil Emergencies (NRR).

In addition to providing information on how the UK government and local responders manage these emergencies, the NRR also signposts advice and guidance on what members of the public can do to prepare for these events.

The NRR and other government guidance helps local emergency planning forums to interpret the likelihood and impact of these risks for their local area. This in turn assists the statutory resilience forums to carry out Community Risk Assessments (CRA) and produce Community Risk Registers (CRR). This process ensures there is a fully-integrated risk assessment process between the government and all local responders, including fire and rescue authorities.

**Risk management plans**

In accordance with the relevant fire and rescue service national frameworks, each fire and rescue authority must produce a risk management plan that identifies and assesses all foreseeable fire and rescue related risks that could affect its community, including those of a cross-border, multi-agency or national nature.

The fire and rescue risk management plan must consider the NRA and NRR, the CRA and CRR, and any other appropriate risk assessments or risk registers.

When considering the storage of and access to the risk management plan it is necessary to determine the appropriate information and level of detail. The risk management plan should be produced and published in accessible formats for a wide audience, including:

- Personnel, including incident commanders, to support appropriate decision-making
- Other fire and rescue services and agencies
- The public

**Operational planning**

To be effective and integrate the culture of successful health, safety and welfare management, fire and rescue service planning should be proactive and set out to identify, eliminate and control hazards to reduce the risks to its employees, the public, property and the environment. This takes place at three levels:

1. **Strategic**

   Where a fire and rescue service demonstrates their strategic commitment to the health, safety and welfare of all employees by planning their health, safety and welfare policies, deciding priorities, providing resources, and developing strategies to promote a positive safety culture.

2. **Systematic**
Where a fire and rescue service plans the delivery of strategies to minimise hazards and risks to employees, to deliver a positive safety culture. This planning ensures that managers assess the level of risk and apply the necessary controls in the operational environment.

3. Dynamic (at incident)

Where operational personnel continuously evaluate and manage risk at the incident. An important part of risk management at this level is the post-incident review where relevant information is recorded and fed back into the strategic decision-making process via the systematic level, so that safety standards can be constantly improved.

**National Operational Guidance**

National Operational Guidance provides information about the hazards faced by operational personnel and the appropriate control measures to resolve them. By completing a strategic gap analysis of the guidance and considering their risk management plan, fire and rescue services can develop appropriate operational risk assessments.

The guidance has been written to allow flexibility in approach for fire and rescue services to implement control measures appropriately in their area for their personnel, resources and considering their own priorities and risk tolerance.

The guidance aims to allow flexibility and discretion in approach, so that personnel can respond in an appropriate and proportional manner to the hazards they encounter, in the context they find them, and through considering the benefits of their actions. Where policies or procedures prevent action that is necessary due to unforeseen circumstances or unidentified hazards, operational discretion may be applied. Detailed information about the application of operational discretion is provided in the Incident command guidance, and in the Incident command: Knowledge, skills and competence.

The guidance should not be applied directly to the activities of fire and rescue services; this should be informed by local risk management planning, equipment, training and resourcing. It is recognised that the emergency response priorities and capabilities of each fire and rescue service will differ.

**Operational risk assessments**

Planning should establish, implement and maintain procedures for hazard identification, risk assessment and determining the necessary controls. In the context of operational risk information, the hazard identification and risk assessment processes should take into account the:

- Range of possible fire and rescue service activities
- Which employees may be involved in using operational risk information, and their
Operational risk assessments should identify how the fire and rescue service will implement the control measures required to eliminate or reduce risk. These control measures may require:

- Appropriately trained personnel, including specialist advisers
- Suitable vehicles and equipment, including
  - Personal protective equipment (PPE)
  - Respiratory protective equipment (RPE)
- Detailed procedures on how to establish a safe system of work; these may take the form of:
  - Standard operating procedures
  - Tactical plans
  - Operational information notes
  - Other policy and procedure statements

It is important for fire and rescue services to determine their level of risk tolerance, and to ensure all employees understand the implications. This will affect the activity of personnel, and incident commanders in decision-making and development of tactical plans.

All risk assessments should consider a partnership approach with other fire and rescue services and other agencies. Managing operational risk information should take into account the existing and future needs for intraoperability and interoperability.

Horizon scanning should form part of risk management planning. Fire and rescue services should consider nationally-identified incident patterns and how their area is likely to change, including planned developments or expected changes such as:

- Community risk profile
- Housing stock
- Infrastructure
- New industry
- Technological developments

Further and more specific information on operational risk information is provided in the Site-Specific Risk Information and Emergency response plans.

For further information about its implementation, refer to the guidance for Operational risk assessment.

Management of operational risk information
All relevant operational risk information should be recorded and made available to those who legitimately need to access the information.

The commitment and leadership of the strategic management team is essential to the success of the operational risk information system. Managing operational risk information is part of an integrated approach to managing risk and ensuring safe systems of work for all employees. The approach should be defined, and supported by policies and procedures to ensure there is:

- Strategic direction which demonstrates how the duty for the provision of operational risk information is linked to the operational duties of personnel
- Assigned responsibility for establishing, implementing and maintenance of operational risk information
- Established processes for the audit and review of operational risk information
- Clarity of responsibility:
  - Of the fire and rescue service management team
  - Across different functions in the fire and rescue service
  - Between partner agencies
- Clear documentation, with document control and compliance with data and information management
- Appropriate distribution of operational risk information to employees; this may include the use of electronic means such as mobile data terminals
- Appropriate sharing of operational risk information with other agencies, subject to data and information management compliance

**Monitoring performance of risk management**

The provision and management of operational risk information and the risk management plan should be monitored in order to:

- Assess the effectiveness of arrangements
- Provide reports on the qualitative and quantitative measures of performance
- Provide information on how the risk management system is operating
- Identify areas where corrective action or continual improvement is required
- Consider its impact on health and safety management
- Provide a comparison between historic and current performance
- Consider the views of other parties and agencies
- Identify the benefits of the risk management plan

**Strategic actions**

Fire and rescue services must:
Produce and maintain a risk management plan in line with legislative requirements

Fire and rescue services should:

- Develop risk management plans that are compliant with legislation, and in consideration with the National Risk Assessment and Community Risk Assessment

- Consider inclusion of previous incident history, identified risks and horizon scanning as part of the risk management plan

- Consider cross-border risks during risk management planning in collaboration with neighbouring services

- Share the completed risk management plan with employees and the public in accessible formats

- Define the strategic responsibilities for the development of policies and procedures in support of risk management

- Determine their level of risk tolerance and communicate this to relevant employees so that they operate within set boundaries

- Share the operational risk information with employees in accessible formats

**Tactical actions**

There are no tactical actions associated with this control measure.

**Control measure - Health and safety management**
Control measure knowledge

Fire and rescue authorities need to meet their legislative requirements with regard to health and safety, and discharge their duties safely and effectively. Health and safety management should be integrated into fire and rescue service management systems, and should support risk management planning.

The Health and Safety Executive (HSE) publication, [Managing for health and safety (HSG65)](https://www.hse.gov.uk/library/books/hsg65.html) provides a ‘Plan, Do, Check, Act’ approach to achieve a balance between the systems and behavioural aspects of management. It treats health and safety management as an integral part of good management generally, rather than as a standalone system.

This guidance focuses on the fire and rescue service’s operational response, and the training for that operational response. In addition, fire and rescue services will need to develop health and safety policies for non-operational activities.

Legislation and regulations for health and safety at work

The [Health and Safety at Work etc. Act](https://www.legislation.gov.uk/ukpga/1974/39) and the [Health and Safety at Work (Northern Ireland) Order](https://www.legislation.gov.uk/ukpga/northern-ireland/1996/11) apply to all activities of fire and rescue authorities as the employers of fire and rescue service personnel. The acts require employers to ensure the health, safety and welfare at work of their employees and that their activities do not adversely affect the health and safety of other people.

These health and safety duties are not absolute and are qualified by the test of what is reasonably practicable. Therefore the acts do not require all risks to be eliminated, and the Health and Safety Executive (HSE) and the Health and Safety Executive Northern Ireland (HSENI) recognise that, even when all reasonably practicable precautions have been taken to deal with foreseeable risks, harm could still occur.

The acts are supported by a series of regulations, approved codes of practice and guidance documents that impose a comprehensive range of health, safety and welfare responsibilities on fire and rescue authorities. Some regulations impose absolute duties but the majority are qualified by the test of what is reasonably practicable.

Health and safety enforcing bodies

The Health and Safety Executive (HSE) and the Health and Safety Executive Northern Ireland (HSENI) are the enforcing bodies for health and safety matters within the UK fire and rescue services. They have a remit to carry out inspection, investigation and enforcement, as well as to provide advice and guidance to all fire and rescue services.

Health, safety and welfare policies
Fire and rescue services must implement a policy statement indicating their commitment to health, safety and welfare. The overarching policy and other supporting policies should cross-reference to appropriate procedures. All policies should be concise and provide clarity.

There are ten key elements to effective health, safety and welfare policies:

1. The organisation’s responsibilities

The general statement of intent of the governing bodies and the lead manager should state commitment to the wider vision. This should be reviewed, signed and dated at regular intervals, or following significant events. The overarching health, safety and welfare policy of the fire and rescue service governing body can specify the responsibilities of personnel from the chief officer to the firefighter, detailing key job titles, responsibilities and how and when actions are taken. This includes the provision of training and the duties of specialist advisers.

2. Arrangements for consulting with employees

There must be arrangements in place to consult with employee safety representatives and representative bodies on matters relating to health, safety and welfare, including operational policies and procedures, and hazard analysis.

3. Arrangements for procuring and maintaining operational equipment

Fire and rescue services should have adequate and appropriate arrangements in place to ensure that all vehicles and equipment requiring maintenance are identified, and that suitable maintenance programmes are undertaken. This will include appropriate procedures for identifying the requirement for new or replacement equipment, and determining that it is fit for purpose, matches the requirements of the risk-management plan, and supports the health, safety and welfare policies.

4. Arrangements for identifying, interpreting and reviewing guidance and information

Fire and rescue services’ governing bodies should ensure adequate systems and processes are in place to identify the implications of National Operational Guidance, National Operational Learning action notes and other NFCC publications, as well as health, safety and welfare legislation and regulations. Individuals with the relevant competence should review existing guidance and service procedures.

For more information refer to:

- National Operational Guidance implementation model
- Strategic Gap Analysis user guide

5. Arrangements for developing and reviewing procedures
There must be a systematic approach to the identification of risks and the allocation of resources to control them.

6. Communicating information to relevant personnel

Appropriate and current information must be distributed to relevant personnel on the hazards, risks and control measures associated with their work.

7. Arrangements for reporting, recording and investigating accidents and near misses

There must be a system in place to investigate accidents and incidents to identify immediate and underlying causes. This should be linked to suitable arrangements for preventing recurrence and addressing learning outcomes. These systems should enable personnel and risk prevention agencies to analyse and identify trends and issues.

8. Arrangements for reviewing resources for health, safety and welfare

It is recognised that the resourcing of health, safety and welfare will vary between authorities depending on their local planning arrangements.

9. Arrangements for monitoring and measuring performance

Fire and rescue authorities should be able to provide evidence of monitoring and measuring performance against pre-determined plans and standards.

10. Arrangements to address health, safety and welfare including occupational health issues

Fire and rescue authorities must ensure they have adequate arrangements in place for the health, safety and welfare of employees.

**Policies for operational activity**

Policies for operational activity should have the important principles of health, safety and welfare embedded within them. The guiding principles of health, safety and welfare in the fire and rescue services are for there to be:

- A clear and positive leadership from governing authorities and principal officers for:
  - Matters relating to health, safety and welfare
  - Promoting a positive health, safety and welfare culture
- A named and appropriately qualified person to take lead responsibility and accountability for the management of health, safety and welfare in the organisation
- Constant and active health, safety and welfare engagement in the service's activities
- Engagement of employees, encouraging two-way communication and promotion of a positive health, safety and welfare culture throughout the service
• Clear personal responsibilities of individuals and processes to ensure health, safety and welfare is embedded into all activities
• Scrutiny of the health, safety and welfare management system, which must be an identified function of the fire and rescue authority
• Well-established management and incident command arrangements in place for controlling the operational risks to personnel
• Appropriate resourcing of safety management to ensure duties are met on and off the incident ground, and while on-call for retained duty system personnel
• Assurance and **debrief management** for operational incidents
• Provision of training to ensure personnel are competent to perform their roles and to make appropriate operational decisions
• Monitoring to resolve health and safety concerns, based on:
  - Leading indicators; these are predictive measurements that can use workplace audits and inspections to prevent future accidents
  - Lagging indicators; these are output measurements that include monitoring and evaluating accidents, near misses and operational activity
• Clear internal standards and safe operational procedures, to ensure personnel understand that effective health and safety does not mean avoiding risks but managing them responsibly to protect emergency responders, the public, property and the environment

**Learning**

Sharing good practice within the organisation, and with other fire and rescue services and agencies, enables lessons to be learned from any health and safety event. National Operational Guidance recommends the use of National Operational Learning and Joint Organisational Learning to share learning from planning, incidents and training.

**Strategic actions**

Fire and rescue services must:

• Implement a policy statement indicating their commitment to health, safety and welfare

• Comply with legislation and regulations relating to health, safety and welfare

Fire and rescue services should:

• Have arrangements in place for identifying, interpreting and reviewing guidance and information that could impact on health, safety and welfare in the organisation
• Engage with employees and encourage two-way communication in order to promote a positive health, safety and welfare culture throughout the service

• Appoint at least one named person to take lead responsibility and accountability for the management of health, safety and welfare in the organisation

• Ensure senior managers are held responsible for the management of health, safety and welfare

• Establish clear personal responsibilities of individuals and processes to ensure health, safety and welfare is embedded into all activities

• Ensure the responsibilities of individuals within the service for the management of health, safety and welfare are met

• Have arrangements in place to consult with employee safety representatives and representative bodies on matters relating to health, safety and welfare

• Have processes in place to support the prompt identification, investigation and addressing of health and safety events

• Implement monitoring procedures to identify trends and patterns from accidents and near misses

• Implement processes to identify health and safety concerns using both leading and lagging indicators

• Record actions taken following a health and safety event, and share this information with relevant personnel and organisations

• Ensure all operational equipment is procured and maintained in line with health, safety and welfare policies
Tactical actions

There are no tactical actions associated with this control measure.

Control measure - Site-Specific Risk Information

Control measure knowledge

Fire and rescue authorities must make arrangements to obtain the information necessary to deliver their legislative responsibilities. This includes the requirement for site-specific assessment.

Developing Site-Specific Risk Information (SSRI) will also help to inform the wider topic of operational risk planning and management.

A site-specific assessment should take into account current legislation and regulations for inspections, and should include information on pre-planned fire and rescue service activities.

It may not be possible to identify and plan for all risks in a services area. Fire and rescue services should consider developing risk information for contexts with common hazards, such as a roadways, bodies of water or warehouses.

SSRI process

Fire and rescue services should establish a programme of work for developing and distributing SSRIs, which includes the following steps:

- Develop the criteria for requirement of SSRI
- Develop systems and processes to embed a culture of SSRI gathering, recording and communication
- Produce suitable templates to record and capture the SSRI
- Identify the sites to be inspected
- Assess the type, size and severity of identified risks
- Record significant findings
- Gain local specialist advice from partner agencies or other organisations
- Ensure that familiarisation visits and exercises are carried out at identified premises or sites; this may require participation from cross-border resources
- Establish a delivery method to present SSRI in a clear and timely manner
- Embed a quality assurance programme
• Schedule reviews and audits for the validity and accuracy of such information
• Ensure communication systems are in place to inform relevant personnel, stakeholders and partner agencies of the SSRI; this may need to include resources across borders or boundaries
• Make SSRIs available to personnel in accessible formats, to help them successfully plan for and resolve incidents
• Structure risk information so it is easy to identify risk critical content, such as evacuation arrangements and significant hazards
• Identify specific operational knowledge, equipment, skills and understanding, which may need to be incorporated into local training plans
• Encourage feedback from personnel about any errors or omissions in SSRIs
• Ensure inaccuracies in or omissions of SSRIs are resolved and systems updated

Communication about and distribution of SSRIs should be compliant with the data and information strategy of the fire and rescue service. For example, information about sensitive sites may need to be protected and distribution limited to personnel who have the appropriate security clearance.

SSRI content

This guidance provides some suggested topics for the development of SSRIs. However, each fire and rescue service should develop SSRIs for the qualifying sites in their area.

A SSRI gathering template has also been provided. Click the link below for access

National Operational Guidance: Operations Appendix A Information gathering form

SSRI: Generic content

• Location of:
  ◦ Specified access routes and points
  ◦ Rendezvous points (RVPs)
  ◦ Strategic holding areas (SHAs)
  ◦ Areas that are unsuitable for vehicular access
• Contact details of:
  ◦ Responsible person
  ◦ Duty holder
  ◦ Accountable person
  ◦ Specialist resources for advice or assistance
• Environmental risk
• Ground conditions
• Presence of confined spaces
• Type and location of utility supplies
• Presence of hazardous substances, including UN number
• Presence of cylinders, including acetylene
• Presence of biological hazards
• Proportionate level of response
• Salvage plans
• Disaster plans
• Alarms or warning signals
• Noise hazards
• Animals held in a permanent or semi-permanent location
• Evacuation plans
• Facilities to evacuate or shelter large numbers of people
• Requirement for specific firefighting media
• Requirement for large volumes of firefighting media
• Water supplies, hydrants and alternative water supplies
• Appropriate locations for firebreaks

**SSRI: Bodies of water**

• Type of use
• Launch sites and safe entry points
• Water movement, including the impact of tides
• Upstream and downstream features
• Water temperature charts
• Contact details of responsible agencies

**SSRI: Buildings**

• Location of:
  ◦ Emergency boxes (premises information boxes)
  ◦ Building fire control room
  ◦ Access, egress and designated evacuation routes
  ◦ Firefighting lifts
  ◦ Refuge points and protected zones
• Presence and control of:
  ◦ Building systems
  ◦ Engineered solutions and associated fixed installation systems
  ◦ Fixed communications systems
  ◦ Security features
• Design and layout of building:
  ◦ Open-plan layouts
  ◦ Atriums, including any fixed ventilation systems
  ◦ Mezzanines, galleries, raised storage areas
Auditoriums or stadiums
Basements

**Occupancy type:**
- Vulnerable people
- Presence of hoarding
- People who may require assistance

**Evacuation:**
- Evacuation strategy
- Evacuation alert systems
- Personal emergency evacuation plans (PEEPs)

**Building design:**
- Structural elements, frames and materials
- Construction materials
- Compartmentation, including concealed spaces
- Information about alterations or conversions

- Potential bridgehead locations
- Firefighting facilities
- Firefighting contingency arrangements

**SSRI: Flooding**

- Locations that are subject to flooding
- Links to flood response plans
- Potential sites for high volume pumps (HVPs)

**SSRI: Industry**

- Design and layout of site
- On-site vehicles
- On-site machinery
- Large volumes of hazardous substances
- Laser equipment
- Scanning equipment
- Pressure systems and equipment
- Silos and storage tanks
- Slurry pits and lagoons
- Combustible dust
- Extreme heat
- Extreme cold
- Electromagnetic field (EMF)
- Magnetic equipment
- Molten materials
• Munitions
• Sites with security features
• Waste sites

SSRI: Sites of special scientific interest

• Location and boundaries of the site of special scientific interest (SSSI) or other conservation area
• Environmentally-safe areas for deployment and movement of fire and rescue service resources

SSRI: Transport

• Transport networks and modes of transport likely to be present
• Evacuation from transport networks or modes of transport
• Agencies likely to respond to transport related incidents
• Methods and routes for transporting hazardous material cargo
• Aerodromes:
  ◦ Buildings
  ◦ Infrastructure
  ◦ Access arrangements
• Rail networks:
  ◦ Provision of safe access for the fire and rescue service
  ◦ Ownership and management responsibility
  ◦ Type and control of power supplies
  ◦ Underground routes
  ◦ Tunnels
• Waterways:
  ◦ Type of operation
  ◦ Access and egress points
  ◦ Isolation points

SSRI: Tunnels and underground structures

• Type, size and use

SSRI: Utilities and fuel

• Uninterruptible power supply systems or standby generators
• Renewable energy systems, including photovoltaic (PV) systems
• Gases, liquids, flowing materials
• Presence of chemicals
• High-security features
SSRI: Wildfires

- Locations that are subject to wildfires
- Availability of wildfire fire plans
- Agencies likely to respond to wildfires
- Potential sites for high volume pumps (HVPs)

Strategic actions

Fire and rescue services should:

- Establish a programme of work for developing, reviewing and distributing SSRIs
- Provide all operational personnel with awareness training on the content, structure and purpose of SSRIs
- Ensure the distribution of SSRIs is compliant with their data and information strategy

Tactical actions

There are no tactical actions associated with this control measure.

Control measure - Emergency response plans

Control measure knowledge

The Civil Contingencies Act (CCA) places a responsibility on Category 1 responders to produce and have in place emergency response plans, which may include procedures for determining whether an emergency has occurred.

There is a national framework for managing emergency response and recovery, irrespective of the size, nature and cause of an emergency. It also identifies the various tiers of single and multi-agency management, defining the relationship between them and a common framework within which individual agencies can develop their own plans and procedures.
For further information refer to:

- [Emergency Response and Recovery Guidance](#) (England and Wales)
- [Responding to Emergencies](#) (Scotland)
- [Emergency Preparedness](#) (Northern Ireland)

When developing emergency response plans a wide-range of factors should be considered, including:

- Anticipation, by horizon scanning for risks and potential emergencies
- Preparedness, by having a shared understanding of roles and responsibilities and how they fit into the wider, multi-agency picture
- Managing operations and making decisions at the lowest appropriate level
- Establishing a clear and unambiguous strategic aim and objectives
- Putting in place information management and appropriate preparatory measures to build situational awareness
- Developing a Common Recognised Information Picture (CRIP), a single, authoritative strategic overview of an emergency or crisis that is developed according to a standard template and is intended for briefing and decision-support purposes
- Integration, by having multi-agency involvement, roles and prominence
- Co-operation, by supporting inclusive decision-making processes, openness and mutual trust
- Continuity, through using established experience, expertise, resources and relationships to manage and respond to emergencies

Pre-planning and liaison should aim to:

- Improve operational capabilities
- Develop more inclusive policies, procedures and terminology
- Deliver multi-agency plans for managing the foreseeable risks identified in:
  - National Risk Register
  - Community risk registers

**Intraoperability and interoperability**

The fire and rescue national frameworks state that fire and rescue services should collaborate with other fire and rescue services, other emergency services, wider Category 1 and Category 2 responders and local emergency planning groups, to achieve intraoperability and interoperability. Further information is provided in the JESIP publication, [Joint Doctrine: the interoperability framework](#).

Collaboration can be supported by having common or compatible:

- Communication systems
• Equipment
• Command and control structure
• Co-ordination arrangements

**Prepare, test and exercise emergency response plans**

The development of emergency response plans with specialist advisers, other agencies and operational personnel should focus the content of the plans to:

• Identify key objectives
• Identify options
• Provide tactics
• Ensure multi-agency agreement

All plans should be tested and exercised in accordance with the enforcing authority's requirements, which should be proportionate to the identified risks. Plans should be reviewed and updated at appropriate intervals, and following any learning events or exercises.

Fire and rescue services should be involved in preparing, testing and exercising emergency response plans in relation to any legislative requirements, such as the Control of Major Accident Hazards (COMAH) regulations. There should also be a training and exercising strategy for significant hazardous materials sites, as it is particularly important that plans for high-hazard sites do not have conflicts between agencies.

**Sharing information**

Information is critical to emergency response and recovery, including mobilising and operational activity. Sharing information, intelligence and data effectively is key to collaboration, ensuring an effective and co-ordinated response to foreseeable risks and emergencies. However, maintaining the flow of information between agencies, with partners, and to the public, can be extremely challenging under emergency conditions.

Effective information management depends on the appropriate preparatory measures being in place to build situational awareness and on developing a Common Recognised Information Picture (CRIP) at the local, regional and national levels if appropriate. Such measures will need to support:

• Transmitting and collating potentially high volumes of information from multiple sources
• Assessing collated information to ensure its relevance, accuracy, timeliness, accessibility, interpretability and transparency
• Translating available information into appropriate information products; for example to:
  ○ Brief the Strategic Co-ordinating Group (SCG) or national groups
  ○ Release it to the media for public information
Some of the challenges that may need to be addressed in collating, assessing, validating and distributing information under emergency conditions include:

- Information management procedures varying between agencies
- Differing perspectives on the event or situation
- Mistakes or misunderstandings occurring under pressure
- Overloaded communications

Fire and rescue services should work with other agencies to establish efficient information management systems and embed their use in multi-agency emergency management arrangements. Information should be shared in a way that is responsive to the needs of emergency responders, including control room personnel, and is compliant with legislation relating to information security. Information should also be compliant with the Government Security Classifications.

The information needs and arrangements of each agency should be thoroughly understood and tested, through the use of pre-planning, and establishing protocols that can be implemented during an emergency.

**Using common terms and symbols**

A common standard for terms and symbols is critical to effective intraoperability and interoperability. The use of terminology unique to a single agency is likely to reduce the benefits of intraoperability or interoperability, and may reduce the level of co-operation and co-ordination locally, regionally or nationally. This may also apply to concepts of operation, memoranda of understanding or other agreements.

Terms and definitions should wherever possible be drawn from national standards and publications, rather than local initiative and invention. For further information refer to:

- Civil Contingencies Act
- Cabinet Office - Civil Protection Lexicon
- Common Map Symbology

**Strategic actions**

Fire and rescue services should:

- Ensure that personnel are familiar with the roles and responsibilities of other agencies for emergency response
- Pre-plan and liaise with other agencies and partners to enhance effective joint working when
delivering an emergency response

- Prepare, test and exercise emergency response plans; these should be reviewed and updated periodically and following learning events or exercises

- Ensure an effective and compliant system is in place for sharing information with partner agencies when delivering an emergency response

- Work with other agencies to develop common use and understanding of terms and symbols appropriate for emergency response

**Tactical actions**

There are no tactical actions associated with this control measure.

**Control measure - Operational audits**

**Control measure knowledge**

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 a fire and rescue authority's duties. For example, under the Fire and Rescue National Framework for England, there is a requirement to produce an annual statement of assurance.

It should be noted that operational audits are not connected with the National Resilience assurance process.

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
The process will require the appointment of operational assurance officers, who are appropriately trained to assess and monitor the performance of other personnel.

Operational audits may also be a source of information for operational learning and risk management planning.

**Benefits**

Operational audits should be used to help a fire and rescue service to understand the responsibilities and risks faced by their personnel. An audit should determine if there are efficient, effective and reliable processes in place for the gathering of operational information and data. The audit process should predetermine the areas to be covered and the benchmarks against which the information will be measured, including:

- 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 service's ability to meet their operational and strategic objectives

Audits should be planned on a regular basis to carry out a full and critical appraisal of the service's operational risk management system. These should aim to:

- 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

**Monitoring performance**

Measuring performance against predetermined standards provides information on how effectively fire and rescue services are controlling risks, and provides feedback that can influence organisational learning and the decision-making process.
Performance indicators can be used for qualitative and quantitative monitoring of organisational performance, as part of an ongoing review process for the operational risk management system.

Arrangements should also be made to review any circumstances where unacceptable performance is identified, whether during training or at incidents. The reasons for the unacceptable performance should be determined, rectified and communicated if appropriate.

It is important that any lessons learned gained through identifying and managing unacceptable performance are shared, so as to benefit the entire organisation and feed the process of continuous improvement.

**Debrief management systems**

Debrief management systems are essential to ensure a robust and consistent means of capturing the outcomes of monitoring, audit or review of operational tasks and activities.

Debriefs are a key component of continuous improvement in all organisations. Features of a good debrief management system are:

- The ability to record all information relating to an incident, including any associated and relevant documentation, such as:
  - Policies and procedures
  - Training manuals
  - Site-Specific Risk Information (SSRI)
  - Standard operating procedures (SOPs)
- Record who has been assigned any tasks resulting from the debrief
- The ability to produce reports based on the information collected from all debriefs
- Producing data that can be used for scrutiny, discussion and action purposes
- Capturing and monitoring any recommended actions to ensure:
  - Appropriate changes are implemented
  - Target dates are met
  - That final outcomes of individual issues are published and reviewed

**Strategic actions**

Fire and rescue services should:

- Use operational audits to maintain and improve their ability to manage risks and deliver an operational response
- Appoint suitably trained operational assurance officers
• Establish an operational audit process

• Measure and monitor performance against predetermined standards to provide information on how effectively they are controlling risks

• Consider using performance indicators for qualitative and quantitative monitoring of organisational performance

• Establish a debrief management system that supports the full debrief process from initial discussions through to implementing recommended actions

• Establish a process to ensure audit recommendations are assessed and implemented

**Tactical actions**

There are no tactical actions associated with this control measure.

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**Control measure - Competence and training**

**Control measure knowledge**

Occupational competence is defined as the ability to consistently achieve the stated outcome of workplace performance.

Competence and training policies should be established for the roles of all employees, including:

- Operational personnel of all levels
- Policy writers
- Personnel who compile risk information or undertake risk assessments
- Training instructors and assessors
- Fire control personnel
- Non-operational personnel
- Investigating officers
- Specialist advisers
Competence and training policies should detail:

- Clear definitions of the knowledge and skills that are required to demonstrate competence
- How and to what level the required knowledge and skills will be assessed
- How to identify employees who have not used their skills during a set period, indicating the need for refresher training or retesting
- How to confirm that employees have received appropriate and sufficient training
- The ways in which employees who have failed to demonstrate occupational competence will be managed

The expected occupational competence for all roles should be established taking into account:

- The risk management plan
- The expected activities of an individual based on their role
- The incidents that operational personnel are likely to encounter

The established occupational competences should be based on role maps and relate to the relevant benchmark standards that define what competence is.

Services should set up and deliver an assessment, assurance and verification process that will give the competence process the impartiality, consistency, robustness and auditability it needs.

**Managing competence and training**

To effectively manage competence and training it is necessary to have in place a policy that is clear and well-structured. It should provide information on how competence and training is maintained and recorded.

A recording system of competence and training should:

- Be easy to maintain
- Provide all employees with the means to record and manage competence and training
- Help to identify failings in competence, and what support is available to help correct this
- Provide the means to interrogate records to identify up-to-date competence and training records of all employees

**Training needs analysis**

At a strategic level, fire and rescue services should have a clear understanding of the hazards faced by its employees. Risk assessments should be used to develop a training needs analysis (TNA), based on elements including:
• The clearly defined roles that are required to meet the service’s risk management plan
• The tactical plans needed to deliver the expected outcomes, based on the resources available
• Defined standards of competence for:
  ◦ Knowledge
  ◦ Skills
• An action plan for how competence will be achieved, including:
  ◦ Acquisition of knowledge
  ◦ Acquisition of skills
  ◦ Consolidation and enhancement of job-related expertise
  ◦ Maintenance of competence
  ◦ Responsibilities, methods and frequency
• Correlation of activities to the appropriate training specifications or standards and role maps

Based on the training needs analysis for all employees there should be:

• Successful training to an appropriate standard, relevant to each employee’s role
• Competent and proportionate assessment and appraisal of knowledge and skills

For operational personnel, the training needs analysis should also consider:

• How training activities will be demonstrated in an operational context
• How training will be synthesized in the absence of attending sufficient and appropriate incidents

To support the training needs analysis, effective training should be developed and delivered by suitably qualified personnel, or by an external training provider with appropriate credentials.

**Competence standards for operational risk assessments**

Standards should be established for personnel carrying out operational risk assessments, including competences for:

• Accurately identify the hazards for:
  ◦ Personnel
  ◦ Members of the public
  ◦ Property
  ◦ The environment
• Understanding the range of risk management options available within their fire and rescue service or from other agencies to remove or reduce risks
• Understanding their responsibility for the safety of others and the effect of their actions on the effectiveness of the safety system
• The ability to make professional judgements, taking account:
  ◦ The available information
The severity and likelihood of the risk being assessed
○ The critical nature of the risk management options
  • Knowledge of the requirements and implications of legislation and regulations relevant to the fire and rescue service

**Command competence**

Due to its complexities, further detail relating to command competence is provided in *Incident command: Knowledge, skills and competence*.

**Assess and monitor operational competence**

Due to the hazards that may be encountered, it is important to be able to identify operational personnel in need of additional support and development at an early stage. While simulation can provide valuable evidence of potential performance and application in the workplace, fire and rescue services may choose to use workplace assessment at incidents to monitor for further evidence of application, as well as maintenance of individual competence.

When conducted at an operational incident, workplace assessment provides an important contribution to building a profile of an individual's development by comparing a practical demonstration of underpinning skills, knowledge and understanding of operational response against the role map.

The effectiveness of a workplace assessment will depend on the competence of the assessor. As with any potential learning experience, a workplace assessment should provide objective, constructive feedback immediately after the activity. A suitable record of the activities that were assessed should be made.

Workplace assessments can be very useful if there is evidence that the competence of personnel carrying out safety-critical activities is not up to standard. There should be procedures in place for instances when it is necessary to remove an individual from an activity or their operational role until a suitable demonstration of underpinning knowledge and skills has been obtained.

**Strategic actions**

Fire and rescue services should:

- Establish competence and training policies for the roles of all employees
- Have a policy defining how competence and training will be maintained and recorded
• Set up and deliver an assessment, assurance and verification process to support the competence process

• Maintain competence and training records for all employees

• Develop a training needs analysis (TNA) of the roles its employees perform

• Develop and deliver effective and relevant training for all employees

• Have defined standards of competence for operational risk assessment

• Have processes in place to assess and monitor operational competence

• Provide assistance to personnel if any gaps in competence are identified

• Have a policy that addresses how personnel who are unable to demonstrate competence are supported and the necessary actions when competence cannot be demonstrated

Tactical actions

There are no tactical actions associated with this control measure.

Control measure - Operational learning

Control measure knowledge

Following an incident, fire and rescue services should perform debriefs, investigations and use the assurance process for operational incidents to identify learning, which can:

• Improve public safety
• Improve the safety of fire and rescue service personnel, and others involved during or after fire and rescue service activities
• Share previously unidentified hazards and risks
• Share previously unidentified safe systems of work and control measures

Fire and rescue services should put in place processes and support arrangements for operational learning. This should include the arrangements that would be appropriate for any multi-agency operational learning.

Collecting information

The recording and sharing of significant findings from incidents and investigations helps to inform future practice. This process should start at the incident ground with thorough recording of relevant operational activity, and include a robust incident debrief procedure.

Debriefs should be led in a structured manner and take place at the most practical time following the closure of an incident. They should allow all responders the opportunity to contribute, to highlight good practice or areas of development and to be able to do so in an open and constructive environment. The aim of debriefs is to assist in identifying individual, team or organisational learning.

An incident debrief procedure plays a vital part in both personal and organisational learning. It fulfils a critical or key need for effective learning and development by connecting a root cause with an associated effect. Once identified, this process will enable clear plans or programmes to be agreed, which can be used to address or improve any shortfalls in the fire and rescue service's policies, procedures or information.

Investigation can play an important part in supporting future learning by providing a structured and objective approach to identifying and capturing evidence. This approach should ensure that it withstands scrutiny in its future application and is fit for purpose. Operational learning from any incident type may provide information pertinent to public or responder safety.

Learning opportunities should be identified and shared locally and nationally as appropriate to improve intervention and safety, identify hazards and develop safe systems of work. Any learning should also be shared with National Operational Learning. For further information refer to the Good practice guide for fire and rescue services.

Once the opportunity for future learning has been identified, careful and early consideration should be given to the type and format of information required.

There should be careful consideration about the environment in which the information will be used, as any use of information is subject to legislation and regulations. Refer to Data and information strategy within Data and information management.

Monitoring and highlighting trends
A trend consists of several events that exhibit one or more features in common. This may be geographical, physical or related to other circumstances under which they occur.

Failing to identify trends at the earliest possible stage can risk the possibility of the number or severity of events increasing, so early identification is important. This is particularly true of fire-setting, where a series of small fires may reflect someone's growing confidence before attempting a more serious attack.

Trends in fires or other types of incidents may relate to new products, or changes in the way existing products are used. Investigation can assist when identifying a trend, by establishing its cause, confirming common features and collecting the evidence required to influence a solution.

Identifying and researching a trend should provide a means by which targeted interventions can be taken. Once action has been taken, the impact on the trend should be monitored both remotely and through attendance at scenes. Care will also be required to ensure the problem has been addressed and not just displaced. Effective use of analysis, and fire investigation where appropriate, should help to confirm this.

**External liaison and information**

Liaison with other fire and rescue services and organisations may help to establish whether the trend is localised or being seen in other areas. This liaison can take place through existing groups and communication networks, or established specifically for the trend depending on the nature of the issue. For example, with fire-setting, close liaison with the police and other agencies that maintain relevant data will be important; they may have additional knowledge about individuals or activities.

**Strategic actions**

Fire and rescue services should:

- Have processes and support arrangements for operational learning

- Have processes for sharing appropriate learning with National Operational Learning

- Appoint a single point of contact (SPOC) for receiving and sharing National Operational Learning

- Have processes and support arrangements for identifying, monitoring and addressing trends
• Liaise with other fire and rescue services and agencies when identifying, monitoring and addressing trends

Tactical actions

There are no tactical actions associated with this control measure.

Control measure - Legal proceedings

Control measure knowledge

For ease of publication the terms 'coroner', 'coroner's court' and 'inquest' have been used. However, it is recognised that other terminology is used outside of England and Wales; the equivalent of these terms should be applied where appropriate, for example, procurator fiscal.

For further information refer to:

- The Ministry of Justice, Guide to Coroners Services (for details on the inquest process in England and Wales)
- Information and booklets available on the Crown Office & Procurator Fiscal Service (for details on the inquest process in Scotland)
- Working with the Coroners Service (for Northern Ireland)

Fire and rescue service personnel may be called to give evidence at an inquest into the death of an individual. The aim of an inquest is to establish the means, cause and circumstances of a person's death. The coroner is also lawfully charged to identify measures to prevent future deaths in similar circumstances.

The aim of the inquest is not to apportion blame or to attack the behaviours or actions of key personnel such as the emergency services, but to understand the situation leading up to the event the actions of first responders and the conditions in which the deceased may have been found.

Fire and rescue service personnel are seen as professional witnesses. Their role is to assist the inquest in understanding the situation that the fire and rescue service faced on arrival at an incident and to explain their professional observations, actions and outcomes.

The fire and rescue service witness could be presenting evidence as:
• An officer in charge or personnel directly involved in the incident
• A fire investigation officer who has investigated the cause, spread and outcome of the incident
• A fire safety officer who had inspected a building before an incident
• An expert witness

The coroner will take the fire and rescue service witness through their statement and report made in relation to the incident. An inquest is a fact-finding process and it is not necessary to remember exactly what was said at a specific time during a dynamic incident. The coroner will give the fire and rescue service witness the opportunity to add, confirm or change their statement. This may be followed with more specific questions or requests for clarification on key points of a technical or professional nature from the coroner or others in court, including family members of the deceased.

Fire and rescue service witnesses should avoid using technical or working jargon and seek to present evidence in an unambiguous and simple manner. If a witness is asked a question that they cannot give a full or factual answer to, the coroner may direct them not to answer the question and instead seek to resolve the issue through open discussion with the family members in court.

The aim of the fire and rescue service witness should always be to impart their knowledge and observations from the incident in a clear and informative manner and to add clarity to the inquest's understanding of the incident. The inquest is not necessarily concerned with the specific and individual technical aspects of the activities of any one firefighter during a dynamic incident. Prior to attending, those called to appear should:

• Ensure they have copies of their statement and any report previously provided to the coroner
• Review their statement to ensure the contents are accurate
• Check dates, times and key facts in the statement
• Consider discussing the statement and report with an experienced fire investigation officer, to gain an understanding of the types of questions that may be asked by the coroner or family members of the deceased

Personnel providing witness to a coroner's court are not on trial but are there to assist the court in understanding the circumstances of the incident and should:

• Be prepared to discuss their professional observations and immediate actions on arriving at the scene so that the coroner has a clear understanding of the physical condition of the incident
• Explain how, as a fire investigation officer, they arrived at their stated hypothesis for the cause of the fire and firespread
• Refrain from drifting from their relevant areas of professional knowledge
• Answer the questions in a factual manner; the coroner will oversee the inquest and manage the impact on the family members
Strategic actions

Fire and rescue services should:

- Have guidelines and support arrangements to enable personnel to provide evidence in legal proceedings
- Comply with relevant legislation during legal proceedings
- Carry out appropriate consultation with other emergency services and agencies in preparation for and during legal proceedings
- Ensure evidence and records are prepared to a standard appropriate for scrutiny in any potential legal proceedings

Tactical actions

There are no tactical actions associated with this control measure.

Operations guidance

Introduction

This guidance deals with the hazards that may be present at all types and sizes of emergency incidents or non-emergency events. For clarity this guidance has been developed based on the assumption that a fire and rescue service has received a call for help that results in an electronic record being created, even if it is then determined that resources do not need to be deployed.

The scope of this guidance includes hazards and control measures relating to:

- Corporate guidance for operational activity
- Fire control room operations
- Getting to an incident
- At an incident
- Closing an incident
• Investigations

There are two other sections of National Operational Guidance that should be considered at all incidents; Environmental protection and Incident command.

The Incident command guidance contains topics such as:

- Command of an incident, including situational awareness and decision-making
- Managing an incident, including cordon control and sectorisation
- Resourcing an incident, including additional and specialist resources
- Safety management, including risk assessment, safety officers, emergency evacuation and tactical withdrawal of responders and firefighter emergencies

Given the interdependencies in the topics, it is important that this Operations guidance is read in conjunction with the Incident command guidance.

Risk management plan

Each fire and rescue authority must develop their strategic direction through their risk management plan. To determine the extent of their services, strategic managers will consider their statutory duties and the foreseeable risk within their area.

Work to identify risk and prepare operational plans should consider all stakeholders, including local emergency planning groups and the fire and rescue service risk management plan.

Responsibility of fire and rescue services

Fire and rescue services are responsible, under legislation and regulations, for developing policies and procedures and to provide information, instruction, training and supervision to their personnel about foreseeable hazards and the control measures used to reduce the risks arising from those hazards.

This guidance sets out to provide fire and rescue services with sufficient knowledge about the potential hazards their personnel could encounter when attending incidents. Fire and rescue services should ensure their policies, procedures and training cover all of the hazards and control
Hazard - Failing to effectively exchange information with other agencies

Hazard Knowledge

Misinformation or a breakdown in communication can lead to unsafe systems of work, and uncoordinated or ineffectual activities being implemented, resulting in failing to achieve priorities and objectives. It can also lead to inefficient use of resources in the operational plan.

There is a risk of misunderstanding when an incident requires a multi-agency response, which may lead to a delayed or inappropriate response. This may be due to issues such as technical challenges or the use of varying terminology between agencies. Issues include:

- Words, terms, phrases, symbols or graphics with different meanings or context
- Words, phrases, symbols or graphics with no meaning in other organisations

Control measure - Communication to support intraoperability and interoperability

Control measure knowledge

The importance of a common approach includes the need to ensure operational risk information can be shared and understood by all agencies involved. There should be an integrated operational response, supported by intraoperability and interoperability arrangements. For further information refer to the JESIP publication, Joint Doctrine: the interoperability framework.

Information should be presented to ensure that the detail, level and content supports incident commanders, personnel and other emergency responders without overwhelming or overloading them. The information should be clear, concise and readily understood by all. The exchange of information is key in ensuring a full appreciation of the situation and the circumstances of the incident or emergency.

A successful exchange of information will lead to a clear understanding of hazards and risks,
operational tactics, control measures and procedures being employed.

A common standard for terms and symbols is critical to effective intraoperability and interoperability.

**Strategic actions**

Fire and rescue services should:

- Establish compatible terminology, abbreviations, communication systems and risk information for joint working with neighbouring fire and rescue services

- Make arrangements with other agencies, Category 1 and Category 2 responders to develop a common understanding of terms and symbols

- Ensure that incident commanders are familiar with the responsibilities of other agencies, Category 1 and Category 2 responders and the roles of their representatives that may attend operational incidents – refer to the JESIP publication, *Joint Doctrine: the interoperability framework*

**Tactical actions**

Incident commanders should:

- Use compatible terminology, abbreviations, communication systems and risk information, as agreed by their service, when working with other fire and rescue services

- Use common terms and symbols, as agreed by their service, with other agencies, Category 1 and Category 2 responders

- If there is a lack of common understanding, use plain language to communicate information

**Hazard - Fire control room equipment failure**
Hazard Knowledge

Fire control room equipment failure could impact on one or more of three main types of equipment:

- Call handling equipment
- Mobilising equipment
- Communications equipment

Failure could be due to hardware or software malfunctions, and will impact on the fire control room, operational resources and the fire and rescue service's ability to efficiently deal with incidents.

Control measure knowledge

Requests for fire and rescue service assistance fall broadly into two categories:

- Incidents, which require urgent attendance
- Non-emergency events, which require less urgent attendance

Incident typing is a process for selecting a class or category for the different incidents or events a fire and rescue service may attend. Incident types can be inputted to the mobilising system, assisting with an effective and efficient emergency call handling process.

The incident type is usually based on a hierarchical structure with multiple levels or subsets. The system may offer a list of mobilising incident reference types, and guidance on specific descriptors.

When an incident type is recorded, it allows fire control personnel to run a search for the type during a call. This can provide a structure to begin gathering the relevant information.

The information will assist in building an accurate picture of the incident, to offer fire control personnel proactive operational responses, such as predetermined attendance and action plans. Using incident typing enables consistent and sound decision-making when deploying resources to incidents.

Predetermined attendance
Predetermined attendance can be matched to an incident type. Resources held within the mobilising system are defined and allocated attributes that reflect roles, skills and equipment that may be required to meet the needs of an incident.

A response is calculated by assessing the type of incident and the resources required to safely intervene. This information provides the initial predetermined response which is set up within the mobilising system.

**Strategic actions**

Fire and rescue services should:

- Develop or adopt a process for classifying and recording the types of incidents and events they respond to

**Tactical actions**

Fire control personnel should:

- Apply their fire and rescue service process to determine the correct type of incident or event

- Use the incident type to mobilise appropriate operational resources, or when requesting National Resilience assets

**Control measure - Provide resilient fire control room equipment**

**Control measure knowledge**

To prevent failure of fire control room activities, fire and rescue services need to provide resilient and appropriate fire control room equipment. The equipment needs to efficiently support the activities of the fire control room and operational personnel.

Equipment for fire control rooms falls into three main categories:
Call handling equipment

All fire and rescue services are responsible for providing the means of receiving emergency calls. They also need to notify the person who is responsible for liaising with the call handling agency on the 999/112 service, referred to as the '999/112 liaison point' about the equipment and the public telecommunication services used in fire control rooms.

To support all situations, fire and rescue services need to provide equipment that is capable of functioning at all times. The system should be capable of operating through unplanned events such as telephone exchange failure, power failure or hardware failure.

The number of calls being received should not prevent emergency calls from being connected to fire control personnel. Three routes should be provided for the call handling agency to contact the fire and rescue service. The secondary and tertiary routes would normally only be used if there is an unusually high level of calls, or a fault on the primary line.

Fire and rescue services should reserve primary lines exclusively for receiving 999/112 calls. The Code of Practice for the Public Emergency Call Service (PECS) exists between the emergency services and the call handling agencies to ensure good practice for a quick response to emergency calls. This code of practice is constantly under review by the 999 liaison committee, which is sponsored by the Department for Digital, Culture, Media and Sport (DCMS).

Mobilising systems

The main functions of a mobilising system are to record call information and dispatch the selected resources. Secondary functions include displaying alarm conditions for the system and generating statistical information.

When an incident type and address is entered, the system will interrogate its database to match the address information. To provide fire control personnel with as much information as possible it may also search for details including:

- Risks
- Duplicate incidents
- Telephone kiosks
- Map references
- Historical data

When an address match is made fire control personnel are presented with a predetermined
attendance from the address-based gazetteer. The system makes recommendations, which can be overridden.

Other functions that the system may provide include:

- The batching of calls in spate conditions
- Maintaining a log of malicious calls
- Operating and system alarms
- A training mode
- Call handling times
- The logging of incident data

The use of common coding and interface protocols can allow for systems to be integrated with databases and hardware. This can help to minimise handling of information and ensure a resilient communication system.

The mobilising system will also include an interface with remote equipment so that turnout messages can be transmitted. These messages can be sent to resources in a number of ways; for example, data messages may be sent to a computer located in a fire station or other location where resources are based, even if temporarily. Data links between the mobilising system and the station-end equipment can be provided in a number of ways, such as the wide area network and the public telecommunication services. Multiple bearers are usually employed for resilience.

In the same way that multiple bearers provide resilience against failure in communication routes, data storage and transfer should have built-in resilience and disaster recovery.

In most instances the communications network will comprise a primary, secondary and tertiary backup bearer.

**Communications equipment**

Fire and rescue services must provide the means for receiving emergency calls. The communication systems adopted may integrate telephone and radio voice services into a common platform that may be able to:

- Provide clear audio and visual distinction between emergency and non-emergency telephone calls and radio traffic
- Queue telephony traffic and present priority calls at the top of the queue
- Indicate how long calls have been in a queue to fire control personnel
- Manage radio traffic
- Direct certain telephone call types or call priorities to certain workstations
- Redirect these calls if there are no personnel available to answer them or they are not answered within a certain time using automatic call distribution (ACD)
• Allow supervisors to audio monitor calls
• Allow supervisors to eavesdrop calls and messages
• Record and provide instant playback of calls
• Manage radio assets
• Serve more than one fire control room, for example a collaboration

If this system fails, it would cause disruption to the day to day working of the fire control room. Fire and rescue services should have in place support mechanisms to alleviate this.

Contingency arrangements

Fire control rooms should have contingency arrangements for capturing data, using methods such as:

• Tablets
• Standalone computers
• Paper forms

These arrangements may be required during spate conditions, or in the event of systems failure.

The contingency arrangements should enable recording of incident details, and provide information on the correct type of resource to be mobilised, along with risk information for incidents.

Direct electronic incident transfer

Highways agencies and some police forces use direct electronic incident transfer (DEIT) to electronically send key incident details to each other's mobilising systems. DEIT uses protocols to allow interoperability between mobilising systems from different manufacturers.

The main driver for using DEIT in the fire and rescue service is its potential to deliver quick, reliable information exchange between all fire control rooms as well as those of other agencies. This saves time and provides a clear understanding of the assistance required to resolve an incident. DEIT may be useful in spate conditions, assisting fire control rooms in recording incident details on their mobilising system and passing them directly into a queue on the mobilising system of the affected control, for their attention.

This approach supports the intraoperability, as described on the GOV.UK website about multi agency incident transfer (MAIT).

Fire and rescue services should liaise with other emergency responders in their area to establish a communication strategy. This should consider the use of DEIT and alternative methods, such as the use of telephones.
Strategic actions

Fire and rescue services should:

- Provide resilient and appropriate equipment to support fire control room activities
- Ensure there are reliable communications lines between call handling agencies and the fire control room
- Ensure there are reliable communications lines between the fire control room and relevant personnel
- Have contingency arrangements to temporarily record emergency calls and operational information
- Ensure that data captured using contingency arrangements is transferred into the normal systems once they are functioning
- Consider the use of direct electronic incident transfer (DEIT) as part of their resilient fire control room arrangements
- Establish a communication strategy with other emergency responders in their area

Tactical actions

Incident commanders should:

- Have an understanding of the equipment used by the fire control room, including its functions and limitations

Control measure - Provide support for fire control room systems
Control measure knowledge

Fire control room systems, including the supporting hardware and software, are complex and may fail. These failures may affect the ability of the fire control room to mobilise the most appropriate resource quickly.

Systems, including hardware and software, should be maintained and kept up-to-date to ensure they are consistently available for emergency call handling and resource mobilising.

Maintaining the efficiency of systems should be an ongoing process, to ensure they are performing to the highest standard and that all mobilising data displayed is current. Further support for resilience planning and control room equipment security may be considered good practice.

Training on the use of fire control room equipment may be delivered by system suppliers. This may include customised courses for essential users, and first line maintenance courses for fire control room managers so they can work alongside system engineers if a problem occurs.

As part of any contractual agreement with suppliers, fire and rescue services may consider various maintenance agreements suited to their own organisational requirements.

Strategic actions

Fire and rescue services should:

- Consider the delivery of maintenance and upgrades for fire control room software and hardware
- Maintain and keep fire control room equipment up-to-date
- Have arrangements in place for the rapid resolution of fire control room system failures

Tactical actions

Fire control personnel should:

- Identify signs and symptoms of software or hardware failure, and inform the relevant support team
Control measure knowledge

It is foreseeable that single communication lines, such as the public telecommunication services, could fail temporarily. If this happens it is vital that the call handling agency can still quickly connect an emergency call to the fire control room. It is less likely, although possible, that any alternative line of communications could also fail.

A number of possible routes of communication are available to connect a call handling agency to a fire control room. These include:

- Fixed private wire systems
- Public telephone systems
- Voice over internet provider systems
- Mobile communication systems

Some fire and rescue services have arrangements in place for calls to be handled by other emergency control rooms if the call handling agency is not able to quickly connect to fire control personnel.

In the same way as lines between call handling agencies and fire control rooms should be duplicated, it is also possible to provide multiple bearers for the mobilising system and communications system.

The mobilisation message to a fire station can be via the fire and rescue service’s wide area network, public telecommunication services, private wire or mobile network. When considering backup bearers it is good practice to spread the risk across more than one of these bearer types.

With communications to resources, which are not at a fire station, a nationally procured solution is currently used for the main communications bearer. However, data and voice traffic can also be passed by mobile or satellite networks. This again spreads the risk of failure and ensures fire and rescue services can meet their duties.

Strategic actions

Fire and rescue services should:
• Provide resilience by ensuring they have three communication routes into the fire control room and that at least one of these uses a separate network from the others

• Consider providing multiple bearers for mobilising systems and communications

**Tactical actions**

Incident commanders should:

• Have an understanding of the business continuity arrangements that are required for communications

**Control measure - Provide a critical contact number**

**Control measure knowledge**

For problems to be resolved quickly it is important for the call handling agency manager and the fire control room manager to be able to communicate and agree on corrective actions that can be taken. This may be necessary in the event of:

• High call volumes
• Call surges
• Extended call answering times
• Above average call handling times
• Call handling agency staffing issues
• Fire control room staffing issues

An additional contingency measure is to establish arrangements with other fire and rescue services, or other emergency services, for them to accept calls from call handling agency managers, in the event that there is no response from the critical contact number for the fire control room manager.
Strategic actions

Fire and rescue services should:

- Provide a specific number for call handling agency managers to contact fire control room managers to be used if there are emergency call handling problems

- Consider establishing contingency arrangements with other fire and rescue services for them to accept calls from call handling agency managers

Tactical actions

Incident commanders should:

- Have an understanding of the critical contact number arrangements that are required for communications

Control measure - Establish alternative fire control room arrangements

Control measure knowledge

In the event of needing to evacuate the main fire control room, fire and rescue services should have in place the means to continue receiving emergency calls and mobilising resources. This can be achieved by:

- Having secondary control facilities from where the fire control room function can be quickly re-established
- By entering into a contractual agreement with another organisation to temporarily take over this activity

Secondary control facilities

Mobilising systems offer different secondary control provisions, ranging from a portable laptop computer to a mobilising system and communications interface within a duplicate control on the
same site as the main fire control room, or at a remote location.

Secondary control facilities should be capable of:

- Receiving emergency and other incoming and outgoing calls
- Mobilising resources
- Operating the main scheme radio

The secondary control facilities should be at a location that would not be affected by any disruption to the services provided at the main fire control room. This may require establishing the secondary control facilities with emergency telephone lines from a different exchange to those of the main fire control room.

**Contractual agreements**

If the functions of the fire control room are to be delivered by another organisation, entering into a formal contract should help to ensure any standards can be met. The contract might benefit from including agreed service level arrangements (SLAs) and key performance indicators (KPIs).

**Strategic actions**

Fire and rescue services should:

- Establish appropriate arrangements for the handling of calls, mobilising and communications in the event of needing to evacuate the fire control room

**Tactical actions**

Fire control personnel should:

- Have an understanding of the alternative fire control room arrangements that are required for communications

**Hazard - Delayed or inaccurate mobilising of resources**
Hazard Knowledge

The process of receiving emergency calls, identifying the correct incident location and type, and mobilising the most appropriate resources to the correct location can be delayed or inaccurate due to a number of reasons, including:

- Misrouting of calls by call handling agencies
- Failing to communicate effectively with the caller

Spike conditions and spate conditions may also present challenges for the prompt mobilising of resources to the correct location.

Misrouting of calls by call handling agencies

Calls received from call handling agencies may have been misdirected or misrouted, either to the wrong emergency service or the wrong fire and rescue service.

Once connected to a caller it can become apparent that the call has been misrouted by the call handling agency. The caller may actually require one of the other emergency services or a different fire and rescue service.

Misrouted calls occur where mobile handsets or exchange telephone coverage areas straddle two or more fire and rescue service boundaries. The call handling agency will nominate a fire and rescue service to receive the call. Mobile handsets automatically search for the strongest signal and connect to a base station; this may not necessarily be the nearest to the location of an incident being reported, especially near waterways.

Some mobile handsets provide enhanced location information when dialling 999 or 112, automatically using its built-in location capability using GPS or Wi-Fi information. This additional functionality does not affect the voice emergency call, which will be processed by fire control personnel as normal. It allows the call handling agency to compare the cell coverage from the network and, if geographically consistent, will replace the network location for any enhanced information service for emergency calls (EISEC) queries.

Emergency calls can be received direct from safety equipment, such as that fitted to vehicles (sometimes referred to as telematics), rather than being a voice call from a person requesting assistance.

Failing to communicate effectively with the caller

Emergency calls are received in various ways and sometimes under difficult situations. Apart from receiving calls from known agencies, calls from the public can be challenging if not handled effectively, which in turn can delay resources getting to an incident.
Initially, when dialling 999 or 112, callers will automatically be passed through to the call handling agency, who will then pass the call to the correct emergency service.

On connecting a call to a fire and rescue service, the call handling agency can give a verbal handover to fire control personnel, stating the origin details. Sometimes calls will be passed straight through with no verbal handover. The introduction of call line identification (CLI) or enhanced information service for emergency calls (EISEC), will give fire and rescue services information on the number and address of landline telephones or the nearest cell location for mobile phones. This information is very useful, but cannot be relied on as the exact location of an incident.

There may be communication barriers between the caller and fire control personnel, such as:

- Poor call quality, including poor reception, cutting out or background noise
- The caller not being able to hear, understand or communicate with fire control personnel
- Fire control personnel not being able to hear or understand the caller

The call could have been made by a vehicle safety system, so there is no actual caller to communicate with.

Any of these factors can make it difficult for fire control personnel to manage and extract the correct details for resources to be mobilised, and will increase call handling times.

Failing to obtain and record relevant information could impact on the ability of personnel to carry out a dynamic risk assessment prior to arrival at an incident.

**Spike conditions**

Spike conditions occur with little or no prior warning. This is when a large number of calls to the same incident are received over a short time period, such as a car fire on the motorway or a large fire with plumes of smoke that can be seen over a wide area. These calls usually stop when emergency resources are in attendance.

**Spate conditions**

Spate conditions occur where a large number of calls are being received simultaneously for incidents not at the same address. Spate conditions can go on for periods of hours or even days.

Spate conditions can sometimes be planned for; an example of this would be severe weather forecasts, which may result in incidents such as flooding.

However, this may not always be the case, for example major incidents, such as terrorist attacks.

During spate conditions, calls can be batched together and handed over to locally established
control points for prioritisation and action. If this occurs it is important that any actions are recorded in the same way as for the hard copy recording.

**Control measure - Effective handling of emergency calls**

### Control measure knowledge

Call management processes should be followed in each emergency call. The interaction between fire control personnel and the caller can change depending on the nature of the incident, the caller's location and the predetermined response. Some mobilising systems display prepopulated questions and prompts to fire control personnel during a call. The system can link to a specific incident type list, so the correct advice is given and calls are quality assured.

[Fire Service Circular 54/04 - Emergency Call Management](#) provides national emergency call handling guidance to fire control personnel.

Fire control personnel are the first point of contact for the entire emergency side of the organisation. It is common to deal with people who are excitable, upset, distressed or confused. To obtain the required information fire control personnel should always be professional, supportive and calm.

Emergency calls are received in various ways and sometimes under extremely difficult situations. Apart from receiving calls from known agencies, calls from the public can be challenging if not handled properly, which in turn can delay the mobilisation of resources to an incident. When receiving call information, fire control personnel should record and input all details accurately into a mobilising system to allow the correct location to be displayed so that the correct resources are mobilised as quickly as possible.

### Salutations

The first verbal contact with the caller plays a vital part in focusing them to provide the correct incident details as quickly as possible. Salutations support fire control personnel in instantly engaging with the caller, so that they can efficiently manage the call.

### Structured approach

As calls are received in various ways it is helpful to have a structured approach to answering calls
and taking the most important information quickly and efficiently, whilst reassuring the caller.

**Call challenging**

During any emergency call, fire control personnel should use their judgement to identify where to call challenge. Call challenge is the targeted questioning of a caller, enabling fire control personnel to determine whether the attendance requires amendment. This process may also help to assess that the call is genuine.

**Duplicate calls**

When additional calls are received regarding an incident to which an attendance has already been mobilised, fire control personnel should gather any secondary information that may help to locate the incident, or determine what further action is required. This information can be relayed to other oncoming resources.

This information should be attached to the initial call sheet to enable accurate statistical data on the number of emergency calls received for that incident.

A call may indicate that there could be a second incident in the vicinity. For example, the caller may not agree that it is the same incident, and this cannot be guaranteed from looking at the map or asking ongoing personnel via the radio. In this case a second incident should be recorded and further personnel mobilised. It is essential that personnel going to both incidents are made aware of this to avoid any confusion and ensure dynamic risk assessments are carried out.

**Filtering**

When collating call information, fire control personnel will filter out calls that may not require an attendance, in accordance with their risk management plan. These calls could include automatic fire alarm signals, people locked out of premises, incidents involving animals or flooding. Fire control personnel make an assessment and give relevant advice to the caller on the appropriate agencies or organisations to contact.

**Relay UK**

The Relay UK service allows deaf, hard of hearing, or speech-impaired people in the UK alert police, ambulance, fire, or coastguard services by either calling via a relay assistant or texting a message to 999 using the emergency SMS service. The Relay UK website provides an explanation of how the service operates.

The call handling agency will announce to fire control personnel that the call is from a text user. Name and address details will be provided if they are available; however, details may not be available for users of some network providers.
If for any reason the relay assistant service is extremely busy, a call may arrive from the call handling agency without the relay assistant in conference.

**Call interpreting services**

In order to be able to quickly gather information, it may be necessary to use an interpreting service if fire control personnel are unable to clearly communicate with a non-English speaking caller.

The quickest solution may be to encourage the caller to pass their phone to somebody else to provide the details required. Otherwise, there are a number of agencies who provide interpreting services for a wide range of languages.

**Silent Solution calls**

**Silent Solution** allows for a mobile phone caller to dial ‘55’ to indicate that they are unable to speak. Silent calls are routed by the call handling agency to the police system, but fire control personnel should be aware of the process in case such a call is misrouted. On receipt of what could be a Silent Solution call, fire control personnel should hand the call over to the police force control room.

The Silent Solution system only applies to mobile phone calls, as it is normally possible to trace an address from a landline phone.

**Strategic actions**

Fire and rescue services should:

- Develop standard procedures for obtaining the most relevant information from callers. This will allow the nearest appropriate resource to be mobilised quickly.

- Have the facility for receiving requests for assistance via the Relay UK service

- Have arrangements in place with agencies who can provide call interpreting services

- Have processes in place for handing Silent Solution calls over to the police

**Tactical actions**

Fire control personnel should:

- Obtain information from callers to support prompt and accurate mobilising of resources
Understand how to handle calls presented via the Relay UK service

Identify the need for a call interpreter and request assistance from the designated agency

Understand the Silent Solution call process, and hand any potential Silent Solution calls over to the police force control room

Control measure - Emergency call management

Control measure knowledge

Emergency call management (ECM) is based on a set of generic emergency call prompts. These prompts enable fire control personnel to assess incidents and elicit information appropriate to the call; this informs and assists with mobilising resources.

Efficient ECM may also improve the safety of personnel and the public, as it is possible for the fire and rescue service to start to assess and manage risk while managing an emergency call.

The ECM protocol provides a generic system for the successful management of emergency calls based on the principle that an emergency call can be dealt with in three distinct stages:

- **Stage One**: primary questions, which aid the mobilising decision
- **Stage Two**: assessment questions that help build a picture of the incident, aid mobilising decisions, and assist the safety of responders and the caller
- **Stage Three**: pre-arrival advice designed to assist the safety of the caller and the public at the scene

ECM provides a framework for managing an immediate and developing risk against a set of generic incident types, by evaluating the nature of the call and determining the appropriate resources required.

Fire control room personnel will normally use call prompts when dealing with calls from members of the public, though it is recognised that on occasions more than one generic emergency call prompt may be needed.

The perception of risk may vary between individuals and groups; it is influenced by attitudes, personal experiences and knowledge. When risk based decisions are made, it is important to take
account of known or acquired information and professional judgement within the framework of fire and rescue service policy and standards.

It is important that fire control personnel have the right training and information to support their role in the ECM process. When fire and rescue services are in the process of identifying learning from operational incidents, it is essential that they consider the part played by fire control personnel.

**Strategic actions**

Fire and rescue services should:

- Consider providing fire control personnel with emergency call prompts for gathering information

- Include the role of fire control personnel in debriefing, operational assurance and when identifying learning from operational incidents

**Tactical actions**

Fire control personnel should:

- Obtain information from callers using emergency call prompts, or other methods

- Use known or acquired information and professional judgement when making risk-based decisions

⚠️ **Control measure - Use technology to locate the caller and the incident**

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**Control measure knowledge**

Locating the caller and the incident can be assisted by using technological solutions, in addition to the caller’s description of the location, enabling fire control personnel to mobilise resources more
Enhanced information service for emergency calls

Enhanced information service for emergency calls (EISEC) enables fire control personnel to confirm the caller's location. This is a critical first step in the call handling process, as if the call cuts off the location will be unknown.

EISEC technology, provided by call handling agencies, displays the billing address of the landline being used to make the call to the fire control room. This technology can also be used to locate a mobile phone caller, identifying the cell network from which they are calling. This is particularly useful when callers are reporting incidents on the transport network and do not know their exact location.

Calling line identification (CLI)

Calling line identification (CLI) allows the person receiving the call to see the caller's number. This helps to reduce the dialogue required between fire control personnel and the caller, providing greater speed and accuracy.

Live video streaming

Live streaming, such as the initiative called ‘999eye’, allows video footage or images to be sent directly from a caller’s smartphone to the fire control room. GPS co-ordinates are also delivered, helping to pinpoint the exact location of the incident.

Locating applications

There are many applications that can help callers to provide information about their location when they require assistance. One example is the what3words application, which enables callers to provide a three word address that can be interpreted into a precise 3m² location.

Strategic actions

Fire and rescue services should:

- Consider providing fire control rooms with technological solutions to locate the caller and the incident
Tactical actions

Fire control personnel should:

- Use available technological solutions to help locate the caller and the incident

Control measure - Use technology to mobilise fire and rescue service resources

Control measure knowledge

Fire control personnel should have the knowledge to identify the capabilities and location of fire and rescue service resources and specialist equipment; this will aid them when making decisions. When fire control rooms are busy and information is being gathered from numerous sources, or multiple calls on different incident types are being handled, fire control personnel may have to redeploy resources from one incident to another after carrying out a dynamic risk assessment of each call.

Mobilising systems can display predetermined attendances from their address-based gazetteer and incident type list, to display the nearest resource using an automatic vehicle location system (AVLS). However, fire control personnel should monitor, review and update the resource availability and movement. They can also manually override the mobilising system if a certain resource has become available nearer to an incident, thereby reducing vehicle movements.

Technological solutions can be used to provide mapping information, or to mobilise fire and rescue service resources. These will assist fire control rooms in retrieving and mobilising the nearest relevant resources, after collating call handling information and the correct predetermined attendance.

Geographical information systems

Fire control rooms benefit from being able to clearly visualise caller, incident, resource, and in some cases, risk data. The map-based visualisation of information provided by geographical information systems (GIS) helps them to make more informed decisions.

The GIS functionality in mobilising systems may enable fire control personnel to attach or create risk information for specific locations. They may, for example, denote temporary road closures,
planned major events, Site-Specific Risk Information (SSRI), hydrant data, tactical and COMAH plans. These can aide mobilising decisions and may also be used to provide information to personnel.

These systems may contain information regarding appropriate rendezvous points (RVPs), deployment points or strategic holding areas (SHAs), or may be used to identify appropriate places to be used where no pre-planned arrangements exist.

**Automatic vehicle location systems**

Many resources deployed by fire and rescue services now carry communication equipment that makes use of the global positioning system (GPS) to provide details of location. These are usually referred to as automatic resource location systems (ARLS) or automatic vehicle location systems (AVLS). This information can be displayed on the GIS in control rooms, enabling fire control personnel to confirm the locations of resources.

AVLS provides the exact location of individual fire and rescue service vehicles. This enables the mobilising system to propose the nearest available resource that is appropriate to dispatch to an incident. AVLS improves efficiency, as the mobilising system knows the exact location of resources without human intervention. It also strengthens the speed and accuracy dimension of resilience by enabling the fastest appropriate resources to be identified. The system uses a road network layer to calculate the resource times, taking into account:

- Resource capabilities or restrictions
- Current road conditions
- Whether traffic congestion is being caused by the incident

**Benefits of mobilising technology**

Benefits of using GIS and AVLS technology include the ability to:

- Confirm the location of an incident: when the location details for an incident are entered into the incident capture form on the mobilising system (either from EISEC or manually), the incident location can be displayed on the GIS. If there is any doubt or ambiguity about the information the caller is providing, fire control personnel can refer to the map on GIS to obtain information on adjacent properties, streets and landmarks. This can be used to confirm any location on any incident.
- Select deployment points: the GIS supplied with some mobilising systems enables fire control personnel to 'click' on the GIS to designate the location of an incident, rendezvous point or deployment point rather than selecting from the gazetteer. This provides useful information on larger incidents, for example general hospitals, motorways and trunk roads and gives a more precise location of incidents and information to responding personnel.
- Display the location of resources: use GIS linked to AVL software to show the location of available fire and rescue resources
• Display the availability of resources: the operational status of a resource can be displayed on the GIS. This enables fire control personnel to view the availability of resources.
• Validate resource proposals: fire control personnel can use the GIS information for resource status information, which validates resources proposed by mobilising systems. This ensures that the nearest appropriate resources are dispatched to an incident. It will also provide a sense check for search engines embedded in the mobilising systems.
• Inform closing-in moves: using the operational status and location information provided by the GIS, fire control personnel make informed decisions on fire cover moves. If an area is depleted of fire cover but resources are available on mobile duties nearby, fire control personnel may choose to send a standby vehicle to an empty station or area.
• Add risk information: the GIS functionality in mobilising systems may enable fire control personnel to attach or create risk information for specific locations. They may, for example, denote temporary road closures, planned major events, Site-Specific Risk Information (SSRI), hydrant data, tactical and COMAH plans. These can aid mobilising decisions and may also be used to provide information to personnel.

Dynamic risk assessments

A dynamic risk assessment should be carried out for each call received, taking into account:

• Any requirement to redeploy resources from one incident to another
• Validation of resource proposals
• Any available risk information or pre-planning arrangements
• Passing of any relevant information to personnel attending the incident
• Considering the need for any fire cover moves
• Re-evaluating initial risk assessment and updating other emergency responders as necessary

Strategic actions

Fire and rescue services should:

• Consider providing fire control rooms with technological solutions to mobilise fire and rescue service resources

Tactical actions

Fire control personnel should:

• Retrieve and mobilise the relevant resources using service systems and procedures
• Designate the location of an incident and rendezvous points (RVPs) or deployment points if appropriate

• Carry out a dynamic risk assessment of each call

**Control measure - Use a premises based gazetteer**

**Control measure knowledge**

A premises-based gazetteer is a database containing up-to-date address details for the majority of premises, along with other information such as data relating to motorways, streets, towns, villages, and other points of interest.

If fire and rescue services decide to use a premises-based gazetteer, they should ensure it is maintained and kept up to date. This may be achieved by adopting a gazetteer that is maintained by a third party.

Access to a premises-based gazetteer may be provided to fire control rooms, and to operational personnel via mobile data terminals.

A premises-based gazetteer can:

• Allow a wide range of valuable information to be held alongside address details and points of interest that can be included in system-generated mobilising messages, such as:
  - Site-Specific Risk Information (SSRI)
  - Plans for sites or buildings
  - Action plans or special procedures for sites such as COMAH
  - Key holder or responsible person details
  - Road closures or restrictions

• Improve operational efficiency, increase mobilising accuracy and significantly contribute to strengthening the 'speed and accuracy' dimension of resilience

• Improve the accuracy of an emergency response by enabling exact address information to be relayed to personnel at the time of mobilising

• Help reduce communication errors between fire control personnel, operational personnel and other agencies

• Provide personnel with information on the risks they are likely to encounter at specific
locations

- Improve intraoperability and interoperability by providing a common set of address information

**Strategic actions**

Fire and rescue services should:

- Consider providing a premises-based gazetteer
- Consider using the premises-based gazetteer to hold risk information for relevant locations
- Provide access to the information contained in the premises-based gazetteer to fire control personnel and relevant operational personnel

**Tactical actions**

Fire control personnel should:

- Use the premises-based gazetteer to provide relevant information to personnel or other agencies

Incident commanders should:

- Receive or access relevant information provided by the premises-based gazetteer, and use the information when developing tactical plans

**Control measure - Hold contact information for specialist resources and specialist advice**

**Control measure knowledge**

**Specialist resources**
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. For further information refer to Incident command: Specialist resources.

Specialist advice

As it is not possible for an incident commander to have an 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 (TacAd) to deal with an incident safely and effectively. For further information refer to Incident command: Specialist advice.

Maintaining contact information

Fire control rooms should hold and maintain the contact details for people or organisations that are able to provide specialist resources or specialist advice, including Category 1 and Category 2 responders. Maintaining the accuracy of this information is essential to ensuring a prompt request can be made.

Confirming requests

Depending on the information received during the emergency call, fire control personnel may proactively request for specialist resources and specialist advice, any requests should then be relayed to responding personnel.

Incident commanders should confirm with fire control of any requests for specialist resources and specialist advice.

Strategic actions

Fire and rescue services should:

- Hold and maintain contact details for people or organisations who can provide specialist resources or specialist advice

- Provide fire control personnel with access to the contact details for providers of specialist resources or specialist advice

Tactical actions

Fire control personnel should:
• Contact the appropriate person or organisation when requesting specialist resources or specialist advice

Incident commanders should:

• Confirm with fire control that required specialist resources and specialist advice have been requested or notified, such as police, ambulance or environmental agencies

Hazard - Inability to store and retrieve call and incident data

Hazard Knowledge

Completing incident data logs is 'core business' for fire and rescue service control rooms. The incident log is the means for recording or capturing all information specific to an emergency. It must accurately reflect all activities related to that incident. The information collected will consist of:

• The initial call or calls
• Emergency call handling process
• Mobilising resources and assets
• The information flow to and from the incident ground

The information contained in the log is a chronological record of an incident and will be accessed or referenced long after an incident has been closed. The information may be used for a number of reasons:

• Learning and development from a strategic, tactical or operational viewpoint
• Post-incident investigations, including for fires, accidents or potential criminality
• Sharing with other emergency responders or agencies

The communication and mobilising systems set up by fire control rooms can be used for incident data and logging. The log endorsements are the responsibility of fire control personnel and there should be regular reviews to ensure accuracy, quality and consistency in accordance with relevant legislation, guidance and protocols.
Control measure knowledge

Call details

All call handling details should be recorded by fire control personnel so that an accurate account is logged that will support any queries or reviews.

Instant playback recording

Communication or mobilising systems can record information when fire control personnel either transmits over a radio channel or answers a telephone call. This function should automatically deselect once the action has ceased.

Archive recording

Multi-channel continuous recording archive systems are usually standalone. They should have sufficient storage for all voice traffic to and from all fire control personnel, on the radios and telephones that are clearly identified and assigned to the fire control room.

It should be possible to interrogate the archive system by searching on:

- The date and time of a call or incident
- Fire control personnel position
- Length of call
- Incident number

This system should provide the facility to extract a specific recording and transfer it to a removable media device or in electronic format. It also should also allow the analysis of call data for report templates, call assessment and verification, and be accessible from multiple locations.

Mobilising and communication systems

A mobilising and communication system should be capable of maintaining a log for each incident, recording all times and actions associated with it. This may include:

- Automatic recording of key communications
- Recording information relevant to the incident
- Time and date stamping of critical information
• Interrogation and reporting of mobilising information
• Mobilising and communicating with operational resources

**Strategic actions**

Fire and rescue services should:

• Provide equipment and systems that enable fire control personnel to record and store information

• Provide equipment and systems that support the retrieval of recorded and stored information on a timely basis

• Consider providing instant recording facilities that enable instant playback to fire control personnel

• Ensure compliance with current legislation for the recording of calls and when storing other data or information relating to an incident

**Tactical actions**

Fire control personnel should:

• Effectively use the systems provided to store and retrieve call, data and other information relating to an incident

**Control measure - Follow the standard message process**

**Control measure knowledge**

Fire and rescue services should consider the use of standard message templates to ensure communications between the fire control room and the incident ground are brief. Employing a
suite of standard messages will also lead to consistent reporting of incident specific details, which are understood by all and which will assist fire control room operators in recording such data accurately.

This approach should be used for all methods of transmitting information, including radios and telephones. Mobile data terminals linked to mobilising systems can send status messages in text format, but they should also use standard templates to reduce any confusion as to the type and nature of a message.

The call sign or incident commander’s name should precede any message; this will assist fire control personnel to accurately identify the log to be annotated with information.

Additional messages that are passed between incident ground and the fire control room should follow predetermined content and structure.

Messages or information exchanged with other agencies should follow the guidance provided in the JESIP publication, *Joint Doctrine: the interoperability framework*.

Fire control personnel should be mindful that mobilisation messages may influence the behaviour of responding personnel. In particular the messages may affect a driver’s perception of urgency and therefore their driving behaviour. Using standard messages may avoid or minimise this happening.

It may be necessary to provide responding personnel while driving to the incident with:

- Further relevant information
- Changes to the incident that may influence the urgency of attendance
- Changes to access routes

**Strategic actions**

Fire and rescue services should:

- Develop standardised message formats for use by fire control personnel and operational personnel, that support intraoperability and interoperability
- Predetermine appropriate content and structure for additional messages that are passed between the incident ground and the fire control room
Tactical actions

Fire control personnel should:

- Use the message formats provided when recording information
- Capture call signs or names as provided by the incident ground
- Consider how mobilisation messages might influence the behaviour of responding personnel, including those driving to the incident
- Consider providing additional or updated information in an appropriate manner to responding personnel, including those driving to the incident

Incident commanders should:

- Use the message formats provided to ensure information sent to the fire control room is clear and concise
- Provide a call sign or name as a prefix to any message sent to the fire control room

Hazard - Calls from or about persons at risk

Hazard Knowledge

The fire control room will receive calls from or about persons at risk. There may be a threat to life due to incidents including:

- Fires in buildings, including tall buildings
- Flooding
- Building or structure collapse
- Hazardous materials
- Terrorist activity
A person at risk may either be unable to leave the hazard area because of the incident, injuries sustained, or their physical limitations. Additionally, a person at risk may be able but unwilling to leave the hazard area, because they do not want to leave another person, animal, or possession.

**Control measure - Provide survival guidance**

### Control measure knowledge

Fire and rescue services may find it beneficial to develop a suite of survival guidance that can be provided to persons at risk. Survival guidance should be developed for the most common incident types and hazards that are prevalent in the service’s area, as identified in risk management planning.

It is essential that a joint strategy for survival guidance is developed by the fire control room and the on-scene incident commander. Based on how the incident is developing, or on information gathered by the fire control room, the survival guidance may need to be revised. It is therefore essential that all parties exchange current information and use this to determine any changes in the survival guidance that should be provided to persons at risk.

The location of people and the information they are providing can be used by the on-scene incident commander to build a joint understanding of risk and help when developing a tactical plan. Relevant information should be passed to the incident ground; it may be appropriate to appoint a single point of contact to co-ordinate survival guidance. For more information refer to Search rescue and casualty care - [Situational awareness: Search for a missing person](#).

It may be necessary to co-ordinate with other services or agencies that are receiving calls, based on arrangements that are in place to deal with high volumes of calls during periods of spate or spike conditions. Although advice offered to callers should be tailored to their circumstances, it should be based on a consistent approach. Fire control rooms should co-ordinate with any other control rooms that may be providing survival guidance, to ensure the information provided is suitable and up to date.

Survival guidance should be based on the incident type:

**Fires in buildings (including tall buildings)**

For example, provide appropriate guidance on current evacuation strategy including evacuate versus stay put, and the use of refuge areas.
For further in formation refer to Fire safety in purpose-built blocks of flats.

**Flooding**

For example, isolate utilities, move valuables to upper floor, retrieve essential medication, get out of a vehicle in flood water.

For further in formation refer to Royal Society for the Prevention of Accidents Flood advice and information.

**Building or structure collapse**

For example, try to stay still, try to leave, try to make a noise to attract attention, shelter under furniture

**Hazardous materials**

For example, move uphill/upstream/upwind, stay inside building or vehicle, close windows and doors and turn off ventilation, stay away from casualties, do not drink mains water

**Terrorist activity**

For example, ‘Stay Safe’ (Run, hide, tell)

**Strategic actions**

Fire and rescue services should:

- Develop a suite of survival guidance, based on common incident types and hazards that are prevalent in the service’s area, as identified in risk management planning

- Have in place arrangements to share survival guidance between agencies that may receive calls during spate or spike conditions

- Have arrangements in place to co-ordinate and update survival guidance

**Tactical actions**

Fire control personnel should:
- Develop a joint strategy with the on-scene incident commander about the survival guidance to be provided to persons at risk

- Provide survival guidance to persons at risk in line with the joint strategy

- Gather information from callers that may influence the survival guidance strategy, and provide updates to the on-scene incident commander

Incident commanders should:

- Develop a joint strategy with the fire control room about the survival guidance to be provided to persons at risk

- Be aware of the survival guidance currently being provided by the fire control room to persons at risk

- Revise the survival guidance strategy throughout the incident in consultation with the fire control room

- Consider appointing a single point of contact to co-ordinate survival guidance

Fire control room guidance: Fire survival guidance

During a fire, people at risk may be trapped and unable to reach a place of safety due to:

- Their ability
- The location and behaviour of the fire
- Physical limitations of the environment
- Physical entrapment

There may also be situations where people at risk have the ability to reach a place of safety, however the actions they take and their reasons for doing this may prevent them from doing so. For example:
During these situations, the provision of fire survival guidance (FSG) may be necessary to improve their chances of survival. FSG is defined as the advice and guidance given by fire control personnel to people at risk, who are directly affected by flames, heat or smoke and cannot get to a place of safety.

All possible means of safe evacuation should be explored prior to the decision being made to give FSG.

FSG will follow the three principles of emergency call handling to:

- Assess
- Protect
- Assist rescue

The provision of FSG is not a linear process and fire control personnel will need to use their professional judgement to continually reassess which of the 3 principles is relevant throughout the call.

This guidance covers the provision of a single FSG call within specific environments. However, the principle of FSG can be applied to other fire situations, as well as being provided to multiple callers.

FSG may need to be passed on by someone else; for example, if a translation or text relay service is being used, or if the caller is relaying information to others. This will not change the advice being given; however, fire control personnel may need to tailor their call handling techniques.

During FSG calls where people at risk are trapped and unable to reach a place of safety or follow advice due to their ability, religion, cultural or social beliefs, fire control personnel should identify the reasons why, what their abilities and limitations are and explore alternative options with the caller to protect them and improve their chances of survival.

This guidance document should be read in conjunction with:

- Emergency call management people at risk, which will provide guidance on evacuation, effective communication techniques and joint situational awareness

The guidance documents below provide additional information which fire control personnel may find useful:

- **Fires and firefighting**, which will provide additional details on fire behaviour and development
- **Fires in buildings**, which will provide additional details on fire spread and buildings that fail
- **Unstable or collapsed structures**, which will provide additional details on signs and symptoms
of a failing building

- **Wildfires**, which will provide additional details on the hazards and risks associated with wildfires
- **Search, rescue and casualty care**, which will provide additional details on how operational personnel use information received from fire control rooms to develop their search plan

### Hazard - Calls from or about people at risk: Trapped in a building fire

#### Hazard Knowledge

If a person is at risk due to immediate danger from flames, heat or smoke, there is a risk of serious injury or death.

It is likely that operational personnel will be required to rescue people at risk. Although the personal protective equipment (PPE) and safe systems of work reduce the likelihood of harm, there is still a risk to operational personnel in the building.

To accurately provide FSG, it is important that fire control personnel have a basic level of understanding of fire behaviour and the effects of fire.

#### Fire behaviour and effects of fire

**Flames** - Flames will generally identify where the fire is most intense and will tend to be confined to some extent in the room of origin by the walls, floor, ceiling and doors if they are closed. Flames within vertical shafts, such as stairwells, will rapidly spread upwards.

**Heat** – Fires release enormous amounts of heat energy. The extremely hot air and gases produced are very buoyant and will tend to collect initially at ceiling level in a steadily deepening layer.

**Smoke** – Smoke can be produced at a very rapid rate and can fill entire buildings within minutes. As well as causing breathing difficulties, smoke will severely impair visibility resulting in disorientation, even in familiar surroundings.

Smoke may have severe toxic effects, resulting in irrational behaviour, nausea, and fatigue. Inhalation of hot gases and smoke may cause severe damage to the internal tissues of the throat and lungs and may even cause unconsciousness or death.

Encouraging occupants to move to a place of safety is always the first course of action, however...
where this is not possible then FSG may be given. However, as the situation changes or escalates, it is possible that it may not be safe for people at risk to remain in the location or building and receive FSG. This could be determined by information received from the incident ground or by fire control personnel.

To enable fire control personnel to determine when immediate evacuation is required, even during unsafe or arduous conditions, they should have a basic understanding of the signs and symptoms of the following:

- Potential flashover
- Potential backdraught
- Fire gas ignition
- Firespread
- Failure of building safety systems
- Building collapse

The less time people at risk are exposed to flames, heat and smoke, the greater the chances of survival. The length of time people at risk are exposed to the effects of fire may depend on:

- The advice given by fire control personnel
- Location of nearest appliances
- Access and egress for operational personnel
- Operational personnel being able to locate people at risk
- Location of people at risk in relation to the fire
- How effectively the building contains flames, heat or smoke
- Ventilation within the building including:
  - Natural ventilation, such as open windows
  - Ventilation, such as heating, ventilation and cooling (HVAC) systems and smoke and heat exhaust ventilation (SHEV) systems

**Control measure - Situational awareness: Fire survival guidance – building fire**

**Control measure knowledge**

Situational awareness will support fire control personnel to identify the hazards and risks associated with the incident. This will enable them to share risk-critical information with operational personnel and other responding agencies, provide appropriate fire survival guidance (FSG), and
react dynamically if the incident or the situation of the people at risk changes.

Situational awareness can be gathered from:

- Questioning callers
- Occupant and premises risk information for example Site Specific Risk Information (SSRI)
- Risk information shared by other agencies
- Situational updates from operational personnel and other responding agencies
- Visual footage or images

Known risk information may not be accurate, therefore appropriate assessment and questioning should be carried out to determine if identified hazards and risks still apply, and if there are any additional factors to consider.

There are several factors which may affect the advice given to callers by fire control personnel, as well as the ability for operational personnel to rescue people at risk. These include:

- The immediate threat to people at risk, for example:
  - The location of the fire in relation to their location
  - The effects of the fire they are being exposed to, for example flames, heat or smoke
  - The severity of the effects of fire they are being exposed to
- The condition, number and ability of people at risk, for example:
  - Existing illness, condition or physical injury preventing them from leaving safely
  - Disorientation or unconsciousness
  - Being non-ambulant
- The condition and structure of the building, for example:
  - The type of building
  - Hoarding or fire loading in the building
  - Effects of the fire compromising the structure of the building
  - Location of windows and doors
  - Layout of the building
- The location of the nearest resources

To ensure there is joint understanding of risk, relevant information gathered should be shared with operational personnel and other responding agencies.

Due to the dynamically changing situation, and potential escalation of the fire, it is vital that information gathered is continually reviewed for accuracy.

A change in situation may affect the ability of operational personnel to rescue people at risk or mean that people at risk are in imminent danger. In these circumstances people at risk may be required to evacuate immediately. This could be due to:
- Firespread and smoke travel
- Potential flashover or backdraught
- Signs and symptoms of fire gas ignition
- Signs and symptoms of building failure
- Physical condition of people at risk

Any change in advice being given to the caller or the fire situation should be communicated to operational personnel and responding agencies immediately.

If possible, a method of contact should be maintained with the caller until people at risk have reached a place of safety or are in the care of operational personnel. This contact will ensure that FSG can continue to be given, regular re-evaluation of the incident and the caller's situation continues throughout, and that any change of advice can be passed on to people at risk. If a call is disconnected fire control personnel should attempt to re-contact the caller where necessary. The recontacting of callers should not put the caller at any additional risk. If contact is unable to be maintained, consider informing operational personnel.

**Strategic actions**

Fire and rescue services should:

- Ensure up-to-date risk information can be accessed by fire control personnel

- Consider making risk information available to fire control personnel on the mobilising system

- Ensure inaccuracies in risk information are resolved and systems updated post incident

- Consider the use of system based call prompts or aide memoires to assist fire control personnel in gaining situational awareness

- Consider the use of electronic systems to share information between the fire control room and the incident ground to improve joint situational awareness

- Consider the use of electronic systems to share information between the fire control room and other responding agencies to improve joint situational awareness
**Tactical actions**

Fire control personnel should:

- Use professional judgement, call handling techniques and available risk information to gather sufficient situational awareness to allow the provision of fire survival guidance

- Use situational awareness to assist operational personnel and other responding agencies

- Identify the immediate threat to people at risk from flames, heat or smoke in a building

- Establish the condition, number and ability of the people who are at risk from flames, heat or smoke in a building

- Gather information on the condition and structure of the building

- Identify the location of people at risk and their location in relation to the fire

- If possible, maintain contact with the caller until people at risk have reached a place of safety or are in the care of operational personnel

- If required, establish a method of recontacting the caller to allow contact to be maintained until people at risk have reached a place of safety or are in the care of operational personnel

- Continually reassess the situation and recognise the signs of potential incident escalation, including fire development and signs and symptoms of a failing building, and amend fire survival guidance as required

- Consider instructing people at risk to immediately evacuate the building, if it is recognised that they are in immediate danger

- Use information received from operational personnel and other responding agencies to inform situational awareness and amend fire survival guidance as required

- Immediately inform operational personnel and other responding agencies about a change in
fire situation which results in an amendment to the advice given to callers

- Continually exchange all relevant information between the fire control room and operational personnel

- Share all relevant information with other responding agencies

Control measure - Protect people at risk: fire survival guidance – building fire

Control measure knowledge

To protect people at risk from a fire in a building, the advice given should be based on control room personnel’s basic knowledge and understanding of fire behaviour and development.

Gather together

If there are several people at risk in a building, it may be advantageous for them to gather in one location because:

- Fire survival guidance (FSG) can be passed from fire control personnel to a single person, who can consistently relay the advice to others
- It may reduce the likelihood of multiple FSG calls being received by the fire control room from a single location
- It supports easier and quicker rescue of multiple people from a single location

This guidance may not be appropriate for large, complex, tall or buildings of multiple occupancy. For example, in tall buildings it may not be safe for people to move between floors or flats. People at risk should not move into one room or location if doing so exposes them to additional risk. Fire control personnel should assess whether this is appropriate guidance when gaining situational awareness.

Move away from fire

The risk of injury from flames, heat and smoke should be reduced the further away people are from the location of the fire.
When advising people to move to another room or location, consideration should be given to the following:

- Fire gas ignitions can affect rooms adjacent to the fire location.
- Doors that feel hot to the touch are likely to be affected by the fire and should not be opened.
- A window can provide both fresh air and a means of leaving the building if the situation escalates, or if external rescue by operational personnel is required.
- The person at risk may be on a phone that is only available in their current location.
- If the caller is unable to remain on the phone when moving to another location, consideration should be given to:
  - Advising the person to redial 999 so that FSG can be continued.
  - Providing sufficient FSG before allowing the caller to hang up the phone.

**Close doors**

A standard door will usually contain the spread of fire due to the inherent fire resisting properties of the materials used. Standard doors should also lessen the spread of toxic smoke and fumes into otherwise unaffected parts of the building for a short amount of time. They also reduce the flow of air to the fire, reducing fire growth and spread.

The more closed doors between people at risk and the fire, the safer they will be and the more the spread of the fire will be reduced.

**Block doors**

Although closing doors will slow the spread of smoke, considerable quantities can still pass around the door edges and through other gaps in the room, such as air vents. Cloth can absorb some of the smoke particles and filter some of the gases contained in the smoke. Placing cloth objects, such as bedding, pillows, clothing or towels, around gaps where smoke is entering, will reduce the amount of smoke entering the room.

**Cover mouth and nose**

Placing cloth objects over the mouth and nose can reduce the inhalation of smoke and gases.

**Stay low**

Near the fire, the smoke will be hot and buoyant, collecting with the hot gases at higher levels. Further from the fire, as the smoke cools it will mix with the general air and be more evenly distributed at high and low levels.

Remaining close to the floor, as low as possible, should reduce the amount of smoke and hot gases people are exposed to.
Open window

An open window will allow smoke to leave the room and fresh air to enter; the air underneath the window will also be cooler.

When fire control personnel advise people at risk to open a window, consideration should be given to the location of the fire. Opening a window may increase the risk due to:

- Firespread on the external walls of the building
- Fire being located beneath the window, allowing smoke from outside to enter the room through the window
- The air entering the room may encourage fire development

It is important to reassess the conditions after a window has been opened, if there are any signs or symptoms which suggest an increased risk or escalation of the incident, for example:

- Signs and symptoms of backdraught
- Smoke entering through the window
- Flames visible behind the door
- Flames visible outside the window

In these scenarios, the situation should be assessed as to whether the window should be closed or people at risk told to evacuate.

If the window cannot be opened, a firm blow aimed at the corner of the pane with a hard, sharp object will help the glass to break. Glass left at the edges should be knocked out and sharp edges should be covered if possible, to prevent injury. Careful consideration should be given when advising people at risk to break a window, as once the glass is broken it cannot be undone.

It is important that fire control personnel confirm with the caller that people at risk have taken action and followed the advice given.

The advice given may affect the tactical actions of operational personnel, for example, an open window can act as a source of natural ventilation of the building. If operational personnel then use tactical ventilation methods, it may push the heat and smoke towards people at risk. Informing operational personnel of the advice given and actions taken will allow an effective tactical plan to be produced.

Situational awareness gained throughout the call should continually be reassessed for accuracy to ensure advice being given is relevant and up to date.
**Strategic actions**

Fire and rescue services should:

- Consider the use of system based call prompts or aide memoires to assist fire control personnel in providing advice to protect people at risk

- Consider the use of electronic systems to share information between the control room and the incident ground about the advice and guidance that is being given

**Tactical actions**

Fire control personnel should:

- Provide suitable fire survival guidance to protect people based on their professional judgement

- Provide suitable fire survival guidance to protect people based on their knowledge of fire behaviour and the effects of fire

- Consider encouraging people to gather together in one location if it is safe to do so

- Consider encouraging people to move to another location further away from the fire if it is safe to do so

- Consider encouraging people to move to a room where there is a window or an alternative means of escape if it is safe to do so

- Consider telling people not to remain in a room immediately above or next to the location of the fire

- Consider telling people to use the back of the hand to feel the heat of doors prior to opening them if it is safe to do so

- Consider telling people to close all doors possible between people at risk and the fire if it is...
safe to do so

- Consider encouraging people to use cloth objects to cover any gaps around doorways or air vents if it is safe to do so

- Consider encouraging people to use cloth objects to cover the nose and mouth

- Consider telling people to open the window, using methods of breaking the glass where the window is locked, but being careful to remember that this cannot then be closed again

- Reassess the conditions after opening a window, and change advice where necessary

- Encourage people to remain low to the ground underneath the open window

- Confirm that people at risk have followed each piece of advice

- Continually exchange all relevant information between the fire control room and operational personnel detailing the actions taken and advice given to people at risk

- Continually reassess situational awareness to ensure advice given to protect people at risk is relevant and up to date

Control measure - Assist rescue of people at risk: Fire survival guidance – building fire

Control measure knowledge

People who are directly affected by fire and unable to safely evacuate from a building, will need to be rescued by operational personnel. Operational personnel often use four phases in every search and rescue scenario as detailed in performing rescues, these are:

- Locate
• Access

• Stabilise both the situation and any casualties

• Transport - to a place of safety and definitive care

Fire control personnel can assist operational personnel with all stages of search and rescue. Throughout the call, fire control personnel should continually share all relevant information with operational personnel and other responding agencies, both prior to and when they are in attendance. This should include information about the incident, as well as the people at risk, to support a joint understanding of risk and to inform accurate situational awareness.

Fire control personnel share information to assist with the rescue of people aiming to reduce the amount of time people and operational personnel are in the hazard area, reducing the risk of harm. This information may lead to operational personnel requesting additional resources; however, this does not remove the discretion and professional judgement of dynamic mobilising applied by fire control personnel. The following information should be gathered by fire control personnel. This information should be used to aid dynamic mobilising decisions and be shared with operational personnel and other responding agencies where appropriate:

- Location of all people at risk, for example:
  - Flat or room number for buildings of multiple occupancy
  - Floor number Kitchen or first floor bedroom
- A visual description of where the location is, for example:
  - Front left window when looking from the road at the front of the building
  - First room on the right at the top of the stairs
- Age and number of people at risk
- Condition and mobility of people
- Access and egress information for the building including any issues, for example:
  - Access codes for the building
  - If the window is at the rear of the building
  - If there is a gate to gain access
- Location of the fire and fire conditions people at risk are experiencing
- Description of the smoke including:
  - How much smoke is in the room, for example, can they see across the room or can they see their hand at arm's length
  - Colour of smoke
  - Where the smoke is coming from
- Condition of the building, including any known risks such as hoarding
For large or complex buildings, consider the use of location services to identify the exact location of people within the building.

Depending on the situation the following advice to people at risk may prove useful in assisting the rescue:

- Remain near to the window or against a wall
- Use a visual aid, a torch or mobile phone light to identify the room you are in
- Do not hide underneath any furniture or lock yourself in a room
- If it is safe to do so, on arrival of operational personnel stand at the window and make yourself known by making noise, using visual aids or waving to them
- On arrival of operational personnel, remain in your current location unless advised otherwise

This list is not exhaustive and the reasons why people were unable to evacuate should be considered as this may affect access and egress for operational personnel.

Situational awareness gained throughout the call should continually be reassessed for accuracy to ensure advice being given is relevant and up to date.

**Strategic actions**

Fire and rescue services should:

- Consider the use of system based call prompts or aide memoires to assist fire control personnel providing advice to assist the rescue of people at risk

- Consider the use of electronic systems to share information between the fire control room and the incident ground to assist in the rescue of people at risk

- Consider the use of electronic systems to share information between the fire control room and other responding agencies to improve joint situational awareness

**Tactical actions**

Fire control personnel should:

- Share information about the location of people at risk, including a visual description of the location if available, to operational personnel and other responding agencies where
appropriate

- Share information about the number of people at risk, as well as their condition and ability to operational personnel and other responding agencies where appropriate

- Share information about access and egress with operational personnel and other responding agencies where appropriate

- Share information about the location of the fire and conditions in the building with operational personnel and other responding agencies where appropriate

- Use the information gathered to consider dynamic mobilising including multi agency resources to assist the rescue of people at risk

- Consider advising people at risk to remain near to the window or against a wall if safe to do so

- Advise people at risk to use a visual aid, a torch or mobile phone light to identify the room they are in

- Advise people at risk not to hide or lock themselves in a room

- Advise people at risk to alert operational personnel to their location by making noise or using visual aids when they arrive

- Advise people at risk that on arrival of operational personnel they are to remain in their current location unless advised otherwise

- Share all relevant information to assist rescue of people at risk with other responding agencies

- Continually reassess situational awareness to ensure the information gathered and advice given is relevant and up to date to assist the rescue of people at risk
Hazard Knowledge

National Operational Guidance defines a wildfire as any uncontrolled vegetation fire where a decision or action is needed about its suppression.

They commonly occur in grassland, moorland, scrubland, woodland and agricultural crops. These dangerous fires spread quickly and can devastate not only natural areas, but also communities.

Emergency alerts and notifications from local authorities or local resilience forums will provide information and instructions to people at risk who are in the vicinity of a wildfire. People at risk should have pre-prepared evacuation plans which will support them in leaving the area early where possible as this will be the safest option.

The Wildfire guidance document provides additional information which people may find useful.

Control measure - Situational awareness: Fire survival guidance - Wildfire

Control measure knowledge

There are several factors which may affect the advice given to callers by fire control personnel, as well as the ability for operational personnel to rescue people at risk. These include:

- Whether people at risk have time to, and are evacuating the area or seeking shelter
- The environment they are seeking shelter in
- The immediate threat to people at risk, for example:
  - The direction that the fire is travelling in
  - The location and travel of the fire in relation to the caller's location
  - The effects of the fire they are being exposed to, for example flames, smoke or heat

There may be difficulty in locating people at risk in an open area due to the size of the area where wildfires can occur. The use of location services should be considered to identify their location and
shared with operational personnel.

Ongoing and constant situational updates from operational personnel should include information about the exact location of the fire, the fire front and the direction that the wildfire is travelling. This will enable fire control personnel to give appropriate guidance and advice if it has been identified that people at risk are seeking shelter in the direction of fire travel.

There may be occasions where the environment that people at risk are seeking shelter in is on fire. Continual assessment by fire control personnel as to whether it is safe for them to evacuate or not based on the conditions inside and outside the environment will determine the advice and guidance given. Control measure – Protect people at risk: fire survival guidance – wildfire contains more information.

Information gathered from agencies that provide weather information and predicated forecasts will support operational personnel in preparing their tactical plans based on the situation they are currently facing or may face in the future. Examples of weather information include wind direction, wind speed, rainfall, temperature and relative humidity.

**Strategic actions**

Fire and rescue services should:

- Ensure fire control rooms have access to location identification services

- Ensure processes are in place to update fire control rooms of information from strategic and tactical co-ordinating groups regarding wildfire behaviour and prediction, exact location, fire spread and weather predictions

**Tactical actions**

Fire control personnel should:

- Identify the immediate threat to people at risk from wildfire

- Identify whether people at risk are evacuating the area or seeking shelter

- Identify the location of people at risk and their location in relation to the wildfire
• Identify and share the location of any safe evacuation areas with people at risk

• Identify the environment people at risk are seeking shelter in

• Establish the condition of the environment they are seeking shelter in, for example whether it is on fire

• Consider using location identification services when people at risk are located in open spaces and share this with operational personnel

• Continually reassess the situation and recognise the signs of potential incident escalation if the wildfire has not safely passed

• Consider using weather warnings and accessing systems that provide weather information and forecasts to build situational awareness within the fire control room

• Share weather related information with operational personnel

Control measure - Protect people at risk: fire survival guidance - wildfire

Control measure knowledge

The advice and guidance given to people at risk trapped by a wildfire will depend on the situation they are in and whether they have time to plan for an evacuation. Guidance for people at risk will include:

• Evacuating the area early
• Seeking shelter in a building
• Seeking shelter in a car
• Seeking shelter in the open
• Evacuating from a place of shelter

Evacuating the area early
Fire control personnel may receive calls from people at risk seeking advice about a wildfire that is developing in their area. Early evacuation will always be the safest option in this circumstance. It should be recognised that even though this is the safest option people at risk may be unwilling to leave their property as they want to stay and protect it.

When preparing to evacuate, people at risk should consider how they are going to evacuate, their evacuation route and where they are evacuating to. A co-ordinated multi agency approach to evacuating people at risk may be implemented which should be considered by people at risk.

Local authority guidance and instructions may be given if people need to evacuate to a public shelter. The internet, social media and local news stations may broadcast local authority warnings, updates and instructions. Pre prepared instructions and guidance sheets can be held electronically in the control room and be shared with people at risk to support the advice fire control personnel give to evacuate the area early.

People at risk should consider taking items with them which will help them during their evacuation however this should not cause a delay or put people at additional risk. These items include:

- A torch with spare batteries, preferably waterproof if possible
- Appropriate clothing such as a wide brimmed hat, eye protection, sturdy leather boots or shoes, long trousers, long sleeved top and gloves
- First aid kit with manual
- Candles with matches, preferably waterproof matches if possible
- Blankets
- Emergency contact numbers
- Cash, ATM or credit cards
- Medications, toiletries and sanitary supplies
- Special requirements for infants or the elderly and people who are injured or disabled
- Mobile phone and charger
- Combination pocket knife
- Change of clothes for everyone
- Food
- Drinking water

Companion animals should also be considered and should wear an identification tag. Items such as a leash, basket, pet medication, food and a familiar toy should be taken.

**Sheltering in a building**

People at risk of a wildfire may seek shelter in a building rather than evacuating the area. This could be through choice, or because they do not have time to evacuate the area safely. A structure should offer more protection than a car so people at risk should try to seek shelter in a home, outbuilding...
or building.

The guidance given to people sheltering in a building will be to protect them from the wildfire that is passing by. If the building they are sheltering in catches fire they should try to leave and go outside to ground that has already been burnt or ground with little vegetation or fire loading if possible.

If they are unable to leave and are trapped inside, then fire survival guidance for people at risk trapped in a building fire should be given.

People at risk may speak to fire control personnel in anticipation of the wildfire reaching them. Proactive advice and guidance detailed below can be given to support them in preparing the building for the arrival of the wildfire but consideration should be given to ask the people at risk to call back if and when the fire arrives.

**Store water**

Sinks, bath tubs and buckets should be filled with cold water in case the water supply is cut off. This can be used to put out small fires that may start in or around the home caused by embers. The water could also be used to flush toilets and drink if suitable.

**Prepare extinguishing products**

If available, sprinklers and hoses should be placed strategically around the building and turned on to wet the shelter and surroundings when the fire is approaching. People should not access the roof to hose down the building.

Fire extinguishers should be out and ready to use.

**Move furniture and clear the area**

Any outdoor furniture or flammable materials should be moved away from the building. This includes vehicles, recreational equipment, outdoor seating and firewood. Cylinders such as gas for BBQ’s should also be moved away from the building if it is safe to do so. This will reduce the potential of fire spread to the building.

Indoor furniture should be moved away from windows or glass doors as radiant heat may cause these items to ignite.

Where possible and if time allows, dry brambles and vegetation should be cleared and moved away from the building.

**Open gates**
Gates should be opened to prevent flames from spreading from a fence to a building. When the fire arrives and passes by the building, the noise will be fierce and there will be an increase in temperature. People at risk should resist the urge to flee and continue to stay inside and seek shelter as per the advice given by fire control personnel.

Although it will be extremely hot inside the building, it can be four or five times hotter outside. If the building catches fire, guidance and advice should be given as per the hazard ‘calls from or about people at risk trapped in a building fire’. If the whole of the building is in the path of the wildfire, the room people at risk gather in should be in the centre of the building and they should stay away from windows and glass doors.

If the wildfire is approaching one side of the building, people at risk should shelter in a room on the opposite side.

Where possible a room with a clear access to an exit should also be considered.

**Seeking shelter in a vehicle**

People at risk may be travelling on foot or in a vehicle when they become affected by a wildfire. If a building is not available to seek shelter in then sheltering in a vehicle should be considered. This will be safer than being in the open where people will be directly exposed to flames and radiant heat.

Vehicles should be parked off the road behind a solid structure to block as much heat as possible. If a solid structure is not available, park in a clear area away from trees, scrub and tall grass as this is the fuel for the wildfire.

The front of the vehicle should face towards the fire if the location of the fire is known, the engine should be turned off and hazard lights and headlights should be put on. This will make the car more visible in heavy smoke and reduce the risk of a road traffic collision with other vehicles that may be in the area.

Windows, doors and air vents should all be closed as this will help to reduce the amount of smoke entering the vehicle.

People should cover themselves with blankets or coats and get low as possible in the car. Lying in the footwell or in a space below the windows will protect them from radiant heat.

Placing cloth objects over the mouth and nose can reduce the inhalation of smoke.

People should stay down low and inside the vehicle until the sound of the fire has passed and the outside temperature drops. Once they are confident that the fire has passed, they should be able to leave the car, taking care as the vehicle may be hot. Once the vehicle has been exited safely,
people should make their way to ground that has already been burnt or ground with little vegetation or fire loading if possible.

People should not attempt to drive the vehicle due to potential damage caused by the wildfire such as melted brakes, hoses and fuel tanks.

**Seeking shelter in the open**

There may be occasions where people are caught outside when a wildfire approaches and they are unable to seek shelter in a building or vehicle.

Exposed skin should be covered up with natural fabrics as these are less flammable than synthetic fabrics. Examples of natural fabric include wool, cotton and silk. Synthetic fabrics include nylon, polyester, acrylic and rayon. In the absence of natural fabrics synthetic fabric may offer some protection from fire.

People should try and hide behind a solid object such as a concrete wall or building to block the radiant heat but stay away from glass if any is present in the solid object.

If people are unable to hide behind a solid object, then an area clear of vegetation or a ditch should be found that is on level ground if possible. People should lie face down and cover up their body with things such as damp vegetation or soil.

**Strategic actions**

Fire and rescue services should:

- Ensure arrangements are in place with local authorities to share information with fire control rooms regarding evacuation

- Ensure systems are in place to enable pre prepared instructions and guidance sheets to be shared with people at risk who are receiving advice to evacuate the area early

**Tactical actions**

Fire control personnel should:

- Ensure advice given to people regarding evacuation is in line with local authority guidance and information
Encourage people to monitor local authority social media pages and local radio stations for situational updates

Encourage people to evacuate the area if they have time

Give appropriate guidance to people who are planning to evacuate the area

Share pre-prepared instructions and guidance sheets to people who are planning to evacuate the area

Give appropriate guidance to people who are seeking shelter in a building

Give appropriate guidance to people who are seeking shelter in a vehicle

Give appropriate guidance to people who are seeking shelter in the open

Advise people to stay on to ground that has already been burnt or ground with little vegetation or fire loading when moving in the open

Control measure - Welfare and safety check of people at risk: fire survival guidance - wildfire

Control measure knowledge

People at risk who are sheltering may not need rescuing and should be safe once the fire has passed. Operational personnel may still attend the location of people who were sheltering to check on their welfare and assess for any damage caused by flames, heat or smoke.

Rescue may only be required if the person at risk becomes unwell or unconscious as a result of the passing fire, or if the environment they are sheltering in is on fire and they are unable to evacuate. Guidance to assist rescue of people at risk in the specific environment should be referred to, for example assist rescue of people at risk: Fire survival guidance – building.
Regardless of the environment people are seeking shelter in, whether they are trapped or the fire has passed, fire control personnel should continually share all information with operational personnel and responding agencies, both prior to and when they are in attendance. This will support a joint understanding of risk and inform accurate situational awareness.

The information provided by fire control personnel allows for evaluation and prioritisation of people who have sought shelter and may need checking on. Sharing information about people who are seeking shelter should reduce the amount of time operational personnel spend searching for people at risk, thereby reducing their risk of harm.

The following information should be gathered by fire control personnel and relayed to operational personnel:

- Address/exact location of all people, for example:
  - Corner of car park on specific road
- Environment of people seeking shelter, for example:
  - Building/house
  - Vehicle/car
  - Ditch in the open
- Make, model and registration plate of vehicle people are seeking shelter in
- Location of the wildfire and fire conditions people at risk are experiencing
- If people are safe and the wildfire has passed

Depending on the situation the following advice to people at risk may prove useful in assisting the rescue:

- Leave exterior and interior lights on to help operational personnel locate buildings in dense smoke
- Keep doors and windows unlocked
- If it is safe to do so, on arrival of operational personnel stand at the window and make yourself known by making noise, using visual aids or waving to them
- If within a car use the horn to make operational personnel aware of your location

**Strategic actions**

**Tactical actions**

Fire control personnel should:

- Share the type of environment that people at risk are sheltering in with operational personnel
and other responding agencies

- Share information about the location of the wildfire and conditions people who are sheltering are experiencing with operational personnel and other responding agencies

- Advise people at risk who are sheltering in a building to leave exterior and interior lights on

- Advise people at risk who are sheltering in a building to leave windows and doors unlocked

- Advise people at risk who are sheltering in a car to use the horn

- Inform operational personnel and other responding agencies when people are in a place of safety

Hazard - Calls from or about people at risk: trapped in or by transport fire

Hazard Knowledge

There are many modes of transport that people may be on or in and at risk of being trapped by fire. Fire control rooms may receive these calls directly from members of the public; however it should be recognised that many of the modes of transport are owned and operated by organisations that have their own control rooms therefore fire control personnel may not speak directly to the people who are at risk.

Examples of operating companies control rooms include:

- Network Rail
- Metro/Underground
- Airports
- Bus and coach companies
- Maritime Coastguard Agency

Due to the number of variables for each of the modes of transport, it is not possible to produce a standard set of survival guidance that will accommodate this therefore fire control personnel may
spend a lot of the call gathering information and providing reassurance if they are in direct contact with people at risk.

Control measure - Situational awareness: Fire survival guidance – trapped or involved in transport fire

Control measure knowledge

There are several factors which may affect the advice given by fire control personnel to callers that are trapped or involved in transport fire. These include:

- The type of transport involved in the fire, for example:
  - Road vehicle, for example car, bus, lorry, van
  - Aircraft, for example military, light, commercial, private
  - Rail system, for example passenger train, freight train, tram, underground
  - Vessel, for example private, commercial, fishing, entertainment
- The location of the transport, for example:
  - In a tunnel
  - In a port
  - At a railway station
  - Underground
- Cargo being carried by the transport for example hazardous materials
- Age of the transport and what safety measures are installed
- Size of the transport
- The severity of the fire and the proportion of the mode of transport that is affected
- Number of passengers on board
- Whether the transport has trained crew on board
- Whether there is any pre-determined safety and evacuation guidance
- Any specific advice or instruction given by other operating companies control rooms

Some of the factors listed above may not be known if a call is received from a passenger and may only be identified by a control room of the transport company.

For incidents on a mode of transport that has its own control room, contact should be made at the earliest opportunity to obtain any specific instructions, advice and guidance that we should share with passengers that are trapped and operational personnel. This advice and guidance will be
specific to the known variables of the incident, the type of transport involved and the tactical plan that has been determined by on board staff.

For incidents involving road vehicles, establishing the make and model of the vehicle will enable operational personnel to use available software to identify where safety systems such as airbags are located. This will enable operational personnel to isolate safety systems where required and reduce the risk of harm from an unexpected airbag actuation.

A change in situation may mean that people at risk are in imminent danger. In these circumstances people at risk may be required to evacuate from the mode of transport immediately if it is safer to do so than remaining on the mode of transport. This may lead people at risk into other hazards or risks, for example:

- Traction current/live tracks
- Other rail systems passing on the opposite track
- Open water
- Motorway or other road network

People at risk should be made aware of other potential hazards if they are required to immediately evacuate.

Any change in advice to the caller or fire situation should be communicated to operational personnel and operating companies control rooms immediately.

**Strategic actions**

Fire and rescue services should:

- Ensure fire control rooms have contact information for relevant operating companies control rooms

**Tactical actions**

Fire control personnel should:

- Contact operating companies control rooms as soon as possible to share incident information and discuss appropriate advice and guidance

- Consider instructing people at risk to evacuate the mode of transport if it is recognised that
they are in immediate danger and evacuation is safer than remaining on the mode of transport

- Identify and inform people at risk what other hazards may be present if instructing them to immediately evacuate

- Use situational awareness to assist operational personnel and operating company control rooms

- Identify the immediate threat to people at risk of fire or smoke in or on a mode of transport

- Identify factors that may change the advice or guidance given to people at risk

- Identify the make and model of road vehicles where possible to enable safety systems to be identified and isolated by operational personnel

- Exchange information between the fire control room, operational personnel and operating company control rooms if there is a change in advice to the caller or fire situation

Control measure - Protect people at risk: Fire survival guidance – transport fire

Control measure knowledge

Calls to people that are trapped in or by transport fire may be received from the person involved or a third party. The same protect advice should be given to people at risk and to the third party.

Trapped in a road vehicle

People at risk may be trapped in a road vehicle that is on fire, this may be due to

- A road traffic collision (RTC)
- A mechanical or electrical failure meaning the doors or windows cannot be opened
- Mobility issues of passengers within the vehicle
If they are not trapped due to their injuries but are unable to leave the vehicle via the door, other methods of escape may be possible based on the location of the fire.

Rear windows in small vehicles may be difficult to use as an exit due to the size of the window as well as the opening mechanisms. People in the rear of the vehicle may need to exit through the front windows, head restraints on the front seats may restrict their routes to exit the vehicle. Removing head restraints will not only remove this restriction but can also be used to break a window if necessary.

The same method of breaking a window contained within fire survival guidance – building fire should be used.

Some cars may have emergency release levers or latches within the boot which can be used to open it enabling people to escape. A boot latch is a basic hook and post construction which requires a cable that pulls the hook away from the post to open. Levers or cables may not always be visible and may be hidden underneath panels or material. Whilst the location of levers will vary across vehicle manufacturers the most common location is at the joint of the boots lid and the main body of the vehicle in the centre. A sharp pull on the lever or cable should release the latch and open the boot.

Windows at the rear of buses and coaches often have emergency exits and levers can be used to release the window. Glass hammers are also often available on buses and coaches and can be used to break the window.

If people are unable to evacuate from the vehicle, if possible the hazard warning lights should be switched on. Moving to the middle of the vehicle may help to minimise the risk from windows that have the potential to explode under extreme heat and may help to protect people at risk from coming into contact with doors or the frame of the vehicle which could be hot to touch.

If people are trapped by their injuries and unable to carry out any of the actions listed above fire control personnel may only be able to offer reassurance to people at risk until the arrival of operational personnel or other agencies.

**Trapped on a rail system**

Newer passenger rail systems will have safety notices located at entrances and exits indicating what passengers should do in the event of an emergency. These instructions should be followed.

Some rail systems have an emergency intercom system which enables passengers to speak directly to the driver or the rail system control room. They should be identified by appropriate signage. Passengers should attempt to make contact via the intercom system as soon as a fire is discovered as this will enable the driver or the control room to initiate their emergency procedures.
Passengers should always follow instructions from on board staff, this could be the driver or other crew members.

If people are able to safely move away from the fire and into a different carriage, this should be encouraged.

Passengers should remain on a rail system where possible and evacuation should only be done in a safe, controlled way led by rail system staff. Unplanned evacuation could lead passengers to other risks outside of the train and advice should only be given to do this following consultation with the rail system control room if there is time, or if passengers face immediate threat from the fire.

Any additional or different instruction or guidance for passengers will be shared by the rail system control room with fire control personnel. These instructions will be specific to the known variables of the incident.

**Trapped on a vessel**

Passengers on vessels that have professional mariners on board should always follow the advice and instruction of the crew or captain. This includes container ships, passenger, commercial, entertainment and tourist vessels.

The crew will indicate when it is no longer safe to remain on the boat and entry into the water is required.

There may be occasions where calls are received from a member of the public on board a private or rented vessel such as a yacht or fishing boat and there are no professional mariners on board to give instruction or advice so they may look to fire control personnel to provide this.

When there is a fire on a vessel, people at risk should move as far away from the fire as possible and remain on the vessel with their life jackets on.

They should not enter a smoke filled space however if they are already in a smoke filled space they should stay low to the ground where the air may be clear of smoke and attempt to make their way to a space that is clear of smoke.

If a window needs to be broken, the same method of breaking a window contained within FSG – building fire should be used.

Where appropriate, doors or engine hatches should be kept closed where possible to starve the fire of oxygen.

People should try to get to the open deck at the top of the boat, this can also be referred to as topside. This gives the person at risk the opportunity to choose to enter the water if they are in immediate danger and cannot await rescue. If there is an explosion on board the vessel and the
person at risk is topside, it also enables them to be thrown clear from the vessel and into the water.

**Trapped on an aircraft**

Passenger aircrafts have been designed and engineered to enable passengers to self-evacuate. This includes sufficient width and length of aisles, emergency exits and method of exit.

Passengers should always be informed to leave their belongings and follow the advice and instruction of the aircraft captain or crew.

Any additional or different instruction or guidance for passengers will be shared by the airport operations control centre with fire control personnel. These instructions will be specific to the known variables of the incident.

If passengers are physically trapped on a small or light aircraft that is on fire following a collision, fire control personnel may only be able to offer reassurance to casualties.

**Strategic actions**

**Tactical actions**

Fire control personnel should:

- Liaise with the operating company control room and provide advice and guidance to people at risk based on the specifics of the transport

- Give appropriate guidance to people who are trapped in a road vehicle that is on fire

- Give appropriate guidance to third party callers who chose to attempt to rescue people who are trapped in a road vehicle that is on fire

- Give appropriate guidance to people who are trapped on a railway system that is on fire

- Give appropriate guidance to people who are trapped on a vessel that is on fire

- Give appropriate guidance to people who are trapped on an aircraft on fire
Control measure knowledge

Information received from operating companies control rooms should be continually shared with operational personnel. This includes the number and type of any deployments made by the operating company.

The following information should be gathered by fire control personnel and relayed to operational personnel and the operating company’s control room where appropriate:

- Reason why people at risk are unable to, or have been instructed not to evacuate, for example:
  - Trapped by injuries
  - Unable to access an emergency exit
  - On board staff instructions

The following information should be gathered from the operating company’s control room and shared with operational personnel:

- Type and size of mode of transport
- Access and egress information for the mode of transport
- Number and type of response to the incident by the operating company, for example:
  - Airport fire service response
  - Rail Incident Officer (RIO)
  - Coastguard

Strategic actions

Tactical actions

Fire control personnel should:

- Share information received from people at risk with operational personnel and operating companies’ control rooms
Share information received from operating companies control rooms with operational personnel

Fire control room guidance: Water survival guidance

During an incident, people at risk may be trapped and unable to reach a place of safety due to:

- Their ability
- The location and behaviour of the incident
- Physical limitations of the environment
- Physical entrapment

There may also be situations where people at risk are able to reach a place of safety, however the actions they take and their reasons for doing this may prevent them from doing so. For example:

- Religion
- Cultural or social beliefs

During these situations, providing survival guidance may be necessary to improve their chances of survival. Survival guidance is defined as the advice and guidance given by fire control personnel to people at risk, who are directly affected by the effects of the incident and cannot get to a place of safety. All possible means of safe evacuation should be explored prior to the decision being made to give survival guidance.

Survival guidance will follow the three principles of emergency call handling to:

- Assess
- Protect
- Assist rescue

Providing survival guidance is not a linear process; fire control personnel need to use their professional judgement to continually reassess which of the three principles is relevant throughout the call.

This guidance covers the provision of single survival guidance calls in specific environments. However, the principle of survival guidance can be applied to other situations, as well as being provided to multiple callers.
Survival guidance may need to be passed on by someone else; for example, if a translation or text relay service is being used, or if the caller is relaying information to others. This will not change the advice being given; however, fire control personnel may need to tailor their call handling techniques.

During survival guidance calls where people at risk are trapped and unable to reach a place of safety or follow advice due to their ability, religion, cultural or social beliefs, fire control personnel should identify the reasons why, what their abilities and limitations are and explore alternative options with the caller to protect them and improve their chances of survival.

This guidance document should be read in conjunction with:

- Emergency call handling people at risk, which will provide guidance on evacuation, effective communication techniques and joint situational awareness
- Control room command, which will provide guidance on dynamic mobilising
- Department for Environment, Food and Rural affairs (Defra) Flood Rescue Concept of Operations, which provides detail on the national and local co-ordination of flood rescue, including local resilience forum actions
- Levels of command and control at multi-agency incidents foundation knowledge document, which provides information on tactical co-ordinating groups (TCGs)

The guidance documents below provide additional information which fire control personnel may find useful:

- Fires and firefighting, which provides additional details on fire behaviour and development
- Fires in buildings, which provides additional details on firespread and buildings that fail
- Unstable or collapsed structures, which provides additional details on signs and symptoms of structural collapse
- Search, rescue and casualty care, which provides additional details on operational search, rescue and casualty care
- Water rescue and flooding, which provides additional details on water rescue and flooding

Hazard - Calls from or about trapped people at risk

Hazard Knowledge

If a person is at risk due to immediate danger from the effects of an incident, there is a risk of serious injury or death.
It is likely that operational personnel will be required to rescue people at risk. Although personal protective equipment (PPE) and safe systems of work reduce the likelihood of harm, there is still a risk to operational personnel.

To accurately provide survival guidance, it is important that fire control personnel have an appropriate level of understanding of the hazards of the incident and the effects they may have on the people at risk.

The less time people at risk are exposed to the effects of the incident, the greater the chances of survival are. The length of time people at risk are exposed to the effects of the incident may depend on:

- The advice given by fire control personnel
- Location of nearest appliances
- Access and egress for operational personnel
- Operational personnel being able to locate people at risk
- Location of people at risk in relation to the incident

It is likely that as the situation changes or escalates, advice may need to be amended.

**Control measure - Situational awareness: Survival guidance**

**Control measure knowledge**

Situational awareness will support fire control personnel to identify the hazards and risks associated with the incident. This will enable them to share risk-critical information with operational personnel and other responding agencies, provide appropriate survival guidance and react dynamically if the incident or the situation of the people at risk changes.

Situational awareness can be gained from:

- Questioning callers
- Risk information relating to occupants and the location of the incident, for example Site-Specific Risk Information (SSRI)
- Risk information shared by other agencies
- Situational updates from operational personnel and other responding agencies
- Live footage and visual aids
Known risk information may not be accurate, therefore appropriate assessment and questioning should be carried out to determine if identified hazards and risks still apply, and if there are any additional factors to consider.

There are several factors which may affect the advice given to callers by fire control personnel, as well as the ability for operational personnel to rescue people at risk. These include:

- The immediate threat to people at risk
- The condition, number and ability of people at risk, for example:
  - Existing illness, condition or physical injury preventing them from leaving safely
  - Disorientation or unconsciousness
  - Being non-ambulant
- Location of nearest resources
- The development of the incident

To ensure there is joint understanding of risk, all relevant information gathered should be shared with operational personnel and other responding agencies.

Due to the dynamically changing situation, and potential escalation of incidents, it is vital that information gathered is continually reviewed for accuracy. A change in situation may affect the ability of operational personnel to rescue people at risk or mean that people at risk are in imminent danger.

Any change in advice being given to the caller or the situation should be communicated to operational personnel and other responding agencies immediately.

If possible, a method of contact should be maintained with the caller until people at risk have reached a place of safety or are in the care of operational personnel or other responding agencies. This contact will ensure that survival guidance can continue to be given, regular re-evaluation of the incident and the caller’s situation continues throughout, and that any change of advice can be passed on to people at risk. If a call is disconnected, fire control personnel should attempt to recontact the caller if necessary. The recontacting of callers should not put the caller at any additional risk. If contact is unable to be maintained, consider informing operational personnel and other responding agencies.

**Strategic actions**

Fire and rescue services should:

- Ensure up-to-date risk information can be accessed by fire control personnel
• Consider making risk information available to fire control personnel on the mobilising system

• Ensure inaccuracies in risk information are resolved and systems updated post incident

• Consider the use of system-based call prompts or aide-memoires to assist fire control personnel in gaining situational awareness, to allow the provision of survival guidance

• Consider the use of electronic systems to share information between the fire control room and the incident ground, to improve joint situational awareness relating to people at risk

• Consider the use of electronic systems to share information between the fire control room and other responding agencies to improve joint situational awareness relating to people at risk

**Tactical actions**

Fire control personnel should:

• Use professional judgement, call handling techniques and available risk information to gather sufficient situational awareness to provide survival guidance

• Use situational awareness to assist operational personnel to rescue people at risk

• Establish the condition, number and ability of the people who are at risk

• Identify the location of people at risk

• If possible, maintain contact with the caller until people at risk have reached a place of safety or are in the care of operational personnel or other responding agencies

• Continually reassess the situation and recognise the signs of potential incident escalation and amend survival guidance as required

• Use information received from operational personnel and other responding agencies to inform situational awareness and amend survival guidance as required
• Immediately inform operational personnel and other responding agencies of any change in situation which results in an amendment to the advice given to callers

• Share all relevant information with other responding agencies to improve joint situational awareness

Incident commanders should:

• If required, establish a method of recontacting the caller to allow contact to be maintained until people at risk have reached a place of safety or are in the care of operational personnel or other responding agencies

• Continually exchange all relevant information between the fire control room and operational personnel to improve joint situational awareness

Control measure - Protect people at risk: Survival guidance

Control measure knowledge

To protect people at risk, the advice given should be based on knowledge and understanding of the hazards associated with the incident.

It is important that fire control personnel confirm with the caller that people at risk have taken action and followed the advice.

The advice given may affect the tactical actions of operational personnel and other responding agencies. Informing operational personnel and other responding agencies of the advice given and actions taken will allow an effective tactical plan to be produced.

Situational awareness gained throughout the call should continually be reassessed for accuracy, to ensure the advice being given is relevant and up to date.
Strategic actions

Fire and rescue services should:

- Consider the use of system-based call prompts or aide-memoires to assist fire control personnel in providing survival guidance to protect people at risk

- Consider the use of electronic systems to share information between the control room and the incident ground about the survival guidance that is being given to people at risk

- Consider the use of electronic systems to share information between the control room and other responding agencies about the survival guidance that is being given to people at risk

Tactical actions

Fire control personnel should:

- Provide suitable survival guidance to protect people, based on their professional judgement

- Provide suitable survival guidance to protect people, based on their knowledge of the hazards and risks associated with the incident

- Continually reassess the conditions and alter advice where required

- Confirm that people at risk have followed each piece of advice

- Inform operational personnel of the actions taken and advice given to people at risk

- Continually exchange all relevant information between the fire control room and operational personnel detailing the actions taken and advice given to people at risk

- Share all relevant information with other responding agencies detailing the actions taken and advice given to people at risk

- Continually reassess situational awareness to ensure advice given to protect people at risk is
People who are directly affected by an incident and unable to safely evacuate will need to be rescued by operational personnel.

Operational personnel often use four phases in a search and rescue scenario, as detailed in Search, rescue and casualty care. These are:

- Locate
- Access
- Stabilise the situation and any casualties
- Transport to a place of safety and definitive care

Fire control personnel can assist operational personnel with all stages of search and rescue. Throughout the call, fire control personnel should continually share all relevant information with operational personnel and other responding agencies, both prior to and when they are in attendance. This should include information about the incident and the casualty, to support a shared understanding of risk and to inform accurate situational awareness.

Fire control personnel share information to assist with the rescue of people, aiming to reduce the amount of time people and operational personnel are in the hazard area, which reduces the risk of harm. This information may lead to operational personnel requesting additional resources. However, this does not replace the discretion and professional judgement of dynamic mobilising applied by fire control personnel.

The following information should be gathered by fire control personnel where possible. This information should be used to aid dynamic mobilising decisions and shared with operational personnel and where relevant, other responding agencies to assist the rescue of people at risk:

- Location of all people at risk
- A visual description of where they are located
- Age and number of people at risk
- Condition and mobility of people
• Access and egress information
• Location of the incident and the conditions people at risk are experiencing

This list is not exhaustive and the reasons why people were unable to evacuate should be considered, as this may affect access and egress for operational personnel.

Location or mapping services can be used to share information with operational personnel, to assist them in locating people at risk.

Depending on the situation and if safe to do so, people at risk should be advised to make themselves known on arrival of operational personnel or other responding agencies.

People may be advised to:

• Make noise
• Use a visual aid, such as waving an object out of the window or using a torch or phone light
• Wave to operational personnel or other responding agencies

Depending on the situation, when advising people to wave they should be advised to wave both arms and fists to indicate they are waving for assistance. This is particularly relevant if attempting to draw the attention of air support.

Animals may affect the ability of operational personnel to rescue people at risk. If safe to do so, people should be advised to restrain or move away from companion animals or move away from livestock prior to rescue.

Situational awareness gained throughout the call should continually be reassessed for accuracy to ensure advice being given is relevant and up to date.

**Strategic actions**

Fire and rescue services should:

• Consider the use of system-based call prompts or aide-memoires to assist fire control personnel providing advice to assist the rescue of people at risk

• Consider the use of electronic systems to share information between the fire control room and the incident ground to assist in the rescue of people at risk

• Consider the use of electronic systems to share information between the fire control room and other responding agencies to improve joint situational awareness and assist in the
Tactical actions

Fire control personnel should:

- Pass the location of people at risk, including a visual description of the location if available, to operational personnel
- Consider the use of location and mapping services to locate people at risk and share the location with operational personnel
- Share the number of people at risk, as well as their condition and ability to operational personnel
- Share information about access and egress with operational personnel
- Use the information gathered to consider dynamic mobilising, including multi-agency resources to assist the rescue of people at risk
- Consider advising people at risk to alert operational personnel to their location by making noise, waving or using visual aids when they arrive
- Consider advising people at risk to restrain or move away from animals, if safe to do so
- Share all relevant information to assist rescue of people at risk with other responding agencies
- Continually reassess situational awareness to ensure the information gathered and advice given to assist the rescue of people at risk is relevant and up to date

Hazard - Calls from or about people at risk
Hazard Knowledge

There are many reasons why people may become trapped in water. It may be because flooding has caused a dramatic rise in normal water levels which has resulted in people being trapped in a structure or it may be because someone has purposely or accidentally entered a body of water.

It is highly likely that if a child or animal is in the water an adult will attempt a rescue and enter the water.

With the use of modern technology such as smart watches it is possible calls requiring water survival guidance will be received from people who are in the water, however it is also highly likely that calls will be received from people who are not in the water and the advice will need to be shared by the caller to the person at risk.

People who have entered water are at risk of submersion, entanglement, cold water shock, hypothermia or drowning.

Inhaling or swallowing even small amounts of water into the lungs is serious. Drowning can happen in a short amount of time and in as little as five centimetres of water. People who are trapped in water may become distressed, particularly if they are not confident in water. Distress can lead to rapid breathing (hyperventilation) which may cause people to inhale or swallow water.

A high proportion of people who die in water have alcohol or drugs in their bloodstream. They may be unable to catch a throwline or climb out of a flooded or floating vehicle safely.

The risks posed to people can depend on a combination of the depth, speed and temperature of water, as well as any underwater obstructions, which may not be visible.

**Depth and speed**

The risks posed to people cannot be determined based on the depth or speed of the water alone. Shallow water may be low risk when still or slow moving, however 15cm of fast flowing water is enough to knock an adult off their feet and 60cm of water is enough to float a road vehicle.

Deep water may appear still or slow flowing from the surface, however there may be hidden underwater currents.

**Temperature**
Cold water can seriously affect breathing and movement and result in cold water shock or hypothermia. This affect can begin at temperatures below 15°C, river temperatures in the UK are often below this, usually only becoming higher from July to October.

Deep water is likely to be colder than shallow water.

**Cold water shock**

The term ‘cold water shock’ refers to a range of natural reactions that bodies take to protect people if they enter cold water.

There are three stages bodies go through during cold water shock:

- Initial gasp for breath followed by hyperventilation. Once people’s breathing is back under control, this is the best opportunity to get out of the water before the further effects of cold water shock begin
- Blood pressure increases as the body tries to keep blood warm by moving it towards the middle of the body; this often results in people appearing pale
- As muscles cool, strength, endurance, and muscle control reduce to the point where people are unable to swim and can no longer rescue themselves. This is known as ‘swim failure’; if people are still in the water and do not have a form of buoyancy aid, they are likely to drown

**Hypothermia**

If people are exposed to cold water they could become hypothermic in as little as a few minutes. As well as the health risks to people, hypothermia may affect the ability of people to follow advice and communicate with fire control personnel. Hypothermia remains a risk even after people get out of the water unless they are warmed up efficiently and quickly.

The symptoms of moderate hypothermia include:

- Feeling cold
- Uncontrolled shivering
- The person feeling cold to the touch, with cold and pale hands and feet
- Loss of manual dexterity
- Mild confusion, disorientation, or irritability
- The person possibly denying having any problem and rejecting assistance

The symptoms of severe hypothermia include:

- Slurred speech and an apathetic, confused, and irrational state
- Change of colour to lips, gums or tongue, this may be a blue or grey tone dependent on people’s skin colour
Reduced consciousness
Shivering stopping

A baby with hypothermia may be:

- Cold to touch and have reddening of the skin
- Floppy
- Unusually quiet and sleepy and may refuse to feed

**Obstructions in the water**

Obstructions in the water can lead to people at risk becoming injured, entangled or submerged. Poor water clarity will make it difficult to identify underwater objects.

Strainers allow water to pass through, but trap solid objects. These can be man-made objects, such as fencing and drains, or natural objects, such as partially submerged trees and bushes.

Siphons are underwater gaps or holes in a barrier or structure that allows water to flow through.

People can be pulled underwater or become trapped due to the force of the water flow through strainers or siphons.

There are several different types of water which can pose differing risks to people, however water conditions are not static and can change rapidly. Types of water include:

**Flat or still water**

Flat or still water is defined as water that has minimal movement, except for locally induced wind currents. Examples include:

- Lakes
- Lochs
- Ponds
- Quarry pools
- Reservoirs

These forms of water are commonly large expanses of deep, cold water.

Quarry pools are often much colder than lakes and reservoirs as they can be fed by water sources that originate deep underground.

**Moving water**

Moving water can have strong currents, some of these are often underwater.
Moving water will erode underwater surfaces such as mud and stone. Erosion or undercutting can make riverbanks unstable, collapsing when weight is applied, this teamed with steep and slippery banks can make it difficult to get out of moving water.

The noise produced by moving water can make communication difficult, between a person in the water, members of the public and emergency responders.

**Tidal waters**

Tidal conditions are predictable and can be anticipated and prepared for; however, the depth of water can change rapidly as the tide turns. Some rivers, inlets and estuaries are also influenced by tides.

Tidal bores occur where the incoming tide forms a wave, or waves, of water that travels up a river or narrow bay against the direction of the river or bay's current.

**Coastal waters**

Calls about people at risk in coastal waters would usually be directed to the Maritime and Coastguard Agency (MCA), however it is recognised that some calls may be received by fire control personnel.

A rip current is a strong flow of water running from the beach out to sea, which can quickly drag people and debris away from the shallows of the shoreline to deeper water. They tend to flow at 1 – 2 mph but can reach 4 – 5 mph. They are especially powerful in larger surf and can also be found around river mouths, estuaries and man-made structures like piers and coastal defence barriers. Rip currents are a major cause of accidental drowning on beaches.

Beaches change every day according to the weather, tides and currents in the sea. Tidal cut offs are a major cause of RNLI callouts as people are unaware that they are in potential danger. There are a number of factors which cause tidal cut offs:

- Causeways – access to an island that covers and uncovers during a tidal cycle
- Sandbanks – flat sandy areas with raised banks that allow the tide to flow in all around. The area around the sandbank can be very deep, cold and fast moving.
- Headlands and rocky outcrops – these create isolated bays which can get cut off by an incoming tide. Cliffs are hazardous if there is not a safe exit.

**Flood water**

Flood water should be considered as moving water, even when the conditions appear to be still. Like tidal conditions, water levels can rise rapidly during periods of extreme weather conditions or failure of flood defences.
Flowing flood water can create a significant amount of force, this pressure can cause structural damage and potentially result in the collapse of temporary or unstable structures. It is possible for flood water to wash away transport infrastructure such as roads, railway lines and bridges.

Flooded environments may create unexpected underwater entrapment hazards, such as displaced drain covers and submerged street furniture.

**Coastal flooding**

Heavy storms or other extreme weather conditions combined with high tides can cause sea levels to rise above normal, force sea water to the land and cause coastal flooding. The Environment Agency and Scottish Environment Protection Agency (SEPA) constantly monitor sea levels and release flood warnings when required.

**River flooding**

This type of flooding occurs if a river bursts or overtops its banks and floods the areas around it. Flooding is generally caused by prolonged, extensive rain or snow melt.

**Flash flooding**

A flash flood is a fast-moving and unexpected flood, usually due to heavy rain. While natural events may be responsible for most flash flooding, it may also occur if flood defences fail, or drainage systems are insufficient.

**Groundwater flooding**

Groundwater flooding can occur when water levels underneath the ground rise above normal levels approaching the surface. It is usually caused by prolonged periods of rainfall and can last for weeks or months.

The less time people at risk are in water, the chances of survival are increased. The length of time people at risk are in water may depend on:

- The conditions and type of water
- Location of people at risk in the water, for example if they are near to solid ground
- Entanglement or entrapment

As the situation changes or escalates, advice may need to be amended due to:

- Changes in the condition of the people at risk
- Change in water conditions
- Increase of water levels
- Change in weather conditions
Control measure knowledge

There are several factors which may affect the advice given to callers by fire control personnel, these include:

- Type of water, for example:
  - Lake
  - River
  - Flood water
- How people are trapped, such as:
  - Entanglement in water
  - Surrounded by water
  - In water
- Speed and depth of the water
- Temperature of the water
- Location of the person in the water in relation to solid ground
- How long the person has been in the water
- The reason the person has entered the water
- Condition of the person, for example if they are suffering from cold water shock or hypothermia
- Predicted weather, tidal or river level forecasts
- Confidence of the person in water and their swimming ability
- Whether the person in the water has a flotation aid, such as:
  - A lifejacket
  - A lifebelt
  - A piece of watersports equipment
- Available water rescue equipment which may be used to assist, including:
  - Life rings and other buoyancy aids
  - Throwlines

During a situation involving people at risk trapped in or by water, conditions can change rapidly. Therefore, it is important to continually reassess the situation to ensure that advice given remains appropriate.

The speed and depth of water may be difficult for people to judge without putting themselves at
risk. Speed of water can be judged based on a comparison to walking speed and depth can be compared to objects in the water, for example the water level against a building or a walking stick in the water. These comparisons should only be used where it is safe for people to do so.

Risk information for locations that are affected by tidal influences will assist fire control personnel to identify tidal waters and enable them to gather relevant tidal information.

Fire and rescue services should receive notification of weather warnings, tide predictions and river levels. Information may be provided by environmental agencies, the Met Office, the Rivers Agency, or local water management groups such as the Canal Trust or local drainage board; some will also be accessible via the Met Office Hazard Manager. This information should be used to assist in building situational awareness, as well as identifying a change in situation or potential escalation of the incident.

**Strategic actions**

Fire and rescue services should:

- Ensure up-to-date risk information relating to tidal influences can be accessed by fire control personnel
- Ensure arrangements are in place with external agencies to allow fire control personnel access to weather, tidal, flood and river level warnings
- Ensure fire control personnel have access to the Met Office Hazard Manager
- Ensure fire control personnel are aware of how to access the Met Office Hazard Manager

**Tactical actions**

Fire control personnel should:

- Identify the type of water course
- Identify the approximate depth, speed and temperature of the water
- Establish the location of people in the water and their location in relation to solid ground
• Establish and monitor the condition of people at risk and recognise any signs and symptoms they are suffering from cold water shock or hypothermia

• Attempt to establish the confidence and swimming ability of people in the water

• Identify if there are any available buoyancy aids or water safety equipment which may be used to assist

• Use available weather warnings, tide predictions and river level information to build situational awareness

• Reassess the situation and recognise the signs of potential incident escalation, including a rise in water levels

Control measure - Protect people at risk: Water survival guidance

Control measure knowledge

The advice and guidance given to people at risk trapped in or by water will depend on the situation they are in; fire control personnel should use their professional judgment and situational awareness to provide suitable guidance. The situation should be regularly reviewed, and advice amended if necessary.

Stay out of the water

People at risk who are not in the water at the time of call, may be in a place where they are safe to remain until they are rescued. This may include people on high ground who have become surrounded by water. In these situations, they should be advised to stay out of the water and to stay away from unguarded edges and banks, as they may collapse and allow people to fall into the water. The same advice should be given to callers who are not in the water and are sharing water survival guidance with people at risk in the water.

Free themselves
If people have become entangled or trapped in obstructions, such as strainers or siphons, they may be in a stable and relatively safe position to remain until they are rescued. If this is not the case, people should be encouraged to release themselves; this may include removing clothing that has become entangled. If people are not required to or are unable to free themselves, they should try to remain as still as possible and attempt to follow survival guidance.

**Float**

People who have fallen into water unexpectedly are likely to thrash around in the water; this may be due to a reaction to cold water shock or panic. Cold water shock and panic can also affect people’s breathing, causing them to hyperventilate. Floating on their back will reduce the risk of their face entering water and allow them time to control their breathing.

The following methods can assist people to float:

- They should keep calm and try not to panic; their instinct will be to swim hard but they should try to float first
- Laying on their back, extending their arms and legs with their ears in the water and mouth and nose out of the water to keep their airway clear
- Gently kicking their feet will assist in lifting their legs to the surface; this can be repeated if their legs begin to sink again. It is important the kicking is sufficient to raise their legs but not too forceful that they begin to move
- Gently moving their arms horizontally in and out in a sculling motion
- They should float until their breathing is controlled. This could be for 60 – 90 seconds or until they feel calm

Once people have been able to control their breathing, they should locate a buoyancy aid that can be used to assist them to float until they can be rescued. Any floating object can be used as a buoyancy aid, such as a floating tree branch. When providing advice for people to locate a buoyancy aid, consideration should be given to:

- Their swimming ability
- The distance to the buoyancy aid
- The speed of the water

A call may be received reporting a person in the water or where a person in the water is unable to reach a buoyancy aid safely. A person on solid land may be able to provide the person in the water with an object to use as a buoyancy aid.

Lifebelts and other lifesaving equipment may be located near to the water; however, if these are unavailable, any object that will float can be used. The object should be thrown as near to the person in the water as possible, without hitting them and causing any injury.
Depending on the water conditions and people's ability to float, if there are no objects available to be used as a buoyancy aid, they may benefit from continuing to float on their back.

**Self-rescue for rip currents**

The Royal National Lifeboat Institute (RNLI) and Maritime Coastguard Agency (MCA) provide the following advice to people who find themselves caught in a rip current, further information can be found at [Rip Currents - Water Safety Advice And Drowning Prevention (rnli.org)]:

- Stay calm and do not panic
- If the person can stand, they should wade; and not try and swim
- If the person has an inflatable or board, they should keep hold of it to them float
- Raise their hand and shout loudly for help
- Do not try to swim directly against the rip current or they would get exhausted
- Swim parallel to the beach until free of the rip current and then head for shore
- If the person cannot swim, they should float by leaning back in the water and extending their arms and legs

**Safety advice for tidal cut offs**

The RNLI and MCA provide the following advice for people who have been cut off by the tide:

- Where appropriate, move away from the water where it is safe to do so
- Walk further up the beach or ledge, providing they do not put themselves in any further danger, for example climbing up a loose cliff face

**Stay warm**

If people have been able to exit the water, it is important medical advice is followed to reduce the risk of hypothermia. The effects of hypothermia can be prevented or managed by taking the following actions:

- Move people indoors or somewhere sheltered as quickly as possible
- Remove any wet clothing and replace with dry clothes if possible
- If they cannot be moved indoors, protect the casualty from the ground by providing some insulation for them to lie on
- Wrap them in a blanket, sleeping bag, dry towel or similar, making sure their head is covered
- Give them a warm non-alcoholic drink and some high energy food
- Do not apply direct heat such as a hot water bottle to warm them up as this may cause damage to the skin or may cause an irregular heartbeat
- Do not massage or rub the person, as vigorous or jarring movements may trigger cardiac arrest
During all survival guidance calls it is important to maintain contact with the people at risk where possible; however, if a person is potentially suffering from hypothermia this may be vital. People suffering from hypothermia may feel tired and lose consciousness; by keeping them talking it may assist in keeping them awake until emergency resources arrive.

**Strategic actions**

Fire and rescue services should:

- Follow [Protect people at risk: Survival guidance](#) strategic actions, as there are no strategic actions for this control measure

**Tactical actions**

Fire control personnel should:

- Advise people who are not in the water to remain out of the water and stay away from unguarded edges and banks

- Consider encouraging people in water to free themselves from entanglement or entrapment, if safe to do so

- Consider encouraging people in water to float on their backs

- Consider encouraging people in water to locate a buoyancy aid, if safe to do so

- Provide advice to people caught in a rip current

- Provide advice to people caught by a tidal cut off

- Consider advising members of the public on how to safely provide a buoyancy aid to the person in the water

- Provide people who have exited the water with advice on how to keep warm
• If possible, continue talking to people who have exited from or are in the water, to encourage them to remain awake until they can be rescued or receive medical attention

Control measure - Assist the rescue of people at risk: Water survival guidance

Control measure knowledge

If a call is received about a person in the water, it may be suitable to provide advice to the caller about how to assist somebody in the water. Where advice is given to a member of public to assist, it is important any action does not endanger themselves, and they should be advised to follow the instructions as detailed in control measure - Protect people at risk: water survival guidance.

In some areas secure throwline boxes have been installed near water courses, such as rivers and lakes. These boxes are mounted on a sign which provides instructions on how to access and use the throwlines. A code is required to access these boxes, some of which are stored by fire and rescue services. If the code is stored by fire and rescue services, the instructions will inform people to dial 999 and request the fire and rescue service. On receipt of a call, fire control personnel will be required to pass the access code to the caller.

Where throwlines are located, people should be advised to use the following method:

• Gain the attention of the person in the water and advise them you are throwing them the line
• Loosen or unclip the bag so the top of the bag is open
• Pull out about an arm’s length of the line from the bag
• Take hold of the plastic sleeve of the bag with your throwing hand
• Throw the line towards the casualty while holding the tail end of the line in your other hand. Aim to get the line to land across the casualty’s body
• Place themselves 1m to 2m from the edge of the water if possible and to get on one knee or lay on the ground prior to tension being applied to the line

If a call is received about a person at risk in coastal waters, it is essential that the MCA are informed to ensure that they can make an appropriate response.

In addition to the four phases that may be used for all search and rescue incidents as detailed in control measure – assist the rescue of people at risk, water rescue incidents also follow the Talk - Reach - Throw – Row - Go - Don’t go - Helicopter principles. Fire control personnel should use these
principles when providing advice to callers who may be able to assist people at risk.

**Talk/Shout:** People may be able to self-extricate or reach a position where they can remain until they can be rescued. This could include moving closer to solid ground or another location from where they may be more easily rescued. People who are not in the water may have a better view than people in the water and be able to direct them.

**Reach:** It may be possible to use an object to make physical contact with people and pull them towards safety or a location where they can remain until they can be rescued. This may be a tool designed specifically for the purpose or a found object, such as a tree branch. If possible, people should place themselves 1m to 2m from the edge of the water and get on one knee or lay on the ground to prevent them from falling into the water. People should not offer their own hand to people in the water, as this may lead to them being pulled into the water.

**Throw:** It may be possible to use specially designed water rescue equipment, such as throwlines or buoyant objects. These objects may be able to aid people on solid ground to pull the person in the water to a safe location or a place where they can remain until rescued. Buoyant objects may be used to assist people in floating until they can be rescued.

**Row:** Committing trained personnel on to the water in rescue boats, sleds, or similar craft. Fire control personnel should advise members of the public not to attempt rescue from a boat unless the boat is stable and there are competent people in control of the boat.

**Go:** Committing trained personnel into the water to perform a rescue. Fire control personnel should advise members of the public not to enter the water to rescue people.

**Don't go:** If it is deemed unsafe to perform a rescue, people should not enter the water. Members of the public should always be advised not to enter the water.

**Helicopter:** Helicopters for search and rescue, for more information refer to Search, rescue and casualty care – Aerial resources.

If necessary, people should await rescue in areas of water where they can remain static, such as shallow or slow flowing areas.

The following information should be gathered by fire control personnel. This information should be used to aid dynamic mobilising decisions and shared with operational personnel and where relevant, other responding agencies to assist the rescue of people at risk:

- Location of all people in the water, for example how far are they from solid ground
- Description of people in the water and clothing they are wearing
- Whether the person in the water has a flotation aid, such as:
  - A lifejacket
A lifebelt
A piece of water sports equipment

- Access and egress information, for example:
  - Location of the nearest solid ground
  - If flooding has occurred, any restrictions as a result of this
  - Nearby locations suitable for personnel and resources to enter the water, such as boat launch sites or jetties

- Description of the water:
  - Depth
  - Speed
  - Stability of the water, including if water levels are rising or the speed is increasing
  - Size of the water course, for example the width of a river or flood

- Any additional information on forthcoming weather conditions, river levels or tidal reports

Dynamic mobilising may include additional fire and rescue service resources as well as resources from other responding agencies. There are several other organisations that may have water rescue capabilities; if arrangements have been made, fire control personnel should consider the mobilisation of these resources to assist rescue.

Depending on the location of people at risk and access and egress routes, fire control personnel should consider mobilising resources in a dual approach, for example to both sides of the water source. The fire control room may also need to provide information about routes to avoid using.

Depending on the situation, the following advice to people at risk may prove useful in assisting the rescue:

- If there are multiple people in the water, advise them to remain together if it is possible and safe to do so
- Await instructions from emergency responders and do not attempt to board their boat or any other watercraft until instructed to do so
- If safe to do so, wave both arms and fists to attract the attention of emergency responders
- If available use a torch to attract the attention of emergency responders
- Make a noise to attract the attention of emergency responders; however, once emergency responders are aware of their location, people should remain quiet so that they can hear instructions
- Emergency responders may need to initially move away from people in the water; this is normal and will be part of their rescue plan

**Strategic actions**

Fire and rescue services should:
• Ensure arrangements are in place with other organisations with water search and rescue capabilities

• Ensure mobilising and communication procedures are in place with other organisations with water search and rescue capabilities

• Ensure fire control personnel know how to mobilise other organisations with water search and rescue capabilities

• Consider displaying launch sites on mapping systems available to fire control personnel

• Ensure information relating to throwline box locations and access details are available to fire control personnel

**Tactical actions**

Fire control personnel should:

• Consider dynamic mobilising to assist with the incident, including dual approach, multi-agency resources and other agencies with water search and rescue capabilities

• Attempt to identify access and egress to the water rescue scene of operations and communicate avoidance routes

• Advise members of public not to enter the water

• Provide callers with the access code to a throwline box where applicable

• Consider advising members of the public to assist people at risk to exit the water using the principles of Reach and Throw

• Provide advice to members of the public who are assisting the rescue of people at risk to stay away from unguarded edges and banks

• Consider encouraging people to move to an area in the water that will assist their rescue
• Consider advising people in the water to remain together where possible and safe to do so

• Consider advising people in the water not to attempt to board boats or other watercraft until instructed to do so by emergency responders

• Consider advising people on how to attract the attention of emergency responders, including consideration to the time of day and use of torches

• Share information relating to the depth, speed and stability of the water with operational personnel and other responding agencies

• Share information relating to forthcoming weather conditions, river levels or tidal reports with operational personnel and other responding agencies

• Share information about people at risk in coastal waters with the Maritime and Coastguard Agency

Hazard - Calls from or about people at risk trapped in or by moving water

Hazard Knowledge

Obstructions in the water

Rocks, branches, or other debris below or suspended in the water can cause obstructions. Where there is fast flowing water, these objects can pin people against a solid object and structures such as bridges with considerable force. They can also cause injury and entanglement if people are swept over the top of them.

Sluices and Weirs

Sluices and weirs may be fixed in position but can often be lowered or raised, changing level depending on local requirements or weather conditions. Weirs are man-made features designed to regulate the flow of water downstream. The regulation of water can create increases in speed and dangerous currents.
A person in the water may be drawn towards the face of the weir and forced under the surface.

Sluices operate in a similar manner to weirs but allow water to run underneath rather than over the top of the gate. Sluice gates can create dangerous eddies, unseen recirculation, siphons and undertows.

Weirs cause the water to accelerate and then recirculate downstream of the drop. It is likely people will be pulled back towards the weir and under the water and become held by the recirculating water.

Due to the risk to public there maybe flotation devices located near sluices and weirs.

**Pumping Stations**

Pumping stations manage water levels between two separated bodies of water, for example, a drain or dyke and a river. Most operate with an impeller system, with secure hatches to prevent entry. Impellers may operate with little or no warning, causing a substantial amount of water to move, creating hazards both upstream and downstream of the system. There can be enough pressure generated to pin or trap a casualty or rescuer.

**Currents**

People in moving water are unlikely to remain static. Currents can move people great distances from the water entry point (WEP) in a short amount of time. These currents can lead people towards further dangers such as weirs and obstructions.

⚠️ **Control measure - Situational awareness: Water survival guidance for people in moving water**

**Control measure knowledge**

There are several factors which may affect the advice given to callers by fire control personnel, these include:

- Location of people in the water in relation to:
  - High or solid ground
  - Shallow or slow flowing water
- Whether people are static or are being swept away with the current
- Have people become entrapped or entangled by obstructions
Any hazards such as weirs and obstructions involved or further downstream
Direction of the water flow

Gaining the direction of the water flow may allow fire control personnel to use any mapping systems to gather information on potential upcoming hazards downstream.

No area in the water should be considered a safe place; however, there are areas in moving water where people may be able to remain static until they are rescued. This may include areas of:

- High ground, such as rocks
- Slow flowing or shallow water

Eddies may provide an area of both slow and shallow water where people are able to remain until they are rescued. Eddies are formed where flowing water passes static or slow-moving water causing the area of static water to rotate in the opposite direction to the main flow. This recirculated water, or eddy, is slower than the main flow. The reduction in speed causes debris to be deposited, reducing water depth around eddies.

Moving water conditions can change quickly and without notice. Conditions should be reassessed regularly to ensure the advice to remain in place is still relevant; advice should be amended where necessary.

**Strategic actions**

Fire and rescue services should:

- Ensure mapping systems available to fire control personnel show water hazards such as weirs

**Tactical actions**

Fire control personnel should:

- Establish the location of people in the water
- Establish the effects of the water people at risk are experiencing
- Establish if people are entrapped or entangled by obstructions
• Identify any known or potential hazards

• Consider advising people that there may be obstructions in the water

• Establish the direction of the water flow

• Establish if people are in a place where they can remain until rescued

• Continually reassess the water conditions and amend advice where required

Control measure - Protect people at risk: Water survival guidance for people in moving water

Control measure knowledge

People who are currently static and buoyant in the water are likely to be able to remain in that location until they are rescued. If people are forced into the moving water, it is possible they will be swept away with the current.

People will have difficulty swimming against the strong currents in fast flowing water and should be safer to float with the flow of the water. Before advising people to float with the flow of the water, consideration should be given to any upcoming obstructions or hazards, such as weirs.

Avoid obstructions and entanglement

When floating, people should face the direction of travel, with their feet and legs raised to the surface. This will allow them to see upcoming obstructions, prevent their feet and legs becoming entangled and protect their head by allowing their feet to hit any obstructions first. When floating, people should try to use their arms to direct themselves.

Head towards a safer location

People should attempt to reach areas where they will be static until they can be rescued, such as:

• High ground or solid ground, for example rocks in a river
• Shallow water
• Slow flowing water

Water naturally flows in a straight line and should lead people to bends in the water. Water on the inside of bends should be shallower and slower flowing; this may allow people to exit the water or remain static until rescue.

People should avoid aiming towards items which may act as siphons or strainers, such as partially submerged trees or bushes.

Depending on their swimming ability, once people have reached slower flowing water, they may be able to reach a safer location by swimming.

**Swim**

If people are in slow moving water or they are no longer safe to float due to upcoming hazards, people may be required to swim to a safer location.

When swimming in moving water, people should swim diagonally with the flow of the current.

Before providing any advice to swim, consideration should be given to the person’s swimming ability, and consideration as to whether the person has been in the water for some time and may be suffering from cold water shock or hypothermia.

**Strategic actions**

Fire and rescue services should:

• Ensure mapping systems available to fire control personnel show water hazards such as weirs

**Tactical actions**

Fire control personnel should:

• Consider advising people in water to remain in their location until they can be rescued

• Consider advising people to float with the current

• Advise people who are floating to face the direction of travel with their feet and legs raised to the surface of the water
• Consider advising people in water to avoid obstructions and hazards

• Consider advising people who are floating with the current to direct themselves to calmer areas of the water

• Consider advising people to swim to calmer areas of the water, if safe to do so

Control measure - Assist the rescue of people at risk: Water survival guidance for people in moving water

Control measure knowledge

The following information should be gathered by fire control personnel. This information should be used to aid dynamic mobilising decisions and shared with operational personnel and where relevant, other responding agencies, to assist the rescue of people at risk:

- Water entry point (WEP)
- Point last seen (PLS)
- Speed of travel
- Direction of travel
- Upcoming hazards and obstructions
- Updated location where people have been able to exit the water or reach a safer place further downstream
- If the casualty has become submerged or has remained on or above the water

If a person is moving in the water and their exact location is no longer known the WEP, PLS and speed of travel should be passed so that operational personnel can calculate the approximate location. Speed of travel can be judged based on a comparison with walking speed.

It is possible that contact will not be able to be maintained with people who are moving with the flow of the water. Therefore, callers should be advised to recontact the fire and rescue service by dialling 999 if people at risk have been able to exit the water further downstream.
Strategic actions

Fire and rescue services should:

- Follow Assist the rescue of people at risk: Survival guidance and Assist the rescue of people at risk: Water survival guidance strategic actions, as there are no strategic actions for this control measure.

Tactical actions

Fire control personnel should:

- Share the water entry point (WEP), point last seen (PLS), speed and direction of travel to operational personnel and other responding agencies.

- Share information on upcoming hazards and obstructions in the water with operational personnel and other responding agencies.

- Share information on the updated location with operational personnel and other attending agencies if people have been able to exit the water.

- Advise callers to recontact 999 and provide updated location where people at risk have been able to exit the water.

Hazard - Calls from or about people at risk trapped in or by water in a building

Hazard Knowledge

Flooding can often lead to people becoming trapped due to water surrounding or entering buildings. Flooding is likely to affect a wide area, leading to multiple people being trapped in buildings and potential widespread interruption to power supplies.

People who have become trapped in a property may not appear to be in immediate danger.
However, due to the risks associated with water and the additional risk of water in a building there is still a significant risk of injury or death.

Water can enter buildings through apertures such as doors and windows, air bricks on exposed walls and gaps in the floor. Pressure created by flooding can reverse the flow of drainage systems and pipes, causing water and possibly sewage to back-up and enter a building through sinks, toilets, and other drainage systems.

Differences in pressure may cause water to move through semi-permeable materials, such as bricks. If water levels are over a certain height, even a building with property level protection, such as door barriers or sandbags, will start to experience some water ingress.

Water in buildings can compromise the safety of gas and electric supplies to both the building and appliances in the building, causing an increase in fire risk. Water is an excellent conductor of electricity, therefore there is a significant risk of electrocution if water has entered buildings. This may be caused by:

- Touching or operating electrical installations or appliances while standing in water
- Electrical installations or appliances being submerged in water, causing electrification of the water
- Damaged electrical installations or appliances, causing electrification of the water

Control measure - Situational awareness: Water survival guidance for people in buildings

Control measure knowledge

When gathering information people should not be asked to put themselves at additional risk, for example by entering water.

There are several factors that may affect the advice given to people who are trapped by water in a building. These include:

- The condition and structure of the building, for example:
  - Hoarding
  - Number of floors
  - If it is under construction or demolition
- The water conditions affecting the property, for example:
○ Whether the water has entered the property
○ Water levels inside and outside the property
• Where the water is coming from
• Condition of gas and electrical installations and appliances in the property, for example:
  ○ Sockets and switches are submerged in water
  ○ Buoyant appliances in the water
  ○ Whether power supplies have been isolated
  ○ Signs of damaged electrical installations, including smoke or arcing
  ○ Power cut affecting the building
• Emergency planning group flood plans

Widespread flooding is likely to attract a multi-agency response and trigger emergency planning group flood plans. Emergency planning groups include:

• Local resilience forums (LRFs) in England
• LRFs or Resilience Forum in Wales
• Regional Resilience Partnerships (RRPs) in Scotland
• Emergency Preparedness Groups (EPGs) in Northern Ireland

If flood plans have been triggered, the plans and decisions made by emergency planning groups may dictate the advice fire control personnel pass to people at risk, as well as the communication links between agencies.

Updates from the tactical co-ordinating group (TCG) will provide up to date advice and communications strategies to be adhered to and amended as required.

There may be occasions when additional information received from weather, flood, river or tidal reports, emergency planning groups, operational personnel and other responding agencies means that the advice given needs to be amended. In these situations, people should be recontacted, and the change of advice passed onto them. When recontacting people at risk, any multi-agency or emergency planning group communication plans should be adhered to.

**Strategic actions**

Fire and rescue services should:

• Ensure agreements are in place to receive regular updates to weather, flood, river and tidal reports

• Ensure available flood plans are accessible by fire control personnel
• Ensure systems are in place to provide updates to fire control personnel from the tactical co-ordinating group (TCG), which may affect their actions, or the advice given to people at risk in buildings affected by water

• Ensure systems are in place to ensure relevant information from fire control personnel is shared with the tactical co-ordinating group (TCG) to improve joint situational awareness relating to people at risk in buildings affected by water

Tactical actions

Fire control personnel should:

• Establish the condition and structure of the building

• Gather information on the water conditions inside and outside the building

• Identify where the water is coming from

• Establish the condition of gas and electrical installations and appliances

• Maintain contact with the caller; if this is not possible, advise the caller to recontact the fire and rescue service by dialling 999 if the situation changes

• During an incident, continuously review external sources of information relating to water and weather conditions, amending advice as required

• Use updates from the tactical co-ordinating group (TCG) relating to emergency flood plans to amend their advice and actions relating to people in buildings affected by water

• If relevant, ensure communications strategies as detailed in emergency planning group flood plans are adhered to

• Establish a method of recontacting the caller in case there is a change of advice to people at risk in buildings affected by water
Control measure knowledge

It should be safer for people to remain in the property and await rescue, rather than attempt to self-evacuate. However, due to the risks of water entering the property this should not be considered a safe place.

When providing advice to callers, it is important to use the situational awareness gained as well as professional judgement to decide if the advice is relevant.

Where water has not entered the building and is a significant distance away, callers can be directed to flooding information and advice on how to prepare or cope with the impacts of flooding from the following agencies:

- Floodline – England
- Floodline – Scottish Environment Protection Agency
- Natural Resources Wales
- Northern Ireland Direct

Isolate power supplies

Isolating gas and electric supplies should reduce the fire risk as well as the risk of electrocution. Power should only be isolated if it is safe to do so; it is likely that this will not be possible after water has entered the building. Power should be isolated at the gas emergency control valve and the electricity fuse box. However, when providing this advice, consideration should be given as to whether these are inside or outside the property.

Due to the risk of possible gas leaks or electrocution, if water has entered the property and the gas and electric supplies have not been isolated, people should not:

- Enter the water
- Use naked flames or electrical lighting; however, torches or mobile phone lights can be used
- Attempt to operate any electrical equipment or appliances

People should not attempt to isolate the electricity when standing in water or with wet hands, or if there are signs that the electricity has already been compromised by water, such as arcing or overheating.
Block water inlets

The risk of water entering through drainage systems can be reduced by:

- Placing plugs in sinks and baths and weighing them down with sandbags or other heavy objects where possible
- Disconnecting and isolating any equipment that uses water, such as washing machines and dishwashers
- Using towels or cloths to plug water inlet pipes or other areas where water is entering

Pack a flood kit

People may be required to remain in their property for some time to await rescue. Once they have been rescued, they may need essential items with them. If possible and safe to do so, people should be advised to pack a flood kit containing essential items.

Flood kits should be kept to a minimum, but may include items such as:

- Mobile phone and charger
- Phone numbers, insurance documents, bank cards and money
- Medicines and medical devices, hearing aid batteries, spectacles and contact lenses
- Essential items for children and babies such as nappies, baby food or feeding equipment
- Drinking water in a suitable container as flooding can cause disruption to the supply of clean water. Consideration should be given to including food where any medical conditions may require

Move away from the water

If water has entered buildings, people should be safer the higher they are in the property.

When advising people to move to a higher location in the property, consideration should be given to the ability for them to be rescued from that location. If possible, people should be advised to await rescue in a room where there is access to a window or other means of rescue.

If the caller is unable to remain on the phone when moving to another location, consideration should be given to:

- Advising the person to redial 999 from the new location so that water survival guidance can be continued
- Providing sufficient water survival guidance before allowing the caller to hang up the phone

If buildings only have one floor, alternative advice may need to be provided. Standing on kitchen worktops or furniture can keep people out of the water for longer, while they are waiting to be rescued. If people are forced to enter the water, survival guidance should be given in relation to the
If it is safe to do so, people can be advised to collect valuables and move them to a higher location in the property.

**Gather together**

If there are several people at risk in a building, it may be advantageous for them to gather in one location for the following benefits:

- Water survival guidance can be passed from fire control personnel to a single person, who can relay the advice to others
- It may reduce the likelihood of multiple water survival guidance calls being received by the fire control room from a single location
- It supports easier and quicker rescue of multiple people from a single location
- Multiple people in a room may help them to keep warm

This guidance may not be appropriate for large, complex or tall buildings; for example, in tall buildings it may not be safe for people to move between floors or flats. People at risk should not move into one room or location if doing so exposes them to additional risk.

**Strategic actions**

Fire and rescue services should:

- Follow [Protect people at risk: Survival guidance](#) strategic actions, as there are no strategic actions for this control measure

**Tactical actions**

Fire control personnel should:

- Advise people in buildings where the water has not yet entered the property to contact the relevant government department for flood warnings
- Advise people in buildings affected by water to keep out of the water
- Consider advising people in buildings affected by water to remain in their location until they can be rescued
Consider advising people in buildings affected by water to isolate gas and electric supplies in the building, if safe to do so

Consider advising people in buildings affected by water not to operate electrical appliances

Consider advising people in buildings affected by water to block water inlets, if safe to do so

Consider advising people in buildings affected by water to pack a flood kit

Consider advising people in buildings affected by water to gather together, if safe to do so

Control measure - Assist the rescue of people at risk: Water survival guidance for people in buildings

Control measure knowledge

The following information should be gathered by fire control personnel. This information should be used to aid dynamic mobilising decisions and shared with operational personnel and where relevant, other responding agencies, to assist the rescue of people at risk:

- Location of all people in the building, for example kitchen or first floor bedroom, flat and floor number
- A description of where the location is, for example:
  - Front left window when looking from the road at the front of the building
  - First room on the right at the top of the stairs
- Access and egress information for the building if relevant, for example:
  - If the window is at the rear of the building
  - If there is a gate to gain access
- Depth and conditions of the water inside and outside the building
- Condition of the power in the property
- If the gas and electric supplies have been isolated
- Detail of any damage to the gas or electric supply
- Any risk of electrification of the water
• Condition of the building, including:
  ◦ Any known risks, such as hoarding
  ◦ If it is under construction or demolition

For large or complex buildings, consider the use of location services to identify the exact location of people in the building.

Depending on the situation, the following advice to people at risk may prove useful in assisting the rescue:

• Remain near to the window
• Use a visual aid, such as a torch or phone light, to identify the room they are in
• On arrival of operational personnel remain in their location until advised otherwise

If people have packed a flood kit, it is important this is kept to a minimum. Large bags can become obstructions when attempting to exit a building through windows, as well as taking up space on rescue boats.

**Strategic actions**

Fire and rescue services should:

• Follow Assist the rescue of people at risk: Survival guidance and Assist the rescue of people at risk: Water survival guidance strategic actions, as there are no strategic actions for this control measure

**Tactical actions**

Fire control personnel should:

• Pass the location of people at risk in buildings affected by water, including a visual description if available, to operational personnel

• Share information with operational personnel and other responding agencies about access and egress to the building affected by water

• Share information with operational personnel and other responding agencies about the water conditions inside and outside the building
• Share information with operational personnel and other responding agencies about the condition of the gas and electric supplies in the building affected by water

• Share information with operational personnel and other responding agencies about the condition of the building affected by water

• Consider advising people to remain near a window in the building affected by water

• Consider advising people to use a visual aid, such as a torch or phone light, to indicate their location in the building affected by water to operational personnel

• Advise people at risk to remain in their location on arrival of operational personnel unless advised otherwise

• Advise people to ensure any items and flood kits they take with them is kept to a minimum

Hazard Knowledge

People at risk may become trapped in their road vehicles by water for several reasons. Vehicles may have entered a body of water because of a deliberate act, an accident or have become partially submerged by rising floodwater or tides. In low levels of water, vehicles may be stable; however, as water levels rise, previously stable vehicles may become buoyant. Even larger vehicles like buses, can begin to float in low levels of water. A car entering a body of water may quickly float away from the point of entry.

Water entering a vehicle may affect its electrical systems and powered windows, although they may still work for a time, even if a vehicle is full of water. If the water is deeper than the vehicle, there is only a short time frame (around 30 seconds to 2 minutes) where the vehicle will float before the vehicle begins to submerge. Vehicles are not airtight; if a vehicle is submerged, an air bubble will not normally be created inside it.

Electric vehicles
Electric and hybrid vehicles are designed to be safe in water, even if fully submerged. However, if the high voltage systems have been damaged extreme caution should be exercised due to the risk of electrification of the water.

**Vehicle safety systems**

Vehicle electronics may activate without warning and for no apparent reason because water is affecting the vehicle's circuitry.

Vehicle safety systems, such as seatbelt restraints or airbags may activate and act as a hazard to the casualties and restrict the ability to exit the vehicle.

**Vehicle position and stability**

The heaviest point of a vehicle will submerge first; this is likely to be the engine compartment but can vary on different vehicle types for example in electric powered vehicles.

A vehicle's orientation to the flow will affect its movement. If the vehicle is side-on to the current the vehicle is likely to roll.

Depending on ground conditions, a partially buoyant vehicle may pivot around its heaviest point; the heaviest point may vary on the depending on the type of vehicle. Eventually road vehicles are likely to move to a position where its heaviest part is pointed into the flow.

Depending on the position of the vehicle, eddies may be created. Eddies created by a vehicle in water should not be treated as an area where people can remain until they are rescued, due to the risk of the vehicle moving.

Redistribution or removal of the load from a vehicle may cause it to flip or move suddenly. Movement of people or animals in a buoyant vehicle may affect its stability.

Different types of vehicles may react differently in water due to their size and weight. Heavy vehicles are likely to sink at a faster rate, whereas lighter vehicles are likely to become buoyant at a faster rate.

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**Control measure - Situational awareness: Water survival guidance for people in road vehicles**
Control measure knowledge

There are several factors which may affect the advice given to people in road vehicles in water by fire control personnel, these include:

- Type of vehicle, including make, model and fuel type
- Condition of electrics in the vehicle, such as electric windows
- Water level outside and inside the vehicle
- Number and location of people and animals in the vehicle
- Direction of the vehicle in relation to the water flow
- Stability of the vehicle
- If the vehicle has moved, how far it has moved and how quickly
- Any damage sustained to electric vehicles, due to the effect this may have on the high voltage systems
- Any damage sustained to vehicles which has affected access and egress, for example damage preventing the doors being opened
- Stability of the water, whether the water level and flow are or likely to increase

Establishing the make and model of the vehicle will assist operational personnel in identifying where safety systems, such as airbags, are located. This will enable operational personnel to isolate safety systems if required and reduce the risk of harm from their unexpected actuation.

If there are multiple vehicles in flood water, the behaviour of other vehicles may be used to build situational awareness. For example, if other vehicles are buoyant and moving it is likely that this will happen to the involved vehicle.

Smoke and electricity arcing may indicate that damage has occurred to electrical systems in the vehicle. If there are no external signs of damage, it is important to establish if it was involved in a collision, as this may affect the ability of the casualties to exit the vehicle or emergency responders to gain access to the vehicle.

Strategic actions

Fire and rescue services should:

- Follow Situational awareness: Survival guidance, Situational awareness: Water survival guidance and Situational awareness: Water survival guidance for people in moving water strategic actions, as there are no strategic actions for this control measure
Tactical actions

Fire control personnel should:

- Identify the type of vehicle in the water, including make, model and fuel type where possible
- Establish if the electrical systems of the vehicle in water are still working
- Establish the water level outside and inside the vehicle
- Establish the number and location of people and animals in the vehicle in water
- Establish the direction of the vehicle in relation to the water flow
- Establish the stability of the vehicle in water
- Consider establishing how far and quickly the vehicle has moved in the water
- Establish if there is any smoke or arcing from the electrical system of the vehicle in water
- Identify any damage sustained to vehicles in the water
- Consider using other vehicles in the water to establish situational awareness

Control measure - Protect people at risk: Water survival guidance for people in road vehicles

Control measure knowledge

Prepare to exit

If both the road vehicle and water are stable, it could be safer for people at risk to remain in the vehicle.
vehicle and await rescue, however stability may not be retained. It is likely that if water conditions change, the vehicle may become buoyant or fill with water. Therefore, it is important to ensure people are ready to exit the vehicle if required.

To maintain the stability of the vehicle it may be advisable for children to remain in their seats. Consideration should be given to unfastening seatbelts and safety harnesses so that there is not a delay in exiting the vehicle if necessary. In case vehicle safety systems activate, people should be advised to keep away from airbags if possible. This may be achieved by removing seatbelts and moving seats away from the dashboard. Where vehicles have electric seat systems, these may malfunction if affected by water and may cause people to become trapped. Where possible people should be advised to move the seat away from the dashboard as soon as possible to minimise this risk. This advice will also assist with the rescue of people and should be given in all circumstances.

Water can affect other electrics in the vehicle, such as windows and sunroofs. Opening windows or sunroofs as early as possible will ensure that they are ready to use as an exit if required. Opening windows may allow cold air and water into the vehicle, so before giving this advice careful consideration should be given to the:

- Position of the vehicle in relation to the direction of the water flow; if the vehicle is side-on to the current, the windows that are facing downstream (the direction the water is flowing towards) should be opened
- Ability of people to exit the vehicle; if people are unable to exit the vehicle, the risks of opening the window may outweigh any benefits
- Depth of water

Rear windows in vehicles may be difficult to use as an exit, due to the size of the window and the opening mechanisms. If people in the rear of the vehicle may need to exit through the front windows, head restraints on the front seats may restrict their route. Removing head restraints will remove this obstruction and they can be used to break a window if necessary.

If possible, people should be told to prepare any items that can be used as buoyancy aids, such as child car seats.

**Stabilise the vehicle**

Applying the handbrake and turning the vehicle ignition off can assist in stabilising a vehicle in water. When advising people to turn off the vehicle ignition to isolate the power of the vehicle, it is important to ensure they have taken all relevant action to prepare for exit, such as opening electric windows or sunroofs.

Movement in the vehicle may affect its stability, as weight distribution moves inside it. People should remain in their seats unless advised otherwise and restrain animals if safe to do so.
Avoid water within the vehicle

Water is likely to enter the vehicle through the door seals and start to fill the footwell in the vehicle. Lifting feet out of the water and onto the seat will allow people to keep away from the water in the vehicle for longer.

If it is believed that an electric vehicle has sustained damage to its high voltage systems, it is imperative that people keep away from the water in the vehicle.

Unstable conditions

When a vehicle is unstable it is likely to begin to submerge or move with the flow of the water. Unstable water conditions may be due to rising water levels and increased speed of water flow.

Exit the vehicle

In unstable conditions it is likely that people will be safer to exit the vehicle. There are circumstances where people at risk will need to be advised to exit the vehicle; this may be due to:

- The vehicle being swept away with the water
- The vehicle beginning to submerge
- An increase in water levels in the vehicle

It is likely that when exiting the vehicle, people will be entering an open body of water or climbing onto the roof of the vehicle. However, if the vehicle has overturned, the upper surface of the vehicle could be the floorpan or side.

Before advising people to exit the vehicle, consider:

- The speed of water flow
- The depth of the water
- The weather conditions
- The likely temperature of the water
- The physical ability of people to exit into the water or the upper surface of the vehicle

The pressure of water outside of the vehicle may prevent doors from being opened, in which case people will need to exit the vehicle through a window or sunroof.

Depending on the water levels outside the vehicle, opening a door or window is likely to cause an increase in water entering the vehicle; people should be prepared for this to occur.

If it is not possible to open the doors, windows or sunroofs, a window can be broken. Side windows are usually weaker and can be broken using a firm hard blow in the corner using a ‘life hammer’, heavy object or the metal part of a head restraint. Any remaining glass should be removed or
covered where possible to prevent injury.

If there are multiple people in the vehicle, consideration should be taken to assisting others to leave the vehicle. Children should be assisted to leave the vehicle first, ideally being passed to a person outside of the vehicle.

If a vehicle has entered deep water, such as a lake or a quarry, or is in rising tidal waters, people should be advised to exit into the water and not onto the upper surface of the vehicle.

When exiting a vehicle, people should take any buoyancy aids, such as child seats, with them if possible; these may assist people if they need to stay in the water.

**Exit onto the upper surface of the vehicle**

If the water level is rising inside the vehicle, consideration should be given to advising the occupants to get onto the upper surface of the vehicle and await rescue. Before providing this advice, fire control personnel should consider:

- That the surface of the vehicle is likely to be extremely slippery, which may lead to people falling into the water
- That movement of people in or exiting the vehicle may affect its stability

If the vehicle is upright and people are exiting the vehicle onto the roof, a sunroof may be the safest route. If this is not possible, people should use a door or window to exit the vehicle.

If the vehicle is side-on to the flow of the water, people should be advised to exit the vehicle by windows or doors which are facing downstream.

To assist in maintaining the direction of the vehicle, people should be advised to remain at the opposite end of the vehicle to the engine compartment, which will help to counteract the weight of the engine. If there are multiple people in the vehicle, consideration should be taken to distribute their weight evenly.

Once on the upper surface of the vehicle, people should be advised to remain in place unless otherwise advised. If the vehicle becomes unstable while people are on its upper surface, they should consider entering the water or reaching for a tree branch or similar.

**Exit into the water**

There may be occasions when people will be required to exit the vehicle into open water; this may be due to:

- The vehicle becoming buoyant and moving
- The vehicle beginning to submerge or there is a risk of this happening
When advising people to exit into open water, it is important to provide advice on exiting the vehicle as well as any survival guidance relating to the type of water they are entering.

If the flow of the water prevents doors being opened, people may need to exit the vehicle through a window.

If the vehicle is starting to submerge, or there is a risk of this happening, people should exit it at the earliest opportunity and wade or swim away from the vehicle.

**Strategic actions**

Fire and rescue services should:

- Follow Protect people at risk: Survival guidance strategic actions, as there are no strategic actions for this control measure

**Tactical actions**

Fire control personnel should:

- Provide water survival guidance based on the stability of the vehicle and the water conditions

- Consider advising people trapped in a vehicle in water to prepare to exit the vehicle

- Consider advising people trapped in a vehicle in water to stabilise the vehicle by applying the handbrake, turning off the ignition and reducing their movement

- Consider advising people trapped in a vehicle in water to stay out of the water that has entered the vehicle if possible

- Consider advising people trapped in a vehicle in water to keep away from airbags if possible

- Consider advising people trapped in a vehicle in water to exit the vehicle

- Consider advising people trapped in a vehicle in water to exit onto the upper surface of the vehicle
Consider advising people trapped in a vehicle in water to exit into open water

Control measure - Assist the rescue of people at risk: Water survival guidance for people in road vehicles

Control measure knowledge

The following information should be gathered by fire control personnel. This information should be used to aid dynamic mobilising decisions and shared with operational personnel and where relevant, other responding agencies, to assist the rescue of people at risk:

- Type of vehicle, including whether it is electric or hybrid
- Number of vehicles
- Current water levels inside and outside the vehicle
- Number and location of people and animals in the vehicle
- Direction of the vehicle in relation to the water flow
- Stability of the vehicle
- If the vehicle has moved, how far it has moved and how quickly
- Any damage sustained to the vehicle
- Predicted weather forecast, tides and river levels

If a vehicle has moved and the exact location is no longer known, the water entry point (WEP), point last seen (PLS) and speed of travel should be passed, so that operational personnel can calculate its approximate location.

If they have not already done so, there are actions that people can take which will assist their rescue, including:

- Preparing to exit the vehicle by:
  - Removing seatbelts
  - Moving seats away from the dashboard
  - Releasing children from child seats
  - Opening windows
  - Restraining any animals
- Alerting operational personnel to their location by:
  - Sounding the vehicle horn
Turning on hazard warning and headlights; this will also provide an indication of the water depth.

Some vehicles restrict the use of the horn when the ignition is turned off, in these situations other methods of alerting operational personnel should be used.

**Strategic actions**

Fire and rescue services should:

- Follow [Assist the rescue of people at risk: Survival guidance](#) and [Assist the rescue of people at risk: Water survival guidance](#) strategic actions, as there are no strategic actions for this control measure.

**Tactical actions**

Fire control personnel should:

- Share information on the location of the vehicle including the water entry point (WEP) and point last seen (PLS) with operational personnel and other responding agencies.

- Share information relating to the number and type of vehicles in the water with operational personnel and other responding agencies.

- Share information regarding the water conditions inside and outside the vehicle with operational personnel and other responding agencies.

- Share information about the number and location of people and animals in the vehicle in water with operational personnel and other responding agencies.

- Share information on the position and stability of the vehicle in the water with operational personnel and other responding agencies.

- Share information detailing how far the vehicle has moved in the water and how quickly with operational personnel and other responding agencies.
• Advise people trapped in a vehicle in water to prepare to exit the vehicle in readiness for their rescue

• Advise people trapped in a vehicle in water to turn on vehicle lights and sound the horn to alert operational personnel and other responding agencies to their location

• Share information detailing any damage sustained to vehicles in the water with operational personnel and other responding agencies

Hazard - Physical and mental effects on personnel alerted to respond to an incident

Hazard Knowledge

When operational personnel are alerted to respond to an incident, they may experience a range of physical and mental reactions. These reactions may:

• Impair their appraisal of the situation
• Result in errors of judgement
• Increase the likelihood of accidents

As detailed in the Health and Safety Executive (HSE) publication, Reducing error and influencing behaviour (HSG48), factors that may contribute to human error include:

• Working shift systems, working at night, or working very extended hours
• Being 'on call', making it difficult to plan when to sleep or having disrupted sleep
• Not having had sufficient rest before the start of a shift
• Drinking alcohol or taking some types of drugs

Fire and rescue services may wish to consider which of their employees could be affected by these factors; they could apply to fire control personnel and operational personnel.

If personnel become severely fatigued, which could be the result of spate conditions, it may lead to impaired performance on tasks that require attention, decision-making or high levels of skill. For safety-critical work the effects of fatigue can result in increased risks.

When personnel are alerted to respond to an incident, the choice of words and phrases used in
mobilisation messages may cause them to make a judgement about the urgency of the incident. This may cause a stress reaction that affects their physical and mental ability to respond safely.

Personnel should also be aware of hazards that can be caused if the alert to respond distracts them from their current activity. This could be a fire and rescue service task, but could also affect other employment, leisure or domestic activities.

**Control measure - Monitor the well-being of personnel**

**Control measure knowledge**

There are many regulations in the UK that exist to protect the well-being of employees, including:

- The [Working Time Regulations](https://www.gov.uk/working-time-regulations) and the [Working Time Regulations (Northern Ireland)](https://www.gov.uk/working-time-regulations-northern-ireland) – these include topics such as shift working, rest periods and leave
- The [Management of Health and Safety at Work Regulations](https://www.gov.uk/management-of-health-and-safety-at-work-regulations) and the [Management of Health and Safety at Work Regulations (Northern Ireland)](https://www.gov.uk/management-of-health-and-safety-at-work-regulations-northern-ireland) – of note, section 6 states that employers shall ensure that employees are provided with health surveillance which is appropriate to the risks to their health and safety

There are also regulations relating to driver hours, which should be considered for retained duty system (on-call) personnel. Further information on the regulations can be found at:

- [GOV.UK: Drivers' hours](https://www.gov.uk/drivers-hours)
- [nidirect: Tachograph and drivers' hours](https://www.nidirect.gov.uk/driver-hours)

**Strategic actions**

Fire and rescue services should:

- Consider and monitor the well being of personnel

- Ensure that fatigue and any regulations associated with primary employment are considered for retained duty system (on-call) personnel

- Ensure rest and recuperation periods follow protracted and arduous incidents
• Consider drug and alcohol testing

**Tactical actions**

Incident commanders should:

• Adhere to service policy and procedures in relation to health, fatigue, shift working, rest periods and leave

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**Control measure - Safe system of work: Being alerted to respond to an incident**

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**Control measure knowledge**

**Individual situational awareness**

Personnel should be made aware of team safety protocol, which includes maintaining individual situational awareness. The following points particularly apply if working without supervision:

• Being vigilant for personal safety and the safety of team members
• Being observant and able to identify and react safely to new or unexpected hazards

Personnel should be provided with appropriate information when they are alerted to respond to an incident, enabling them to make appropriate decisions about how they respond. For further information refer to Follow the standard message process.

Personnel should also understand how their physical and mental ability can be impaired by the transition from rest to response, so that they can take conscious actions to respond safely.

**Fire stations**

As with all working premises, fire stations must provide a safe working environment. This should take into account the effect on personnel, and others who may be on the premises, of being alerted to respond to incidents.

The installation of fire station alert systems that provide a phased increase in sound volumes and levels of illumination may be beneficial, especially for personnel who are asleep while on call.
Dress code

Fire and rescue services should consider having dress codes in place, based on local risk assessments. This should include arrangements for personnel who may need to respond to incidents while performing other work; the aim should be to improve their safety when in transition between roles.

When alerted to respond to an incident, it is the responsibility of personnel to wear clothing and footwear that is appropriate to the weather and environment.

Strategic actions

Fire and rescue services should:

- Have reliable arrangements in place to ensure that responding personnel receive the alert to respond
- Provide personnel with appropriate information when they are alerted to respond to an incident
- Consider a phased increase in sound volumes and levels of illumination in station alert systems
- Make personnel aware of the possible impact of impaired appraisal of the situation
- Provide fire stations that are a safe working environment, and which undergo regular safety inspections
- Have dress codes in place for personnel who may respond to incidents

Tactical actions

All personnel should:

- Be aware of the need to maintain individual situational awareness
- Follow team safety protocols
Follow dress codes

Wear appropriate clothing and footwear having been alerted to respond to an incident

Hazard - Driving to incidents

Hazard Knowledge

When driving to incidents, personnel may encounter hazards including:

- Other road users taking inappropriate or unhelpful actions, inactions or reactions
- Traffic conditions that hinder progress
- Pedestrians or animals in the road
- Road conditions, such as:
  - Heavy rain or flooding
  - Snow
  - Ice
  - Width or height restrictions
  - Security barriers, bollards or ramps
  - Obstructions, such as parked vehicles
  - Steep gradients
  - Driving off-road
- Hazards relating to the incident, such as:
  - Debris
  - Collapsed structures
  - Hazardous materials
  - Presence of other emergency response vehicles
  - Presence of emergency response equipment

If these hazards are not avoided or negotiated by using appropriate driving techniques, they may result in:

- Road traffic collisions
- Injuries to personnel, other emergency responders or members of the public
- Damage to vehicles or property

A number of factors may increase the likelihood of a fire and rescue service driver being involved in
a road traffic collision, including:

- Perception of urgency
- Peer pressure
- Impairment due to:
  - Fatigue
  - Stress
  - Alcohol
  - Drugs

The classification of the incident or event, in addition to the choice of words and phrases used in mobilisation messages, may influence a driver's perception of urgency and therefore their driving behaviour; this could apply to personnel mobilising to a fire station, from a fire station or from elsewhere.

**Delayed or aborted travel to an incident**

If mobilised resources are delayed or unable to get to the incident, it may result in not having sufficient and appropriate personnel and equipment at the incident. It is critical in all cases of failed or delayed attendance for the fire control room to be promptly notified so that appropriate action can be taken.

Causes for delayed or aborted travel include:

- Vehicle breakdown
- Road traffic collision en route
- Being unable to locate the incident
- Weather conditions
- Road conditions

**Traffic congestion at an incident**

Any congestion at the scene of the incident may result in the delayed arrival of required fire and rescue service resources, which may impact on the development of the incident. Congestion may obstruct the arrival of resources from other agencies, such as the ambulance service vehicles, which could impact on the condition of casualties.

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**Control measure - Comply with road safety regulations**
Control measure knowledge

The Road Traffic Act (for England, Scotland and Wales) and the Road Traffic (Northern Ireland) Order, prohibit dangerous and careless driving. This applies to fire and rescue service personnel as well as to the public.

However, statutory services and other organisations are afforded specific exemptions law to undertake their duties. The Road Traffic Regulation Act (for England, Scotland and Wales), the Road Traffic Regulation (Northern Ireland) Order, the Traffic Signs Regulations and General Directions (for England, Scotland and Wales), and the Traffic Signs Regulations (Northern Ireland), exempt emergency vehicles from:

- Observing speed limits
- Observing keep left or keep right signs
- Complying with traffic lights, including pedestrian controlled crossings

Emergency vehicle drivers may find themselves considering the contravention of signs and regulations where no exemption exists. In each case, decisions on such matters rely on the professional judgement of the personnel involved. Their decisions and actions must be justified, based on operational necessity and the practical options available.

Even where exemption exists, personnel must always give due regard to the way they drive, which should not put other road users or members of the public at a risk that cannot be justified.

When exercising the exemption to pass a red traffic light, drivers of emergency vehicles should avoid causing a member of the public to contravene the red light. The public do not have an exemption in law to contravene red traffic lights.

Only drivers who are trained to the appropriate standard are entitled to make use of exemptions. It is essential that the exemptions used are appropriate and their use in specific circumstances can be justified.

The exemptions for emergency vehicles do not apply to personnel driving to a fire station in order to mobilise from there. This particularly applies to retained duty system (on-call) personnel.

Strategic actions

Fire and rescue services must:

- Ensure personnel understand the laws and regulations relating to driving, and the exemptions for emergency vehicles
• Regularly check the validity of driving licences for all personnel who may carry out work-related driving

• Ensure that all personnel who may carry out work-related driving are competent and medically fit to do so

**Tactical actions**

All personnel should:

• Ensure that emergency vehicles are driven in accordance with current legislation, regulations and exemptions

• Immediately report road traffic collisions in accordance with fire and rescue service policies and relevant legislation

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**Control measure - Work-related road safety**

**Control measure knowledge**

The Health and Safety Executive (HSE) publication, [Driving at work - Managing work-related road safety](#), contains information to help manage the risks to drivers as part of an organisation's health and safety arrangements.

Effective management of work-related road safety may result in:

- Fewer injuries to drivers
- A reduced risk of work-related ill health
- Reduced stress and improved morale

Fire and rescue services should consider using standard messages for mobilisation; this approach may avoid implied urgency, which could adversely impact on the safety of personnel driving to a fire station or to an incident. For more information refer to Follow the standard message process.

The impact of fatigue and stress should be considered when mobilising drivers to incidents,
particularly during spate conditions. Working time and driving time regulations should also be considered; this particularly relates to retained duty system (on-call) personnel who may drive commercial vehicles in their main employment.

All personnel should understand the dangers of multi-tasking while driving, and its contribution to road accidents; this may particularly apply to the lone working situation of officers driving in their vehicle to an incident.

All personnel must wear seatbelts while travelling and should avoid getting dressed or other activities which could compromise their safety.

**Road safety for the public**

Fire and rescue services may find it useful to provide education to members of the public on the correct actions they should take when encountering emergency vehicles on their way to an incident. It may be appropriate to work with partner agencies to deliver this information.

**Strategic actions**

Fire and rescue services should:

- Manage the risks to drivers as part of their health and safety arrangements
- Ensure drivers are mobilised to incidents in an appropriate manner
- Ensure drivers are competent to be mobilised to incidents
- Consider providing education to members of the public to improve road safety when they encounter emergency vehicles

**Tactical actions**

Incident commanders should:

- Take account of the impact of fatigue, stress, working time regulations and driving time regulations when assigning drivers to incidents

All personnel should:
• Ensure that work-related driving is carried out in accordance with fire and rescue service policies

• Notify the incident commander if they become unfit or unable to carry out work-related driving while attending an incident

• Notify their fire and rescue service if they become unfit or unable to carry out work-related driving before attending an incident

• Comply with legislation, ensure seatbelts are worn and avoid activities that could compromise their safety while travelling

Control measure - Provide and maintain appropriate vehicles

Control measure knowledge

Fire and rescue authorities need to plan for, provide and maintain appropriate vehicles and their associated equipment, for attending the anticipated range of operational incidents.

The Health and Safety Executive's publication, Providing and using work equipment safely - a brief guide, provides an outline of the Provision and Use of Work Equipment Regulations (PUWER) and describes what an employer may need to do to protect employees in the workplace.

Further information may be found at:

• The Provision and Use of Work Equipment Regulations
• Provision and Use of Work Equipment Regulations (Northern Ireland)
• The Road Vehicles (Construction and Use) Regulations
• Motor Vehicles (Construction and Use) Regulations (Northern Ireland)
• The Highway Code - Annex 6: Vehicle maintenance, safety and security
• The Highway Code for Northern Ireland – Annex: Vehicle maintenance, safety and security
• ROSPA - Road Safety Resources for Employers
• ROSPA – Fleet Safety
• NFCC Fleet setting standards
• **Heavy goods vehicle (HGV) inspection manual**
• **Heavy Vehicle Inspection Manual (Northern Ireland)**

There are also British Standards publications that relate to fire and rescue service vehicles:

• BS EN 1846-1:2011 Firefighting and rescue service vehicles. Nomenclature and designation
• BS EN 1846-3:2013 Firefighting and rescue service vehicles. Permanently installed equipment. Safety and performance

Drivers should be aware of the potential distraction of the technology on-board vehicles, either fitted as standard or retrofitted to provide access to fire and rescue service information. This may include:

• Mobile phones
• Cab lighting systems
• Radios
• Computers, such as mobile data terminals (MDTs)
• Satellite navigation systems (satnavs)

**Strategic actions**

Fire and rescue services should:

• Ensure personally owned vehicles used in connection with fire and rescue service work conform to the appropriate legislation, regulations and standards - OPS

• Ensure any fitting or retrofitting of equipment is subject to a risk assessment based on appropriate legislation, regulations and standards

• Consider the potential effect of driver distraction from on-board technology

**Tactical actions**

Incident commanders should:

• Ensure personally owned vehicles used in connection with fire and rescue service work conform to the appropriate legislation, regulations and standards
• Use vehicles that are appropriate for the incident, in line with fire and rescue service policy

• Ensure vehicle checks and maintenance are carried out in line with fire and rescue service policy

• Be aware of the potential distraction caused by the use of on-board technology

Control measure - Use local knowledge

Control measure knowledge

Knowledge of the local area can significantly contribute to successful and efficient incident outcomes. Fire and rescue service personnel should endeavour to learn as much as possible about the identified risks in the area to gain an understanding of the hazards they may encounter, and any precautions they should take.

The ability to read printed maps or street atlases may be required to locate an incident. Fire and rescue service vehicle drivers should have a good understanding of local road networks and be able to anticipate the effect that the incident may have on approach routes. Other local knowledge could include:

• Local events
• Traffic hotspots
• Roads prone to flooding

In rural areas, personnel should have an awareness of accessible farm tracks and the extent to which they can be used to reach isolated incidents. They should know the make-up of open land and susceptible areas, including sites of special scientific interest (SSSI).

Strategic actions

Fire and rescue services should:

• Ensure operational personnel are familiar with the risks and road networks in their area
Tactical actions

Incident commanders should:

- Use local knowledge to aid navigation to an incident
- Consider delegating responsibility for navigation to suitably qualified members of the team
- Confirm details of the incident with fire control rooms to assist in locating the incident

Control measure - Use effective navigation

Control measure knowledge

Maps

Maps can enable accurate planning of a journey, giving a good idea of landmarks and features passed along the route, as well as the distance to be travelled. Maps can provide important information to aid navigation, planning, decision-making and risk management when getting to or at an incident.

Personnel should not totally rely on satellite navigation systems; knowledge of the topography of the area cannot be underestimated as an important tool for arriving promptly at an incident.

Navigation aids

Navigation aids may include:

- Satellite navigation systems
- GPS devices
- Other online mapping systems, such as Google Maps
- Applications such as what3words

Interoperability and major or civil emergencies

The Civil Contingencies Secretariat in the Cabinet Office, working in partnership with Ministry of Defence and Ordnance Survey, has created the civil protection common map symbology, which is a set of common map symbols to promote interoperability between emergency responders.
**Mapping for Emergencies (MfE)** is a free service provided to the emergency services whenever there is a threat to or loss of life. Paper mapping or geographic information can be supplied to assist in responding to a major or civil emergency. The MfE service supports the resilience community and is available free of charge 24 hours a day, every day of the year. They can be contacted by dialling 03456 050505.

**Ordnance Survey information**

The [Ordnance Survey website](https://www.orsdnac.uk) provides information, in written and video formats, on how to read maps and use a compass.

Their guide, *Map reading from the beginner to the advanced map reader*, contains topics including:

- Map symbols and scales
- Grid references and National Grid lines
- Reading contours and relief
- Using a compass
- Navigating at night or in bad weather

**Grid references**

The Ordnance Survey provides information about using four-figure references (a single kilometre square on an Ordnance Survey map) and six-figure references (a 100 metre square in a single kilometre square on an Ordnance Survey map).

However, fire and rescue services may also use:

- 10-figure references: A one-metre square, commonly used in GPS devices
- 12-figure references: A one-metre square, commonly used in mobile data terminals (MDTs). The two letter prefix for the 100 kilometre square, as shown on the National Grid, is converted into numeric format.

If fire and rescue services use multiple grid reference formats, personnel should know how to convert between the different types of grid reference.

**what3words**

Many emergency services are able to use the what3words application. This enables callers to provide a three word address when they request assistance. The application interprets the three words into a precise 3m² location.

**Local features**

Record and be able to provide up-to-date information to operational personnel about local features
that may cause delays when navigating to an incident. For example:

- Level crossings
- Toll or swing bridges
- Tunnels
- Ferries and their sailing times

Fire and rescue services should know how to contact transport operators to request assistance, if their services or activities may affect response times.

**Strategic actions**

Fire and rescue services should:

- Provide access to suitable navigation aids to personnel
- Maintain contact details for transport operators, such as railway officials, bridge authorities and ferry companies

**Tactical actions**

Incident commanders should:

- Confirm the location of the incident and respond using pre-planned routes or GIS mapping systems
- Use topography and map reading skills to aid navigation to an incident
- Use appropriate navigation aids when locating and responding to incidents
- Contact rail, bridge, ferry or other operators if their services and activities may affect response times

**Control measure - Closed-circuit television**
Control measure knowledge

Closed-circuit television (CCTV) systems can assist fire and rescue services at many stages of an incident including:

- Providing fire control rooms or personnel en route to an incident with additional information about its type, size and location
- Providing personnel with information about the area near to the incident, for example:
  - Traffic conditions
  - Presence of people
  - Presence of animals
  - Presence of other emergency responders
- Providing an incident commander with additional information to improve situational awareness, even if they are remote to the incident
- Assisting with post-incident investigation
- Improvement in operational learning

There are many types of CCTV systems, with various capabilities. They are mainly used to ensure the safety and security of premises, people and property, and may be found at locations including:

- Commercial and residential buildings
- Roadways and pedestrian walkways
- Public transport vehicles
- Emergency responder vehicles

CCTV cameras can also be worn by:

- Emergency responders
- Security guards
- Bailiffs
- Military personnel

Cameras may be linked to networks or recording facilities, and systems may be monitored by dedicated CCTV control rooms; these may be located in individual premises or at remote locations. The control room may be able to broadcast live or recorded imagery to other users, regardless of their location. CCTV control rooms are often able to adjust the views of individual cameras.

For larger incidents, or in areas with difficult or dangerous terrain such as wildfire incidents, it may be appropriate to use CCTV equipment attached to aerial vehicles such as helicopters, fixed-wing aircraft or drones (classified as a type of unmanned aircraft by the Civil Aviation Authority).

Some CCTV may be able to provide images in radiation spectrums, including infrared, which could...
provide helpful information in reduced visibility.

CCTV systems that are fitted to fire and rescue service vehicles, or body worn cameras, may act as a deterrent or be useful in capturing evidence; this could include instances of verbal abuse, physical attacks or road traffic collisions.

Arrangements should be made with local CCTV system operators during pre-incident planning, so that requests for their assistance during an incident can be handled efficiently.

**Strategic actions**

Fire and rescue services should:

- Make appropriate arrangements with CCTV system operators and know how to request their assistance
- Consider using vehicle and body worn cameras

**Tactical actions**

Fire control personnel should:

- Consider using CCTV to gather additional information about the incident or its location, and pass relevant information to the incident commander

Incident commanders should:

- Request access to CCTV footage or to the information gathered through use of CCTV systems
- Consider requesting the assistance of aerial CCTV resources
- Consider using CCTV to assist with mobilising to the incident
- Consider using CCTV to inform situational awareness
- Access and secure CCTV footage for investigations
Consider using CCTV footage to help inform operational learning

Control measure - Make a safe and controlled approach to the incident

Control measure knowledge

To make safe decisions about the speed, the route and the location to attend, drivers should be provided with accurate and timely information about the incident or event. Personnel should understand how their fire and rescue service classifies emergency incidents versus non-emergency events, and respond appropriately.

If travel to the incident is delayed or aborted, or if there are any safety concerns about the routes being taken by fire and rescue service vehicles, the fire control room should be notified. They can take appropriate action to send alternative resources to the incident, or ensure that resources use alternative routes.

Incident commanders should determine the safest routes for attending vehicles and the availability of holding areas. This information should be communicated to the fire control room so that attending resources are able to make a safe approach.

The incident may impact on making a safe and controlled approach to the incident, for example smoke may obscure the driver's vision. Therefore, the potential for incident spread, changes in cordon or a change of wind direction, should be taken into account when identifying suitable approach routes and holding areas.

Use of blue lights and audible warning devices

In addition to standard vehicle lighting, blue lights and audible warning devices should be used appropriately to improve road safety when driving to an incident. Fire and rescue services should determine the appropriate use of blue lights and audible warning devices for emergency incidents and non-emergency events, and drivers should comply with their service's guidelines policies or procedures.

It may be necessary for all emergency responders to avoid the use of flashing lights and audible warning devices when attending certain types of incidents or events, for example if there are animals present.
Strategic actions

Fire and rescue services should:

- Have arrangements in place to ensure that the fire control room is promptly notified if travel to the incident is delayed, aborted or unsafe

- Ensure personnel understand the classification of emergency incidents and non-emergency events, and the appropriate response for each

Tactical actions

Incident commanders should:

- Use an appropriate response, based on the type of the incident or event

- Approach the vicinity of the incident cautiously and at slow speed, to minimise the risk of collisions

- Ensure fire and rescue service vehicles use appropriate blue lights, audible warning devices and lighting

- Consider the impact of weather when determining the safest access routes

- Identify the safest access route, rendezvous points (RVPs) and marshalling areas, and communicate to all responders and the fire control room

- Notify the fire control room if there could be a failed, delayed or unsafe response

Control measure - Position fire and rescue service vehicles safely
**Control measure knowledge**

On arrival at the incident, fire and rescue service vehicles should be appropriately positioned to optimise their safe use and minimise risk, and to avoid congestion at the incident ground.

To minimise the risk of collisions when fire and rescue service vehicles are being moved, consider:

- Invoking speed restrictions
- Wearing high visibility clothing
- Appointing a traffic marshal (known as a ‘banksman’)
- Establishing a marshalling sector
- Communicating with other emergency responders

Fire and rescue service vehicles should be parked facing in the direction of the identified escape route, considering:

- The development of the incident
- Potential changes in weather conditions
- The use of barriers that may provide protection

Avoid parking vehicles:

- Where they may block an access, egress or escape route
- In areas of flammable vegetation or fuel
- Upslope and downwind of the fire
- Under power lines or tree canopies

It may be necessary to reposition fire and rescue service vehicles if they are at risk from the incident, for example due to firespread, flooding or collapsed structures.

**Strategic actions**

Fire and rescue services should:

- Provide suitable equipment and PPE for personnel marshalling vehicles

**Tactical actions**

Incident commanders should:
• Apply safety measures to minimise the risk of collisions

• Consider the potential effects of incident development when positioning appliances

• Be prepared to reposition fire and rescue service vehicles if they are at risk from the incident

Control measure - Maintain safe access, egress and escape routes for fire and rescue service vehicles

Control measure knowledge

It is important to maintain safe access, egress and escape routes for fire and rescue service vehicles at all times. The egress and escape routes in particular should be continually assessed throughout the incident to ensure that vehicles and personnel do not become trapped. It may be necessary to develop contingency plans in the event of a vehicle becoming trapped.

Personnel need to be able to access fire and rescue service vehicles throughout the incident, to obtain equipment or seek refuge.

Fire and rescue service vehicles may be compromised by operational activities or the development of the incident. For example:

• Surrounded by smoke
• Damaged by fire
• Being stranded if they are moved or positioned away from roadways, designated routes or hardstanding
• If large quantities of firefighting run-off water or foam cause the surrounding area to become unsafe for vehicles
• Collapsed structures or debris preventing their movement

If it is necessary to drive fire and rescue service vehicles off-road, personnel could be sent ahead on foot to assess ground conditions and identify an appropriate route.

Access, egress and escape routes for vehicles should take into account:

• The likely development of the incident
• The impact of operational activity
• Width, condition and gradient of roads and tracks – being aware that vehicles may ‘bottom out’ on undulating ground
• Width and weight limits of any bridges, taking into account that there is no requirement to mark the weight limit on bridges on private land (such as bridges not on a public highway)
• Risk of overturning when crossing steep slopes
• Saddles, re-entrants or other landscape features that may impact fire behaviour or are prone to flooding
• The type of vehicles in attendance
• Wind direction, weather conditions and visibility
• The presence of:
  ○ People
  ○ Personnel and equipment
  ○ Fenced and unfenced roads and tracks
  ○ Animals, including livestock
  ○ One way systems
  ○ No through roads
  ○ Suitable turning and passing areas
  ○ Unmetalled rural roads
  ○ Locked gates, parked vehicles, machinery or other obstacles
  ○ Security barriers, bollards or ramps
  ○ Hidden obstructions, such as tree stumps or pot holes

**Strategic actions**

Fire and rescue services should:

• Provide suitable fire and rescue service vehicles

• Ensure personnel are aware of the capabilities, limitations, dimensions and weight of fire and rescue service vehicles

• Have arrangements in place to recover vehicles that become trapped or have broken down

**Tactical actions**

Incident commanders should:

• Identify, review and communicate suitable access, egress and escape routes for vehicles
• Mark or indicate access, egress and escape routes for fire and rescue service vehicles where possible

• Consider the impact of the incident and operational activity on access, egress and escape routes for fire and rescue service vehicles

• Consider the impact of the transport infrastructure on safe access and egress routes for fire and rescue service vehicles

• Implement contingency plans if a fire and rescue service vehicle becomes trapped

• Consider using personnel on foot to assess ground conditions and identify appropriate routes if it is necessary to drive fire and rescue vehicles off-road

Hazard - Unable to gain access or entry

Hazard Knowledge

There are many reasons why personnel may not be able to gain access or entry, in order to reach the incident or event. These include building features, such as:

• Doors
• Windows
• Gates
• Security features

Gaining access or entry can also apply to contexts other than buildings, including:

• Vehicles
• Private land

Being unable to gain access or entry may be time-critical, especially if there is a threat to life. The nature of the incident or event will determine the necessity and justification for gaining access or entry without the consent of the owner or occupier.

Legal limitations for gaining access or entry
The powers for fire and rescue service personnel gaining access or entry are subject to legal limitations covered by:

- **Fire and Rescue Services Act**
- **Fire (Scotland) Act**
- **Fire and Rescue Services (Northern Ireland) Order**

In broad terms, the powers allow for personnel to:

- Enter premises or a place, by force if necessary, without the consent of the owner or occupier of the premises or place
- Move or break into a vehicle without the consent of its owner

Exceptions to these powers apply to:

- Crown property, including Ministry of Defence sites – ‘crown immunity’ provides a set of exemptions from UK laws, including those relating to the fire and rescue service
- Diplomatic or consular premises – these are considered to be the sovereign territory of the country they represent, exempt from UK laws, including those relating to the fire and rescue service
- Merchant vessels – these are considered to be the sovereign territory of the country they are registered in, with UK laws applying only as far as the gangway of the vessel

For any incident involving one of the above exceptions, the fire and rescue service would need to be invited to assist by the authorised person.

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**Control measure - Gain access or entry**

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**Control measure knowledge**

Some emergency incidents may warrant gaining access or entry by force (sometimes referred to as forced entry or forcible entry) without the consent of the owner, occupier or responsible person of the premises, or the owner or keeper of the vehicle. This includes:

- Extinguishing or preventing the fire or protecting life or property, if it is reasonably believed a fire has broken out or is about to break out
- Rescuing people or protecting them from serious harm, if it is reasonably believed a road traffic collision has occurred
Carrying out any function conferred on the fire and rescue authority, if it is reasonably believed that an emergency of another kind has occurred

- Preventing or limiting damage to property resulting from the fire and rescue service actions taken

**Pre-incident planning**

Knowledge and understanding of unique sites and specific components may be obtained while developing Site-Specific Risk Information (SSRI) or carrying out site inspection visits.

Familiarity with common styles of windows, doors, locks and security devices may be beneficial, and in particular those found in secure premises in the fire and rescue service area. This could include places of lawful detention or medical facilities.

Consideration should also be given to providing personnel with a form of personal identification for when they need to gain access to property or premises.

**Assessing appropriate action**

If rapid access or entry is needed to save a life, or prevent more serious damage or firespread, immediate action may be required. However, if the situation is assessed to be less urgent, alternative methods of access or entry, or less invasive techniques should be used to minimise or prevent damage.

Consideration should be given to the type of construction, possible entry points and the type of any security features to determine the most appropriate equipment and techniques for gaining access or entry.

If there is no alternative to gaining access or entry by force, the most effective and appropriate tools should be used to minimise damage. Equipment includes:

- Cutting, prying and striking tools
- Mechanical equipment, including lock pulling systems
- Hydraulic equipment

Before using force to gain access or entry, an appropriate risk assessment should be carried out to:

- Confirm attendance at the correct address, vehicle or location
- Determine the need, urgency and legality for the action
- Check doors, windows and any other points of access, to confirm the action is required
- Determine:
  - The best point of initial entry
  - The safest and simplest method
The most appropriate equipment

- Determine the impact on this action of any security features – refer to *Gain and maintain access and egress for sites with security features* for further information
- Note, and photograph if possible, any indication of criminal activity
- Consider the impact of this action on a fire-related incident – refer to *Safe access or entry: Fires in buildings* for further information

The initial entry point may only need to provide temporary access to the premises; it may then be possible to create an alternative access and egress point.

Having gained access or entry using force, if the initial entry point is damaged, unsafe or restricted in any way, action should be taken to make it safe to use, or to secure alternative access and egress to and from the hazard area.

This action should be prioritised and may include simple actions such as:

- Covering or removing glass and debris resulting from using force
- Unlocking or opening a door from the inside after gaining access via a window

The location of alternative access and egress points that are established after initial entry has been made should be communicated to relevant personnel.

**Post-incident considerations**

If gaining access or entry has been carried out using force, consideration needs to be given to securing the premises after fire and rescue service operations have ended.

Although the security of premises or vehicles is not the legal responsibility of the fire and rescue service, reasonable steps should be taken to ensure the property or vehicle is left in a safe condition. If not present at the incident, the owner, occupier or responsible person for the property, or the owner or keeper of the vehicle, should be advised that access or entry by force has occurred.

**Strategic actions**

Fire and rescue services should:

- Provide appropriate equipment to enable gaining access or entry by force with minimal damage
- Consider maintaining a list of companies who can secure premises after access or entry has been gained by force
• Consider maintaining a list of companies who can secure or remove vehicles after access or entry has been gained by force

• Provide personnel with a form of personal identification for when they need to gain access to property or premises

**Tactical actions**

Incident commanders should:

• Carry out an appropriate risk assessment to determine the need and legality for gaining access or entry by force

• Select the safest and simplest method for gaining access or entry by force

• Implement measures to maintain access and egress during the incident

• Ensure that prioritised actions are taken to make the initial entry point safe to use, or establish an alternative access and egress point

• Advise personnel of the location of alternative access and egress points that are established after initial entry has been made

• Consider taking appropriate steps to secure premises or vehicles after access or entry has been gained by force

• Prepare personnel for the need to produce an official form of personal identification if challenged when gaining access to property or premises

• Enter a premises or place, by force if necessary, without the consent of its owner, for the purposes of extinguishing fire, protecting life or property, excluding Crown property, ministry of defence, diplomatic or consular premises

⚠️ **Hazard - Failing to manage health, safety and**
Hazard Knowledge

All employers have a duty to look after the health, safety and welfare of their employees at work and to ensure their operations do not adversely affect the health and safety of other people. This duty is qualified by the test of what is reasonably practicable and therefore not all risks need to be eliminated. Even when all reasonably practicable precautions have been taken to deal with foreseeable risks, harm could still occur.

Employees also have a duty to take reasonable care of their own health and safety, and that of any other person, and to co-operate with their employer in protecting people from harm. Individuals should operate as an effective team member within safe systems of work and be competent and knowledgeable about hazard and risk; this will give personnel sufficient knowledge to carry out risk assessments.

For further information refer to Corporate guidance for operational activity.

The majority of National Operational Guidance provides hazard and control measure information regarding specific activities or contexts. However, any working environment may present hazards including:

- Uneven or slippery surfaces
- Steep gradients or undulating ground
- Unstable ground
- Unguarded edges
- Working at height - refer to guidance for Subsurface, height, structure and confined spaces
- Working near water or other liquids
- Irrespirable atmospheres
- Adverse weather conditions
- Electricity
- Sharp objects including:
  - Glass
  - Metal
  - Hypodermic needles
  - Blades
  - Plant thorns or needles
- Falling objects
- Obstructions
- Allergens including:
Hazards that are encountered in the working environment may increase the risk of physical injuries to personnel, or adverse reactions, including:

- Musculoskeletal disorders
- Cuts, bruises or abrasions
- Fractures or amputations
- Crush injuries
- Head injuries
- Puncture wounds
- Drowning
- Asphyxia
- Burns or scalds
- Anaphylaxis

Personnel may encounter higher levels of risk from physical hazards than could be anticipated. Without carrying out an appropriate risk assessment it is not be possible to establish the correct control measures to mitigate the risks.

Hazards may outweigh or potentially outweigh the benefits of action; it may be appropriate to adopt a 'defensive mode' until appropriate and sufficient control measures have been implemented.

Further information is provided in the Health and Safety Executive (HSE) publication *Striking the balance between operational and health and safety duties in the Fire and Rescue Service, HSE 2010*.

Health, safety and welfare should be considered throughout the incident, even at its closing stages. The identification of hazards, assessment of risk and implementation of control measures should continue until fire and rescue service resources have left the incident ground.

**Exposure of personnel to infectious diseases**

Exposure of personnel to infectious diseases may occur in conjunction with some physical injuries. For further information refer to *Infectious diseases* and *Monitor personnel exposed to infectious diseases*. 
Control measure knowledge

Fire and rescue authorities must have in place adequate plans, policies, risk assessments and procedures to protect their employees and others from harm. Risk assessments of operational activity based on risk management planning must be carried out to identify significant hazards that may be present at incidents, identify appropriate control measures, set out safe systems of work, equipment, competences and training.

Strategic risk assessments should consider human factors; people can make mistakes, which may lead to an accident or an escalation of the incident. Fire and rescue services should develop systems that reduce the likelihood or impact of individual failure impacting safety.

Pre-planning for the safety of personnel should consider topics such as:

- Awareness, risk factors and how injuries can occur
- Carrying out safer working, for example manual handling techniques, or hearing protection for noise
- Appropriate systems of work for the individual's tasks and environment
- Using mechanical aids, additional equipment, or protective equipment
- Practical work to allow a trainer to identify and put right anything not practised safely, for example:
  - Initial training application
  - Maintenance of skills
  - Competence or training exercises
- Core, fitness or preventative techniques, such as prevention of injury awareness

For further information refer to:

- Management of Health and Safety at Work Regulations
- Management of Health and Safety at Work Regulations (Northern Ireland)

Strategic actions

Fire and rescue services should:
• Carry out risk assessments to identify foreseeable hazards within their area and identify control measures that eliminate or reduce risk

• Pre-plan for the safety of operational personnel

**Tactical actions**

Incident commanders should:

• Implement appropriate control measures based on service risk assessment, procedures and training

• Identify personnel who may require additional training on safety measures

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**Control measure - Engineering controls**

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**Control measure knowledge**

Risk assessments should consider whether engineering controls are suitable and appropriate to reduce risk at operational incidents. Where risk assessments identify that engineering controls are appropriate, fire and rescue services should put in place arrangements to ensure such vehicles and equipment can be made available to personnel. Examples of engineering controls include:

• Lifting straps or slings for casualties or animal rescue
• Aerial appliances, to avoid working from ladders for prolonged periods

Other organisations may have equipment that could prove beneficial at incidents. This equipment would need to be identified and competent personnel required to operate it. The presence of unfamiliar vehicles or equipment can create additional hazards, as other organisations may not be used to working with fire and rescue service personnel. Therefore, close monitoring of their operation, and detailed briefings on what is required, will be necessary from the incident commander or sector commander.

Establishing arrangements and carrying out joint training with other fire and rescue services or agencies, who may provide specialist vehicles or equipment, should help to improve the response at an incident.
Fire and rescue authorities need to ensure that work equipment is constructed or adapted to be suitable for the purpose for which it is used or provided. Vehicles and equipment should be maintained in a safe condition and only operated by people who have received adequate information, instruction and training.

Legislation on this topic is included in:

- [Provision and Use of Work Equipment Regulations](https://www.gov.uk/provision-and-use-of-work-equipment-regulations) (commonly referred to as PUWER)

**Strategic actions**

Fire and rescue services should:

- Consider the provision of or access to engineering controls that can assist with manual handling tasks
- Have arrangements for the request and mobilisation of specialist vehicles and equipment
- Ensure personnel are aware of resources that they can request from their own and neighbouring fire and rescue services and partner agencies
- Consider joint training with other fire and rescue services and agencies for the use of specialist vehicles and equipment

**Tactical actions**

Incident commanders should:

- Consider using appropriate vehicles, equipment or other engineering controls to reduce risk
- Consider requesting appropriate resources from other fire and rescue services and agencies

Control measure - Consider training and
Control measure knowledge

Where local risk assessments identify the need to provide employees with information, instruction and training, fire and rescue services should have systems to ensure acquisition, application and maintenance of this knowledge, skills and understanding. Information should include an awareness of common hazards, potential consequences and control measures to be implemented to minimise the risk of harm to emergency responders and others at operational incidents.

Fire and rescue services should consider the required competence of personnel, supervisors, managers and commanders as part of the risk management process for reasonably foreseeable operational incidents.

Fire and rescue services should consider the training and competence of:

- Personnel
- Supervisors, managers and commanders
- Specialist roles and teams
- Tactical advisers
- Other agencies operating under the safety management of the fire and rescue services

Fire and rescue services should determine if it is necessary to limit exposure of personnel to hazards if training has not been delivered or if competence cannot be demonstrated. This may be by design, for example limiting activities based on risk management planning and providing specialist resources where necessary, or as a result of failing to achieve competence.

Information regarding limits of exposure based on lack of training or competence should be made clear to all personnel and available alternatives, their capabilities, equipment and how to request them communicated. This may include personnel from other agencies; for further information refer to Specialist resources.

Indicating the degree of competence using markings or specialist personal protective equipment (PPE) can make it easier for incident commanders to identify appropriate personnel for certain roles, for example identifying personnel who have recently completed training.

Strategic actions

Fire and rescue services should:
• Develop service policy and procedures for the acquisition, application and maintenance of operational competence

• Develop procedures that ensure effective workplace assessment takes place and that it provides objective, constructive feedback immediately after the activity and that a suitable record is maintained

• Establish clear guidelines on the limits of competence of personnel and alternative arrangements

• Establish clear guidelines about the restrictions placed on personnel who have failed to demonstrate competence, and provide them to personnel and their managers

• Provide personnel with information about the markings used by their own and neighbouring fire and rescue services to indicate competence

**Tactical actions**

Incident commanders should:

• Consider the competence of individuals and teams when allocating tasks

• Monitor the performance of personnel and where necessary modify plans to available competences

• Consider the competence of other agencies operating under the safety management of the incident commander

• Be aware of the markings used to indicate competences within their own and neighbouring fire and rescue services

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**Control measure - Assess risk from lone working**
Control measure knowledge

Legislation requires employers to consider carefully and then deal with any health and safety risks for people working alone. Decisions to allow lone working at an operational incident should be based on the known levels of the individual's competence and the anticipated risks of the incident ground.

The Health and Safety Executive (HSE) publication Working alone: Health and safety guidance on the risks of lone working, states that employers have a duty to assess risks to lone workers and take steps to avoid or control risks where necessary. This must include:

- Involving personnel when considering potential risks and their control measures
- Taking steps to ensure risks are removed where possible, or putting in place control measures

Risk assessment should help to determine the right level of supervision. There are some high-risk activities where at least one other person would need to be present, including:

- Working in a confined space, where a supervisor may need to be present, along with someone dedicated to the rescue role
- Working at or near to exposed live electricity conductors

Strategic actions

Fire and rescue services should:

- Ensure that policies relating to lone working include the operational environment

Tactical actions

Incident commanders should:

- Carry out a risk assessment before allowing lone working
- Be aware that some tasks may be too difficult or dangerous to be carried out by unaccompanied personnel
- In situations when a risk assessment shows it is not possible for the task to be conducted safely by lone working, address that risk by making arrangements to provide help or back-up

Control measure - Establish safe systems of work
Control measure knowledge

To establish appropriate safe systems of work, all personnel should have an awareness of the environment they are working in. If they encounter unexpected or unforeseen situations they should be equipped to identify hazards, make an individual assessment of risk and take appropriate action.

It is the responsibility of the incident commander to gain a detailed awareness of the incident and the hazards that are present. Dynamic risk assessment is the process by which an incident commander in a fast-moving situation will identify the hazards and risks to safety.

The incident commander should provide information about the hazards and risk to the safety of everyone involved in or responding to the incident, and the control measures and safe systems of work that have been put in place. This information should be communicated in an appropriate and timely manner to relevant personnel and other emergency responders.

Safety-critical information should always include:

- Location of the hazard area
- Details of the hazards and their location
- Details of access, egress and escape routes

Other information will be dependent on the type, size and development of an incident. Further details are provided within the guidance for specific incident types or for specific hazards.

Strategic actions

Fire and rescue services should:

- Provide personnel with the means to communicate safety-critical information at the incident ground

Tactical actions

Incident commanders should:

- Gather information from a variety of sources to gain accurate situational awareness and understanding
Identify and react safely to new or unexpected hazards

Reduce risk by implementing appropriate control measures

Ensure that everyone on the incident ground, including those from other agencies, is fully briefed on the current hazards, risks and control measures

Communicate safety-critical information and unexpected developments to relevant personnel

Control measure - Hierarchy of control

Control measure knowledge

This control measure is based on information provided by the Health and Safety Executive about the hierarchy of control. Risks should be reduced to the lowest reasonably practicable level by taking preventative measures, in order of priority - the hierarchy of control. These measures are in the order that should be followed when planning to reduce the risks that have been identified at the incident. They should be considered in this order, rather than implementing the easiest measure.

1. Elimination
2. Substitution
3. Engineering controls
4. Administrative controls
5. Personal protective clothes and equipment

Elimination

The task or activity should be redesigned so that the hazard is removed or eliminated. This is the most effective measure that can be implemented to control risk, and should always be considered once a hazard has been identified. In an operational environment it may not be possible to completely remove or eliminate a hazard, perhaps due to the environment or the need to take immediate life-saving actions.

Substitution
Replace the procedure with a less hazardous one.

**Engineering controls**

Use equipment or other measures to provide protection, for example physical barriers or machine guards.

**Administrative controls**

Identify and implement the procedures that will provide a safe working environment. This could include reducing the time or frequency that personnel are exposed to hazards, putting appropriate cordon controls in place or implementing hygiene arrangements.

**Personal protective clothes and equipment**

Only after all the previous measures have been tried and found ineffective in controlling risks to a reasonably practicable level, should personal protective equipment (PPE) be used. Personnel should be trained in the function and limitation of each item of PPE. PPE may also include using items such as fall arrest equipment.

Refer to [Personal protective equipment](#) for more information.

**Strategic actions**

Fire and rescue services should:

- Provide incident commanders with the means to record their rationale for implementing control measures

**Tactical actions**

Incident commanders should:

- Consider the hierarchy of control when deciding which control measures to implement
- Manage risk in the physical environment using a hierarchy of control approach
- Establish a safe working environment for personnel and other emergency responders
Control measure knowledge

Personal protective equipment (PPE) is used to protect personnel against health or safety risks. It includes items such as:

- Helmets
- Gloves
- Eye protection
- High-visibility clothing
- Safety footwear

Equipment such as chemical protective clothing (CPC), respiratory protective equipment (RPE) and safety harnesses are also types of PPE and are covered in more detail elsewhere in guidance. PPE should be regarded as a last resort if risks to health and safety cannot be adequately controlled in other ways. To avoid unsuitable selection, fire and rescue service risk assessments should define the specific PPE required for an activity.

If more than one item of PPE is to be worn, they must be compatible with each other and adequately control the risks when used together. PPE must be maintained in good working order and properly stored when not in use. Personnel should use PPE in accordance with the training they have received and report any loss, damage or faults.

During protracted incidents, or when making up equipment, personnel may be inclined to relax PPE; incident commanders should be vigilant and base any decision to downgrade the need for PPE on an assessment of residual risk.

If PPE has become dirty, contaminated or damaged it may not perform to the standard required by the appropriate specification. PPE should only be worn if it has been subject to appropriate cleaning, decontamination and testing processes.

For legislative requirements, refer to:

- Personal Protective Equipment at Work Regulations
- Personal Protective Equipment at Work Regulations (Northern Ireland)

For further information on respiratory protective equipment refer to Respiratory Protective Equipment.
Strategic actions

Fire and rescue services must:

- Provide employees with suitable personal protective equipment that fits the wearer correctly and adequately controls identified risks
- Ensure that personal protective equipment and respiratory protective equipment worn simultaneously is compatible and does not negatively impact other safety measures
- Provide appropriate accommodation (storage) for PPE when it is not being used

Fire and rescue services should:

- Specify the level of PPE for hazards identified through risk assessment and communicate to personnel
- Have suitable arrangements for the cleaning and maintenance of PPE in accordance with the manufacturer's instructions
- Ensure that there are suitable arrangements to support the replenishment of PPE

Tactical actions

Incident commanders should:

- Ensure that personnel have access to the appropriate PPE
- Ensure the appropriate PPE is maintained throughout the incident based on an assessment of risk
- Check the condition and serviceability of PPE when assessing operational readiness for redeployment
- Identify when dirt, contamination or damage may affect the performance of PPE
Control measure - Respiratory protective equipment

Control measure knowledge

Respiratory protective equipment (RPE) is a type of personal protective equipment designed to protect the wearer from breathing in harmful substances, or from oxygen-deficient atmospheres, when other controls are either not possible or are insufficient on their own.

The use of RPE allows efficient, effective and safe working practices to be adopted at incidents of all sizes and type where an irrespirable atmosphere presents a hazard to personnel. There are two main types of RPE; respirators and breathing apparatus (BA).

Further information about the use of RPE can be found in the British Standards Institution (BSI) publication, ISO/TS 16975-1:2016 Respiratory protective devices – Selection, use and maintenance: Establishing and implementing a respiratory protective device programme.

Respirators

Respirators are filtering devices that remove contaminants from the air being breathed in; non-powered respirators rely on the wearer breathing to draw air through the filter. Respirators are not suitable for use in oxygen-deficient atmospheres.

Breathing apparatus

Breathing apparatus (BA) requires a supply of breathing-quality air from an independent source such as an air cylinder. Breathing apparatus (BA) enables firefighters to breathe safely in otherwise irrespirable atmospheres. The use of BA as a control measures is likely to be applied as part of the incident plan for any incident involving:

- Smoke and fire gases
- Working in confined spaces
- Hazardous materials including:
  - Asphyxiants
  - Dusts
  - Toxic, flammable or explosive substances
Airlines

Airline equipment supplies air to the wearer from a cylinder that is located remotely from them. The technical procedures for the specific airline equipment in use should be followed. Airline equipment should only be used by trained and competent personnel. It be appropriately used and maintained, to avoid the air supply to BA wearers being compromised.

Following an appropriate risk assessment, it may be decided to use airline equipment to provide breathing apparatus capability. Its use may be appropriate:

- If an extended air supply to self-contained BA wearers is required
- If use of self-contained BA is unsuitable
- At incidents in the open, where airlines are used to provide a breathable atmosphere without the weight of a self-contained BA set
- For specialist operations that involve restricted access

Although the use of airline equipment reduces the overall weight carried by a BA wearer and can provide a limitless supply of air, the physiological limitations of the BA wearer should be considered when airline equipment is used.

Face mask fit testing

If RPE is used, it must be able to provide adequate protection for individual wearers; RPE cannot protect the wearer if it leaks.

Face mask fit testing is a method of checking that a tight-fitting face piece matches the wearer’s facial features and seals adequately to their face. A face mask fit test should be carried out as part of the initial selection of the RPE and it is good practice to ensure testing is repeated on a regular basis. Further detail on face mask fit testing is provided in the Breathing apparatus foundation material.

Further information is contained in the Health and Safety Executive’s publications:

- Respiratory protective equipment at work: A practical guide (HSG53)
- Guidance on respiratory protective equipment (RPE) fit testing (INDG479)

Maintenance

Maintenance is a requirement for all RPE, except for disposable (single use) RPE, and should be carried out by properly trained personnel. Thorough maintenance, examination and tests should be carried out at regular intervals in accordance with the manufacturer’s instructions.

Breathing apparatus foundation material
The breathing apparatus foundation material provides the procedures underpinning the planning, use, and command and control of BA. It should also assist fire and rescue services with:

- Developing safe systems of work when deploying BA
- Managing BA operations
- Testing and maintenance of BA equipment
- Defining roles and responsibilities for BA
- Developing BA training
- Readiness of BA wearers
- Pre-planning for intraoperability and interoperability

For more information refer to The Foundation for breathing apparatus.

**Strategic actions**

Fire and rescue services must:

- Provide personnel with suitable and appropriate RPE that fits and protects the wearer

- Ensure that personal RPE worn simultaneously is compatible and does not negatively impact other safety measures

Fire and rescue services should:

- Specify the type of RPE required for hazards identified through risk assessments and communicate this information to personnel

- Have suitable arrangements for the provision, testing and maintenance of respiratory protective equipment

- Ensure personnel regularly undertake face mask fit testing of RPE

**Tactical actions**

Incident commanders should:

- Carry out a risk assessment before deploying personnel wearing RPE
• Ensure personnel wear the appropriate type of RPE

• Consider the use of airline equipment

Control measure - Undertake pre-planning: Deployment of breathing apparatus

Control measure knowledge

Fire and rescue services are required to identify risks and collect information indicating where there may be hazards to personnel. For further information refer to Operations: Undertake pre-planning.

Information gathered during pre-planning should identify locations that may require:

• The deployment of breathing apparatus (BA)
• The use of ancillary equipment, such as:
  ◦ Torch or lamp
  ◦ Telemetry
  ◦ Radio communications
  ◦ Thermal imaging camera
• The provision of equipment that is suitable for use in explosive atmospheres
• The removal of equipment that is not suitable for use in explosive atmospheres; this may include personal possessions

Pre-planning should include the arrangements for the timely mobilising of the ancillary equipment that may be required in the event of BA deployment.

When pre-planning for the potential deployment of BA, consideration should be given to the effectiveness of communication methods, especially if there may be limited penetration of radio signals into buildings, or into structures below ground. Building plans may assist with pre-planning arrangements.

In order to ensure the safety and effectiveness of communications with BA teams, pre-planning should consider taking proactive steps to enhance the effectiveness of radio communications and telemetry at these locations.

For further information refer to the Fireground radios guidance.
Strategic actions

Fire and rescue services should:

- Carry out pre-planning for the deployment of BA, radio communications and telemetry
- Provide personnel with access to pre-planning information relating to the deployment of BA, radio communications and telemetry
- Provide personnel with appropriate ancillary equipment to support the use of BA, and have mobilisation plans for it in place
- Provide personnel with appropriate communications equipment for BA operations
- Consider taking proactive steps to enhance the effectiveness of radio communications and telemetry at identified locations

Tactical actions

Incident commanders should:

- Access pre-planning information relating to the deployment of BA, radio communications and telemetry
- Access information about the ancillary equipment available for BA operations, and the plans for its mobilisation
- Ensure that only suitable equipment is deployed or allowed into the hazard area if there is the potential for there to be an explosive atmosphere

Control measure - Breathing apparatus malfunction and reporting procedure
Control measure knowledge

Dangerous occurrences are classified under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR). The malfunction of breathing apparatus is defined as a dangerous occurrence:

- Where the malfunction causes a significant risk of personal injury to the user; or
- During testing immediately prior to use, where the malfunction would have caused a significant risk to the health and safety of the user had it occurred during use, other than at a mine.

The RIDDOR definition applies to breathing apparatus used in contaminated atmospheres or where there may be a lack of oxygen. It refers to a session of use of the apparatus during or immediately before which a malfunction is detected. The malfunction may be present and be detected immediately before the session, including any testing by the wearer immediately before use, or it may occur at some point after the session has started.

The term ‘malfunction’ does not include leakage into a face mask due to a poor fit or a failure caused by an external source, such as damage due to entanglement or falling debris.

Dangerous occurrences must be reported to either the Health and Safety Executive or the Health and Safety Executive Northern Ireland. For information on how to do this, refer to either:

- Health and Safety Executive: When do I need to report an incident?
- Health and Safety Executive Northern Ireland: Report a dangerous occurrence

Further clarity on which BA malfunctions are reportable under RIDDOR has been provided by the Health and Safety Executive, Operational Circular, OC 208/6: Reporting of breathing apparatus malfunctions by fire & rescue services and other users

Following a BA malfunction, the following actions should be taken by an appropriate person:

- Take control of the BA set
- Record details including:
  - The cylinder pressure before closing the cylinder valve
  - The precise number of turns required to close the cylinder valve
  - The time the BA wearer entered the incident
  - The time the BA wearer left the incident
  - All other information from the BA entry control board
  - Any other obvious information regarding the condition of the set, without dismantling it or carrying out a detailed inspection
- Put the following items into a suitable bag which should be sealed, labelled and secured:
- The BA set
- The BA tally
- The face mask
- The cylinder
- The log book

- Inform the fire control room
- Record any remarks made by the BA wearer or other members of the BA team
- Obtain and record:
  - Witness statements
  - Briefing or debriefing logs
- Consider downloading and recording:
  - Information from the BA telemetry board
  - Thermal imaging camera data
  - Body worn video footage
  - CCTV information
- Complete any administration relevant to the investigation

**Strategic actions**

Fire and rescue services must:

- In the event of a defined BA malfunction, comply with the regulations to report it as a dangerous occurrence

Fire and rescue services should:

- Nominate appropriate employees to take responsibility for the actions required following a BA malfunction

**Tactical actions**

Incident commanders should:

- Ensure that an appropriate person takes control of and secures the BA set and ancillary equipment

- Ensure that all relevant information from the malfunctioned BA equipment and witnesses is recorded
• Inform the fire control room of a BA malfunction

• Assist with the investigation as required

Control measure - Deployment of breathing apparatus wearers

Control measure knowledge

A suitable assessment of risk must be carried out prior to deployment of breathing apparatus (BA). This should be based on the required operational objectives and the information available.

For further information refer to Incident command – Ineffective safety management.

Specifically when deploying BA wearers, consideration should be given to the:

• Requirement for BA operations
• Safety and welfare of BA wearers
• Emergency evacuation or tactical withdrawal for BA wearers
• Requirement for appropriate BA emergency arrangements

The appropriate level of BA command and control procedures and safe systems of work should be used at all incidents where BA is deployed. The level of supervision should be based on the situation and circumstances of the incident. It should take the size and complexity of BA operations into consideration, along with the hazards and risks presented to BA wearers. These elements should be considered in conjunction with Incident command guidance.

BA should only be used on the instruction of, or with the authority of, the incident commander. Only the incident commander, operations commander or sector commander may nominate BA entry control operatives. The incident commander may delegate the authority to deploy BA wearers to operations commanders or sector commanders.

Personnel have the right to request BA for respiratory protection by informing the incident commander and BA entry control operative. Such requests should be considered as part of the normal risk management process. The appropriate BA entry control procedures should be initiated while personnel put on BA.
Procedures for briefing and debriefing BA wearers and BA teams are critical to establish safe systems of work and maintain firefighter safety. Comprehensive and effective briefing and debriefing of BA teams should take place every time and recorded when BA wearers are deployed.

Appropriate systems and processes for logging and recording all relevant BA-related command and control information and decisions should be established prior to deploying BA wearers.

Appropriate and resilient methods of communication should be available at all times to ensure the effectiveness and safety of BA wearers. Communication is essential between the BA entry control points, BA wearers and command support, if established.

Appropriate firefighting equipment should be provided whenever BA teams are committed to a hazard area involving fire or a flammable atmosphere.

**Deployment of a single BA wearer**

It may be appropriate to deploy a single BA wearer to carry out a specific task, providing the procedures for deploying a single BA wearer are followed. Stage 1 BA entry control procedures apply when deploying a single BA wearer.

**Re-entry of a BA team into the hazard area**

After a BA team has withdrawn, reported to the BA entry control point and closed down their sets, it may be necessary for them to re-enter the hazard area to perform a specific task. Re-entry should only take place for a limited and defined period to achieve a specific task, within the physiological and psychological capabilities of the BA wearers in the team.

**Breathing apparatus guidelines**

The deployment of breathing apparatus guidelines should be based on an appropriate risk assessment and in accordance with the incident plan. The incident commander should consider using alternative or simultaneous tactics to assist operations and enhance firefighter safety. These may include adopting tactical ventilation techniques or additional access points.

Guidelines should be stored, maintained and tested in accordance with the advice of the manufacturer. If not correctly stored, this could result in guidelines being paid out incorrectly or being in an unsafe condition.

**Strategic actions**

Fire and rescue services should:

- Provide systems to support the logging and recording of BA-related command and control
information and decisions

- Provide personnel with appropriate communications equipment for BA operations

- Provide any equipment required to support emergency evacuation, tactical withdrawal or emergency arrangements for BA operations

- Ensure that guidelines are stored, maintained and tested

- Enable communication between the incident ground and the fire control room, to support joint understanding of the BA operations in use

**Tactical actions**

Incident commanders should:

- Determine the requirement for BA operations, based on the operational objectives and the available information

- Ensure steps are taken to maintain the safety and welfare of BA wearers

- Establish the emergency evacuation or tactical withdrawal processes for BA wearers

- Implement appropriate BA emergency arrangements

- Consider the physiological and psychological effects of previous activities on BA wearers, which may impact on their ability to safely undertake tasks

- Ensure all BA wearers are briefed and debriefed

- Ensure briefs and debriefs to BA wearers are adequately recorded

- Log and record all relevant BA-related command and control information and decisions
• Inform the fire control room about deployment of BA wearers, teams and guidelines

• Ensure appropriate and resilient methods of communication with BA-related personnel are maintained

• Ensure appropriate firefighting equipment is provided if BA teams are deployed to a hazard area that requires it

• Deploy, or delegate the authority to deploy, BA wearers if appropriate

• Consider using re-entry of a BA team, for a limited and defined period to achieve a specific task

• Determine the use of BA guidelines on the basis of an appropriate risk assessment, while also considering the use of alternative or simultaneous operational tactics

• Ensure that Stage 2 BA entry control procedures are implemented for the whole incident when guidelines are in use

• Regularly review the use of BA guidelines

• Ensure use of additional BA support teams in conjunction with BA guideline laying teams

• Inform all relevant personnel that BA guidelines are in use

Control measure - Breathing apparatus entry control

Control measure knowledge

The breathing apparatus (BA) entry control point is the designated position at which BA deployment and command and control is managed. Disciplined adherence to BA entry control
procedures, briefings and instructions is critical to the safety and effectiveness of BA operations and BA teams.

The incident commander should determine the need for additional resources to manage the BA entry control points and associated functions.

All personnel and other emergency responders should be made aware of the BA entry control procedures in use at the incident, particularly those in a position of command.

The level of BA entry control in use should be communicated to fire control rooms to enable monitoring officers to gather relevant information.

**BA entry control operatives**

When establishing BA entry control arrangements, incident commanders should nominate and appoint a competent BA entry control operative for each BA entry control board, considering:

- The level of control implemented
- The number of deployments required
- The nature of the incident and the complexity of the role

**Stage 1 BA entry control**

Stage 1 BA entry control procedures are used to monitor the safety of BA wearers at incidents if the number of BA wearers is small and BA operations are limited and not complex.

**Stage 2 BA entry control**

Stage 2 BA entry control procedures apply when a greater level of control is required to manage and monitor the safety of BA wearers in complex BA operations, or if the criteria for Stage 1 have been exceeded.

**BA entry control point supervision**

The incident commander or sector commander need to maintain an appropriate level of supervision as the risks and demands of a BA-related incident increase. For BA entry control points, this may be achieved through appointing a BA entry control point supervisor.

**BA sectors**

BA sectors are functional sectors implemented to help manage and co-ordinate resources. If a BA sector is established, its location should be communicated to personnel and other relevant emergency responders.
Returning to the entry control point

BA wearers should return to their originating entry control point if they are able to. However, on an exceptional basis that results in BA wearers being unable to return to that originating entry control point and having to leave the hazard area by an alternative exit route, the BA team leader should inform the originating entry control point operative of this. The BA team should return to the originating entry control point to collect their tallies and provide a debrief.

Exceptions for being unable to return to the originating entry control point could include:

- Development of the incident, such as the originating entry control point becoming inaccessible
- Air management issues
- Performing rescues
- Welfare issues

Strategic actions

Fire and rescue services should:

- Enable communication between the incident ground and the fire control room, to support joint understanding of the level of BA entry control in use

Tactical actions

Incident commanders should:

- Determine and implement the appropriate level of BA entry control, and monitor during BA operations
- Appoint a competent BA entry control operative for each BA entry control board
- Determine the need for additional resources to manage the BA entry control points and associated functions
- Make all personnel, other emergency responders and the fire control room aware of the level of BA entry control in use
• Consider appointing a BA entry control point supervisor

• Consider establishing a BA sector; if established, communicate its location to personnel and other relevant emergency responders

Control measure - Rapid deployment of breathing apparatus

Control measure knowledge

There may be exceptional circumstances where immediately available resources are unable to deliver the full incident plan, but it may be possible to carry out immediate life-saving actions, or to take actions to prevent an incident escalating. In these circumstances, rapid deployment of BA may be used under strict criteria and control.

Rapid deployment of BA should only be initiated following an appropriate assessment of risks and likely benefits. The fire control room should be informed that rapid deployment procedures are in use and why this decision has been made.

Further resources should be requested to establish the appropriate level of BA entry control, and the appropriate BA entry control procedures should be implemented as soon as resources allow.

Communication should be established between the BA wearers, the person monitoring the BA wearers and the incident commander.

Strategic actions

Fire and rescue services should:

• Enable communication between the incident ground and the fire control room, to support joint understanding of when rapid deployment of BA has been initiated

Tactical actions

Incident commanders should:
• Consider initiating the rapid deployment of breathing apparatus, following an appropriate assessment of the risks and likely benefits

• Inform the fire control room if initiating the rapid deployment of breathing apparatus

• Establish communication between BA wearers, the person monitoring BA wearers and the incident commander during rapid deployment of breathing apparatus

• Carry out a full brief and debrief of BA wearers and record as soon as possible

• Request further resources to establish the appropriate level of BA entry control

• Implement appropriate BA entry control procedures as soon as resources allow

Control measure - Breathing apparatus emergency arrangements

Control measure knowledge

Establishing emergency arrangements

Whenever breathing apparatus (BA) is deployed, the need for appropriate emergency arrangements should be considered; having these in place can provide prompt and effective emergency assistance to BA wearers in distress. The type and extent of emergency arrangements should be proportionate to all reasonably foreseeable risks to BA wearers.

Once established, emergency arrangements should be maintained, including replacement of emergency teams if deployed.

The need for emergency teams will depend on the type of incident, and the situation that is being dealt with, which may have resourcing implications. During the initial stages of operations, incident commanders should consider as part of their incident plan whether BA emergency arrangements will be required, including the potential need for BA emergency teams and associated emergency equipment such as:
• First aid supplies
• Emergency air supply equipment
• Drag mats
• Breaking-in gear

Deployment of emergency arrangements

In situations where BA emergency teams are in place, their deployment should be considered when certain conditions arise, or have the potential to arise. This is subject to an appropriate risk assessment being carried out by the person responsible for the BA entry control point, and includes when:

• A BA wearer fails to return to the BA entry control point before the pre-determined activation time of their low pressure warning, and they cannot be contacted to confirm their safety and wellbeing
• A distress signal is heard or received by a telemetry device, unless it can be established immediately that it is an accidental activation
• Audible or visual indicators suggest that a BA wearer is in distress, imminent distress or danger
• There is a prolonged and unexplained breakdown in communications
• Requested by a BA wearer in the hazard area

Declaration of a BA emergency

A BA emergency should be declared if any of the above conditions arise and communicated to the incident commander and fire control room at the earliest opportunity. The declaration can be instigated by:

• BA entry control operative
• BA entry control point supervisor
• Sector commander
• Operations commander
• Incident commander

On receipt of the declaration of a BA emergency, fire control personnel should mobilise a minimum of one appliance with adequate BA capabilities to support BA operations. They should also inform the ambulance service of the emergency, and request their attendance.

Strategic actions

Fire and rescue services should:
• Provide suitable and sufficient equipment for the emergency rescue of personnel wearing BA

• Ensure that their fire control room will mobilise a minimum of one further pumping appliance on receipt of a BA emergency message

• Ensure that their fire control room will arrange for the ambulance service to attend on receipt of a BA emergency message

**Tactical actions**

Incident commanders should:

• Establish proportionate emergency arrangements to provide assistance to BA wearers in distress

• Maintain emergency arrangements, and replace emergency teams if deployed

• In the event of an emergency, ensure that a BA emergency message is communicated to the fire control room at the earliest opportunity

• Request the appropriate resources to resolve the emergency

Fire control personnel should:

• Mobilise a minimum of one further pumping appliance on receipt of a BA emergency message

• Arrange for the ambulance service to attend on receipt of a BA emergency message

**Control measure - Telemetry**
Control measure knowledge

Telemetry allows live and relevant data to be transmitted and received between a remote monitoring point and the breathing apparatus (BA) wearer. Telemetry equipment should comply with relevant legislation and standards.

The power of a radio frequency signal diminishes over distance. It will also be affected as the radio waves pass through solid objects, such as walls and floors of buildings, basements or tunnels, or natural terrain.

To maximise the signal power of a radio frequency transmission, fire and rescue services should follow the advice given by telemetry equipment manufacturers; the use of a leaky feeder or repeater units may be required to enhance signal strength.

In the event of a loss of contact or breakdown in telemetry communications, emergency evacuation procedures should be considered; these can be total or selective in nature.

Emergency total evacuation procedures

If two or more telemetry BA entry control boards or units are in use at the same incident and an emergency total evacuation is required, each telemetry BA entry control board or unit at the scene will initiate this level of evacuation.

Emergency selective evacuation procedures

Emergency selective evacuation is an integral emergency feature available when telemetry is employed. It allows the person responsible for the BA entry control point to evacuate specific BA teams in an emergency while leaving other BA teams in place.

Strategic actions

Fire and rescue services should:

- Consider providing compliant and appropriate telemetry equipment for breathing apparatus operations

- Ensure relevant personnel understand the limitations of the telemetry equipment
**Tactical actions**

Incident commanders should:

- Ensure that telemetry equipment is used appropriately and in accordance with the manufacturer’s advice

- Consider using additional equipment to enhance signal strength

- Determine an appropriate course of action if there is a loss of telemetry, and communicate this to all telemetry BA entry control operatives

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**Control measure - Welfare**

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**Control measure knowledge**

Adopting appropriate welfare arrangements at operational incidents will assist with the safe and effective management of personnel and provide them with welfare support, whether physical or psychological. By having effective arrangements for the management of welfare and physical wellbeing at incidents, fire and rescue services will support several key elements of the safe person principles.

Consideration should be given to work rotation, rest, recovery and reliefs taking account of activities undertaken and weather conditions. At protracted incidents provision should be made for suitable sanitary conveniences and hygiene facilities; an adequate supply of drinking water should be provided for all personnel.

Refer to:

- [Workplace (Health, Safety and Welfare) Regulations](#)
- [Workplace (Health, Safety and Welfare) Regulations (Northern Ireland)](#)

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**Strategic actions**

Fire and rescue services should:
• Make suitable arrangements to provide welfare for personnel at protracted operational incidents including shelter, drinking water, hygiene and sanitary conveniences.

**Tactical actions**

Incident commanders should:

- Consider the effects of geography on equipment logistics, casualties and the welfare of personnel

- Consider the effect of weather conditions and time of day on the welfare of personnel

- Provide first aid equipment for personnel deployed to areas where there is no immediate medical assistance available

- Consider requesting appropriate facilities for the welfare of personnel

**Control measure - Post-incident health surveillance**

**Control measure knowledge**

Health surveillance allows for early identification of ill health and helps identify any corrective action needed. Regulations exist for workplace exposure to:

- Noise
- Vibration
- Solvents
- Fumes
- Dusts
- Biological agents
- Other substances hazardous to health
- Compressed air

Regulations include:
Appropriately trained and competent health professionals should carry out appropriate health surveillance, especially where there is a regulatory requirement to monitor the health of employees.

Employers should also provide for the effective monitoring of mental health and well-being of all employees to ensure that any exposure to psychological hazards can be monitored. Critical incident stress management procedures should be considered as part of an intervention to minimise the impact of traumatic incidents on individuals, and to reduce work-related stress.

All employees, should follow service protocols to report any symptoms of mental or physical health illness they experience.

Employees with supervisory or managerial responsibilities should follow service protocols for raising concerns about the mental or physical well-being of individuals.

**Strategic actions**

Fire and rescue services should:

- Establish arrangements with appropriately trained and competent healthcare professionals to carry out health surveillance
- Have procedures for identifying employees who require mental or physical health surveillance
Tactical actions

All personnel should:

- Follow service protocols for reporting concerns about the mental or physical well-being of themselves or other individuals

Hazard - Working near water or other liquids

Hazard Knowledge

For the purposes of this guidance 'working near water or other liquids' is considered to be working within three metres. This distance may be adjusted following a risk assessment.

Working near water, or other liquids, presents a hazard; personnel could accidentally enter the water or liquid, with the risk of:

- Submersion
- Entanglement
- Cold water shock
- Hypothermia
- Contamination
- Drowning

The risk of accidental entry into the water or liquid may depend upon the nature of operational activity being performed, and the necessity to work in the area.

The environment surrounding the water or liquid may increase the risk of accidental entry. The factors that may affect this include:

- Underfoot conditions
- Stability of the surrounding area
- Gradient
- Lack of guarding or barriers
- Weather conditions
- Visibility

For more information on personnel working on or in water, refer to National Operational
Control measure - Assess the risk of working near water or other liquids

Control measure knowledge

A risk assessment when personnel are working near water or other liquids should take into account:

- The necessity of working near water or other liquids
- The required proximity to the water or other liquids
- The number of personnel required
- The operational activity that will take place
- The likelihood of accidental entry due to:
  - Underfoot conditions
  - Stability of the surrounding area
  - Gradient
  - Lack of guarding or barriers
  - Weather conditions
  - Reduced visibility
- The level of danger presented by the water or other liquids, such as:
  - Depth
  - Temperature
  - Type of liquid, including potential contaminants
  - Speed of flow

Strategic actions

Fire and rescue services should:

- Make risk information regarding the presence of water, or other liquids, available to operational personnel
Tactical actions

Incident commanders should:

- Avoid working near water or other liquids where possible
- Commit the minimum number of personnel to the hazard area when working near water or other liquids
- Assess the risk of accidental entry into water or other liquids

Control measure - Safe system of work: Working near water or other liquids

Control measure knowledge

Where possible the risk of accidentally entering water or other liquids should be mitigated by using:

- Cordons
- Suitable existing or improvised guarding or barriers
- Work restraint systems

Personnel working near water or other liquids should wear personal floatation devices that are compatible with existing personal protective equipment (PPE). The wearing of fire helmets when working near water or other liquids should take into account the operational activity being performed and the risk of accidental entry into water.

For control measures for working on or in water refer to National Operational Guidance: Water rescue and flooding.
For information regarding work restraints refer to National Operational Guidance: Subsurface, height, structures and confined spaces- Unguarded edges.

**Strategic actions**

Fire and rescue services should:

- Provide suitable PPE and equipment for working near water or other liquids

**Tactical actions**

Incident commanders should:

- Identify and communicate the presence of water or other liquids to all responders

- Ensure that personnel operate on the safe side of suitable existing or improvised guarding or barriers near water or other liquids

- Assess hydrology and status of water or other liquids - depth, temperature, type of liquid, speed of flow

- Investigate the possibility of rising waters and increased flow from tides, flooding, sluice gates

- Use work restraint or fall arrest systems for personnel working near water or other liquids

- Appoint a safety officer to monitor the hazard presented by water or other liquids

- Ensure that personnel wear suitable PPE and personal flotation devices when working near water or other liquids

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**Hazard - Physiological stress**
Hazard Knowledge

Physiological stress is the body's response to a stressor, such as an environmental condition or a stimulus. Examples of physiological stress are fatigue, dehydration, heat illness and hypothermia.

Fatigue is a subjective feeling of tiredness which has a gradual onset; it can have physical or mental causes and may significantly affect a person's ability to perform tasks.

Dehydration occurs when the body loses more fluid than it takes in; minerals in the body become unbalanced, which affects the way that it functions.

The ability of personnel to operate effectively may be affected by physiological stress. This could be caused by:

- The environment and weather conditions
- The task they are undertaking
- Their personal protective equipment
- Their condition prior to being mobilised, including illness and physical condition

Control measure knowledge

If it is not possible to fully eliminate the hazard, then exposure should be reduced to limit the risk as far as reasonably practicable. Examples of ways in which this can be achieved include:

- Reducing the amount of time spent in the hazard area and avoid repeated exposure
- Increasing the distance from the hazard
- Specialist resources and vehicles to transport people and equipment

Strategic actions

Fire and rescue services should:

- Identify from pre-planning any risks that can be reduced by reduced exposure and communicate to personnel
**Tactical actions**

Incident commanders should:

- Consider implementing control measures that reduce the exposure of responders to a hazard
- Consider requesting specialist resources to transport personnel and equipment

**Control measure knowledge**

Personnel attending an incident may need to be deployed as teams. These teams should be of an appropriate size to carry out the task and sufficient to allow task rotation. The use of task rotation may help to minimise the exposure of personnel to the hazards present.

If possible, personnel should share tasks, roles and functions and should manage team and task rotation if appropriate.

**Strategic actions**

Fire and rescue services should:

- Develop tactical guidance and support arrangements for the hazards and actions to be taken when managing the appropriate deployment of resources

**Tactical actions**

Incident commanders should:

- Keep the number of people exposed to the hazard at a minimum and reduce time of exposure through task rotation
Hazard Knowledge

Heat illness covers a spectrum of conditions including heat exhaustion and heat stroke. In practice, it is difficult to distinguish between these conditions and they may coexist. For the purposes of this guidance the term heat illness refers to those individuals who become incapacitated as a result of a rise in core body temperature.

Heat illness in personnel can be caused or exacerbated by:

- Overexertion
- Exposure to high temperatures
- Humidity
- Inappropriate clothing or personal protective equipment (PPE)
- Dehydration
- Medical conditions or medication

In addition to the hazards presented by heat illnesses, the conditions may adversely affect personnel in terms of decision making, or impairing the manual dexterity and physical ability of personnel. Because of this, personnel should self-monitor and be monitored for these conditions.

Heat stress

Heat stress is a mild form of heat illness that can progress to more serious conditions such as heat exhaustion and heat stroke. Symptoms can include:

- Fatigue
- Heat syncope (fainting)
- Swelling of feet and ankles
- Heat cramps

Heat exhaustion

Heat exhaustion symptoms are mainly caused by the loss of fluids and body salts. Symptoms can include:

- Headache, dizziness, nausea, vomiting and irregular pulse
- Hypotension, sweating, muscle pain, weakness and cramps
Heat stroke

Heat stroke is the body's response to an elevated core body temperature. If left untreated heat stroke can be life-threatening. The condition can have a sudden onset with no warning, or may be preceded by the symptoms of heat exhaustion. Symptoms can include:

- Headaches, extreme fatigue, fainting, facial flushing
- Vomiting and diarrhoea
- Hot, dry skin with sweating being present in 50% of cases
- Irregular pulse, hypotension, irregular breathing
- Seizures
- Rhabdomyolysis – the breakdown of muscle cells causing the release of toxins into the blood

For further information on heat illness refer to:

- Health and Safety Executive: Temperature in the workplace
- Heat illness and cold injury: prevention and management (JSP 539)

Control measure - Prevent and manage heat illness in personnel

Control measure knowledge

If heat illness is suspected, medical advice should be sought.

The effects of heat stress can be prevented or managed by:

- Moving the person to a cool environment
- Removing personal protective equipment (PPE)
- Providing external cooling
- Rehydration by drinking cool, still water

Faints (syncope) may be prevented if the person lies down with their legs raised above the level of their head.

Refer to National Operational Guidance: Performing rescues – Failure to assess, identify and treat life-threatening problems of the casualty.
Strategic actions

Fire and rescue services should:

- Ensure that personnel have access to the means for preventing or managing heat illness

Tactical actions

Incident commanders should:

- Request medical advice if heat illness is suspected
- Provide personnel with the means to prevent and manage heat illness

Hazard - Hypothermia in personnel

Hazard Knowledge

Allowing the core body temperature to fall below 37°C, even by as little as 2°C, may lead to hypothermia. It may be moderate or severe depending on the degree of cooling. Hypothermia can be a life-threatening condition.

Hypothermia in personnel can be caused or exacerbated by:

- Exposure to cold temperatures
- Immersion in water
- Physical exhaustion
- Adverse weather conditions
- Inappropriate clothing or personal protective equipment (PPE)
- Dehydration
- Medical conditions or blood loss

The symptoms of moderate hypothermia include:

- The person saying they feel very cold
- Uncontrolled shivering
• The person feeling cold to the touch, with cold and pale hands and feet
• Loss of manual dexterity
• Mild confusion, disorientation or irritability
• The person possibly denying having any problem and rejecting assistance

The symptoms of severe hypothermia include:

• Slurred speech and an apathetic, confused and irrational state
• Lips turning blue
• Reduced consciousness, with a slow, faint or irregular pulse
• Shivering stopping

Control measure - Prevent and manage hypothermia in personnel

Control measure knowledge

If hypothermia is suspected, medical advice should be sought.

If the person is conscious and able to, they should be encouraged to keep moving. They should be given warm drinks or high energy food.

The effects of hypothermia can be prevented or managed by:

• Moving the person to a warmer environment
• If they cannot be moved indoors, providing some insulation for them to lie on
• Replacing wet clothing with dry clothes, making sure their head is covered
• Covering the person with blankets

For further information refer to Performing rescues – Failure to assess, identify and treat life-threatening problems of the casualty

Strategic actions

Fire and rescue services should:

• Ensure that personnel have access to means to prevent or manage hypothermia
**Tactical actions**

Incident commanders should:

- Request medical assistance if hypothermia is suspected
- Provide personnel with the means to prevent and manage hypothermia

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**Hazard - Weather conditions**

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**Hazard Knowledge**

Adverse weather conditions or microclimates can affect operations and the health and safety of personnel. This may:

- Affect decision-making
- Impact upon morale
- Reduce manual dexterity
- Impair incident ground communications
- Impair visibility (link to Hazard Reduced visibility)
- Impair or prevent the use of equipment, such as:
  - Aerial appliances
  - Radios
  - Working at height equipment

Wind may cause smoke, dust or other hazardous materials to travel into the incident ground. It may also dislodge loose objects, causing them to fall from height

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**Control measure - Assess current and forecast weather conditions**
Control measure knowledge

Forecast weather conditions should be obtained and monitored as they can have a negative effect on operations and the health and safety of personnel.

This information should be assessed, along with any microclimate that could be produced by the specific location and its topography. Current and forecast weather conditions should be used to inform the tactical planning and risk assessment of an incident.

Strategic actions

Fire and rescue services should:

- Provide personnel with access to meteorological information, such as for example, the Met Office's FireMet in 'hazard manager' for predicting weather conditions

- Ensure that strategies are in place to enable timely communication of forecast weather conditions to operational personnel

Tactical actions

Incident commanders should:

- Access past, present and future weather information from sources such as the Met Office

- Request and review up-to-date weather forecasts

Hazard - Lightning

Hazard Knowledge

Lightning may strike structures or objects and cause a collapse or start a fire. Personnel working in exposed or unsheltered locations may be at risk of lightning strike during thunderstorms. Working at height or on, in or near water may increase this risk.
There are three different ways of being struck by lightning:

- Direct strike
- Side flash - the lightning hits another object and arcs
- Ground strike – the lightning strikes the ground then travels through it

Tall metal structures, such as transmission towers, can conduct lightning to ground or lead to arcing from the object to equipment or personnel. Carrying conductive equipment may increase the risk of lightning strike.

Control measure - Safe system of work: Lightning

Control measure knowledge

Weather warnings for lightning may provide fire and rescue services with advance information about when lightning may occur.

If lightning is a hazard the safety of personnel should be based on an incident ground risk assessment. Working where lightning strike is a risk should be avoided if possible, and the following activities may need to be restricted or stopped:

- Working at height
- Working on, in or near water
- Working in the open
- Working near or on tall structures
- Carrying or pitching ladders

Even when undertaking lifesaving activities, a cordon of 10m around tall structures, such as transmission towers, is recommended.

Strategic actions

Fire and rescue services should:

- Provide personnel with access to weather warnings for lightning
**Tactical actions**

Incident commanders should:

- Consider stopping activities where there is a risk of lightning strike
- Consider seeking appropriate shelter where there is a risk of lightning strike
- Avoid working in open areas, at height, near tall structures or on, in or near water where there is a risk of lightning strike
- Control and restrict the use of conductive equipment such as ladders

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**Hazard - Noise**

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**Hazard Knowledge**

Fire and rescue service personnel may need to work in noisy environments; noise could be produced by:

- On-site machinery
- Vehicles
- Activated alarms or warning systems
- Fire and rescue service activities, including the use of equipment
- Munitions
- Explosions
- Crowds of people
- Music

The hazards may include:

- Hearing loss
- Impaired communication
- Impaired operational awareness

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Hearing loss
Noise-induced hearing loss is caused by prolonged exposure to excessive levels of noise – for example, in noisy workplaces, or while listening to loud music. It can also be caused by extremely loud bursts of sound such as gunshots and explosions that can lead to some damage within the ear structures. The effects of noise-induced hearing loss may not be noticed until years after exposure to loud noise. Some people experience tinnitus as the first sign that their hearing has been damaged by noise.

Further information about hearing health can be found on the [RNID website](#).

**Impaired communication**

When working in a noisy environment, normal communication methods may not be sufficient. The noise level may impact on emergency evacuation signals and affect the ability to hear an activated automatic distress signal unit (ADSU).

**Impaired operational awareness**

The noise level may make it difficult to hear distress calls from casualties when performing rescues. It may also impair the ability of personnel to hear moving vehicles or machinery, or even sounds from a moving or collapsing structure.

Control measure - Reduce risk from exposure to noise

**Control measure knowledge**

Under [The Control of Noise at Work Regulations](#) and [The Control of Noise at Work Regulations (Northern Ireland)](#), noise in the working environment should be eliminated or reduced. If this is not feasible, personnel should be removed from the source of the noise, or be provided with personal hearing protectors that are appropriate to the environment or activity.

Pre-planning may identify likely sources of noise and appropriate control measures that reduce exposure to noise.

**Strategic actions**

Fire and rescue services must:
• Assess and identify measures to eliminate or reduce risk from exposure to noise in the workplace

Fire and rescue services should:

• Provide personnel with appropriate hearing protectors

• Ensure information about noise hazards is recorded in Site-Specific Risk Information

**Tactical actions**

Incident commanders should:

• Reduce prolonged exposure to the source of noise

• Increase the distance of personnel from the source of the noise

• Ensure personnel wear appropriate hearing protectors

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**Control measure - Isolate the source of noise**

**Control measure knowledge**

It may be possible to isolate the source of noise, if it is being produced by on-site machinery, vehicles or fire and rescue service equipment. Decisions to isolate these sources of noise may require liaison with the responsible person, occupants or site engineers.

Alarms or warning systems will need to be managed appropriately; silencing them may be detrimental to activities such as evacuation. Decisions to isolate these sources of noise may require liaison with on-site staff, with reference to Site-Specific Risk Information (SSRI) if appropriate.
Strategic actions

Fire and rescue services should:

- Record information about alarms or warning systems in the Site-Specific Risk Information (SSRI)

Tactical actions

Incident commanders should:

- Consider isolating sources of noise
- Consider requesting that alarms or warning systems are silenced

Control measure knowledge

If it is not possible to reduce or isolate the source of noise, safe systems of work should be implemented to ensure:

- Communication between personnel is maintained
- Personnel do not rely on audible cues or information, especially for emergency evacuation or tactical withdrawal

Alternative methods of communication may need to be adopted. This could include visual signs using hands, flags or lights.

Strategic actions

Fire and rescue services should:
Consider providing equipment to assist with alternative methods of communication

**Tactical actions**

Incident commanders should:

- Consider using alternative methods of communication in noisy environments
- Consider implementing appropriate methods to activate the emergency evacuation or tactical withdrawal of responders in noisy environments

**Hazard - Reduced visibility**

**Hazard Knowledge**

Visibility at the scene of operations may be reduced due to smoke, weather conditions or lack of light. This may result in:

- Personnel being unable to see hazards
- Personnel being unable to see each other
- Personnel becoming isolated, disorientated or lost
- Incident commanders having difficulty in monitoring personnel

Reduced visibility at night is likely to increase the time taken to complete tasks and may reduce the effectiveness of some activities.

The current and future levels of visibility at the scene of operations should be considered, including the potential impact on members of the public and transport routes.

**Control measure - Safe system of work: Reduced visibility**
Control measure knowledge

Working in reduced visibility may require:

- Lighting the scene
- Illuminating the hazard
- Illuminating personnel
- Appointing additional safety officers
- Establishing physical barriers

Making a detailed inspection of the scene of operations may be beneficial if visibility is likely to reduce.

Generators used for lighting may produce toxic fumes creating irrespirable atmospheres. The impact of fumes and noise produced by generators should be considered when positioning them. Battery powered lighting may be more appropriate in certain situations.

Lighting may need to be suitable for use in explosive atmospheres. Even if the scene to be lit has been assessed using gas monitoring equipment and does not contain flammable gases, pockets of gas could still be released once operations have commenced.

The heat generated by lighting should be considered when working in enclosed spaces or near flammable materials. Using light-emitting diodes (LEDs) or low heat output lighting systems may be more suitable.

It may be possible to use physical barriers to define routes and indicate the presence of hazards when it is necessary for personnel to work in reduced visibility.

Strategic actions

Fire and rescue services should:

- Provide personnel with appropriate personal protective equipment (PPE) and equipment for operating in reduced visibility
- Provide appropriate scene lighting equipment
Tactical actions

Incident commanders should:

- Review the tactical plan as visibility changes
- Request sufficient lighting of an appropriate type for working in reduced visibility
- Review the area before visibility reduces
- Consider using physical barriers to define routes and indicate the presence of hazards in reduced visibility
- Deploy additional safety officers to take into account the reduced visibility
- Provide lighting to illuminate routes and hazards in reduced visibility
- Ensure generators being used to provide lighting are located in an appropriate position to reduce the impact of noise and fumes

Hazard - Vibration

Hazard Knowledge

Hand-arm vibration comes from the use of handheld power tools and can result in significant ill health. Whole-body vibration is transmitted through the seat or feet of employees who drive mobile machines, or other work vehicles, over rough and uneven surfaces as a main part of their job. Large shocks and jolts may cause health risks including backpain.

For further information refer to:

- Control of Vibration at Work Regulations
- Control of Vibration at Work Regulations (Northern Ireland)
Control measure knowledge

The assessment of the risk to health created by vibration at the workplace is a legal requirement and the regulations establish exposure limit values and action values. Preplanning should consider the magnitude, type and duration of exposure, manufacturer's information and working conditions such as low temperatures.

In a dynamic operational environment a hierarchy of control approach should be adopted to minimise risk from hand-arm and whole-body vibration.

Strategic actions

Fire and rescue services should:

- Assess and identify measures to eliminate or reduce risk from exposure to hand-arm or whole-body vibration

Tactical actions

Incident commanders should:

- Ensure personnel follow service procedures when operating equipment that can cause hand-arm or whole-body vibration

- Consider rotating personnel using equipment that can cause hand-arm or whole-body vibration for long periods of time

Hazard - Vibration from vehicles or machinery
Hazard Knowledge

The movement or use of vehicles or machinery near to an incident may cause vibration, which can:

- Worsen the condition of casualties
- Cause structures, above or below ground level, to become unstable
- Cause excavations or natural features to become unstable
- Worsen instability in structures, excavations or natural features
- Distress animals
- Impact on fire and rescue service activities

Vehicles that may be near to an incident include:

- On-site vehicles
- Emergency services vehicles
- Rail vehicles
- Road vehicles

Machinery that may be near to an incident includes:

- On-site machinery
- Emergency services machinery and equipment

Control measure - Minimise the impact of vibration from vehicles or machinery

Control measure knowledge

The movement or use of vehicles or machinery should be controlled, if vibration from them may worsen the incident. Control may be applied by moving the vehicles or machinery away from the hazard area, or by limiting their use. This will need to take into account the necessity or benefits of using the vehicles or machinery.

If it is not possible to eliminate the movement or use of vehicles or machinery, the impact of vibration from them should be monitored throughout the incident. This should include:

- Monitoring the impact on casualties
- Monitoring structures, excavations or natural features for signs of collapse
- Monitoring the distress of animals
- Monitoring the impact on fire and rescue service activities

**Strategic actions**

Fire and rescue services should:

- Understand the impact of vibration that is generated by fire and rescue service vehicles and machinery, and provide relevant information to personnel

**Tactical actions**

Incident commanders should:

- Consider the impact of vibration from movement or use of vehicles or machinery on the incident

- Assess the benefits versus risks of continued movement or use of vehicles or machinery

- Select which vehicles or machinery may be used, and apply control to those that should not be used

- Consider appointing personnel to monitor the impact of vibration, if the movement or use of vehicles or equipment cannot be eliminated

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**Hazard - Manual handling**

**Hazard Knowledge**

Manual handling relates to moving items by lifting, lowering, carrying, pushing or pulling.

For personnel, manual handling may include moving:

- Firefighting and rescue equipment such as:
Ladders
Hoses
Tools
Machinery

- Casualties, in particular bariatric casualties – refer to Manual handling: Casualties and Bariatric casualty
- Animals – refer to Incidents involving animals

The weight of the item is an important factor, but many other factors can create a risk of injury, for example:

- The frequency of picking up or carrying an item
- The distance the item is being carried
- The location of the item when it is picked up or put down
- Twisting, bending or stretching while carrying out a task
- The posture adopted while carrying out a task

Manual handling injuries are part of a wider group of musculoskeletal disorders (MSDs). MSDs include any injury, damage or disorder of the joints or other tissues in the upper or lower limbs, or the back. Recent or existing injuries are additional factors in the development of MSDs.

In controlled environments these risks can be reduced by making loads smaller or lighter, and organising the environment to make tasks less stressful on joints and muscles.

Control measure - Correct manual handling techniques

Control measure knowledge

All employers must comply with the risk assessment requirements set out in:

- Management of Health and Safety at Work Regulations
- Management of Health and Safety at Work Regulations (Northern Ireland)

The requirement to carry out a risk assessment for manual handling tasks is contained in:

- Manual Handling Operations Regulations
- Manual Handling Operations Regulations (Northern Ireland)
All employees must make full use of any safe system of manual handling their employer puts in place.

**Strategic actions**

Fire and rescue services must:

- Make a suitable and sufficient assessment of manual handling operations that involve a risk of injury
- Ensure all personnel are aware of the duty to carry out a risk assessment on manual handling tasks
- Ensure all personnel are aware of their responsibility to use the safe system of manual handling provided

Fire and rescue services should:

- Consider the provision of or access to engineering controls that can assist with manual handling tasks

**Tactical actions**

All personnel should:

- Consider the task, individual capabilities, load and environment (TILE) when carrying out risk assessments for manual handling
- Consider using machinery or other equipment to assist with manual handling

Incident commanders should:

- Consider task rotation when personnel are carrying out manual handling tasks
- Request additional or specialist resources to assist with manual handling tasks
- Ensure personnel adopt the provided safe system of manual handling
Hazard - Physical injuries from animals

Hazard Knowledge

Animals may be encountered at any incident; their presence and behaviour may have an impact on the incident, or on the emergency responders in attendance. Animals may present hazards such as:

- Obstructing emergency responders
- Physical injuries, including:
  - Crush injuries
  - Puncture wounds
  - Cuts, bruises and abrasions
  - Stings or bites, which could be venomous or cause anaphylaxis

For information regarding diseases and infections caused by animals, such as zoonoses, refer to Infectious diseases.

For information regarding rescuing or evacuating animals refer to National Operational Guidance: Incidents involving animals.

Control measure - Avoid, contain or control animals

Control measure knowledge

Unless attending an incidents involving animals, personnel should try to avoid any animals present.

If animals cannot be avoided, they may need to be contained or controlled in order to keep them away from members of the public, the incident and emergency responders. It may be necessary to seek specialist advice or assistance for dealing with animals.

The activities of emergency responders, such using lights and generating noise, may increase the stress response of animals. Movements of emergency responders, equipment and vehicles should
be kept to a minimum in the vicinity of animals.

Guidance for dealing with animals is contained in the National Operational Guidance: Incidents involving animals, in particular under the following control measures:

- Minimise the stress response of the animal
- Specialist resources: Animal incidents
- Physical control or restraint of the animal
- Chemical restraint of the animal
- Contain the animal

**Strategic actions**

Fire and rescue services should:

- Ensure that information about animals, where held in a permanent location, is included in Site-Specific Risk Information (SSRI)

**Tactical actions**

Incident commanders should:

- Identify and communicate the presence of animals, and any associated hazards, to emergency responders and the public
- Minimise the stress response of animals
- Seek specialist advice or assistance for dealing with animals
- Avoid, contain or control animals if necessary
Ensure personnel do not touch or handle animals unless unavoidable

Consider contingency arrangements if personnel may become isolated in areas where animals present a risk

Seek specialist advice about antidotes, antivenom or specialist treatment

Hazard - Infectious diseases

Hazard Knowledge

Infectious diseases are caused by pathogenic microorganisms, such as bacteria, viruses, parasites or fungi; the diseases can be spread, directly or indirectly, from one person to another. Zoonotic diseases are infectious diseases of animals that can cause disease when transmitted to humans.

If biological hazards (biohazards) are or may be present, the incident should be reclassified as a hazardous materials incident; the guidance for Hazardous materials should be applied.

Operational activity may bring personnel into contact with infectious diseases, including:

- Bacterial infection including:
  - Gastrointestinal diseases
  - Tetanus
- Viral infection including:
  - Blood borne viruses such as HIV and hepatitis
  - Rabies
- Zoonoses including:
  - Leptospirosis (Weil's disease)
  - Lyme disease

Diseases and infections may be carried by:

- Body fluids
- Animals, including their faeces and urine
- Insects
- Contaminated water including:
  - Stagnant water
Transmission of infectious diseases while working can occur via:

- **Inhalation**, for example by:
  - Breathing in infectious aerosols or droplets, including respiratory discharges or contaminated dust or spray
- **Absorption**, for example by:
  - Blood or other body fluids entering the body via the eye or other mucous membranes
  - Microorganisms directly or indirectly entering the body via broken skin
- **Ingestion**, for example by:
  - Putting contaminated hands, fingers, or objects such as pens or cigarettes into the mouth
- **Injection**, for example by:
  - A skin-penetrating injury from a contaminated needle or other sharp object
  - A bite or sting from an infected animal or insect

For more information refer to [GOV.UK: Health protection - Infectious diseases](https://www.gov.uk)

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**Control measure - Manage the risk from infectious diseases**

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**Control measure knowledge**

If the incident has been classified as hazardous materials, due to the confirmed or suspected presence of biological hazards (biohazards), the relevant Hazardous materials control measures should be applied.

It may be appropriate to record the presence of biological hazards (biohazards) in Site-Specific Risk Information (SSRI).

Reports detailing local and national trends of notifiable infectious diseases (NOIDs) are published. Further information is available at [GOV.UK: Notifiable diseases and causative organisms](https://www.gov.uk).

When dealing with the confirmed or suspected presence of infectious diseases, fire and rescue services should manage the risks to personnel using:
• Vaccinations
• Personal protection
• Hygiene arrangements

Some personnel could have existing health conditions that could be impacted by exposure to infectious diseases. For example, allergic reactions that could result in anaphylactic shock. Personnel should report any known conditions to the health department of their fire and rescue service, and to the incident commander.

For more information refer to the Health and Safety Executive (HSE) Infections at work.

**Vaccinations**

Vaccinations can immunise personnel against some diseases that they may be exposed to during operational activity. The activity of personnel, working environments and the prevalence of diseases, if known, in their area will determine which vaccinations are appropriate.

**Personal protection**

The type of personal protection used should be determined by the anticipated transmission method of infectious diseases:

- **Inhalation:**
  - Good ventilation
  - Respiratory protective equipment (RPE) appropriate to the hazard
- **Absorption:**
  - Avoid skin contact with the hazard
  - Personal protective equipment (PPE) that prevents contact including protective or disposable gloves and eye protection
  - Strict hygiene procedures
- **Ingestion:**
  - Avoid eating, drinking, smoking and vaping
- **Injection:**
  - Avoidance or isolation of the cause of injection
  - Personal protective equipment (PPE) that provides protection from the cause of injection
  - Consider the use of a sharps container for the disposal of clinical waste

**Hygiene arrangements**

Good hygiene practices can reduce the transmission of infectious diseases. This may include:

- Welfare facilities
• Antibacterial wash or wipes

Personnel should avoid eating, drinking, smoking or vaping before effective hygiene or decontamination procedures have been completed.

**Strategic actions**

Fire and rescue services should:

• Consider recording the presence of biological hazards (biohazards) in SSRIs

• Seek specialist advice to determine an appropriate vaccination plan

• Vaccinate personnel against infectious diseases where appropriate

• Provide suitable equipment to protect against infectious diseases

• Have suitable arrangements for the disposal of clinical waste

• Provide personnel with appropriate hygiene arrangements

**Tactical actions**

Incident commanders should:

• Identify potential sources of infectious diseases

• Ensure personnel cover open wounds, cuts and grazes with a waterproof dressing prior to operational activity

• Determine if any personnel have existing health conditions that could be impacted by exposure to infectious diseases

• Request sufficient resources to enable hygiene or decontamination procedures to be implemented
• Implement appropriate hygiene or decontamination procedures

• Ensure that personnel refrain from eating, drinking, smoking or vaping prior to completing hygiene or decontamination procedures

Control measure - Monitor personnel exposed to infectious diseases

Control measure knowledge

Post-incident health monitoring may help to identify personnel exposed to infectious diseases. Some infectious diseases can have extended incubation periods; this should be considered when determining appropriate monitoring durations.

Monitoring allows for appropriate medical intervention and may assist with identifying appropriate control measures to reduce the impact of future events.

An appropriate healthcare professional should be notified if personnel have potentially been exposed to infectious diseases. They will be able to advise on the appropriate treatment or monitoring, based on the type of incident and level of exposure.

Strategic actions

Fire and rescue services should:

• Carry out post-incident health monitoring

• Establish access to an appropriate healthcare professional for advice on treatment or monitoring of personnel exposed to infectious diseases

Tactical actions

Incident commanders should:
• Record details of personnel who have potentially been exposed to infectious diseases, and notify an appropriate healthcare professional

• Ensure personnel understand the need to report any potential exposure to infectious diseases

Hazard - Psychological hazards

Hazard Knowledge

The effects of psychological hazards can be as debilitating as a physical injury. Excessive pressure caused by psychological hazards can cause stress, which harms the ability to think, communicate and operate effectively.

Stress occurs when an individual sees a difference between the demands placed on them and their ability to cope. Working under high demands in a challenging environment may also lead to both physical and mental fatigue. Psychological hazards can affect incident command and impair the functioning of a commander, individual or team. For example, anxieties and stressors take up part of a person’s mental processing capacity and can distract attention from the situation. This can reduce the available capacity for focusing on and understanding information. If important information is neglected or not processed properly it may lead to an inaccurate mental picture of the situation. Equally the effects of exposure to psychological hazards can be experienced long-term, after the incident or event, and may not be fully appreciated or experienced if not identified at the earliest stage.

The effect of experiencing and being exposed to psychological hazards can differ for individuals and teams. As each incident is different, the exact pressures and demands are difficult to predict.

Psychological hazards may be present at any operational incident and most hazards can be identified and appropriate control measures adopted. However, there are subconscious and external underlying reasons, such as previous exposure or history, that mean the reactions or well-being of an individual may differ, or be affected in a variety of ways and at many levels.

For further information, refer to Incident command: Ineffective command of an incident
Control measure knowledge

Fire and rescue service personnel need to be able to function, while being aware of stress and fatigue. They need to communicate, make critical decisions and process information. They should be able to understand how both stress and fatigue affect these processes.

Fire and rescue services should develop a culture, awareness and common understanding of psychological hazards and have appropriate post-incident processes in place. These should be supported by occupational health arrangements, such as identifying, reporting, monitoring and self-reporting measures and arrangements.

The possible impact of critical incidents on employees can be minimised through raising awareness of the causes and potential effects of the pressure and stressors that may occur at operational incidents. Incident commanders should be aware of the effect that traumatic incidents can have on themselves and others in the short-term and long-term.

At the incident ground, it may be possible to reduce the impact of traumatic incidents on personnel by:

- Minimising the number of personnel exposed to the scene
- Erecting screens to restrict the view of the scene – for further information refer to Performing rescues: Maintain the privacy and dignity of the casualty
- Seeking assistance from other appropriate agencies

Consideration should be given to the provision of critical incident debrief procedures following incidents that involve exposure to traumatic scenes.

Fire control personnel can also be impacted by operational incidents; this could be due to taking traumatic or distressing calls. They could also be directly exposed to information about injuries or deaths of members of the public or emergency responders.

Therefore, appropriate support mechanisms should be put in place for any employee who has been affected by an incident, not only those who attended the incident.

For further information, refer to Incident command: Personal resilience.
**Strategic actions**

Fire and rescue services should:

- Carry out strategic risk assessments to identify foreseeable psychological hazards within their area and identify control measures that eliminate or reduce the risk of their impact

- Consider procuring suitable screens to restrict the view of traumatic scenes

**Tactical actions**

Incident commanders should:

- Consider seeking the assistance of other agencies when dealing with traumatic incidents

- Minimise number of personnel exposed to traumatic scenes where possible

- Erect screens to restrict the view of traumatic scenes

- Instigate post-incident processes for the support of personnel exposed to psychological hazards

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**Hazard - People**

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**Hazard Knowledge**

One of the main reasons fire and rescue services attend incidents is to reduce or prevent harm to people. As well as the risk of direct harm from the hazards of the incident, there is a potential risk to the dignity and well-being of people affected by the incident. Overcrowding, weather conditions, lack of appropriate clothing or shelter may present hazards to people who have been rescued, evacuated or are gathered at the scene. There could also be children or vulnerable adults involved in the incident.

The physical or psychological impacts of an incident may not be immediately obvious; people who leave the scene may need to be contacted at a later date for assessment or treatment.

However, the behaviour and volume of people may also have an impact on the incident, or on the
emergency responders in attendance. The hazards people may present at operational incidents include:

- Obstruction of emergency responders
- Uncontrolled evacuation
- Unpredictable, aggressive, violent or illegal behaviour
- The uncontrolled spread of information, which could lead to unwanted behaviour
- Putting themselves at risk, or encouraging others to put themselves at risk
- Physical injury to themselves or others

People may become indirectly involved, which could be due to:

- Concern about those involved in the incident
- Political or societal motivation
- A desire to assist with the incident
- A wish to observe the incident or the activity of emergency responders

The behaviour of those directly involved in the incident may be influenced by their:

- Familiarity with the location
- Awareness about the need to evacuate
- Willingness or ability to evacuate
- Ability to hear or understand evacuation instructions
- Understanding of evacuation procedures
- Impairment by alcohol or drugs
- Perception of the incident and emergency response

**Transport incidents**

Fire and rescue services should consider the disruption to transport networks, and to the people using them, when dealing with incidents. Closing highways, runways, railways, ports or docks can have far-reaching effects.

If people are held within the transport network, including stations or hubs, there can be an impact on public welfare. Unless they are kept informed, people may decide to self-evacuate, potentially along roadways or train tracks.

Prolonged closures may lead to a build-up of passengers or traffic at the scene. This overcrowding can have an impact on the emergency response and place members of the public at risk.

The impact of the incident on people not involved in the incident should be considered. Closing transport hubs, isolating power, stopping trains or closing airspace may have implications at other locations. Border control and repatriation may need to be considered if disruption is caused to
international transport networks.

**Hazardous materials**

Failure to remove or isolate people from the scene of contamination and point of release of hazardous materials will significantly increase the impact upon their health, and the likelihood of further contamination occurring. Contamination of people may occur via their unprotected respiratory system.

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**Control measure - Evacuation and shelter**

**Control measure knowledge**

‘Evacuation’ is the immediate and urgent movement of people away from a threatened or existing hazard. The response of people to emergencies can vary from inaction to panic; a key factor in maintaining control and order when conducting evacuation is communication.

The need to evacuate or shelter people could be due to:

- An act of terrorism
- The actual or threatened release of hazardous substances
- Fire
- An unstable or collapsed structure
- The risk of explosion
- Severe weather, including widespread flooding
- Environmental contamination
- Transport incidents

When producing Site-Specific Risk Information (SSRI) and developing incident plans, the evacuation or shelter of large numbers of people should be considered. Planning should be carried out with statutory resilience forums who may be able to mobilise resources to assist during the emergency phase of an incident.

Personnel at the incident and in the fire control room should develop a joint understanding of risk when determining if there is a need for evacuation, shelter in place or ‘stay put’. To achieve this effectively, robust communications should be established and maintained throughout the incident. For further information refer to: [Have a communications strategy](#).
The decision to evacuate, and the size of the area to be evacuated, should be based on a joint understanding of risk which is agreed by the Strategic Co-ordinating Group (SCG). As a decision to evacuate is likely to affect multiple agencies, they should all be consulted if possible. If this is not possible, all agencies involved should be informed as quickly as possible.

The police are normally the lead agency for evacuation, and are likely to make a decision to evacuate in consultation with the local authorities. However, the police can only recommend evacuation and have no power to force responsible adults to leave their homes, with the exception of evacuation of the inner cordon for a terrorist incident.

In any decision about whether or not to evacuate, the overriding priority should be the safety of the public and emergency responders. It is possible that evacuating people to the open may put them at greater risk; buildings may provide protection against some types of risks and the public may be safer seeking shelter in a suitable building.

Unless they are provided with specific instructions, people are likely to follow the most obvious or familiar egress route; this could result in a stampede, evacuating towards the hazard, or result in people being trampled.

Evacuation time comprises the time taken for individuals to move towards an exit, plus the time taken before movement is initiated – the time taken to recognise there is a danger and to decide on the most appropriate course of action. Communication and sharing of information should aim to enhance the effectiveness of evacuation. For further information refer to Warn, inform and advise people.

For further information, refer to the Cabinet Office publication, Understanding Crowd Behaviours: Supporting Evidence

Once implemented the evacuation plan should be regularly reviewed, to take into account:

- The development of the incident
- Changes in weather conditions
- Information gathered from emergency responders and the public
- The effectiveness or impact of the evacuation

**Fires in buildings**

Taller or larger buildings are likely to have scalable evacuation plans, with some people remaining in relatively safe areas of the building during firefighting operations.

To prevent access, egress and escape routes becoming compromised, compartmentation and suitable routes for firefighting teams should be identified and secured at the earliest opportunity. Building signage should not be relied on for suitable access and egress routes.
Access and egress routes should be suitably and sufficiently protected by:

- Using personnel with appropriate firefighting media
- Making use of the building’s fixed installations
- Maintaining the structure and integrity of fire-protected areas

The primary objective of an evacuation strategy is to ensure that in the event of a fire, the people in the building can reach a place of ultimate safety outside the building. The evacuation procedures are an essential part of the overall fire strategy. There are two basic categories of evacuation procedure:

**Total evacuation**

Total evacuation of people to a place of ultimate safety, by either simultaneous or phased procedures:

- Simultaneous evacuation
  - The default approach, where it is unreasonable to expect people to remain in the building for a prolonged time when there is a fire
- Phased evacuation
  - A common approach adopted in high-rise premises where the storeys are separated by fire resisting construction, or in certain atrium buildings
  - The first people to be evacuated are all those on the storey most immediately affected by the fire, and those on other storeys with impaired ability to evacuate, unless their personal emergency evacuation plan (PEEP) has determined otherwise
  - The remaining storeys are then evacuated, usually two storeys at a time, at phased intervals

**Progressive evacuation**

Progressive evacuation of people, initially to a place of relative safety within the building where they can remain or, if necessary, complete the evacuation to ultimate safety as part of a managed system. There are two categories of progressive evacuation:

- Progressive horizontal evacuation
  - The process of evacuating people into an adjoining fire compartment on the same level, from which they can later evacuate to a place of ultimate safety
- Zoned evacuation
  - A common approach adopted in large retail developments, where an operational loss could be created by evacuating a large building for a relatively small fire
  - A zoned evacuation is achieved by moving people away from the affected zone to an adjacent zone; for example, in a shopping centre where people would be moved to the adjacent smoke control zone while the fire-affected zone was brought under control
Evacuation or escape strategies

Evacuation or escape strategies will vary; the responsible person should be able to provide information about them. Some buildings have a policy to simultaneously evacuate when hearing an alarm, others maintain a ‘stay put’ or ‘defend in place’ policy and some adopt a vertical phased approach.

The ‘stay put’ policy, as detailed in the Local Government Association’s Fire safety in purpose-built blocks of flats may be considered appropriate, based on the levels of fire resistance for compartment walls and floors. The use of evacuation or escape strategies that are based on ‘stay put’ or ‘defend in place’ policies should be kept under review throughout the incident.

When determining the evacuation strategy the following factors should be considered and reviewed to maintain the safety of people:

- That there is a clear passageway to all evacuation routes
- The risks to people exiting along firefighting access routes
- Exposure to potential hazards
- Whether any people require assistance to evacuate
- If the evacuation routes are clearly marked, and are as short and direct as possible
- Whether there are enough exits and routes available for all people to evacuate
- If emergency doors open easily in the direction of evacuation
- Whether there is emergency lighting provided where needed
- If training has taken place about using the evacuation routes
- Whether a safe assembly point has been designated and communicated

Evacuation of medical facilities

Medical facilities are likely to contain patients, visitors and staff. These people will have varying levels of familiarity with their surroundings and the evacuation procedures. It is also likely that some people will be impaired by physical or mental disabilities.

Fire and rescue service personnel may be able to provide assistance to evacuate non-ambulant patients.

Medical facilities may have more than one evacuation strategy. This may include simultaneous evacuation, where people immediately go to a designated assembly point, ‘horizontal phased’ or ‘vertical phased’ evacuation.

Methods of horizontal phased evacuation are particularly useful when dealing with seriously ill or infirm people, who may require life support equipment, medical gases or strict environmental conditions for their well-being.
Hazardous materials

The aim should be to reduce the impact of a hazardous material on members of the public not originally involved in the incident, but who could potentially become involved as the material moves from the incident. This may be achieved by implementing an evacuation or shelter in place plan.

An assessment about which course of action is correct for protecting the public should be made by a hazardous materials adviser (HMA), and provided to the incident commander. For further information about the information that will influence this assessment refer to:

- [Hazardous materials - Assess impact of release or spill](#)
- [Hazardous materials – Safe and controlled approach: Hazardous materials](#)

For information regarding contaminated casualties, refer to [Hazardous materials - Controlled evacuation of contaminated casualties](#).

Strategic actions

Fire and rescue services should:

- Liaise and consult with developers, owners, occupiers and responsible persons of buildings, to provide expert safety advice and to develop tactical guidance and support arrangements for the associated hazards and actions to take to confirm the occupier’s evacuation policy or strategy

- Ensure that personnel have access to pre-determined evacuation plans for buildings or locations that have them

- Develop and test emergency plans and support arrangements for evacuating large numbers of affected people, in conjunction with statutory resilience forums and partner agencies

- Participate in pre-planning and exercises for evacuating medical facilities
- Provide on-scene mapping facilities to enable risk areas to be identified and actions to be planned and documented

- Consider liaising with partner agencies who have air monitoring capabilities, public communication responsibilities and specialist knowledge on issues relating to public health
Tactical actions

Incident commanders should:

- Determine whether people should be advised to evacuate, shelter in place or 'stay put'

- Establish communication arrangements to allow information to be gathered from and passed to fire control rooms

- Identify the most appropriate evacuation plan and record rationale for decision

- Establish the availability of pre-arranged evacuation strategies and policies

- When evacuation is necessary, identify the number of people affected and develop a plan

- Consider people who need assistance to evacuate, for example, disabilities or medical needs

- Establish a safe evacuation point and consider safe egress routes and refuge points or areas

- Assess the suitability of the location for people to shelter in place

- Review the use and effectiveness of evacuation, shelter in place or 'stay put' plans throughout the incident, to ensure they remain valid

- Consider the impact of the incident on the local community and consider a shelter in place strategy

- Ascertain the likely impact of people on emergency responders

- Make contact with the relevant authorities for advice on evacuation arrangements and progress

Control measure - Seek assistance for dealing with people
Control measure knowledge

Fire and rescue services may require assistance for dealing with people at incidents. This assistance could include:

- Providing welfare or shelter
- Controlling members of the public, including crowds
- Dealing with unpredictable, aggressive, violent or illegal behaviour
- Safeguarding of children and vulnerable adults

Welfare or shelter arrangements may be required for people affected by the incident, either directly or indirectly.

Food and water may need to be provided to people who are not able to leave the surrounding area, for example, where transport networks have been affected. Or, depending on the scale and nature of the incident, it may be necessary to identify and arrange suitable locations and logistics to provide shelter for large numbers of people.

The following publications provide detail about such arrangements:

- HM Government’s Evacuation and shelter guidance
- HM Government’s Emergency Response and Recovery
- HM Government’s website for Emergency preparedness

Members of the public may put themselves at risk, or encourage others to put themselves at risk – for example, to attempt to rescue a person, animal or property. Communicating with people about the risks they are taking or are contemplating taking may prevent them from entering the hazard area.

However, it may be necessary to request that the police control members of the public. The safety of fire and rescue service personnel should be maintained, even if they are faced with the moral pressure to act.

Strategic actions

Fire and rescue services should:

- Liaise with local authorities and partner agencies to pre-plan for public shelters, as part of the community risk assessment
- Assist with pre-planning local support service arrangements for people affected by
emergencies

- Have processes and arrangements in place for requesting local emergency support services
- Have processes and arrangements in place for the safeguarding of children and vulnerable adults

**Tactical actions**

Incident commanders should:

- Consider the welfare or shelter arrangements for people directly or indirectly affected by the incident
- Request police assistance to control members of the public, including crowds
- Consider adopting defensive tactics if people are displaying unpredictable, aggressive, violent or illegal behaviour
- Request police assistance for dealing with unpredictable, aggressive, violent or illegal behaviour
- Request support for people affected by the incident, from the local authority, partner agencies or police family liaison officers
- Consider the need for safeguarding of children and vulnerable adults
- Provide timely advice to members of the public

⚠️ **Control measure - Warn, inform and advise people**
Control measure knowledge

Under the Civil Contingencies Act, Category 1 responders are required to put arrangements in place to make information available to the public about civil protection matters and to maintain arrangements to warn, inform and advise the public in the event of an emergency.

In some situations, information provided to the public may have to be restricted, especially if its release could cause panic and potentially result in further harm to people.

Information communicated to, or withheld from, people can influence their behaviour. Communicating with people, particularly those in groups or crowds, is essential to maintain order and manage behaviour.

In emergencies, the key communications objective will be to deliver accurate, clear and timely warnings, information and advice to people, so they feel confident, safe and well-informed.

Warnings, information and advice should:

- Be specific and clear

- Be timely and accurate

- Come from a credible source and be verifiable

- Convey the nature and extent of the danger

Warnings, information and advice can be delivered in many ways including:

- Face-to-face

- Visiting premises – residential and commercial

- Media and social media announcements

- Public announcements in areas such as public buildings, shopping centres, sports venues and transport networks
Strategic actions

Fire and rescue services should:

- Develop guidance and support arrangements to effectively communicate with people during emergency incidents

- Develop arrangements with partner agencies for the delivery of warnings, information and advice during emergency

- Develop guidance and support arrangements for the effective use of media services

Tactical actions

Incident commanders should:

- Use the most effective methods for communicating with people who are either directly or indirectly involved in the incident

- Consider the use of media, social media and other methods to communicate with people

- Establish a media liaison point and brief a nominated media liaison officer

Hazard - Non-specialist personnel inadvertently attending a marauding terrorist attack

Hazard Knowledge

Marauding terrorist attacks (MTA) are fast-moving, violent incidents where attackers move through a location aiming to find and kill or injure as many people as possible; they usually occur without any notice or warning.

During the initial stages of an MTA, it is possible that fire and rescue service personnel arrive on-
scene in the belief that they have been mobilised to a non-maliceous incident. Although they may feel under moral pressure to assist members of the public, staying on-scene could lead to the death or injury of personnel.

An MTA may include a wide range or combination of methodologies, from lower sophistication to higher complexity attacks. This could involve one or more of the following attack methodologies:

- Bladed weapon
- Vehicle as a weapon
- Fire as a weapon
- Improvised explosive devices (IEDs) or grenades
- Firearms
- Siege, including the taking of hostages to prolong an attack or impede rescue operations
- Chemicals, such as acids or alkalis

MTAs may include a combination of approaches, such as:

- A lone attacker, multiple attackers or multiple groups of attackers
- Arrival at a location on foot, in a vehicle or an attack perpetrated by insiders
- Entering a location without using force, or forcing entry using an IED, a vehicle, coercion of someone with access to the location, or a combination of these actions

In the initial stages of an MTA, it will be extremely difficult to get an accurate picture of what is happening. It may take some time to confirm that the incident is a determined attack involving a single or multiple attackers.

It may be difficult to determine the location and number of attackers, or even to determine who they are in a crowd of people. It is feasible that the emergency services have been purposefully lured to the location as targets for the attackers.

Control measure - Apply the JESIP ‘STAY SAFE’ principles

Control measure knowledge

Personnel who have not been trained to respond to a marauding terrorist attack (MTA) should take appropriate action if they inadvertently attend a suspected MTA incident. If this is realised soon enough and it is safe to do so, personnel should withdraw immediately to a place of safety and
notify the fire control room.

If personnel are unable to withdraw, they should consider their own safety and that of other emergency responders and the public when applying the JESIP ‘STAY SAFE’ principles for non-specialist responders, in order to:

- See
- Tell
- Act

The ‘Tell’ element of the principles includes communicating with the fire control room, ideally using the JESIP M/ETHANE model. This will enable the fire control room to:

- Appropriately control further mobilisation to the hazard area
- Relay the M/ETHANE information to the police
- Gain an understanding of the numbers and location of personnel involved in the incident
- Contact the duty National Inter-agency Liaison Officer (NILO)

As the police will assume control of an MTA incident, personnel should follow any advice or instructions provided by the police, either via the fire control room or from on-scene police officers.

The fire control room should determine if any personnel are en route to or attending other incidents in the area, that could become involved. If so, they should immediately notify the commanders of those incidents so that they can consider using alternative access or egress routes to avoid the suspected MTA incident.

The fire control room should keep commanders of other nearby incidents updated, so that they can determine the necessity to carry out a tactical withdrawal of responders.

The fire control room should also notify the police about any fire and rescue service resources that are en route to or attending other incidents in the area.

If safe to do so, personnel should encourage other people to follow the JESIP ‘STAY SAFE’ public advice to:

- Run
- Hide
- Tell

**Strategic actions**

Fire and rescue services should:
• Ensure that all operational and fire control personnel have access to the current JESIP ‘STAY SAFE’ principles for non-specialist responders

• Ensure that all operational and fire control personnel have access to the current JESIP ‘STAY SAFE’ public advice

• Consider participating in multi-agency training and exercises for MTA incidents

**Tactical actions**

All personnel should:

• Immediately notify the incident commander or the fire control room if they suspect the incident is an MTA

• If safe to do so, withdraw to a place of safety and notify the fire control room of their location

• Consider their own safety and that of other emergency responders and the public when applying the JESIP ‘STAY SAFE’ principles for non-specialist responders

• If safe to do so, encourage other people to follow the JESIP ‘STAY SAFE’ public advice

• Follow any advice or instructions provided by the police, either via the fire control room or by on-scene police officers

Fire control personnel should:

• Appropriately control further mobilisation to the hazard area

• Relay M/ETHANE messages to the police control room

• Gather information about the numbers and location of personnel involved in the incident

• Contact the duty National Inter-agency Liaison Officer (NILO)
• Relay advice or instructions provided by the police to the on-scene incident commander

• Notify commanders en route to or attending nearby incidents about a suspected MTA incident and its location

• Make the police aware of fire and rescue service resources that are en route to or attending nearby incidents

Hazard - Public disorder

Hazard Knowledge

Public order may go through phases, perhaps starting with tension in a community, group or crowd. This could turn into disorder, with actions including disruption, damage or violence. It may then deteriorate to serious disorder or rioting, with violent protest, criminal damage, looting and the use of weapons or fire.

Disorder may be contained at a single location, but may spread to a wide geographic area, sometimes at a fast-moving pace. It can range from being loosely organised or opportunistic, through to being well-organised, sometimes using social media.

The hazards presented to personnel in situations of disorder or serious disorder include:

• Thrown or dropped objects such as:
  ◦ Bricks
  ◦ Stones
  ◦ Concrete blocks
  ◦ Petrol bombs
  ◦ Fireworks

• The use of knives, firearms or improvised weapons such as:
  ◦ Hand tools
  ◦ Vehicles
  ◦ Aggressive dogs

• Incendiary devices

• Fire setting, with the fire setters sometimes remaining in the area to observe firefighting or set more fires
- Booby traps
- Ambushes
- Damage to, or theft of, fire and rescue service equipment and vehicles
- Improvised obstructions or barricades to delay or trap emergency responders and their vehicles
- Biological hazards (biohazards), especially if there have been physical attacks on people

Although those participating in public disorder may not target the fire and rescue service, personnel should be aware that their role may put them at risk during disturbances. Lone working of personnel should not be allowed if there is a risk of public disorder.

Police resources may be limited during public disorder and may be unable to attend when requested. This should be considered during the risk assessment of fire and rescue service activities.

Control measure - Secure equipment and vehicles

Control measure knowledge

To reduce the risk of damage to, or theft of equipment, the minimum amount of equipment should be used to safely resolve an incident. It may not be advisable to set up equipment stations, and fire and rescue service equipment and vehicles should be secured. Security may be provided by personnel, or by using police assistance.

It may be necessary to deviate from normal procedures, for example removing and restowing hydrant keys and bars to prevent their theft or misuse.

Strategic actions

Fire and rescue services should:

- Ensure their vehicles can be secured to prevent theft of the vehicles or the equipment contained in them
**Tactical actions**

Incident commanders should:

- Consider deploying the minimum amount of equipment during public disorder
- Maintain the security of fire and rescue service equipment and vehicles during public disorder

**Control measure knowledge**

It may be feasible to plan for known areas or events where public disorder has previously occurred, or may be predicted to occur. Regularly updated intelligence and information from the police should be used to inform the risk assessment, as well as providing advice on the safety of personnel. Incidents should be approached with caution, and appropriate tactics used.

Incident commanders should maintain situational awareness, including changes in the behaviour of members of the public gathered at the scene. For example, a sudden dispersal of a crowd may precede a planned attack on emergency services or escalation in the disorder.

The incident commander should consider requesting the advice or assistance of the National Inter-agency Liaison Officer (NILO).

If personnel are at threat of, or subjected to, violence or aggression it may be necessary to withdraw fire and rescue service personnel, vehicles and equipment to a safe location.

Operational activities may have to be adjusted to allow for the rapid withdrawal of personnel, or for alternative means of transport from the scene provided. For example, the use of an appliance pump, hose reels or other equipment attached to an appliance may prevent rapid withdrawal; therefore, alternative procedures to deliver water may need to be considered.

Vehicles should be positioned to allow for rapid withdrawal, for example in clear sight of egress and facing the route away from the scene. It may be not be possible to retrieve all equipment when withdrawing, but the potential for its illegal use should be taken into account when prioritising its
recovery.

**Strategic actions**

Fire and rescue services should:

- Participate in multi-agency planning and training for public disorder

**Tactical actions**

Incident commanders should:

- Establish and communicate the signal and plan for rapid withdrawal during public disorder

- Gather regularly updated information and intelligence from the police

- Consider requesting advice or assistance from the National Inter-agency Liaison Officer (NILO)

- Maintain situational awareness with regard to the behaviour and movement of members of the public gathered at the scene

- Ensure operational activities allow for rapid withdrawal of personnel, vehicles and equipment during public disorder

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**Control measure - Avoid confrontation**

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**Control measure knowledge**

When attending, incidents where there may be violence or aggression, personnel should consider how their behaviour may be perceived by the people present.
Confrontation may be avoided by:

- Not making prolonged eye contact
- Using open body language
- Not taking up postures that may be perceived to be aggressive or threatening
- Maintaining an appropriate distance from the people involved
- Remaining calm

**Strategic actions**

Fire and rescue services should:

- Have a process in place for informing fire control rooms that personnel may become affected by confrontation or public disorder
- Ensure personnel are aware of procedures if involved in confrontation or public disorder

**Tactical actions**

Incident commanders should:

- Ensure personnel avoid confrontation if there is a risk of violence or aggression
- Inform the fire control room that personnel may be affected in confrontation or public disorder

**Hazard - Failing to make resources ready when closing an incident**

**Hazard Knowledge**

The responsibilities of the incident commander for managing operational resources continue through the closing stages of an incident.

Resources need to be made ready for redeployment; failing to correctly do this could result in
mobilisation to another incident in an inappropriate state. Before being deemed fully-operational, equipment will need to be appropriately:

- Accounted for
- Made-up
- Replenished
- Decontaminated
- Tested

Communication between the commander of appliances, personnel and fire control room is essential throughout this phase to ensure all parties have knowledge of the operational status of appliances and personnel before leaving the incident ground. Failing to communicate this information could result in the fire control room incorrectly deploying vehicles and personnel to another incident.

Control measure - Communicate the availability of resources

Control measure knowledge

Effective communication is important at all incidents. Accurate information should pass between the incident commander, personnel and the fire control room. The incident commander also has a duty to make sure messages and information are exchanged with the fire control room to enable them to maintain and record an accurate picture of an incident and the availability of operational resources.

Incident commanders should consider whether vehicles can remain at the incident ground, while being available for deployment to other incidents. This decision should be made following a risk assessment and the fire control room should be informed of any availability status change. The personnel of available vehicles at incidents should be informed and deployed only in accordance with their current status.

The fire control room will generally have a more accurate interpretation of the availability of resources across the service than personnel attending operational incidents. Information on the availability or commitment of resources will support the fire control room in determining covering moves, or the reallocation of resources from one incident to another.

The decision to release resources should consider operational priorities, the length of time
personnel have been deployed at the incident, and their roles.

**Strategic actions**

Fire and rescue services should:

- Ensure that systems enable real-time recording of the status of operational resources, including fire and rescue service vehicles and personnel

**Tactical actions**

Incident commanders should:

- Regularly update the fire control room on the availability status of operational resources
- Consider whether operational resources can be released from the incident

Fire control personnel should:

- Identify the availability of operational resources when considering redeployments

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**Control measure - Manage, inspect and test equipment**

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**Control measure knowledge**

At the conclusion of an incident vehicles and equipment should be returned to operational readiness with appropriate speed. Operational equipment should be inspected and tested according to service policy and any test results must be recorded. Cleaning or decontamination of equipment should be completed and the vehicle should be fully restowed. Where appropriate, any defective equipment should be clearly marked and, where necessary, removed from use.

Any equipment defects or deficiencies should be recorded, before leaving the incident ground and, where appropriate, the fire control room should be informed. The appliance commander is
responsible for all personnel and equipment stowed on their vehicle.

It may be necessary to leave in place any cordons or signage to provide warnings of residual hazards. The details of this should be recorded, and if appropriate and feasible the equipment should be recovered at a later time.

**Strategic actions**

Fire and rescue services should:

- Have procedures for the post incident inspection and maintenance of operational appliances, equipment and other resources

**Tactical actions**

Incident commanders should:

- Conduct an inventory check and record any defects or deficiencies

- Ensure equipment receives appropriate after use inspection and testing before changing its availability status

- Record details of any equipment intentionally left at the incident ground, and schedule collection of it at an appropriate time

- Consider decontamination of personnel, PPE and equipment prior to redeployment

- Consider the condition and serviceability of PPE when assessing operational readiness for redeployment

⚠️ **Hazard - Failing to leave the incident ground in a safe state**
Hazard Knowledge

At the closure of the response phase to some operational incidents, residual hazards may exist that could cause harm to others if not properly managed. Ideally, the fire and rescue service should not leave without addressing residual hazards. However, there may be some exceptions to this, for example if there is widespread flooding that cannot be resolved.

There may be control measures implemented by the fire and rescue service to reduce risk that will need to be maintained post-incident. These could include immediate threats to safety, security of premises or environmental risks.

It is possible that hazards may not present themselves for some time after fire and rescue service activities have ceased. This could include:

- Reignition of fires
- Collapse of structures
- Unstable natural environment
- Harm to public health
- Damage to the environment

Failing to carry out an appropriate handover to the responsible person, or leaving the incident ground prematurely, could leave behind hazards that are unmanaged or unknown. These residual hazards could result in accidents or injuries.

Control measure - Make an effective handover to the responsible person

Control measure knowledge

At the closing stages of the incident, the responsibility for the health and safety of the site must be handed over to the appropriate person. The reference to a 'safe state' does not imply that hazards no longer exist, but that interim or permanent control measures are in place to manage them. Knowledge of these should be handed over to the person responsible for their future management.

In the closing stages, important factors include:

- Risk management
• Transfer of health and safety issues to an appropriate person
• Welfare of people and teams
• Arranging or managing all relevant investigations
• Other post-incident considerations

Competent management of the closure of the incident is as important as the initial actions on arrival at an incident; this includes:

• Facilitating appropriate handovers as the incident reduces in size
• Continued vigilance regarding the hazards that continue to exist or may present themselves after fire and rescue service activities have ceased
• Ensuring that site occupiers, neighbours and others who have been, or may be, affected by the incident are kept appropriately informed

At some incidents a responsible person or body will be present to whom the management of these risks can be transferred. The risks may have a wider impact on the public or occupiers of neighbouring premises. There could also be no obvious way of maintaining control measures after fire and rescue service resources leave the incident.

Before finally closing an incident and removing all fire and rescue service resources, the incident commander should consider the following points for their handover:

• The need to inform those affected by an incident, such as the responsible person and neighbours that fire and rescue service operations have concluded
• Inform relevant people of any remaining hazards, which includes potential environmental hazards caused by fire and rescue service operations
• Any security issues
• Any fire protection or prevention issues
• The need to leave in place any cordons or signage to provide warnings of residual hazards
• The need to seek specialist advice regarding impacts, or potential impacts, of the incident such as to health and safety, structures or the environment
• Ensure the fire control room are advised that the incident is being closed and given the status of the resources being removed

Where there is a responsible person or body a formal handover of responsibility for the management of risk should be undertaken and a record made; this record may include the following:

• Responsible person's details and time and date of the handover
• Identification of hazards and measures to ensure health and safety arrangements are maintained
• Security issues, particularly where premises are left vulnerable, and who is accepting
responsibility

- Logging decisions made by the incident commander
- Formal acceptance of responsibility by the responsible person

The fire and rescue service may need to secure the personal property of people involved in the incident and ensure that these are handed over to the appropriate authorities. A record should be made of items recovered by the fire and rescue service and to whom these were handed prior to leaving the incident.

**Strategic actions**

Fire and rescue services should:

- Have procedures for handing over responsibility for the safe management of incidents to a responsible person or body
- Have procedures to secure premises and maintain control measures at incidents where no responsible person can be identified

**Tactical actions**

Incident commanders should:

- Report any safety critical issues to every person affected by the incident before leaving the scene
- Consider leaving in place cordons or signage to warn of residual hazards
- Consider seeking specialist advice for any impacts, or potential impacts, of the incident
- Take measures to secure premises where no responsible person can be identified
- Ensure that hazards, potential hazards and control measures are identified when handing over responsibility for health and safety to the responsible person
- Provide updates to the fire control room about closure of the incident and the status of resources
- Inform the responsible person when fire and rescue service activities are completed and all
personnel are at a place of safety

Control measure - Consider community recovery

Control measure knowledge

Supporting communities in the recovery phase of an incident is a key consideration for fire and rescue services whether this involves individuals, families or has a wider impact. The recovery phase should begin at the earliest opportunity following the onset of an emergency, running in tandem with the response to the emergency. Services should work with local partner agencies to develop protocols for community recovery arrangements. Incident commanders should consider what actions can be taken to promote community recovery before leaving the incident and refer people involved to appropriate agencies.

Refer to Emergency response and recovery: Non statutory guidance accompanying the Civil Contingencies Act

Strategic actions

Fire and rescue services should:

- Work with local partner agencies to develop procedures for instigating community recovery protocols
- Have procedures to support incident commanders in identifying agencies that can promote community recovery

Tactical actions

Incident commanders should:

- Promote community recovery and restore normal operations
- Liaise with statutory resilience forums and partner agencies at the earliest opportunity
- Consider community recovery protocols and arrange appropriate assistance prior to leaving the incident
- Protect Critical National Infrastructure and/or local critical infrastructure
Hazard Knowledge

It is important to consider the need to preserve the scene of the incident for investigation. Actions taken at all stages of an incident may affect the preservation of evidence.

Failing to properly secure and manage a scene may allow contamination of the scene, with a resultant loss of evidence. If scenes are not properly managed, this can distort initial findings and prolong subsequent efforts to identify the cause of the incident, and potential offenders.

Investigation of an incident is a complex and specialist task; it is important that the scene is preserved as completely as possible and accurate records kept following the conclusion of the incident. They may be required as evidence in legal proceedings.

The need to investigate should not affect bringing an incident to a safe and satisfactory conclusion, nor interfere with incident objectives and priorities. During an incident, there may be an opportunity to scale down incidents and allow investigators into safe areas, but this should not affect ongoing operations and scene safety should remain a priority. Nominating safe paths to and from the scene will assist in protecting evidence and the safety of investigators.

Allowing evidence to be lost or contaminated, or keeping incorrect or incomplete records of actions, may affect an investigation with serious consequences. Understanding the reasons for investigation helps to establish why failing to preserve a scene can be hazardous. Investigations are required to:

- Help prevent similar events from occurring, by identifying trends
- Enable better targeting of enforcement and advice
- Assist in the prosecution of offenders
- Assist with legal proceedings
- Contribute to national statistics through accurate reporting on the incident recording system (IRS)
- Assist with advising and educating young people
- Assess the effect of fire and rescue service intervention
- Understand the cause of the incident
- Understand the functioning of safety features

Any fire and rescue service action that impedes or prevents investigation affects this process.
Therefore, it is the responsibility of all responders to support the investigative process which, if successful, may reduce the frequency or severity of incidents, and improve intervention.

Investigating a scene is inherently hazardous. Every person involved in the activity should aim to minimise the risk involved, while performing as full an investigation as possible. Even post-incident, incident commanders should consider the following factors to minimise risk:

- Identify the hazards, assess and record the risks at the scene and establish the appropriate control measures, including:
  - Personal protective equipment (PPE)
  - Respiratory protective equipment (RPE)
- Identify the type, location, extent and circumstances of the incident
- Identify and evaluate available information
- Identify which specialists and other agencies need to be involved

To aid this process, a risk assessment must be carried out by the investigating officer during investigations.

**Contamination of the scene**

Contamination transfer can occur if ‘foreign objects’ are brought inside cordon areas. These objects can include:

- Personal protective equipment (PPE)
- Gloves
- Drink or food packaging
- Cigarettes
- First aid supplies

Any contaminated transfer creates false evidence that could waste significant time and resources to identify, recover and process forensically during the key phase of an investigation.

DNA evidence is robust and can withstand heat, soot contamination and water. However, in many cases, it may not be immediately apparent where the DNA evidence has come from. Any blood injuries to an emergency responder that occur within the inner cordon should be noted and brought to the attention of the relevant agency, particularly in a police-led investigation.

**Loss of evidence**

Evidence at the scene may be lost or compromised by events, including:

- Damage being caused by exposure to the elements
- Disturbance by material being moved from its original position, including by:
Control measure knowledge

Securing the scene and preserving evidence should commence immediately if doing so does not affect safety or the successful conclusion of an incident. Incident commanders should achieve scene security and evidence preservation by establishing and maintaining cordon controls.

Incident commanders should use cordons to keep the public out and maintain control within the inner cordon. A cordon should start as large as practicable until such a time as resources can be released from a scene and the size of the cordon reduced. The police crime scene investigators may search the inner cordon to ensure that any potential evidence is recovered. Other agencies may wish the cordon to be of a specific configuration; incident commanders should liaise with them and balance safety concerns with the needs of investigating agencies.

Only authorised personnel should enter the scene and a clear common approach path must be used for all authorised personnel to protect physical evidence and prevent cross-contamination. Keeping a record of any ‘foreign objects’ taken into the scene by personnel may help to eliminate such items from an investigation.

If there are any doubts about the cause, requests (after the operational phase of the incident has been concluded) to allow occupiers or others to enter a property or access a vehicle should be considered carefully. If allowed, the person must be accompanied and supervised and the actions/people/locations recorded.

Personnel need to be aware that scene preservation will be necessary to enable other organisations to investigate an incident fully. Fire and rescue services should ensure that only personnel required to deal with the incident access the site and that any necessary movement of
casualties, objects and wreckage is minimised.

When fire and rescue service operations are complete, the responsibility for the security of an incident, property and contents will pass to the police or statutory investigation team.

Early liaison to establish the requirements of the statutory investigation team is required. However, the control of the scene should not interfere with any lifesaving activities or fire and rescue service statutory duties.

It is important to control the number of people allowed on the incident site so that evidence such as personal effects are not disturbed, or are disturbed as little as possible. When the situation permits, there should be a careful withdrawal of all non-essential personnel and equipment.

The police may be required to take control of cordons after they are established, and maintain scene logs.

**Strategic actions**

Fire and rescue services should:

- Procure equipment or other supplies that may assist with securing the scene
- Have a record of the equipment issued to personnel, so that it can be eliminated from an investigation

**Tactical actions**

Incident commanders should:

- Secure the scene to ensure evidence is preserved for internal and external investigations
- Inform all personnel of known or likely areas of interest for fire or criminal investigation, so that these can be avoided
- Minimise the number of personnel allowed into the scene
- Minimise the potential for ‘foreign objects’ to be taken into the scene
Preserve the scene for future investigations

Hand over responsibility for the security of premises and removed items to the responsible person or the police

Control measure - Preserve evidence for investigation

Control measure knowledge

Fires, floods or other emergencies can destroy or significantly alter structures, vehicles and objects; key evidence may be lost before the fire and rescue service arrives.

An ongoing incident and the actions of responders can affect evidence required for an investigation. The aim of personnel should be to ensure evidence is not destroyed or disturbed where possible. On arrival, consideration should be given to:

- How fire and rescue service activity may affect any subsequent investigation
- Identifying and prioritising the preservation of evidence that may deteriorate
- Minimising contamination of the scene

If the scene needs to be examined as part of a criminal investigation, it should be carefully preserved to protect evidence. The unintended consequence of simple actions such as washing down equipment after an incident may destroy or damage evidence.

Where evidence cannot be preserved physically, information to support investigations should be captured in other forms. For example, physical evidence noted on arrival, such as broken windows or suspected remains of incendiary devices, should be documented and photographed if feasible.

Once in attendance, the fire and rescue service can ensure that as much evidence as possible is preserved. Identify potential evidence and take steps to preserve or retrieve it where it may be lost during operations. It may be appropriate for the task of collecting physical evidence to be allocated to a police crime scene investigator or fire and rescue service investigator.

It may be necessary to cover windows, doorways or other apertures that allow people to see into the scene inside a building or other structure. For other types of incident scenes, the use of tarpaulins may help to preserve evidence from exposure to the elements.
The decision to leave identified physical evidence at the scene should be carefully considered. To assist with an investigation, if it is essential to move anything, a record of observations should be kept, including details of actions taken and the reason for doing so.

If evidence may be lost if left in place, the fire and rescue service should consider seizing it. There should be a secure storage area in which to keep it, and service procedures for its collection and handling.

Care is needed where insurance claims may be made, as ownership of the property may transfer to the insurance company.

Incident commanders should confirm:

- All information relating to the incident
- Age, gender, name and contact details of the deceased, casualties and witnesses
- Whether life has been confirmed extinct if there is a deceased casualty at the scene
- Details of any agencies in attendance, such as utility companies
- Information recorded by the entry control operative, if required
- Entry route and tactical methods used to effect entry
- Doors and windows open or broken at the time of the incident
- Emergency fire and rescue service vehicle call signs
- Whether personnel have recently attended similar incidents, in case of cross-contamination

Other sources of information, may include:

- CCTV footage from:
  - Emergency responder vehicles
  - Body worn cameras
  - Buildings
  - Control rooms
- Fire or intruder alarm systems at the scene, including any remote, offsite recording systems
- Photographs, videos or voice recordings of the incident, including those:
  - Captured by personnel
  - Captured by witnesses
  - Downloaded to local news sites or social media sites

**Recovery of casualties and their personal property**

If surviving or deceased casualties need to be moved or removed, care should be taken to ensure that their personal property is kept with them. If this is not possible, a record should be kept of the location of items; it may be useful to photograph the items before the casualty is recovered.

The positions of deceased casualties are extremely important for identification purposes and to
help establish cause of death. The removal of bodies should only be carried out under the direction of the police or statutory investigation team.

However, removing the bodies before the arrival of investigation teams or medical teams may be necessary to rescue other casualties, or to prevent the bodies being destroyed by fire or other event. Where this is the case, the position of the body and its location should be noted, labelled if possible and reported to the investigation team.

Personnel who have moved bodies should be questioned and make a statement as soon as possible after the incident, to improve the accuracy of their recall. Whenever possible, an officer should be appointed to map out as accurately as possible the location and position of bodies, bearing in mind that some incidents, may result in them being distributed over a wide area.

Any personal property that fall from the casualty or body while they are being moved should be collected, recorded and kept with the casualty or body if possible, as it may prove to be a means of identification.

Bodies that have been badly burnt become brittle and require careful handling by trained personnel so as to avoid vital evidence of identification or cause of death being destroyed.

It may be useful for photographs or video to be taken of the scene of the incident and the position of the bodies. This can also assist in debriefing purposes.

**Strategic actions**

Fire and rescue services should:

- Develop a joint understanding with other emergency services and agencies regarding the actions required to preserve evidence at the scene of an incident

- Provide equipment or other supplies that may assist personnel in preserving evidence

- Have the ability to securely collect and store any seized evidence

**Tactical actions**

Incident commanders should:

- Consider preservation of evidence when planning, communicating and implementing tactics
Consider requesting assistance from a police crime scene investigator or fire and rescue service investigator for collecting physical evidence.

Consider moving physical evidence to a safe place, away from the effects of the fire or firefighting.

Consider seizing evidence if it may be lost if left in place.

Avoid movement of dials, valves and controls or record original position for investigation purposes.

Gather and record information about physical evidence.

Note issues relating to cordons or physical evidence in the decision log.

Notify investigators if personnel have recently attended similar incidents, which could result in cross-contamination of an investigation scene.

Hazard - Compromised investigations: Ineffective or inappropriate actions

Hazard Knowledge

If a fire and rescue service does not apply due diligence to investigations, it may result in:

- Failure of an investigation
- Failing to hand the investigation over to the appropriate agency
- Delayed handover of the investigation to the appropriate agency
- Reputational damage
- Corporate liability
- Inability to learn lessons in order to:
  - Inform future learning
  - Develop fire and rescue service policies to reduce risk
  - Improve community risk

Handover of an investigation scene
The handover of the scene between agencies, notably after fire and rescue service operations, is an important stage. If cordon control or scene management practices are reduced or neglected during the transition, there is greater potential for evidence to be lost or compromised.

The fire and rescue service may be keen to remove any equipment that is still deployed. However, to avoid further impact on remaining evidence, this should not take place until the scene has been inspected by the agency taking over. It is also possible that the agency taking over the scene may require some of the fire and rescue service equipment to remain in place.

**Record-keeping**

Without good record-keeping, which complies with legislation and regulations, evidence may be challenged or deemed inadmissible.

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**Control measure - Conduct or support investigations**

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**Control measure knowledge**

At any time during or after an operational incident there may be a need to carry out some form of investigation. The types of post-incident investigations include:

- Fire investigation:
  - Cause of fire
  - Fire safety effectiveness
- Health and safety event investigation, such as:
  - Accident
  - Near miss or hit
  - Cause for concern
- Criminal investigation
- Transport-related investigation

Investigations may be carried out by:

- Fire and rescue services
- Police
- Health and safety regulatory bodies
- Environmental agencies
• Local authorities
• Transport enforcing authorities, such as:
  - Air Accidents Investigation Branch
  - Rail Accident Investigation Branch
  - Marine Accident Investigation Branch
• Legal proceedings

Conducting or supporting an investigation should be at the forefront of an incident commander's mind during the dynamic phases of an incident and during post-incident activity. Incident commanders should have a basic understanding of the need to investigate and understand the causes of accidents, injuries and the behaviour of buildings, materials and people.

During any investigation, consideration should be given to an individual's right to confidentiality and understand the needs of individuals including their culture, religious beliefs, ethnic origin, sexuality, disability or lifestyle, have regard to vulnerable adults and children, and have respect for the professional ethics of others. This topic should be included when establishing arrangements for multi-agency investigations.

To ensure that the correct level of investigation is instigated or undertaken, personnel should understand which agencies are responsible for investigations of various types and levels.

Organisations may have to carry out their own investigations depending on the incident type and nature of the investigation required. During an incident, it may be necessary to liaise with other agencies and hand over responsibility for the scene and investigation. To achieve this successfully will require pre-planning and good scene and investigation management practices. Refer to the JESIP publication, Joint Doctrine: the interoperability framework.

The police are responsible for investigating suspected crimes that include activity related to fires and other emergencies. The police have an additional role as the investigative body for the coroner or procurator fiscal; all fatalities fall within the coroner’s or procurator fiscal's remit.

Health and safety regulatory body

The Health and Safety Executive (HSE) and the Health and Safety Executive Northern Ireland (HSENI) are the national independent watchdogs for work-related health, safety and illness. They are independent regulators acting in the public interest to reduce work-related death and serious injury in all UK workplaces.

Work-related fatalities

Where there is a work-related fatality the appropriate procedures should be followed. Health and Safety Executive (HSE) guidance includes:
The Work-related Death Protocol for England and Wales
Work-related deaths: A protocol for liaison (Scotland)
The Investigation of Work-Related Deaths: Northern Ireland Agreement for Liaison

These are multi-agency agreements that the fire and rescue service and other organisations need to abide by when participating in investigations into work-related deaths.

Firefighter fatalities

In the event of a firefighter fatality, fire and rescue services should also refer to the information available in the National Fire Chiefs Council, Death in the Workplace Guidance.

Investigating a fire and rescue service

The police, Health and Safety Executive (HSE), Health and Safety Executive Northern Ireland (HSENI) or other agencies may be required to investigate the actions of a fire and rescue service that has attended an incident. Whether the fire and rescue service under investigation is required to assist with the investigation will depend on the nature of the enquiries.

However, it may be prudent to anticipate this and ensure that arrangements exist where independent investigators, regardless of who they have been appointed by, can be given access to the facilities and information they require. The use of independent investigators may be required if there is the potential for a real or perceived conflict of interest for the fire and rescue service to carry out their own investigation.

Fire and rescue service equipment accidents or faults

If there has been a fault in fire and rescue service equipment, or if using it has resulted in an accident, there should be an investigation. The relevant department in the fire and rescue service, such as a health and safety department, should be notified. The equipment in question should be preserved for investigation and not put back in use until the correct service procedures have been completed.

Handover of an investigation

The handover phase of an investigation may take place directly at the scene or at a later stage, when all the on-scene work has been completed. The nature of a handover will be influenced by the type or level of the investigation, and range from a formal and documented handover to a verbal briefing.

Where a statutory or other agency is taking over, an appropriate level of formality should be employed and all reasonable effort should be taken to avoid the compromise of any evidence recovered.
For non-statutory agencies, local protocols or an assessment of each incident on its own merits will determine the extent to which the fire and rescue service can assist with an on-scene handover or maintenance of scene security. Most commonly, this category includes investigators employed by, or acting on behalf of, insurers.

When the agency or individual taking over the scene does not have a statutory role, the fire and rescue service should satisfy itself that it is appropriate for them to take responsibility for the scene.

The handover should include:

- Incident history, including the actions of the fire and rescue service, members of the public or other emergency responders
- Facts relevant to the investigation, including the methodology and actions taken
- Safety issues, such as risk assessment findings
- Other issues that may have had an impact on the scene or be of relevance to the investigation, such as witness details

For formal handovers, it may be useful to record the names and signatures of the responsible individuals from each agency.

It is important to remember that, where a scene is handed back to the owner or occupier, some of this information may need to be provided to them.

Handing over the scene or investigation may not be the end of fire and rescue service involvement as they may still need to provide support. In this case, fire and rescue service personnel should make themselves familiar with the working protocols of the lead agency.

**Multi-agency investigations**

Investigations may require several agencies to work together. Where possible, a lead agency should have overall responsibility, although this may not always be feasible as roles may change during phases of the investigation.

Time should be taken at the start to ensure a clear appreciation of each agency's role, legal powers and duties, resource commitment and what they are seeking to prove or disprove. Arrangements for areas such as information sharing, administration, media briefings, team updates and so on should also be agreed at this stage. In some cases, it may be necessary to draw up formal written memoranda of understanding (MoUs) for an individual investigation to ensure clarity and agreement on the key areas.

As well as organisational interests, it is important to establish the competences and areas of specialist knowledge of the individuals in the team, and the role they will play in the investigation.
Other agencies may be involved for a limited time to perform specific tasks without being part of the investigation. The nature of their involvement, details of who was involved, and any impact on evidential material should be recorded.

**Liaison**

Scene-based liaison will often tie in to existing local protocols and incident management systems, particularly with statutory agencies who will be familiar with this type of working.

Maintaining liaison away from the scene can be more difficult and the principle of providing single or named points of contact can ensure efficient and appropriate practices. This can be particularly important when managing the exchange or submission of documents, other evidence or where interviews may be requested. Too many informal contacts can compromise the evidence or the investigation due to a lack of formal records.

Where the details of other agencies or individuals are not known at the time, it can be useful to have a generic contact point for initial enquiries that can be readily accessed, for example, through the fire and rescue service website.

In all cases, a managed approach to liaison can ensure that the investigation is progressed effectively; each agency can track their involvement and actions, with decisions set out and explained at a later stage if required.

Having clear protocols for formal and informal liaison processes will assist management of the investigation. Informal processes are particularly open to misinterpretation, where one party may feel they had an 'off the record' conversation only for it to be used subsequently and attributed to them as evidential material.

**Strategic actions**

Fire and rescue services should:

- Develop a joint understanding with other emergency services and agencies regarding the roles and responsibilities for investigations
- Establish arrangements with other emergency services and agencies for the handover of an investigation scene
- Develop appropriate memorandums of understanding (MoU) for investigations with key partners
• Keep accurate records of the agencies and individuals involved in the investigation

**Tactical actions**

Incident commanders should:

• Report the potential requirement for an investigation

• Support and co-operate with investigations

• Protect the personal rights of individuals subject to or involved in the investigation

• Hand over responsibility for removed items and security of premises to the responsible person or the police

• Liaise with the police and local authority support teams at incidents involving serious injury and fatalities

**Control measure - Accurate record-keeping**

**Control measure knowledge**

Comprehensive report writing is a key aspect of gathering information and intelligence at an incident. It is important that reports are accurate, clear and unbiased as they will support further research, formal investigations and statistical content.

Good record-keeping is particularly important in any investigation. Log books can be used for effective and methodical data gathering; this could take the form of a contemporaneous notebook that can be referred to when providing evidence in court. All personnel should be aware that they may be required to give statements.

Accurate records and statements may come from a number of sources, including:

• Written logs made by the fire control room
• Voice recording of critical messages or calls
Photographs or videos made by personnel
- Security photographs or videos from on-site equipment or CCTV

As some security systems will overwrite recordings, there should not be a delay in obtaining copies of any photographs or videos.

Written reports can consist of:

- Informal contemporaneous notes:
  - Made at the time of an incident or event, or as soon as practicable, while the facts of the situation are still fresh in the mind of the person making the record
  - Where operationally practicable, notes and records should be written in ink
  - Consider creating a permanent record of other notes, such as photographing breathing apparatus (BA) entry control boards
  - Notes have a legal significance in that they can capture more detail than a person may recall at a later date

- Formally structured data gathering documents
  - Notes made on unofficial materials or papers should be transcribed onto an official form of record as soon as practicable after the event
  - The original form of the note must be retained and disclosed if required

- Contemporaneous notebooks, as issued to officers
- Sketch plans, diagrams and photographs:
  - Can include the layout of a building or compartment, positions of people, vehicles or sectors, and are considered to be equivalent to a written record or note

All types of records should be signed and dated by the person creating them to enable their use within a formal legal context if required.

Decision logs can also be used to maintain a record of decisions and rationale for actions. Recording evidential material and the processes followed can be very important for formal investigations.

Witness statements, including those of attending personnel, should be made. Fire and rescue services may decide to use a template approach to ensure witness statements form an objective and personal recollection of events, rather than opinions or unfounded conclusions. The names and location of witnesses should be obtained and recorded for interviews. It may be necessary or appropriate to start interviewing during an incident.

As part of the investigation process, personnel may be asked for witness statements which should be given as soon as possible. Debriefing of any incident may form part of the investigation and should be recorded.
Strategic actions

Fire and rescue services should:

- Provide a means of capturing and securing records, statements and other evidence
- Ensure record-keeping complies with current legislation or regulations

Tactical actions

Incident commanders should:

- Record all relevant incident information in an appropriate format
- Collate and secure records from the incident and witness statements
- Record statements from relevant people as soon as practicable
- Keep decision logs, that include a record of decisions and the rationale for actions
- Participate in debriefings that form part of an investigation