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NFCC National Fire Chiefs Council

National Operational Guidance

National Operational Guidance: Scheduled review

National Operational Guidance topic	
National Operational Guidance: Environmental protection (Second edition, version one)	
Change originator	
NFCC Fire Central Programme Office – National Operational Guidance content team	
Change requested	
National Operational Guidance is subject to regular review. The Environmental Protection Handbook has recently been updated and republished as Foundation for environmental protection. Therefore, this review is to ensure the guidance is aligned and linked to the foundation publication. It has also included references to legislation that has been updated since the publication of the guidance.	
Consultation process	
Open consultation for six weeks	
Changes proposed	**Rationale for change**
Terminology to be brought into line with the National Operational Guidance style guide.	Provide a consistent style and terminology across the guidance framework.
Appropriate content of strategic and tactical actions relocated to control measure knowledge.	A general theme in the original structure of the guidance was for much of the control measure knowledge to be contained in the strategic and tactical actions.
Rationalise the control measure against each of the hazards.	Thirteen control measures are duplicated in the guidance.
Links to Environmental Protection Handbook updated.	Links updated to point to the newer Foundation for environmental protection.
Elevate the hazard *Biosecurity* from *Water rescue and flooding* to *Environmental protection*.	Biosecurity is an all incident hazard and therefore should be elevated for inclusion in *Environmental protection*.
New control measure *Risk management: Environmental risks* against the hazard of *Polluting materials.*	Content previously appeared in the introduction to the guidance. However, in keeping with its 'parent' control measure in the Corporate guidance for operational activity guidance, this control measure will now provide appropriate strategic and tactical actions.
New control measure *Risk assessment at an incident: Environmental risks* against the hazard	Much of this content previously appeared in the introduction to the guidance. However, the implied

of *Polluting materials*.	strategic and tactical actions lend themselves better to being structured as a control measure. This contains statutory obligations for fire and rescue services.
Instances of the tactical action *Carry out an environmental risk assessment* removed.	This is a control measure in its own right.
Control measure *Absorption*: • Fire water run-off removed from strategic actions • Cost benefit analysis removed from tactical actions	The use of absorption for fire water run-off does not need to be explicitly detailed. The cost of dealing with materials that have been used for the absorption of polluting materials is not an operational consideration.
Create a combined control measure, *Treatment of polluting materials*, to replace two small control measures for: • *Aeration* • *Treatment*	Aeration is a form of treatment and the supporting strategic and tactical actions were the same.
Strategic action for memoranda of understanding added to the control measure *Treatment of polluting materials*.	Treatment is not a core fire and rescue service activity, which may result from requests for assistance from other agencies.
Focus on fire water run-off removed from the control measure *Disposal*.	Provide more generic information about polluting materials.
Create a combined control measure, *Minimise physical damage to the environment*, to replace three small control measures: • *Defined paths and tracks* • *Liaison with conservation bodies* • *Operational risk information plan (Nature conservation sites)*	Improve guidance through combining control measures that may all be required for dealing with the hazard. Also remove duplicated content about legal responsibilities that now appear in the *Corporate guidance for operational activity*.
Control measure knowledge about high-volume pumps added to the control measure *Extinguish*.	To better reflect the use of the control measure in controlling the hazard.
Create a new hazard of *Polluting materials: Fire-related incidents* to contain the topics of: • Smoke plumes • Fire water run-off • Firefighting foam	To bring together topics that had been presented as individual hazards, as they often co-exist at an incident, such as a fire in a waste site
Create a new combined control measure of *Control the environmental impacts of fire-related incidents* to contain smaller control measures for: • Extinguish the fire • Removal or separation of materials	Improve guidance through combining control measures that may all be required for dealing with the hazard.

involved in fire Also includes a new subheading for *Multi-agency response to smoke plumes.*	
Create a new combined control measure of *Recycling or reduction of fire water*, which were previously separate control measures.	Improve guidance through combining control measures that may all be required for dealing with the hazard.
Create a new combined control measure of *Use, containment and substitution of firefighting foam*, which were previously separate control measures.	Improve guidance through combining control measures that may all be required for dealing with the hazard.
Create a new 'child' control measure of *Controlled burning: Environmental considerations.*	The control measure *Controlled burning* currently appears in Fires and firefighting, Fires in waste sites and Environmental protection. A 'parent' control measure should remain in Fires and firefighting, with a tailored 'child' control measure appearing in other guidance.
Title of control measure *Diversion* changed to *Environmental protection response to a leak from a high pressure oil pipeline.*	The control measure contents and title needed to be expanded to cover options in addition to diversion, which had incorrectly been published in the hazard knowledge.
Governance process	
NFCC Operational Guidance Forum NFCC Operations Committee NFCC Steering Group	
Impacts on National Operational Guidance and other products	
Impacts to other pieces of guidance have been identified: • Hazardous materials guidance – the control measures for the hazard *Environmental harm* will need to be updated in alignment with this guidance • In readiness, the hazard *Biosecurity* and its control measures have been omitted from the draft version of the reviewed standalone *Water rescue* guidance • Fires in waste sites guidance – the hazard Fire water run-off and its control measures should be removed from the Fires in waste sites guidance as they are duplicate components of the Environmental protection guidance • Corporate guidance for operational activity – add *Biosecurity* to the SSRI control measure as a sub-bullet to *Environmental risk* Updates to related: • Training specification • Scenarios	

National Operational Guidance

Environmental protection

To provide feedback on this draft guidance please submit your comments at https://www.smartsurvey.co.uk/s/EnvironmentalProtection2021/

Review 2021

For consultation

Contents

Introduction

At an incident, the highest priority for fire and rescue services will always be the safety of the public, personnel and other emergency responders. They must also take into account the potential damage to the environment, caused by the incident or the response to it.

Effective and informed action by personnel can reduce the environmental impact of incidents and protect public safety. This guidance sets out the hazards that may be encountered and the control measures that should be considered to protect the environment. It does not give information on the specific risks from hazardous materials, which can be found in National Operational Guidance: Hazardous Materials.

This guidance is supported by the Foundation for environmental protection, which was jointly produced by the environmental agencies and the UK fire and rescue service.

Environmental responsibilities

Responsibility for protecting the environment in the UK rests with a number of organisations including:

- Environment Agency in England
- Natural Resources Wales
- Scottish Environment Protection Agency
- Northern Ireland Environment Agency

Each has similar duties and powers to protect and improve the environment, with some differences in responsibilities. The term 'environmental agencies' is used in this guidance to refer to these organisations.

Nature conservation bodies are the enforcing authority for open land such as sites of special scientific interest (SSSI), specific areas of conservation and special protection areas. These bodies include:

- Natural England
- NatureScot
- Natural Resources Wales
- Northern Ireland Environment Agency

The Maritime and Coastguard Agency (MCA) is responsible for pollution from shipping and offshore installations, such as oil rigs. The Secretary of State has a power to extend marine responsibilities if it is considered to be in the national interest. For more information refer to Foundation for the environment - Marine incidents.

Local authorities have environmental responsibilities, including the impact of smoke from a fire and from vehicle emissions. They deal with complaints related to noise, litter and odour for sites not regulated by environmental agencies and most fly tipping incidents. For more information refer to Foundation for the environment - Role of local authorities.

Environmental legislation

Under the following regulations, it is an offence to cause or knowingly permit the release of pollution to ground or surface waters. This is unless the release is allowed by an environmental permit or exemption.

- The Environmental Permitting (England and Wales) Regulations

- The Environmental Authorisations (Scotland) Regulations

Note that similar regulations are under development in Northern Ireland; in the meantime separate legislation applies, including The Water (Northern Ireland) Order regarding discharge consents and water pollution enforcement, and the Environmental Better Regulation Act (Northern Ireland).

To cause must involve an active operation or the failure to take action. To knowingly permit involves the failure to prevent pollution where there is knowledge of it occurring.

The regulations do allow a defence where fire and rescue service actions cause pollution, but the following three criteria must all be met:

- A discharge is made in an emergency to avoid danger to human health
- All reasonably practicable steps were taken to minimise pollution
- The relevant environmental agency is informed of the incident as soon as possible

For more information refer to Foundation for environmental protection - Fire and rescue services acts and orders.

Under the following regulations, fire and rescue services must take steps to prevent or reduce environmental damage:

- Environmental Damage (Prevention and Remediation) (England) Regulations
- Environmental Damage (Prevention and Remediation) (Wales) Regulations
- The Environment Liability (Scotland) Amendment Regulations
- The Environment (Miscellaneous Amendments) Regulations (Northern Ireland)

They must notify the appropriate regulator of:

- Damage to a site of special scientific interest (SSSI)
- Damage to species and habitats outside SSSIs
- Serious long-term damage to ground or surface water that results in a decline in water status under:
    - The Water Environment (Water Framework Directive) (England and Wales) Regulations
    - Water Environment and Water Services (Scotland) Act
    - The Water Environment (Water Framework Directive) Regulations (Northern Ireland)
- Contamination of land by substances or organisms that cause significant risk to human health

In normal circumstances there is no defence against a breach of the regulations. However, there is a defence in exceptional circumstances. For more information refer to Foundation for environmental protection – Legal defences: pollution.

The regulator may require fire and rescue services to carry out preventive and remediation measures. It may also be necessary to pay costs for any environmental damage caused. For protected sites and species, a fire and rescue service may be liable if damage is deliberate or caused by negligence.

It is an offence to release polluting material into a sewer without having consent from the sewerage undertaker. Sewerage undertakers must be informed when accidental releases occur. For more information refer to Foundation for environmental protection - Protecting sewerage and drainage.

Other legislation includes:

- The Control of Major Accident Hazards Regulations
- Radioactive Substances Act
- The Hazardous Waste (England and Wales) Regulations
- The Waste (England and Wales) Regulations
- Water Industry Act
- Water Environment (Controlled Activities) (Scotland) Regulations
- Sewerage (Scotland) Act
- The Special Waste (Scotland) Regulations
- The Environmental Liability (Scotland) Regulations
- The Water (Northern Ireland) Order
- The Water and Sewerage Services (Northern Ireland) Order
- Groundwater Regulations (Northern Ireland)
- The Environmental Liability (Prevention and Remediation) Regulations (Northern Ireland)

Fire and rescue service legislation

Key legislation for incident command is provided in Incident command - Legislation. Fire and rescue services must also be aware of their responsibilities under other relevant legislation that considers the environment.

The Fire and Rescue Services (Emergencies) (England) Order: The Order places a duty on fire and rescue services in England to have the capability to remove chemical, biological, radiological, nuclear and explosive contaminants from people at an emergency. There is also a duty to contain water used for decontamination for a reasonable time. Fire and rescue services must take steps to prevent or limit environmental damage when decontaminating people.

places a similar duty on the Scottish Fire and Rescue Service, as does The Fire and Rescue Services (Emergencies) (Wales) Order and The Fire and Rescue Services (Emergencies) (Wales) (Amendment) Order in Wales, and The Fire and Rescue Services (Emergencies) Order (Northern Ireland) in Northern Ireland. For more information refer to Foundation for environmental protection - The fire and rescue services emergency or additional function orders.

Civil Contingencies Act: As Category 1 responders, fire and rescue services are part of the multi-agency response to civil emergencies. The role of the fire and rescue service under the act is to save life, and to protect property and the environment. To be an 'environmental emergency', an incident must be one of the following:

- Contamination of land, water or air with a harmful biological, chemical or radioactive substance
- Flooding
- Disruption or destruction to plant life or animal life

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 measures contained within this guidance.

Working with environmental agencies

Partnerships between environmental agencies and fire and rescue services are a key part of any strategy to control pollution. This approach is underpinned by national working agreements, memoranda of understanding (MoUs) and local working agreements.

For more information about the responsibilities of environmental agencies refer to Foundation for environmental protection:

- The water environment
- Fisheries, recreation and conservation
- Pollution prevention and legal controls

Fire and rescue services must have systems to advise environment agencies when there is potential for pollution, or when pollution has occurred. For more information refer to Foundation for environmental protection - Incident reporting to environment agencies.

When informed of an incident, environmental agencies will first provide remote advice or assistance. For more information about their response refer to Foundation for environmental protection - Environmental agencies' response to incidents.

Responsibilities for motorways and highways

The overall responsibility for managing motorways and trunk roads lies with the relevant highways agency. Some roads are managed by private companies, and other 'A' roads and all minor roads are managed by local authorities.

A reduced level of pollution control and response exists for locally maintained road infrastructure, and in most cases local authorities can be contacted to obtain pollution control information.

For more information refer to Foundation for environmental protection - Motorway and highway drainage.

Hazard – Polluting materials

HAZARD KNOWLEDGE

This hazard should be read in conjunction with Foundation for environmental protection - Pollutant categories

Polluting materials may affect the environment during or following incidents. Fire and rescue service actions may result in or increase pollution, for example, if fires are extinguished without applying appropriate control measures to contain run-off.

There may be sites in a fire and rescue service area where polluting materials, sometimes in large quantities, are known to be stored or are likely to be found.

The following table shows some types of incidents and examples of which resultant polluting materials that may affect the environment could result from an incident:

Type of incident	Examples of polluting materials
Road traffic collisions	Oils, fuel, coolants, battery vapours or wash water
Spillages of non-hazardous materials	Organic matter, such as beer or milk
Spillages of hazardous materials	Corrosive, toxic or flammable materials
Casualty care	Clinical waste, disposable gloves or dressings
Fires	Fire water run-off, smoke plumes, hazardous materials or foam (included in Polluting materials: Fire-related)
Incidents involving hazardous materials	Biological, chemical or radioactive materials
Working on, in or near water	Biological hazards, such as infectious diseases or sewage Biodiversity, such as invasive non-native species

Any incident may result in contaminated personal protective equipment (PPE) or operational equipment. There is no defence under the environmental regulation if pollution of the environment is caused by decontamination of PPE, equipment or body bags.

People can be exposed to polluting materials through inhalation, absorption, ingestion or injection. For more information refer to Operations – Infectious diseases.

Control measure – Risk management: Environmental risks

This control measure should be read in conjunction with Operations – Risk management

CONTROL MEASURE KNOWLEDGE

Fire and rescue service risk management plans should consider environmental risk from polluting materials to the built or natural environment.

Planning can be supported through joint working with environmental agencies, to identify sites of risk and determine suitable response measures. This becomes essential when planning for sites that pose a high risk to the environment, for example where an incident could contaminate public water supplies. This should be reflected in the environmental protection section of their risk management plans. For more information refer to Foundation for environmental protection - Fire and rescue service roles and responsibilities in pollution intervention planning.

Sites that have an environmental permit are required by environmental agencies to prepare accident plans. For high-risk sites that do not have environmental permits, fire and rescue services and environmental agencies should jointly carry out visits and inspections and share information about the potential hazards. For more information refer to Foundation for environmental protection - Roles and responsibilities in pollution intervention planning: Site operators.

Some sites may be subject to the gathering of Site-Specific Risk Information (SSRI). For more information refer to:

- Operations – Site-Specific Risk Information
- Foundation for environmental protection - Site-specific risk identification and planning

Fire and rescue services should work with environmental agencies and other organisations to prepare Flood Risk Assessments. For more information refer to Geophysical hazards - Emergency response plans: Flooding.

Operational risk information plans should include information on pollution, prevention and control if a risk to the environment is identified. For more information refer to Foundation for environmental protection - Using an environmental risk assessment to inform operational risk information plans.

Evaluating the success of the measures covered by risk information and plans, and updating them based on learning from incidents, will ensure that these plans remain effective. If relevant, this information should be shared regionally or nationally. For more information refer to Operations - Operational learning.

STRATEGIC ACTIONS

Fire and rescue services should:

Reference	Strategic action	Comment
12763	Include environmental risk information in risk management plans	Amend
	Carry out joint visits and inspections of high-risk sites with environmental agencies and share information about potential hazards	New

TACTICAL ACTIONS

Incident commanders should:

Reference	Tactical action	Comment
17763	Consider pollution prevention information contained in risk information	Amend
~~12765~~	~~Carry out an environmental risk assessment~~	Remove
12766	Implement the environmental protection measures identified in operational risk information plans	Amend
~~12767~~	~~Monitor the impact of fire and rescue service tactics on the identified environmental risk~~	Move to next CM
18326	~~Identify operation and effectiveness of fixed installations and pollution prevention measures~~	Remove from CM

Control measure – Risk assessment at an incident: Environmental risks

This control measure should be read in conjunction with Incident command – Risk assessment at an incident

CONTROL MEASURE KNOWLEDGE

Environmental risk assessments should identify and consider all routes that may allow polluting materials to impact the environment. A template has been prepared to help personnel to complete an environmental risk assessment. There are two approaches available to carry out the assessment based on the scale of the incident:

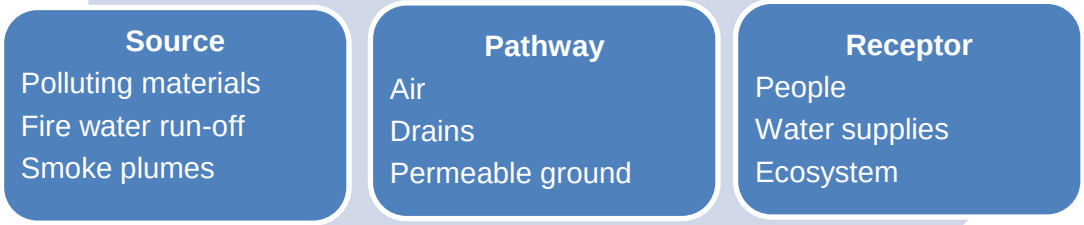
- For smaller incidents, the environmental risk assessment may be included as part of a dynamic risk assessment and recorded following their service protocols
- For larger, more protracted incidents or where a known risk to the environment has been identified, a formal environmental analytical risk assessment should be completed and recorded

After completing the appropriate assessment, any identified or suspected risk to the environment should be communicated to those attending the incident and relevant agencies if appropriate. For more information refer to Foundation for environmental protection – Operational environmental risk assessments.

Throughout the incident, there should be monitoring and reviews of the environmental impact of fire and rescue service activity.

Source, pathway, receptor model

Applying a source, pathway, receptor model may help to control and reduce the risks of pollution.. The first action is to identify the source of hazards to the environment. When a hazard is identified, measures should be taken to prevent or reduce the risk of pollutants reaching, via a pathway, vulnerable receptors in the environment.



STRATEGIC ACTIONS

Fire and rescue services should:

Reference	Strategic action	Comment

	Have systems and methods in place to support the carrying out, sharing and recording of environmental risk assessments in line with other risk assessment methods	New

TACTICAL ACTIONS

Incident commanders should:

Reference	Tactical action	Comment
	Determine which environmental risk assessment approach is required	New
12778	Appropriately include, complete and record an environmental risk assessment	Amend
18088	Ensure identified or suspected risks to the environment are communicated to those attending the incident, and relevant organisations	Amend
12767	Monitor and review the environmental impact of fire and rescue service activity	Move from previous CM and amend
18081	Apply a source, pathway, receptor model to control and reduce the risks of pollution	Amend (moved from another CM)

Control measure – Specialist advice: Environmental protection

This control measure should be read in conjunction with Incident command - Specialist advice

CONTROL MEASURE KNOWLEDGE

If an incident, or the operational response to it, has the potential to pollute the environment, specialist advice may be required to inform the tactical plan. Sources can include:

- Hazardous materials advisers (HMAs)
- Environmental agencies
- Scientific advisers

An on-site responsible person, such as a chemical supplier or engineer, may be able to provide specialist advice on the products or processes in use.

If specialist advisers are not available, it may be possible to obtain advice from other sources, such as the Chemsafe service provided by the National Chemical Emergency Centre (NCEC).

Details of the specialist advice received should be recorded, including who gave the advice and what actions were taken, based on the information provided.

STRATEGIC ACTIONS

Fire and rescue services should:

Reference	Strategic action	Comment

12811	Consider alerting a hazardous materials adviser about incidents with the potential to pollute the environment	Amend
12812	~~Identify triggers where the local environment agency should be informed or where advice should be requested~~	Delete
	Maintain a directory of contact details for specialist environmental protection advisers	New
12813	Secure access to the Chemsafe service provided by the National Chemical Emergency Centre (NCEC)	Amend

TACTICAL ACTIONS

Incident commanders should:

Reference	Tactical action	Comment
18089	~~Ensure that all appropriate environmental agencies are informed of the incident when required~~	Delete
12814	~~Consider seeking specialist advice from a HMA on remedial action for spillages and fire water run off~~	Delete
12816	~~Request advice from appropriate environmental protection agencies~~	Delete
12817	• Consider requesting appropriate specialist advice for incidents with the potential to pollute the environment	Amend
	Record details of the specialist advice received and what actions were taken based on the information provided	New
~~18090~~	~~Notify the environmental agency if a HVP or large volumes of water are being extracted and used~~	Delete. This is a duplicate TA to 12795 (located in the CM Control the environmental impacts of fire-related incidents)

Control measure – Specialist resources: Environmental protection

This control measure should be read in conjunction with Incident command - Specialist resources

CONTROL MEASURE KNOWLEDGE

In addition to the environmental protection resources held by fire and rescue services, they may also be available from partner agencies and external specialists.

Fire and rescue services should liaise and establish local working arrangements with other responders. If possible, these should be developed regionally to promote interoperability and intraoperability. Joint working arrangements should be negotiated, monitored and regularly updated. They may be reinforced by the use of joint training and exercises.

Hazardous materials advisers

Fire and rescue service hazardous materials advisers (HMAs) should have received appropriate training for incidents involving hazardous materials and environmental hazards, including for larger-scale incidents. They may be deployed at an incident to monitor or manage environmental protection activities; this may be especially beneficial at multi-agency incidents where specialist resources are in use. For

more information refer to Foundation for environmental protection – Training for environmental protection.

Fire and rescue service resources

The use of fire and rescue service resources should focus on immediate pollution control rather than for cleaning up, which is not seen as a fire and rescue service role. In addition to the grab packs carried on front line appliances, environmental protection units (EPUs) may be provided as part of agreements between the fire and rescue service and environmental agencies. EPUs may be a vehicle or demountable unit that is used to transport specialist equipment and materials to the incident scene.

A standard list of equipment for grab packs and EPUs is provided in the Foundation for environmental protection – Environmental protection: Operational strategies, techniques and equipment.

Pollution equipment and materials supplied by environmental agencies should be risk assessed, be tested periodically and regularly maintained.

The use of detection, identification and monitoring (DIM) equipment may be beneficial, or sometimes essential, when protecting the environment from harm. Some fire and rescue services have access to their own scientific support or can request this, through their fire control room, from neighbouring fire and rescue services.

Partner agencies

The involvement of partner agencies and deployment of their specialist equipment should be considered in the early stages of an incident to protect the environment. Specialist equipment includes:

- Environmental agencies:
  - Specialist pumps
  - Containment equipment
  - Substance identification
  - Equipment for confined space operations
- Highways agencies:
  - Equipment on front line appliances
  - Incident response units with additional containment equipment
- Local authorities:
  - Containment equipment, often carried on traffic management vehicles
- Water and sewerage undertakers:
  - Containment equipment

The nature of the incident, especially if illegal activity is suspected, may determine the need for police assistance. Fire and rescue services may choose to deploy a National Inter-agency Liaison Officer (NILO) to this type of incident. The police may need to take action prior to the arrival of an environmental officer, or carry out investigations. For more information refer to Operations - Conduct or support investigations.

External specialist resources

A wide range of external specialists may be able to provide environmental protection assistance. This

includes private companies that specialise in the clean-up and transportation of hazardous waste. If external specialists may be required, an early request should be made as their response time may be extended.

The external specialist resources requested should be appropriate for the type, size and complexity of the incident.

Cost recovery

As the use of environmental protection resources will attract a cost, consideration should be given as to who will be financially liable. As this usually follows the 'polluter pays' principle, the fire and rescue service should attempt to obtain details of the polluter.

STRATEGIC ACTIONS

Fire and rescue services should:

Reference	Strategic action	Comment
12810	~~Ensure that fire and rescue service managers who are likely to be in command of an incident involving hazardous materials and/or environmental risk, or are likely to perform the specialist advisory role of hazardous materials advisor (HMA), receive specialist environmental training. This training should place emphasis on larger-scale incidents where there is significant environmental risk~~ Identify or develop personnel for the specialist role of hazardous material advisers	Amend - relevant content moved to CMK
	Establish joint working arrangements with specialist environmental protection resources	New
	Consider participating in joint training and exercises to ensure relevant personnel have an understanding of working arrangements for environmental protection resources	New
	Maintain a directory of specialist environmental protection resources	New

TACTICAL ACTIONS

Incident commanders should:

Reference	Tactical action	Comment
12815	Consider deploying a hazardous materials adviser to monitor or manage environmental protection activities	Amend
18091	Consider requesting specialist resources from own or neighbouring fire and rescue services, or partner agencies for environmental protection	Amend
	Consider requesting appropriate external specialist environmental protection resources	New
	Attempt to obtain details of the polluter for cost recovery purposes if environmental protection resources are used	New

Control measure – Containment of polluting materials

This control measure should be read in conjunction with Foundation for environmental protection - Pollution control hierarchy and equipment

CONTROL MEASURE KNOWLEDGE

If practical and safe to do, and unless there is a threat to life, containment is the preferred approach to manage incidents where polluting materials may harm the environment.

The following hierarchy of pollution control should be used in most instances when containing polluting materials, which can include contaminated fire water or firefighting foam run-off. The five stages of the hierarchy require a dynamic risk assessment to be undertaken within the parameters of an appropriate safe system of work and appropriate personal protective equipment (PPE) being worn.

- Hierarchy Stage 1 – Contain at source: The most effective intervention is to stop a pollutant at source, the point where a pollutant is escaping from a container, tanker, pipework or other vessel
- Hierarchy Stage 2 – Contain close to source: Where it is not possible or practicable to contain the product at source, or there has already been a significant loss of product, the next point of intervention is to contain the spillage as close to the source as possible, using items in the grab pack or other available materials, such as soil or sand
- Hierarchy Stage 3 – Containment on the surface: One of the most common ways for a spillage to enter the environment is by open drain gullies connected to the surface water drainage system. The drainage system provides a very efficient pollution pathway.
- Hierarchy Stage 4 – Contain in the drainage system: Pollutants will often enter drainage systems before pollution control equipment can be deployed. When this happens, the drainage system itself can be used for containment. At other incidents containment in the drainage system is the preferred option even if interventions can be made earlier, as this is the easiest and most effective way of containing pollutants. Being able to identify the drainage systems surrounding the incident is an important aspect of preventing environmental harm.
- Hierarchy Stage 5 – Contain on or in the watercourse: Fire and rescue service activity for the emergency containment of pollutants on or in a watercourse will be limited by the equipment carried, the size of the water body and the practical skills and knowledge of the attending personnel.

Advice or assistance for containment should be requested from environmental agencies, hazardous materials advisers or other organisations if required. In some areas the environmental agencies have large volume pumps that can be used to support or replace fire and rescue service pumps.

It may be necessary to divert polluting materials, including fire water run-off or firefighting foam, to holding or sacrificial areas, for off-site containment. Foul sewerage systems can be used to contain polluting material, if approved by the sewerage undertaker and environmental agency. When doing so, care should be taken that pollutants and sewage do not escape from any storm overflows into the sewerage system. The contained pollutants and sewage may then be removed.

It may be possible to divert polluting materials to a local sewage treatment works, where they can be treated or contained before their disposal. Sewage treatment works have storm tanks that are used to store the large volumes of diluted sewage produced during high rainfall. Approval from the sewerage undertaker must be sought before diverting pollutants to a sewage treatment works; the treatment process can be affected if levels of pollution are too high and could result in the release of both

pollutants and untreated or partially treated sewage.

Pollution control devices, such as drain closure valves, storage lagoons or balancing ponds are installed in some surface water drainage systems. These devices can be used to help contain polluting materials if permission is given by the appropriate authority; this could be a sewerage undertaker, responsible person, local authority or highways agency.

STRATEGIC ACTIONS

Fire and rescue services should:

Reference	Strategic action	Comment
12729	~~Develop procedures for containing fire water run-off~~	Delete
12730	Arrange access to, or obtain information from, local sewerage undertakers	Amend
12731	~~Consider the inclusion of drainage information in operational risk plans. See National Operational Guidance: Operations~~	Delete
	Consider providing equipment to support containment of polluting materials	New
	Maintain a directory of emergency contact details for organisations that may need to provide authority for the containment of polluting materials	New
	Maintain a directory of emergency contact details for sewerage undertakers for environmental protection incidents	New

TACTICAL ACTIONS

Incident commanders should:

Reference	Tactical action	Comment
	Consider the hierarchy of pollution control when it is necessary to contain polluting materials	New
18018	Use appropriate methods and equipment to contain polluting materials to minimise their impact on the environment	Amend
~~18024~~	~~Consider the legal exemptions in relation to environmental protection i.e.~~ ~~• A discharge is made in an emergency to avoid danger to human health~~ ~~• All reasonably practicable steps were taken to minimise pollution~~ ~~• The relevant environment agency is informed of the incident as soon as possible~~	Delete
~~12732~~	~~Consider carrying out an environmental risk assessment to identify:~~ ~~• Site drainage~~ ~~• local surface waters and/or groundwater and vulnerability~~	Delete
~~12775~~	~~Consider the availability of pollution control equipment and/or pollution containment facilities on site~~	Delete
12736	Request advice or assistance for containment from environmental agencies, hazardous materials advisers, sewerage undertakers or other appropriate organisations	Amend
18082	Consider diverting polluting materials to holding or sacrificial areas for off-site containment, with appropriate approval	Amend
12734	Consider diverting polluting materials to local sewage treatment works for containment or treatment, with their approval	Amend

12775	Consider the availability and appropriate use of pollution control devices if permission can be obtained	Amend
18009	~~Identify potential drainage routes for fire water run-off and released vehicle content~~	Delete
~~12735~~	~~Consider future disposal options. See section Disposal~~	Delete
~~18084~~	~~Identify the location of motorway pollution control devices (PCD) and operate as necessary~~	Delete
~~18088~~	~~Communicate any risk to the environment to those attending the incident and relevant agencies~~	Moved to another CM

Control measure – Dilution of polluting materials

CONTROL MEASURE KNOWLEDGE

When dealing with domestic quantities of polluting materials, it may be appropriate to dilute them with a large volume of water. High levels of dilution should ensure that pollutants have little impact on the environment. It is important to consider the pollutant type and quantity, and how sensitive the receiving water is before doing this.

Approval should be obtained from the environmental agency or sewerage undertaker before diluting polluting materials, unless there is a threat to life. In such circumstances they should be informed as soon as is reasonably practicable.

Detergent or other cleaning products should not be added to polluting materials or spillages hosed to the drain without prior agreement by the appropriate environmental agency or sewerage undertaker.

Advice about dilution of polluting materials may need to be obtained from specialists, including a hazardous materials adviser (HMA) or the Chemsafe service provided by the National Chemical Emergency Centre (NCEC).

For more information refer to Foundation for environmental protection - Additional pollution control techniques.

STRATEGIC ACTIONS

Fire and rescue services should:

Reference	Strategic action	Comment
~~12810~~	~~Ensure that fire and rescue service managers who are likely to be in command of an incident involving hazardous materials and/or environmental risk, or are likely to perform the specialist advisory role of hazardous materials advisor (HMA), receive specialist environmental training. This training should place emphasis on larger-scale incidents where there is significant environmental risk~~	Delete
~~12811~~	~~Consider mobilising or involving a Hazardous Materials Advisor (HMA for any incident with the potential to pollute the environment, not only those incidents involving hazardous materials. See section 3.3, Environmental Protection Handbook~~	Delete
~~12812~~	~~Identify triggers where the local environment agency should be informed or where advice should be requested~~	Delete
~~12813~~	~~Secure access to more detailed advice from scientific advisers or from the CHEMSAFE service provided by the National Chemical Emergency Centre (NCEC)~~	Delete
	Provide relevant personnel with access to information regarding sensitivity of watercourses, aquifers and other receptors	New

TACTICAL ACTIONS

Incident commanders should:

Reference	Tactical action	Comment
12820	Consider diluting domestic quantities of polluting materials with a large volume of water	Amend
	Consider the type and amount of polluting material and the potential impacts of its dilution	New
12821	Unless there is a threat to life, obtain approval from the relevant organisation before diluting polluting materials	Amend
	Avoid the use of detergents or cleaning products when diluting polluting materials, unless approved to do so by the relevant organisation	New
12822	• Avoid diluted polluting materials reaching drains unless given permission to do so by the relevant organisation	Amend
~~12823~~	~~Ensure that if detergents or other chemicals are added to spillages to assist with clean up or treatment the resulting mixture is not to be flushed down drains~~	Delete

Control measure – Absorption of polluting materials

CONTROL MEASURE KNOWLEDGE

It may be appropriate to contain minor spillages by using absorbent materials, such as pads, sheets and booms. Soil, sand and cement all have absorbent qualities and can also be used to create improvised containment barriers or bunds.

Polluting materials will retain their hazardous properties when absorbed and this should be considered when handling any absorbed material. Absorbent materials should not be used for larger spillages because of the amount of waste that will be created and the cost of disposing it.

Environmental agencies supply grab packs that contain resources such as oil absorbent pads and booms. These should be made available on fire and rescue service pumping appliances, high volume pumps (HVP) and environmental protection units.

Due to cost recovery implications under the 'polluter pays' principle, personnel should advise the responsible person of this when handing over waste, such as contaminated booms or pads.

STRATEGIC ACTIONS

Fire and rescue services should:

Reference	Strategic action	Comment
	Consider providing environmental agency grab packs on appliances	New
12825	Have arrangements in place for the disposal of contaminated absorbents for incidents when the responsibility for waste disposal cannot be identified	Amend
~~12826~~	~~Refer to control measure actions for disposal of contaminated firewater run off under~~ fire water run-off	Delete

TACTICAL ACTIONS

Incident commanders should:

Reference	Tactical action	Comment
12827	Determine if the polluting materials can be dealt with by using an appropriate type of absorbent materials	Amend
~~12828~~	~~Consider the benefits of using absorbents against the cost of disposal~~	Delete
	Consider using the grab packs provided by an environmental agency or alternatives to absorb polluting materials	New
~~12829~~	~~Consider how contaminated absorbent materials will be disposed of in consultation with the relevant environment agency and responsible persons based on the "polluter pays" principle.~~	Delete
12830	Hand over the absorbent material waste to the responsible person, or make arrangements for its disposal	Amend

Control measure – Treatment of polluting materials

CONTROL MEASURE KNOWLEDGE

Aeration

Organic pollutants such as milk and sewage will remove oxygen from bodies of water. Environmental agencies and specialist contractors can use aeration units or chemical methods to raise oxygen levels. Pumping the affected water into the air through hose jets is less effective but is a technique that can be used by fire and rescue services.

Chemical treatment

Treatment of pollution in a watercourse, for example using activated carbon or hydrogen peroxide, are specialised techniques employed by an environmental agency or specialist contractor. However, fire and rescue services may be asked to assist in the emergency phase of an incident where these techniques are employed.

Memoranda of understanding

The use of fire and rescue service resources to assist with the treatment of polluting materials should be subject to local agreements, which may be supported by memoranda of understanding (MoU), with the relevant environmental agencies and specialist contractors.

For more information refer to Foundation for environmental protection - Additional pollution control techniques.

STRATEGIC ACTIONS

Fire and rescue services should:

Reference	Strategic action	Comment
12838	Ensure relevant personnel understand what environmental protection activities will need to be delivered by an environmental agency or specialist contractor	Amend
	Consider establishing memoranda of understanding for assisting environmental agencies and specialist contractors with the treatment of polluting materials	New

TACTICAL ACTIONS

Incident commanders should:

Reference	Tactical action	Comment
~~12839~~	~~Liaise with the local environment agency and, where appropriate, specialist advisers when aeration is to be used to reduce environmental damage.~~	Delete
12841	Assist environmental agencies and specialist contractors with the treatment of polluting materials if required	Amend

Control measure – Transportation of polluting materials

CONTROL MEASURE KNOWLEDGE

There are strict controls on transporting hazardous waste. Fire and rescue services do have dispensation in exceptional, life-saving circumstances. For more information refer to:

- Foundation for environmental protection – The movement of hazardous waste by the fire and rescue services in emergencies
- Foundation for environmental protection – Legal defences: Pollution

If emergency transportation of hazardous waste is required, the relevant environmental agency should be informed as soon as possible. The environmental agency should also be involved in the decision made by the fire and rescue service to transport it.

Fire and rescue services are allowed to transport and store small quantities of non-hazardous waste from incidents. This activity should be supported by procedures, which includes the use of personal protective equipment (PPE), such as disposable gloves or chemical protection suits. For more information refer to Foundation for environmental protection – The movement and storage of non-hazardous waste.

STRATEGIC ACTIONS

Fire and rescue services should:

Reference	Strategic action	Comment
12832	Be aware of their legal responsibilities and possible defences for the transportation of hazardous waste	Retain
12833	Provide PPE suitable for dealing with the transportation and storage of small quantities of non-hazardous waste	Amend

TACTICAL ACTIONS

Incident commanders should:

Reference	Tactical action	Comment
12777	Act within the legal exemptions if it is necessary to transport hazardous waste	Amend
12835	Consult with the relevant environmental agency if emergency transportation of hazardous waste is required	Amend
12836	Follow service procedures and use appropriate PPE for the transportation or storage of small quantities of non-hazardous waste	Amend

Control measure – Disposal of polluting materials

CONTROL MEASURE KNOWLEDGE

The disposal of polluting materials, including fire water run-off, may be an appropriate action to take for

an incident. Disposal can be achieved by different means, depending on the situation and resources available.

During the early stages of an incident, when activities to prevent harm or stop the incident developing are the priority, disposal to a foul sewer may be considered suitable, and is likely to be required for fire water run-off. However, this method may be appropriate for other polluting materials, such as chemically contaminated wash water, contaminated potable water or other spillages.

Flow rates should be controlled to avoid the foul sewer overflowing. Failure to control the flow could result in polluting materials entering the water environment. If the foul sewerage system is considered the best option the sewerage undertaker will need to be involved. They will consider the request and take account of the likely impact if they do not approve the discharge. Agreement from the appropriate environmental agency should be obtained before any release takes place; this may initially be obtained by telephone, which is later applied for and confirmed in writing.

Contaminated water can be taken away in tankers for disposal, which can reduce levels of pollution and debris. For more information refer to Foundation for environmental protection - Additional pollution control techniques.

On-site arrangements may exist for the disposal of polluting materials at locations that pose a known risk to the environment. Site-Specific Risk Information (SSRI) should capture these planned arrangements and inform fire and rescue service operational plans. It may be beneficial for fire and rescue services to participate in joint training and exercises at these sites.

An on-site emergency box could contain information about ground soakaways, stopcocks, pollution inspection points, retention ponds and other pollution control devices.

If the emergency phase of an incident has passed, the fire and rescue service may not be responsible for disposal. The ‘polluter pays’ principle should apply, and the environmental agency officer should inform the responsible person about their responsibility to contain, organise and remove waste. The fire and rescue service may need to provide this information if the environmental agency is not present.

Local authorities are usually responsible for playing fields, open public spaces, beaches and minor roads. Landowners, owners or occupiers are usually responsible for private properties. Highways agencies are usually responsible for major roads.

For more information refer to:

- Foundation for environmental protection - Clean up and waste disposal after an incident
- Foundation for environmental protection - Hazardous waste

STRATEGIC ACTIONS

Fire and rescue services should:

Reference	Strategic action	Comment
~~12754~~	~~Be aware of their legal responsibilities and possible defences for the disposal of fire water under the Environmental Permitting Regulations 2010 and Environmental Damage (Prevention and Remediation) Regulations 2015 (EDR 2015)~~	Delete

~~12755~~	~~Develop plans for the disposal of contaminated fire water run off which include plans for:~~ ~~• Use off-site storage within drainage infrastructure e.g. balancing ponds~~ ~~• Use of foul water drainage~~ ~~• Contingencies for where the responsibility for disposal cannot be identified~~	Delete
	Consider participating in joint training and exercises at sites with existing arrangements for the disposal of polluting materials	New

471 *TACTICAL ACTIONS*

472 Incident commanders should:

Reference	Tactical action	Comment
~~12756~~	~~Ensure that waste products created by the fire and rescue service are disposed of both legally and responsibly. The Environmental Permitting (England and Wales) Regulations 2010 (EPR 2010) provides two exceptions for the emergency disposal of contaminated fire water runoff where the primary focus of fire and rescue service actions is saving life:~~ ~~• Emergency discharge and subsequent contamination of the water environment~~ ~~• The removal of waste by a fire and rescue services using fire and rescue service equipment or vehicles~~	Delete
~~12757~~	~~Consider the legal exceptions. see Environmental Legislation~~	Delete
12761	Determine the most appropriate method to dispose of polluting materials •	Amend
12759	Contact the relevant sewerage undertaker if use of the foul sewerage system is the preferred disposal option for polluting materials	Amend
	Control flow rates of polluting materials to avoid the foul sewer overflowing	New
12758	Obtain agreement from the relevant environmental agency before any release of polluting materials takes place	Amend
	Refer to Site-Specific Risk Information (SSRI) or on-site emergency boxes for pre-existing arrangements for the disposal of polluting materials	New
	Identify the responsible party for the disposal of polluting materials and arrange for them to be contacted	New
	Be prepared to inform the responsible party about their responsibility to contain, organise and remove waste if the environmental agency is not present	New

~~12760~~	~~Identify if the responsibility for disposal of waste produced at an incident can be delegated to a third party based on location, material and quantities involved. Namely:~~ ~~• Local authority - Playing fields, public open spaces, beaches and some roads~~ ~~• Landowner or owner / occupier - Private property~~ ~~• Highways agency - (Road Service in Northern Ireland) - Major roads~~	Delete
~~18083~~	~~Identify potential drainage routes for fire water run-off and released vehicle content~~	Delete
~~18086~~	~~Ensure that waste products created by the fire and rescue service are disposed of legally and responsibly~~	Delete

Control measure – Decontamination of polluting materials

CONTROL MEASURE KNOWLEDGE

Use of decontaminating equipment at the incident site should reduce the risk of spreading the contaminant. For low level contamination, equipment should be flushed with mains water. Run-off should be discharged to a foul sewer, if this action is approved by the sewerage undertaker. For high level contamination, run-off water should be contained and removed by a registered waste carrier. It can be discharged into a foul sewer, if this action is approved by the sewerage undertaker and the environmental agency.

Drinking water supplies need to be protected from the run-off produced by the decontamination of polluting materials. This should be considered when setting up decontamination areas and if necessary additional environmental protection resources should be requested and used.

If decontamination of people or personal protective equipment (PPE) is carried out in an emergency, it is unlikely that any offence will be committed under the relevant legislation. However, there is no legal defence if pollution is caused by the decontamination of equipment, appliances, roadways or body bags.

If required advice should be requested from:

- Environmental agencies
- Tactical advisers, including:
  - Hazardous materials advisers
  - High volume pump (HVP) tactical advisers
- The sewerage undertaker

STRATEGIC ACTIONS

Fire and rescue services should:

Reference	Strategic action	Comment
~~12844~~	~~Be aware of their legal responsibilities and possible defences for decontamination of people, personal protective equipment and the difference in the legislation regarding the decontamination of equipment, appliances, body bags and washing down roadways. See Environmental legislation~~	Delete
~~12845~~	~~Include environmental protection within decontamination procedures~~	Delete

~~12846~~	~~Where appropriate inform the local environment agency when fire service decontamination activities are in operation~~	Delete
	Establish arrangements with environmental agencies and sewerage undertakers for the decontamination of equipment at incidents	New

495 *TACTICAL ACTIONS*

496 Incident commanders should:

Reference	Tactical action	Comment
12847	Consider the level of decontamination involved and develop an appropriate tactical plan to deal with it	Amend
12849	Gain approval from the sewerage undertaker or environmental agency for decontamination activity if required	Amend
12848	Protect drinking water supplies from the run-off produced by the decontamination of polluting materials	Amend
	Comply with relevant legislation for the pollution caused by decontamination activity	New
	Consider requesting advice for decontamination from an appropriate specialist or tactical adviser	New

497

Hazard – Polluting materials: Fire-related incidents

HAZARD KNOWLEDGE

Fires in bulk amounts of combustible materials, such as those found at storage or waste sites, can create large volumes of polluting smoke. Fires can spread, be very deep-seated and burn for a prolonged period. They may also have several seats of fire. For more information refer to Fires in waste sites – Stacked materials.

The direct application of water, with or without firefighting additives, to stacks of burning material is often ineffective and may generate large volumes of contaminated fire water, containing a wide range of pollutants.

Smoke plumes

Smoke plumes may contain pollutants that will be deposited when the plume grounds, which can be washed into the water environment by rain. Smoke plumes may affect surrounding buildings and residential areas, including vulnerable populations, for example in hospitals, schools and residential homes.

Although people who may be affected by the smoke plume can take shelter from the smoke plume by staying indoors with doors and windows closed, this may not be sustainable if the fire is protracted.

Fire water run-off

Contaminated fire water is a form of polluting material that should be dealt with by using the control measures for the hazard of Polluting materials. It can affect the environment through:

- Direct run-off into a body of water
- Soaking away into the ground
- Entering drainage systems, which may transport fire water pollutants into:
    - Rivers
    - Lakes
    - Estuaries and the sea
    - Groundwater
    - Sewage treatment works

Introducing a heated liquid into a watercourse is also a form of pollution, as it may cause deoxygenation or kill aquatic organisms. For more information refer to Foundation for environmental protection - Surface water, groundwater and foul and surface drainage systems.

Firefighting foam

Although firefighting foam is a polluting material, this should not stop fire and rescue services from using it if required. In most cases, preventive action can be taken to limit any impact. Using foam can also have environmental benefits, such as reducing water use and extinguishing a fire more quickly.

The main environmental effects of firefighting foams are:

- They can lead to deoxygenation of water

- They can be toxic to aquatic life
- They may present risks to drinking water supplies
- Some compounds in them do not break down in the environment and can accumulate in plants and animals

For more information refer to Foundation for environmental protection - Firefighting foam and additives.

Control measure – Control the environmental impacts of fire-related incidents

CONTROL MEASURE KNOWLEDGE

A joint understanding of risk should be developed with the environmental agency and public health organisation. Joint decisions will need to be made about balancing and controlling potential damage to the environment from fire water run-off, against damage to the environment from an unmanaged smoke plume, or from an uncontrolled fire.

It may be beneficial for statutory resilience forums and fire and rescue services to plan for a response to sites, which if involved in a fire, may produce large volumes of smoke and require large volumes of firefighting media for extinguishment.

Multi-agency response to smoke plumes

Fires that produce large smoke plumes will require a multi-agency response, which should follow JESIP principles. This may include the involvement of:

- Fire and rescue services, including:
  - Hazardous materials advisers (HMAs)
  - Waste fire tactical advisers
  - High volume pump tactical advisers
- Environmental agencies
- Public health organisations
- Local authorities
- Police

The behaviour and travel of smoke plumes should be considered. The Met Office may be able to provide plume modelling, with map projections of smoke and ash behaviour based on the weather and environmental conditions.

Information and advice should be used to make a joint decision about how to deal with the fire and smoke plume, based on the environmental and public health impacts.

Extinguish the fire

The fire and rescue service can greatly assist environmental agencies by sharing knowledge about tactical plan options for extinguishment and be assisted by the knowledge of the environmental agencies about potential environmental damage. This shared understanding will enhance decision-making with regards to extinguishing the fire using appropriate firefighting media.

If significant smoke plumes present a risk to the environment, large quantities of water and resources may be required to implement an effective tactical plan. Fire and rescue service high volume pumps

(HVPs), fixed installation pumps or pumps supplied by a third party, including environmental agencies, can be used to provide water for firefighting. Water may be provided by the mains supply or open sources; however, the impacts of usage should be monitored to avoid a loss of water supplies to the area or damage to ecosystems.

When using this type of equipment or when large volumes of water are being pumped, the appropriate environmental agency should be informed.

Removal or separation of materials involved in fire

If there is a fire in a large amount of combustible material, the environment may be more effectively protected by removing the materials or separating them. Better access to seats of fire can be achieved if equipment is used to break up the fire loading so that firefighting media can be applied more effectively.

If the fire and rescue service does not have appropriate equipment to do this, specialists or on-site staff may be required to assist with this task. It may be beneficial to identify sites where equipment to remove or separate materials may need to be used, and joint working practices agreed with relevant organisations.

If burning material is removed, it may be possible to:

- Extinguish the fire using:
  - Water jets
  - Bunded pools
  - Tanks of water
- Use a controlled burning strategy
- Bury it, with the approval of the appropriate environmental agency and permission of the land owner

For more information refer to:

- Fires in waste sites – Use competent people to operate on-site machinery
- Fires and firefighting – Firebreaks and fuel breaks

STRATEGIC ACTIONS

Fire and rescue services should:

Reference	Strategic action	Comment
	Consider identifying or developing specialist personnel who can be mobilised to or provide advice for fires that produce large smoke plumes	New
12790	Establish sources of high volume pumps and how these can be requested for incidents that will require large volumes of firefighting media to extinguish a fire	Amend
12791	Identify sites where combustible materials may need to be extinguished using large volumes of water, and consider establishing joint working practices with relevant organisations	Amend

~~12792~~	~~Have procedures in place for the safe decontamination of high volume pumping equipment after use. See the following sections of the Environmental Protection Handbook:~~ ~~• 1.6.6 Protocol for disposing of contaminated water and associated wastes at incidents~~ ~~• 2.12.1 High volume pump decontamination~~	Delete (contained in the NR HVP control measures)
~~12799~~	~~Develop operational procedure for incidents involving fires at waste sites~~	Delete
	Identify sites where combustible materials may need to be removed or separated, and consider establishing joint working practices with relevant organisations	New

598 *TACTICAL ACTIONS*

599 Incident commanders should:

Reference	Tactical action	Comment
	Co-ordinate the smoke plume response with other organisations in attendance, applying the JESIP principles	New
12793	Request high volume pumps and specialist assistance for their use at a fire where the tactical plan requires large volumes of firefighting media	Amend
12794	Consider the impact on water supplies to the area or damage to ecosystems before deploying high volume pumps	Amend
12795	Notify the local environmental agency if a high volume pump is deployed or if large volumes of water are required	Amend
~~12796~~	~~Consider the use of local environment agency pumps for incidents that are likely to be significantly protracted~~	Delete – in CMK
~~12797~~	~~Consider the decontamination of high volume pumping equipment after use~~	Delete – included in HVP guidance and in the decontamination CM
~~12800~~	~~Consider the use of firefighting additives such as foam for small waste fires and prevent fire spread. (Note: For larger waste fires, foam may provide rapid 'knock down' but often has minimal long term effects on larger waste fires)~~	Delete
12801	• Consider using appropriate equipment to remove or separate burning material to create a firebreak, provide better access to seats of fire or apply alternative extinguishing techniques	Amend (some content moved to CMK)
~~12802~~	~~Make use of specialist fire and rescue service or on-site environmental protection equipment~~	Delete
~~12752~~	~~Consider a controlled burn strategy; see Controlled burning~~	Delete

600 **Control measure – Recycling or reduction of fire water**

601 *CONTROL MEASURE KNOWLEDGE*

602 Fire water is a polluting material and should be dealt with as such. In order to reduce the amount of
603 polluting material being produced, it may be possible to either recycle the water being used to extinguish
604 a fire or reduce the amount of water being used.

605 **Fire water recycling**

Pumps can be used to recycle fire water, but it is important that this does not make the situation worse. Repeated recycling of fire water run-off will increase the concentration of pollution, and the risk of spreading contaminants contained in the recycled water spray.

Controls need to be put in place to ensure that the recycled fire water vapour cannot cause harm to emergency responders attending the incident or the local population, based on their location and distance from the incident.

Before starting to recycle fire water run-off, the potential impact of the material involved in the fire should be identified and assessed. Recycling water from mixed or household waste, which can contain organic material such as nappies and food, should be avoided. For all other recycling sites that contain materials such as wood or plastic, recycling the fire water run-off along with other tactics, including controlled burn, presents a viable option for reducing damage to the environment.

It is likely that there will be debris in the fire water run-off that can block pumps, or the nozzles of branches, being used to recycle the water. Suitable pumps and smooth bore branches should be used to avoid blockages.

A strategy for recycling fire water should consider:

- Monitoring the impact of recycling fire water and any identified risks
- The use of dams, pools, containment tanks or lagoons to reduce the possibility of blockages from particles contained in the fire water run-off
- Replacing a proportion of the recycled fire water with fresh water, to reduce the level of pollutants and debris in the fire water being applied
- The need to decontaminate equipment, including personal protective equipment (PPE)

Disposal of used recycled fire water may present a problem for the fire and rescue service towards the end of an incident. Specialist advice on the initial or continued use of recycled fire water run-off, including it being tested for pollutants, and its disposal may be required from:

- Environmental agency
- Public health organisation
- Tactical advisers:
    - Bulk media
    - Waste fire
    - Hazardous materials
- Sewerage undertakers
- Scientific advisers

For more information refer to Foundation for environmental protection - Additional pollution control techniques.

Reducing the volume of fire water

The impact of fire water run-off on compacted materials and ground conditions should be considered. If appropriate, areas of operation where a reduced use of water strategy can be initiated, without significantly increasing the risk of firespread or compromising safety, should be identified.

644 The amount of fire water used, and therefore the amount of fire water run-off, can be reduced by using
645 water sprays instead of jets or by using hand-held jets instead of ground monitors..

646 *STRATEGIC ACTIONS*

647 Fire and rescue services should

Reference	Strategic action	Comment
12738	Consider procuring equipment suitable for recycling fire water run-off	Amend
12739	• Establish arrangements with specialists for testing pollutants in recycled fire water	Amend
12750	Consider procuring equipment that can be used to apply fire water at reduced levels of flow	Amend

648 *TACTICAL ACTIONS*

649 Incident commanders should

Reference	Tactical action	Comment
~~12803~~	~~Where possible, recycle the fire water run-off. See Recycling fire water run-off.~~	Delete
18310	Consider recycling fire water run-off, to reduce the volume of water required	Amend
12741	Put controls in place to ensure that the recycled fire water vapour cannot cause harm to emergency responders or the local population, based on their location and distance from the incident	Amend
12740	Identify and assess the potential impact of the material involved in the fire before starting to recycle fire water run-off	Amend
~~12742~~	~~Carry out an environmental risk assessment and monitor the impact of tactics on the identified risk~~	Delete
12743	Use suitable pumps and smooth bore branches to avoid blockages when recycling fire water run-off	Amend
	Monitor the impact of recycling fire water and any identified risks	New
12746	Consider using appropriate containment equipment to reduce the possibility of blockages from particles contained in the fire water run-off	Amend
12747	Consider replacing a proportion of the recycled fire water with fresh water, to reduce the level of pollutants and debris in the fire water being applied	Amend
12744	Consider the need to decontaminate equipment, including PPE used for recycling fire water	Amend
~~12745~~	~~Consider hygiene. See National Operational Guidance~~: Operations	Delete
12748	Obtain specialist advice on the initial or continued use of recycled fire water, including it being tested for pollutants, and its disposal	Amend
12751	Consider identifying areas of operation where a reduced use of water strategy can be initiated without significantly increasing the risk of firespread or compromising safety	Amend (typo only)
~~18311~~	~~Consider the impact of fire water run off on compacted materials and ground conditions~~	Delete
	Consider using equipment that will reduce the amount of fire water used, and therefore the amount of fire water run-off	New

Control measure – Use, containment and substitution of firefighting foam

CONTROL MEASURE KNOWLEDGE

Use and containment of firefighting foam

Using firefighting foam may have an environmental benefit, as fires can be quickly extinguished and fire water run-off reduced. If procuring firefighting foam, the type should be considered and an environmental risk assessment of its use developed. The risk assessment for the foam should be shared with relevant personnel.

The ability to contain firefighting foam run-off is preferable to allowing uncontrolled discharge of it to drains. Foam run-off is a form of polluting material that should be dealt with by using the control measures for the hazard of Polluting materials.

Protocols for using firefighting foam should consider how run-off can be contained and the environmental considerations that should be applied. Firefighting foam run-off should not be allowed to enter an oil separator, as it may flush oil into the site's drainage system.

If firefighting foam is used, relevant organisations should be advised of its use, the location and the quantities involved. It may be beneficial to identify sites where firefighting foam may need to be used, and joint working practices agreed with relevant organisations, such as:

- Responsible person
- Environmental agency
- Nature conservation bodies
- Sewerage undertaker
- Local authority
- Highways agency

If firefighting foam may need to be used near or in sensitive sites, such as sites of special scientific interest (SSSI) or water sources, risk assessments should include considerations about its potential impacts and extra care taken.

The type of firefighting foam used should be appropriate for the task and the minimum quantity used. Using foam is a trigger for notifying environmental agencies about an incident. This includes the use of compressed air foam systems (CAFS), which will usually need less concentrate and water to produce adequate foam for firefighting. The reduced levels of concentrate and run-off produced should be easier to contain, and have less of an impact if it enters a body of water.

Substitution of firefighting foam

If using firefighting foam could present a significant risk to the environment, substitution using alternative approaches should be considered, such as:

- Using alternative types of foam
- Using a different extinguishing media
- Using high-pressure water fogging systems
- Adopting a controlled burning strategy

STRATEGIC ACTIONS

Fire and rescue services should

Reference	Strategic action	Comment
12782	If procuring foam concentrate, assess the environmental risks of its use and ensure relevant personnel are aware of the risk identified	Amend
12781	Implement protocols for extinguishing fires using firefighting foam	Amend
12772	Identify sites where firefighting foam may need to be used and establish joint working practices with relevant organisations	Amend
12771	Ensure the potential impacts of using firefighting foam are included in risk assessments for sensitive sites	Amend
~~12770~~	~~Develop foam procedures, which must include:~~ • ~~Containment of foam run-off~~ • ~~Environmental considerations~~	Delete - relevant content moved to CMK

TACTICAL ACTIONS

Incident commanders should

Reference	Tactical action	Comment
	Apply the protocols for using firefighting foam and consider substitutions for its use if required	New
~~12783~~	~~Where foam has been applied and there is a significant risk to the environment, evaluate:~~ • ~~Alternative types of foam (if available)~~ • ~~Using a different extinguishing media~~ • ~~High-pressure water fogging systems (if available)~~ ~~Adopting a controlled burn strategy. See Controlled burn~~	Delete - content moved to CMK
~~12773~~	~~Make every effort to prevent firefighting foam entering surface and groundwater during an incident~~	Delete
12774	Ensure firefighting foam run-off is not allowed to enter oil separators	Amend
~~12776~~	~~Consider the risk to the environment caused by the use of foam verses the benefits (rapid control of the fire)~~	Delete
~~12777~~	~~Consider the legal exemptions. See Environmental legislation~~	Delete
~~12778~~	~~Consider carrying out an environmental analytical risk assessment~~	Moved to another CM
12779	Inform relevant organisations about the use of firefighting foam, the location and the quantities involved •	Amend

Control measure – Controlled burning: Environmental considerations

This control measure should be read in conjunction with Fires and firefighting – Controlled burning

CONTROL MEASURE KNOWLEDGE

If controlled burning is being used as part of the tactical plan for a fire-related incident, the short-term and long-term environmental impacts on air, land and water quality should be considered. Some environmental impacts may not be immediately evident and may take years to recover from. For more information refer to Foundation for environmental protection - Controlled burn.

It may be possible to restrict controlled burning to some stages of the fire, to minimise the environmental

damage. For more information refer to Foundation for environmental protection - Sites and locations where a controlled burn may be employed.

It may be inappropriate for controlled burning to be carried out near to sensitive sites, due to the potential environmental impacts, including:

- Ecological or heritage assets
- Water supplies, such as reservoirs or water treatment plants
- Buildings containing vulnerable populations, such as hospitals, schools or residential homes

Due to the potential environmental impact, the decision to adopt a controlled burning strategy should be made following consultation with relevant organisations, including:

- Environmental agencies
- Nature conservation bodies
- Public health organisations
- Local authority
- Water suppliers
- Sewerage undertakers

If public health could be affected by air pollution, it may be necessary to inform the public by using the media or other methods. They may need to be evacuated or take shelter from the environmental impacts of controlled burning.

Monitoring of the environmental impacts, especially to air quality and water supplies, may need to put in place. Monitoring may need to extend to the post-incident phase and may involve the use of an air quality cell, hazardous materials advisers (HMAs) or other specialists.

STRATEGIC ACTIONS

Fire and rescue services should:

Reference	Strategic action	Comment
	Establish arrangements for relevant organisations to be informed about the need for controlled burning at a fire-related incident	New
	Establish arrangements for the public to be informed and advised about controlled burning at a fire-related incident	New
	Establish arrangements with appropriate specialists for monitoring the environmental impacts of controlled burning	

TACTICAL ACTIONS

Incident commanders should:

Reference	Tactical action	Comment
	Consider the short-term and long-term environmental impacts of carrying out controlled burning	New
	Consider restricting controlled burning to some stages of the fire, to minimise the environmental damage	New
	Consider avoiding the use of controlled burning near to sensitive locations	New

	Ensure the decision to carry out controlled burning is made following consultation with relevant organisations	New
	Arrange for the public to be informed about the controlled burning if required	New
	Arrange for the public to be evacuated or advised to shelter from the environmental impacts of the controlled burning if required	New
	Consider putting monitoring of environment impacts in place during and after the controlled burning	New

Control measure – Air quality cell function

CONTROL MEASURE KNOWLEDGE

If major air pollution occurs at an incident, the environmental agencies and public health organisations will set up an air quality cell. This will include other organisations, including the Met Office, Solutions from HSE, the Airborne hazards emergency response (AHER) service in Scotland and local authorities.

A joint understanding of risk and shared situational awareness should be developed by the members of the air quality cell. The fire and rescue service should provide the air quality cell with updates on the development of the incident and the operational response, to inform the monitoring and review of the potential impact on public health. This should also be used when carrying out operational risk assessments and developing tactical plans.

The air quality cell will co-ordinate air monitoring and provide air quality information. Public health organisations use this information to provide health advice to emergency responders and the public. For more information refer to Foundation for environmental protection - Air quality risk assessment.

STRATEGIC ACTIONS

Fire and rescue services should:

Reference	Strategic action	Comment
12805	Ensure relevant personnel understand how to obtain and apply the information provided by the air quality cell	Amend

TACTICAL ACTIONS

Incident commanders should:

Reference	Tactical action	Comment
18087	Consider requesting that an air quality cell is set up	Amend
	Develop a joint understanding of risk and shared situational awareness with the air quality cell	New
12806	Use air quality cell information to inform operational risk assessments and tactical plans	Amend
18093	Monitor and review the potential impact of the incident and operational response on public health with the air quality cell	Amend

Hazard – Physical damage to the environment

HAZARD KNOWLEDGE

Ecological and heritage assets may be affected by physical environmental damage. This covers a broad range of buildings, structures and natural sites. Sensitive sites may struggle to recover, and their ecosystems can suffer long-term or permanent damage. Further information can be found at websites such as:

- Historic England
- Historic Environment Scotland
- Historic Wales
- Historic buildings and monuments (Northern Ireland)
- UNESCO World Heritage

Important ecological and heritage assets may have designations such as:

- Sites of Special Scientific Interest (SSSI)
- Areas of Special Scientific Interest (ASSI) (Northern Ireland)
- Special Areas of Conservation (SAC)
- Special Protection Areas (SPA)
- Scheduled Ancient Monuments (as defined in the Ancient Monuments and Archaeological Areas Act)
- Areas of Outstanding Natural Beauty (England, Wales, Northern Ireland)
- National Scenic Areas (Scotland)
- Ramsar sites

Sites will have a range of risks across geographical areas. Some will be safe for the deployment and movement of fire and rescue service resources and others will be more susceptible to physical environmental damage. These sites can be affected by:

- Direct impacts, for example the movement and deployment of fire and rescue service resources, including vehicles, equipment and personnel
- Indirect impacts, for example by the release of polluting materials

Control measure – Minimise physical damage to the environment

CONTROL MEASURE KNOWLEDGE

If possible, ecological and heritage assets should not be disturbed by fire and rescue service operations. The potential negative impact on ecological and heritage assets should be taken into account when developing a tactical plan, with any physical damage minimised.

Defined paths and tracks

Nature conservation sites often have defined paths and tracks, usually located away from the protected areas that are most susceptible to physical environmental damage. If present, and once it has been

established that they are suitable for fire and rescue service use, including access for vehicles, these defined paths and tracks should be used.

Control point sites

Sites used as rendezvous points (RVPs), forward command points (FCPs), equipment storage areas or tool dumps should be located away from areas susceptible to physical environmental damage.

Fire and rescue service activity

It may be appropriate to establish exclusion zones to protect ecological and heritage assets from fire and rescue service activity.

Consideration should be given to the containment or redirection of polluting materials, including fire water run-off, that could damage sensitive sites.

Liaison with relevant parties

Pre-planning has a significant role in enabling the effective protection of ecological and heritage assets during an incident. If this is carried out with the relevant land owners, land managers or nature conservation bodies, it should help to identify any potential hazards to ecological and heritage assets. Multi-agency groups can help fire and rescue services to determine the most effective strategies and tactics to minimise the environmental impact of incidents on ecological and heritage assets.

Operational risk plans

Knowledge and identification of the most sensitive sites is an important factor in reducing physical environmental damage to those areas.

Each site will have its own environmental damage risks, which can be captured in individual operational risk plans. Where appropriate these plans should include:

- Environmentally safe areas for deployments and movements of fire and rescue service resources
- Identification of areas that are susceptible to physical environmental damage

However, a set of generic action plans will also help to identify common environmental protection activity to be taken in the early stages of an incident. For more information refer to Foundation for environmental protection - Pollution intervention planning.

STRATEGIC ACTIONS

Fire and rescue services should:

Reference	Strategic action	Comment
12852	Ensure that the location of defined paths and tracks are included in operational risk plans or maps	Amend
~~12859~~	~~Be aware of their legal responsibilities under nature conservation legislation, which includes the Environmental Damage (Prevention and Remediation) Regulations (EDR) 2009 for Wales and Scotland or equivalent in Northern Ireland~~	Delete
12860	Consider pre-planning with relevant land owners, land managers or nature conservation bodies for the protection of ecological and heritage assets	Amend
12863	Consider developing operational risk plans for sensitive sites	

806 *TACTICAL ACTIONS*

807 Incident commanders should:

Reference	Tactical action	Comment
~~12853~~	~~Consider the least damaging routes to incidents~~	Delete
12854	Consider using the least damaging routes to incidents and where suitable, use defined paths and tracks	Amend
	Ensure personnel and other emergency responders are advised about which routes, paths and tracks should be used to protect areas susceptible to physical environmental damage	New
~~12855~~	~~Ensure that tracks and pathways are suitable for fire service vehicles~~	Delete
12856	Locate control points away from areas that are susceptible to physical environmental damage	Amend
~~12857~~	~~Carry out an environmental risk assessment~~	Delete
18092	Consider establishing exclusion zones to protect ecological and heritage assets from fire and rescue service activity	Amend
	Contain or redirect polluting materials, including fire water run-off, that could damage sensitive sites	New
12861	Seek advice from relevant parties to determine the most effective strategies and tactics to minimise the environmental impact of incidents on ecological and heritage assets	Amend
~~12726~~	~~Implement an appropriate protection plan when an identified nature conservation site is at risk~~	Delete
~~12587~~	~~Ensure that all relevant incident information is relayed to the incident commander~~	Remove from CM
	Refer to an individual operational risk plan or generic action plan if available, when attending incidents involving ecological and heritage assets	New

808

Hazard – Biosecurity *[previously published in water rescue and flooding guidance]*

HAZARD KNOWLEDGE

Non-native species and exotic animal disease outbreaks can have serious environmental and economic impacts. Exotic animal disease will usually require specific control measures depending on the nature of the pathway.

The Department for Environment, Food & Rural Affairs (Defra) publishes guidance on Environmental management. The Scottish Environment Protection Agency (SEPA) publishes guidance on Biodiversity. The Northern Ireland Department of Agriculture, Environment and Rural Affairs (DAERA) publishes guidance on Biodiversity. During emergencies, government scientific and technical decisions are supported by the Scientific Advisory Group for Emergencies (SAGE).

If invasive non-native (alien) species are transferred, they can transform ecosystems and threaten native species by outcompeting them, degrading habitats and spreading disease. This is usually because of a lack of predators of the invasive non-native species and can cause long-lasting environmental harm, such as profuse plant growth affecting oxygen levels in a body of water.

Whenever fire and rescue services operate, there is a risk that cross-contamination of diseases or invasive non-native species can occur. Environmental harm can be caused by unintentionally transferring species or transmitting diseases along pathways. Fire and rescue services can affect biosecurity by using water from one open water source and allowing it to run off into another, or by transferring materials on vehicles or equipment, including personal protective equipment (PPE) from one incident site to another.

For more information refer to Foundation for environmental protection - Biosecurity and non-native species.

Control measure – Specialist advice: Biosecurity *[previously published in water rescue and flooding guidance]*

CONTROL MEASURE KNOWLEDGE

National response and guidance to an exotic animal disease outbreak will be led by an appropriate government department, with special procedures adopted during outbreaks. They may issue appropriate guidance to emergency responders with the aim of:

- Eradicating the outbreak
- Protecting the health and safety of the public and those involved in controlling the outbreak
- Minimising the burden on the taxpayer and the economic impact of the outbreak
- Minimising the number of animals that need to be humanely destroyed

The control measures required to minimise the effects of emergency responders on the eradication of the disease will depend on the type of outbreak and how it spreads. National and local contingency arrangements and emergency plans are available for identified risks. Fire and rescue services should consider them during development of contingency plans and develop emergency response plans with emergency planning groups.

STRATEGIC ACTIONS

Fire and rescue services should:

Reference	Strategic action	Comment
21385	Work with environmental agencies, government departments and emergency planning groups to develop appropriate emergency procedures for use during exotic animal disease outbreaks	Amend

TACTICAL ACTIONS

Incident commanders should:

Reference	Tactical action	Comment
21386	Follow emergency procedures and any specialist advice provided by appropriate agencies during exotic animal disease outbreaks	Amend

Control measure – Clean equipment, vehicles, clothing and personal protective equipment to maintain biosecurity *[previously published in water rescue and flooding guidance]*

This control measure should be read in conjunction with Containment of polluting materials

CONTROL MEASURE KNOWLEDGE

All equipment, vehicles, clothing and personal protective equipment (PPE) should be thoroughly inspected. Any debris such as mud, plant or animal matter should be removed and left at the site. Attention should be paid to the seams and seals of boots, waders and drysuits. Any pockets of pooled water should be emptied. Equipment should be hosed down or pressure washed on site. The resulting polluting materials should be contained on site and not be allowed to enter any other watercourse or drainage system. If facilities are not available on-site, any contaminated items should be carefully contained. Once cleaned, equipment may require dipping in disinfectant solution. This may prevent the spread of some diseases but is unlikely to kill invasive non-native species.

The GB non-native species secretariat (NNSS) provides 'Check Clean Dry' biosecurity advice:

- **Check** your equipment and clothing after leaving the water for mud, aquatic animals or plant material. Remove anything you find and leave it at the site.
- **Clean** everything thoroughly as soon as you can, paying attention to areas that are damp or hard to access. Use hot water if possible.
- **Dry** everything for as long as you can before using elsewhere, as some invasive plants and animals can survive for over two weeks in damp conditions.

STRATEGIC ACTIONS

Fire and rescue services should:

Reference	Strategic action	Comment
~~21674~~	~~Work with environmental agencies, government departments and emergency planning groups to provide support, guidance, training and resources to reduce biosecurity risks~~	Delete

~~21675~~	~~Develop and maintain appropriate records for Sites of Special Scientific Interest (SSSI) and Site-Specific Risk Information (SSRI)~~	Delete and add biosecurity to the SSRI control measure in Operations
	Provide the means for contaminated equipment, vehicles, clothing and PPE to be sufficiently cleaned and dried to maintain biosecurity hazards	New

873 *TACTICAL ACTIONS*

874 Incident commanders should:

Reference	Tactical action	Comment
21552	Check and clean equipment, vehicles, clothing and PPE before leaving the site to maintain biosecurity	Amend
	Ensure any contaminated items that cannot be cleaned on-site are carefully contained to maintain biosecurity	New
~~21676~~	~~Consider liaising with environmental agencies for advice and support to decontaminate equipment and personnel~~	Delete
	Ensure that after items such as clothing and PPE are cleaned, they are dried for as long as possible before using elsewhere to maintain biosecurity	New

875

Hazard – Leaks from high pressure oil pipelines

This hazard should be read in conjunction with Utilities and fuel – Pipeline failure

HAZARD KNOWLEDGE

A network of high pressure oil pipelines transport flammable liquids, including petrol, diesel, aviation fuel and oil. Several liquids may be in a pipeline and pressures can be as high as 85bar. If a leak or breach occurs, a mixture of liquids could be released.

Oil pipelines are typically 100 to 400mm diameter steel pipes, laid in 1.5m deep excavations. Marker posts normally identify the pipeline route. If damaged, up to two million litres of product could be released over a 30-minute period, resulting in a significant environmental emergency. For more information refer to Foundation for environmental protection - High-pressure oil pipelines.

Pollution from high pressure oil pipelines can occur from:

- Mechanical failure of pipeline machinery
- Accidental pipeline strike
- Illegal activity (pipe tapping)

Control measure – Environmental protection response to leaks from high pressure oil pipelines

CONTROL MEASURE KNOWLEDGE

The response and tactics used will depend on the incident, its location and resource availability. Any incident is likely to be declared a major incident because of the large quantities of highly flammable product released. The fire and rescue service response may include:

- Blanketing the pollutant with firefighting foam to reduce vapour and ignition risks
- Providing resources to protect:
    - Water supplies
    - Ecological and heritage assets
    - Sewerage systems

The pipeline operator should be contacted immediately as they may be able to isolate the section of the pipeline that has been compromised.. For more information refer to Utilities and fuel – Isolate pipelines.

Diversion

In some cases, the oil or other pipeline pollutants can be diverted to areas that are considered to be of less environmental value or having less risk, sometimes referred to as sacrificial areas. For example, it may be appropriate to use low-lying areas, such as roadways.

Emergency plans and diversion strategies, including arrangements for the equipment that would be required, for oil pipeline leaks should be agreed with the agencies involved, which could include:

- Environmental agency
- Highways agency

- Pipeline operator
- Sewerage undertaker
- Nature conservation body
- Public health organisations
- Local authority
- Police
- Landowners
- Marine agency

STRATEGIC ACTIONS

Fire and rescue services should:

Reference	Strategic action	Comment
12867	Identify if high pressure oil pipelines are located in their area of response	Amend
12868	Consider having multi-agency emergency plans and diversion strategies in place for dealing with oil pipeline leaks	Amend

TACTICAL ACTIONS

Incident commanders should:

Reference	Tactical action	Comment
12869	Inform or request the attendance of relevant agencies for responding to an oil pipeline leak	Amend
12870	Follow the established diversion strategy or identify a suitable location that can be used for the diversion of oil from a compromised pipeline	Amend
12871	Notify the environmental agency about the oil pipeline leak so that they can take steps to protect the environment	Amend

Removed or combined components

Control measure – Aeration [CONTENT COMBINED INTO TREATMENT OF POLLUTING MATERIALS]

Control measure – Liaison with conservation bodies [CONTENT COMBINED INTO MINIMISE THE PHYSICAL DAMAGE TO THE ENVIRONMENT]

Control measure – Operational risk information plan (Nature conservation sites) [CONTENT COMBINED INTO MINIMISE THE PHYSICAL DAMAGE TO THE ENVIRONMENT]

Hazard – Smoke plumes [COMBINED INTO POLLUTING MATERIALS: FIRE-RELATED INCIDENTS]

Control measure – Extinguish [COMBINED INTO MINIMISE THE ENVIRONMENTAL IMPACTS OF FIRE-RELATED INCIDENTS]

Control measure – Removal or separation [COMBINED INTO MINIMISE THE ENVIRONMENTAL IMPACTS OF FIRE-RELATED INCIDENTS]

Hazard – Fire water run-off [COMBINED INTO POLLUTING MATERIALS: FIRE-RELATED INCIDENTS]

Control measure – Recycling [COMBINED INTO RECYCLING OR REDUCTION OF FIRE WATER]

Control measure – Reduction [COMBINED INTO COMBINED INTO RECYCLING OR REDUCTION OF FIRE WATER]

Hazard – Firefighting with foam [CONTENT MOVED TO POLLUTING MATERIALS]

Control measure – Substitution [COMBINED INTO USE, CONTAINMENT AND SUBSTITUTION OF FIREFIGHTING FOAM]

Control measure – Containment (Foam) [COMBINED INTO USE, CONTAINMENT AND SUBSTITUTION OF FIREFIGHTING FOAM]

Control measure - Controlled burning [REMOVE FROM ENVIRONMENTAL PROTECTION – THIS CONTROL MEASURE ALSO APPEARS IN FIRES AND FIREFIGHTING, WHICH IS AWAITING REVIEW, AND FIRES IN WASTE SITES]