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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 <i>Biosecurity from Water rescue and flooding</i> to <i>Environmental protection</i> .	Biosecurity is an all incident hazard and therefore should be elevated for inclusion in <i>Environmental protection</i> .
New control measure <i>Risk management: Environmental risks</i> against the hazard of <i>Polluting materials</i> .	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 <i>Risk assessment at an incident: Environmental risks</i> against the hazard	Much of this content previously appeared in the introduction to the guidance. However, the implied

of <i>Polluting materials</i> .	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 <i>Carry out an environmental risk assessment</i> removed.	This is a control measure in its own right.
Control measure <i>Absorption</i> : <ul style="list-style-type: none"> • 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, <i>Treatment of polluting materials</i> , to replace two small control measures for: <ul style="list-style-type: none"> • <i>Aeration</i> • <i>Treatment</i> 	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 <i>Treatment of polluting materials</i> .	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 <i>Disposal</i> .	Provide more generic information about polluting materials.
Create a combined control measure, <i>Minimise physical damage to the environment</i> , to replace three small control measures: <ul style="list-style-type: none"> • <i>Defined paths and tracks</i> • <i>Liaison with conservation bodies</i> • <i>Operational risk information plan (Nature conservation sites)</i> 	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 <i>Corporate guidance for operational activity</i> .
Control measure knowledge about high-volume pumps added to the control measure <i>Extinguish</i> .	To better reflect the use of the control measure in controlling the hazard.
Create a new hazard of <i>Polluting materials: Fire-related incidents</i> to contain the topics of: <ul style="list-style-type: none"> • 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 <i>Control the environmental impacts of fire-related incidents</i> to contain smaller control measures for: <ul style="list-style-type: none"> • 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 <i>Multi-agency response to smoke plumes</i> .	
Create a new combined control measure of <i>Recycling or reduction of fire water</i> , 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 <i>Use, containment and substitution of firefighting foam</i> , 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 <i>Controlled burning: Environmental considerations</i> .	The control measure <i>Controlled burning</i> 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 <i>Diversion</i> changed to <i>Environmental protection response to a leak from a high pressure oil pipeline</i> .	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: <ul style="list-style-type: none"> • Hazardous materials guidance – the control measures for the hazard <i>Environmental harm</i> will need to be updated in alignment with this guidance • In readiness, the hazard <i>Biosecurity</i> and its control measures have been omitted from the draft version of the reviewed standalone <i>Water rescue</i> guidance • Fires in waste sites guidance – the hazard <i>Fire water run-off</i> 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 <i>Biosecurity</i> to the SSRI control measure as a sub-bullet to <i>Environmental risk</i> Updates to related: <ul style="list-style-type: none"> • Training specification • Scenarios 	

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

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4 **Introduction**

5 At an incident, the highest priority for fire and rescue services will always be the safety of the public,
6 ~~personnel and other emergency responders and firefighters.~~ But ~~T~~they must also take into account the
7 potential damage to the environment, ~~caused by the incident itself or the fire and rescue service~~
8 ~~response to it actions, both of which can affect air, land and water.~~

9 Effective and informed action by ~~responders personnel~~ can reduce the environmental impact of incidents
10 and protect public safety. This ~~guidance section of National Operational Guidance~~ sets out the ~~hazards~~
11 ~~that may be encountered~~ knowledge and ~~the~~ control ~~measures~~ that should be considered to protect the
12 environment. It does not give information on the specific risks from hazardous materials, which can be
13 found in National Operational Guidance: ~~Hazardous Materials and the Department for Communities and~~
14 ~~Local Government's hazardous materials guidance.~~

15 This ~~piece of guidance is supported by the Foundation for environmental protection, which was contains~~
16 ~~a number of references to the Environment Agency's Environmental Protection Handbook for the Fire~~
17 ~~and Rescue Service, jointly produced by the Environmental Agencies, and the UK fire and rescue~~
18 ~~services and the Department for Communities and Local Government.~~

19 ~~The structure of this guidance follows the style and format of fire and rescue service National~~
20 ~~Operational Guidance Programme. It relates to specific hazard and control measures following a~~
21 ~~literature review. The control statements support a fire and rescue service in developing policies and~~
22 ~~procedures that deliver the 'safe person' principles and promote the protection of the environment at all~~
23 ~~incidents.~~

24 **Environmental responsibilities**

25 Responsibility for protecting the environment in the UK rests with a number of ~~different~~ organisations
26 ~~including at central and local government levels.~~

27 ~~The most significant of these are the four UK environment agencies:~~

- 28 • ~~the~~ [Environment Agency](#) in England,
- 29 • [Natural Resources Wales](#), ~~the~~
- 30 • [Scottish Environment Protection Agency](#) ~~and the~~
- 31 • [Northern Ireland Environment Agency](#).

32 Each has similar duties and powers to protect and improve the environment, ~~although with there are~~
33 some differences in responsibilities ~~between them, for example in flood risk management, fisheries, and~~
34 ~~controlling industrial discharges and emissions.~~ The term 'environmental agencies' is used in this
35 guidance to refer to these ~~four~~ organisations.

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

- 38 • ~~the~~ [Natural England](#)
- 39 • ~~the~~ [Scottish Natural Heritage](#) ~~Nature Scot~~
- 40 • ~~the~~ [Natural Resources Wales](#)
- 41 • ~~and the~~ [Northern Ireland Environment Agency](#).

42 The [Maritime and Coastguard Agency \(MCA\)](#) is responsible for pollution from shipping and offshore
43 installations, such as oil rigs. The Secretary of State has a power to extend marine responsibilities if it is
44 considered to be in the national interest. [For more information refer to Foundation for the environment -](#)
45 [Marine incidents. See Section 1.8.2, Environmental Protection Handbook.](#)

46 Local authorities have environmental responsibilities, including the impact of smoke from a fire and from
47 vehicle emissions. They deal with complaints related to noise, litter and odour for sites not regulated by
48 environmental agencies and most fly tipping incidents. [For more information refer to Foundation for the](#)
49 [environment - Role of local authorities. See Section 1.3.5, Environmental Protection Handbook.](#)

50 Environmental legislation

51 ~~The Environmental Permitting (England and Wales) Regulations 2010 (EPR 2010)-~~

52 Under the [following regulations](#), it is an offence to cause or knowingly permit the release of pollution to
53 ground or surface waters. This is unless the release is allowed by [an environmental permit](#) or exemption.

- 54 • [The Environmental Permitting \(England and Wales\) Regulations](#)
- 55 • [The Environmental Authorisations \(Scotland\) Regulations](#)

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

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

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

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

66 ~~See Section 1.4, Environmental Protection Handbook. For more information refer to Foundation for~~
67 ~~environmental protection - Fire and rescue services acts and orders.~~

68 ~~Environmental Damage (Prevention and Remediation) (England) Regulations 2015,~~

69 ~~Environmental Damage (Prevention and Remediation) Regulations 2009 in Scotland, Wales and~~
70 ~~Northern Ireland-~~

71 Under the [following](#) regulations, fire and rescue services must take steps to prevent or reduce
72 environmental damage:-

- 73 • [Environmental Damage \(Prevention and Remediation\) \(England\) Regulations](#)
- 74 • [Environmental Damage \(Prevention and Remediation\) \(Wales\) Regulations](#)
- 75 • [The Environment Liability \(Scotland\) Amendment Regulations](#)
- 76 • [The Environment \(Miscellaneous Amendments\) Regulations \(Northern Ireland\)](#)

77 -They must notify the appropriate regulator of:

- 78 • Damage to a site of special scientific interest ([SSSI](#))
- 79 • Damage to species and habitats outside SSSIs ~~that are protected by EU legislation~~
- 80 • Serious long-term damage to ground or surface water ~~that results in a decline in water status~~
81 under:
- 82 o ~~The Water Environment (Water Framework Directive) (England and Wales) Regulations~~ ~~the~~
83 o ~~Water Environment and Water Services (Scotland) Act~~
- 84 o ~~The Water Environment (Water Framework Directive) Regulations (Northern Ireland)~~
- 85 o ~~The Water Environment (Water Framework Directive) Regulations (Northern Ireland)~~
- 86 • Contamination of land by substances or organisms that cause significant risk to human health

87 In normal circumstances there is no defence against a breach of the regulations. However, there is a
88 defence in exceptional circumstances. [For more information refer to Foundation for environmental](#)
89 [protection – Legal defences: pollution](#) ~~See Section 1.4.6, Environmental Protection Handbook.~~

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

93 It is an offence to release polluting material into a sewer without having consent from the sewerage
94 ~~company undertaker~~. Sewerage ~~companies undertakers~~ must be informed when accidental releases
95 occur. [For more information refer to Foundation for environmental protection - Protecting sewerage and](#)
96 [drainage](#) ~~See Section 1.6.4, Environmental Protection Handbook.~~

97 Other ~~relevant~~ legislation ~~includes~~:

98 ~~England and Wales:~~

- 99 • ~~The Control of Major Accident Hazards Regulations, as amended~~
- 100 • ~~Radioactive Substances Act~~
- 101 • ~~The Hazardous Waste (England and Wales) Regulations~~ ~~Hazardous Waste Regulations 2005 (as~~
102 ~~amended)~~
- 103 • [The Waste \(England and Wales\) Regulations](#)
- 104 • [Water Industry Act 1999](#)

105 ~~Scotland:~~

- 106 • [Water Environment \(Controlled Activities\) \(Scotland\) Regulations](#)
- 107 • [Sewerage \(Scotland\) Act](#)
- 108 • [The Special Waste \(Scotland\) Regulations](#)
- 109 • [The Environmental Liability \(Scotland\) Regulations](#)

110 ~~Northern Ireland:~~

- 111 • [The Water \(Northern Ireland\) Order](#)
- 112 • [The Water and Sewerage Services \(Northern Ireland\) Order](#)
- 113 • [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](#). In addition to their responsibilities under the [Fire and Rescue Services Act 2004](#), fire and rescue services must also be aware of their responsibilities under other relevant legislation which ~~that~~ considers the environment.

[The Fire and Rescue Services \(Emergencies\) \(England\) Order: 2007](#) 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.

[The Fire \(Additional Function\) \(Scotland\) Order](#) 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 [Section 4.56.6, Environmental Protection Handbook](#) Foundation for environmental protection - [The fire and rescue services emergency or additional function orders](#).

[Civil Contingencies Act: 2004](#) 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](#)

152 • Fisheries, recreation and conservation

153 • Pollution prevention and legal controls

154 ~~The main responsibilities of the environment agencies are:~~

- 155 ~~• Managing water resources used for public and private water supplies~~
- 156 ~~• Preventing and controlling pollution in inland waters, estuaries and coastal waters (to a distance of three miles)~~
- 157
- 158 ~~• Protecting people and the built environment from flooding~~
- 159 ~~• Regulating emissions and operations at large or complex industrial sites~~
- 160 ~~• Setting consistent standards for treating, storing and moving waste~~
- 161 ~~• Regulating the disposal of radioactive waste from nuclear licensed sites~~
- 162 ~~• Regulating the keeping and use of radioactive materials on sites other than licensed sites~~

163 ~~See Section 1.3, Environmental Protection Handbook.~~

164 ~~Communicating with environment agencies~~

165 Fire and rescue services must have systems to advise environment agencies when there is potential for
166 pollution, or when pollution has occurred. ~~This includes pollution from fire and rescue service actions.~~
167 ~~There is no legal defence where pollution is caused by a fire and rescue service in non-emergency~~
168 ~~situations. For more information refer to Foundation for environmental protection - Incident reporting to~~
169 ~~environment agencies.~~

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

173 ~~A competent agency officer will assess how serious the incident is and decide on the response. The~~
174 ~~environment agencies classify environmental impacts into four categories:~~

175 ~~Category 1: Most serious and damaging~~

- 176 ~~• Category 2: Significant damage and impact~~
- 177 ~~• Category 3: Pollution confirmed — local impact~~
- 178 ~~• Category 4: Event reported but no damage can be confirmed~~

179 ~~Environment agencies will, as soon as is reasonably practicable attend incidents:-~~

- 180 ~~• Where there is or may be a significant environmental impact~~
- 181 ~~• Where a fire and rescue service reasonably requests its attendance~~

182 ~~If the environment agency decides attendance is not appropriate it will advise the fire and rescue service~~
183 ~~of its decision and will provide information to incident commanders over the phone if requested. See~~
184 ~~Section 3.1, Environmental Protection Handbook.~~

185 ~~Scene protocols~~

186 ~~The attending environment agency officer will assess the scene, offer advice or where appropriate,~~
187 ~~under the knowledge and supervision of the fire and rescue service incident commander, take action to-~~

188 prevent or limit pollution.

189 Environment agencies' officers take the following roles:

- 190 • ~~Competent officer: the officer receiving initial details of the incident and determining the response~~
- 191 • ~~Site controller: responsible for co-ordinating the environmental response at the scene~~
- 192 • ~~Base controller: an experienced member of staff responsible for overall incident control~~

193 For smaller incidents the same person may perform more than one role.

194 Environment agencies may also take direct action to control pollution themselves if there is an immediate
195 threat to the environment and the polluter cannot be found or is unable or unwilling to act. See Section
196 3.6, Environmental Protection Handbook.

197 **Responsibilities for motorways and highways drainage**

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

201 There are three major objectives in road drainage:

- 202 • ~~To remove surface water quickly to provide safe roads and minimum nuisance~~
- 203 • ~~To provide effective drainage to maximise the life of the road~~
- 204 • ~~To minimise the impact of run-off on the receiving environment~~

205 Road drainage can be broadly classified into two elements: surface and sub-surface. These two
206 elements are not completely separate from one another.

207 Because it is important that water drains quickly from the road surface, it can be difficult to contain
208 polluted run-off from an incident before it enters a local water body.

209 The highways agencies have access to a wide knowledge base of the area along the national road
210 network, including the location and operation of pollution control devices. They will also be able to call on
211 additional environmental protection equipment and resources from their own incident support units.

212 Storage bins containing pollution control materials are located near many motorway slip roads. The
213 storage bins are kept locked and keys are held by environment agency and highways agency traffic
214 officers. See Section 1.7, Environmental Protection Handbook for further information.

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

217 **For more information refer to Foundation for environmental protection - Motorway and 218 highway drainage, Environmental risk assessment**

219 ~~Incident commanders should conduct an assessment of the environmental risk at incidents they attend.
220 This will help them to identify the potential risks posed by fire service actions on the environment and the
221 control measures, which can be applied to reduce or, where possible, prevent environmental damage.~~

222 ~~An environmental risk assessment should identify:~~

- 223 • ~~Nearby population~~

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225
226
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- Livestock
- Location of local watercourses
- Location of SSSI/sensitive habitats and their proximity to the incident
- Incident location in relation to sensitive groundwater
- Local drainage
- Polluting materials
- Type of media being used
- Quantity of firewater run-off being produced
- Volume/properties of any spilt materials
- Weather conditions

DRAFT

Commented [AG1]: This content is published in the Foundation for environmental protection

235 **Hazard – Polluting materials**

236 ~~This hazard should be read in conjunction with Foundation for environmental protection –~~
237 ~~Pollutant categories~~

238 HAZARD KNOWLEDGE

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

241 ~~Contaminated and p~~ Polluting materials ~~will may~~ affect the environment during ~~or following~~ incidents.
242 ~~Operational-Fire and rescue service~~ actions may ~~result in cause~~ or increase pollution, for example, if fires
243 are extinguished without ~~any-applying appropriate control measures~~ ~~precautionary actions being taken~~ to
244 contain run-off.

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

247 The following ~~table shows some~~ types of ~~incidents and examples of which resultant~~ polluting materials
248 ~~that may affect the environment~~ could result from an incident: ~~See Section 1.2.4, Environmental~~
249 ~~Protection Handbook and National Operational Guidance: Hazardous Materials.~~

Scenario <u>Type of incident</u>	<u>Examples of polluting materials</u>
Road traffic collisions	Oils, fuel, coolants, battery vapours or wash water ether liquids
Spillages of non-hazardous materials	Organic matter, such as beer and-or milk
Spillages of hazardous materials	Corrosive, toxic, and flammable materials
Using first-aid equipment <u>Casualty care</u>	Clinical waste, disposable gloves or dressings, bandages
Fires involving environmentally damaging materials	Contaminated f ire water run-off, toxic -smoke plumes, hazardous materials wastes/residues or foam (included in <u>Polluting materials: Fire-related</u>)
Incidents involving contaminating hazardous materials	Biological, <u>chemical</u> or radioactive materials
<u>Working on, in or near water</u>	<u>Biological hazards, such as infectious diseases or</u> <u>sewage</u> <u>Biodiversity, such as invasive non-native species</u>

250
251 ~~All of these scenarios~~Any incident may result in contaminated personal protective equipment (PPE)
252 ~~and~~ operational equipment. ~~There is no defence under the environmental regulation if pollution of the~~
253 ~~environment is caused by decontamination of PPE, equipment or body bags.~~

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

256 **Control measure – Risk management: Environmental risks**~~Operational risk information-~~
257 **plan**

258 **This control measure should be read in conjunction with Operations – Risk management**~~Site-~~
259 **Specific Risk Information**

260 CONTROL MEASURE KNOWLEDGE

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

263 ~~They should identify and assess:~~

264 ~~Potential pollution sources~~

265 ~~The sensitivity and vulnerability of the local environment. Factors to consider include: Impact on-~~

266 ~~Public and private water abstraction points~~

267 ~~Aquifers~~

268 ~~Bathing water, fisheries and other recreational uses of water~~

269 ~~Nature conservation sites, such as SSSIs~~

270 ~~Other uses of water, for example, agriculture~~

271 ~~Pathways the pollutant will follow using drainage plans and control options, such as the type and location~~
272 ~~of pollution prevention systems~~

273 ~~A basic understanding of environmental science will help fire and rescue services prioritise~~
274 ~~environmental protection work and help them to incorporate environmental risk into risk management~~
275 ~~planning and site specific risk plans. See Section 1.2, Environmental Protection Handbook.~~

276 ~~A template has been prepared to complete an environmental risk assessment.~~

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

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

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

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

292 [Fire and rescue services should work with environmental agencies and other organisations to prepare](#)
 293 [Flood Risk Assessments. For more information refer to Geophysical hazards - Emergency response](#)
 294 [plans: Flooding.](#)

295 ~~Operational risk information plans are prepared in accordance with the Fire and Rescue Services Act~~
 296 ~~2004 and focus on firefighter safety. The plans should also include information on pollution, prevention~~
 297 ~~and control where if a risk to the environment is identified at an incident. For more information refer to~~
 298 ~~Foundation for environmental protection - Using an environmental risk assessment to inform operational~~
 299 ~~risk information plans.~~

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

304 ~~For further information see:-~~

- 305 ~~• [DCLG operational risk information guidance](#)~~
- 306 ~~• [Section 2.2 and 2.3, Environmental Protection Handbook](#)~~
- 307 ~~• [National Operational Guidance: Operations Identify foreseeable risk](#)~~
- 308 ~~• [National Operational Guidance: Incident Command](#)~~

309 STRATEGIC ACTIONS

310 Fire and rescue services should:

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

311 TACTICAL ACTIONS

312 Incident commanders should:

Reference	Tactical action	Comment
17763	Consider pollution prevention information contained within site- specific risk plan 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

313 [Control measure – Risk assessment at an incident: Environmental risks](#)

314 [This control measure should be read in conjunction with Incident command – Risk assessment](#)
 315 [at an incident](#)

316 CONTROL MEASURE KNOWLEDGE

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

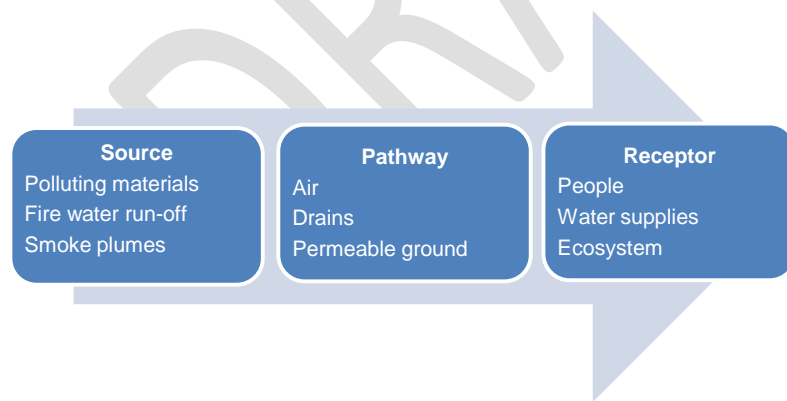
- 321 • For smaller incidents, the [environmental risk assessment](#) may be included as part of ~~the a~~
322 dynamic risk assessment ~~and recorded following as per their service protocols.~~
- 323 • For larger, more protracted incidents or where a known risk to the environment has been
324 identified, a formal [environmental analytical risk assessment](#) should be completed and recorded.

325 ~~After completing the appropriate assessment, a~~ Any identified or suspected risk to the environment ~~either~~
326 ~~known or suspected~~ should be communicated to those attending the incident and [relevant agencies](#)
327 ~~where if appropriate, the relevant agencies. For more information refer to Foundation for environmental~~
328 ~~protection – Operational environmental risk assessments on environmental risk assessment is contained~~
329 ~~in Section 3.4 of the Environmental Protection Handbook.~~

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

332 **Source_P-pathway_R-receptor model**

333 Applying a source, pathway, receptor model may help to control and reduce the risks of
334 pollution. ~~Pollution control should be carried out using a Source-Pathway-Receptor model.~~ The first action
335 is to identify the source of any hazards to the environment ~~(the source)~~. When a hazard is identified,
336 measures should be taken to prevent or reduce the risk of pollutants reaching (via a pathway)
337 vulnerable ~~parts~~ receptors in the environment ~~(the receptor)~~. ~~For example, contaminated fire water (the~~
338 ~~source) could travel via surface drains (the pathway) into a local watercourse (the receptor).~~





STRATEGIC ACTIONS

Fire and rescue services should:

Reference	Strategic action	Comment
	<u>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</u>	<u>New</u>

TACTICAL ACTIONS

Incident commanders should:

Reference	Tactical action	Comment
	<u>Determine which environmental risk assessment approach is required</u>	<u>New</u>
12778	<u>Appropriately include, complete and record an environmental risk assessment</u> Consider carrying out an environmental analytical risk assessment	<u>Amend</u>
18088	Communicate any <u>Ensure identified or suspected risks</u> to the environment <u>are communicated</u> to those attending the incident, and relevant agencies <u>organisations</u> if appropriate	<u>Amend</u>
12767	Monitor <u>and review</u> the <u>environmental</u> impact of fire and rescue service tactics activity on the identified environmental risk	<u>Move from previous CM and amend</u>
18081	<u>Apply a source, pathway, receptor model to control and reduce the risks of pollution</u> Attempt to control pollution using a Source— Pathway— Receptor model	<u>Amend (moved from another CM)</u>

Control measure – ~~Access to s~~ 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. Seek specialist advice at any incident that could pollute the environment. This could be a hazardous materials adviser or third party expert.

See:

- ~~National Operational Guidance: Incident Command – Situational Awareness~~
- ~~National Operational Guidance: Operations – Reduce exposure~~
- ~~Delegating environmental protection HEMPAs~~

STRATEGIC ACTIONS

Fire and rescue services should:

Reference	Strategic action	Comment
12811	Consider alerting mobilising or involving a H azardous M aterials A dviser about (HMA for any incidents with the potential to pollute the environment, not only those incidents involving hazardous materials. See section 3.3, Environmental Protection Handbook	<u>Amend</u>
12812	Identify triggers where the local environmental agency should be informed or where advice should be requested	<u>Delete</u>
	<u>Maintain a directory of contact details for specialist environmental protection advisers</u>	<u>New</u>
12813	Secure access to more detailed advice from scientific advisers or from the Chemsafe <u>HEMSAFE</u> service provided by the National Chemical Emergency Centre (NCEC)	<u>Amend</u>

TACTICAL ACTIONS

Incident commanders should:

Reference	Tactical action	Comment
18089	Ensure that all appropriate environmental agencies are informed of the incident when required	<u>Delete</u>
12814	Consider seeking specialist advice from a HMA on remedial action for spillages and fire water run off	<u>Delete</u>
12816	Request advice from appropriate environmental protection agencies	<u>Delete</u>
12817	Consider <u>requesting appropriate</u> specialist advice <u>for incidents with the potential to pollute the environment</u> from: <ul style="list-style-type: none"> Chemical suppliers whose products are held at the incident site Contracted specialist advice Chemsafe • <u>National Chemical Emergency Centre (NCEC)</u> 	<u>Amend</u>

	<u>Record details of the specialist advice received and what actions were taken based on the information provided</u>	<u>New</u>
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)

368 **Control measure – Specialist resources: Environmental protection**

369 **This control measure should be read in conjunction with [Incident command - Specialist](#)**
370 **[resources](#)**

371 **CONTROL MEASURE KNOWLEDGE**

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

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

378 **Hazardous materials advisers**

379 Fire and rescue service hazardous materials advisers (HMAs) should have received appropriate training
380 for incidents involving hazardous materials and environmental hazards, including for larger-scale
381 incidents. They may be deployed at an incident to monitor or manage environmental protection activities;
382 this may be especially beneficial at multi-agency incidents where specialist resources are in use. For
383 more information refer to [Foundation for environmental protection – Training for environmental](#)
384 [protection](#).

385 **Fire and rescue service resources**

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

391 A standard list of equipment for grab packs and EPUs is provided in the [Foundation for environmental](#)
392 [protection – Environmental protection: Operational strategies, techniques and equipment](#).

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

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

398 rescue services.

399 **Partner agencies**

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

- 402 • Environmental agencies:
 - 403 ○ Specialist pumps
 - 404 ○ Containment equipment
 - 405 ○ Substance identification
 - 406 ○ Equipment for confined space operations
- 407 • Highways agencies:
 - 408 ○ Equipment on front line appliances
 - 409 ○ Incident response units with additional containment equipment
- 410 • Local authorities:
 - 411 ○ Containment equipment, often carried on traffic management vehicles
- 412 • Water and sewerage undertakers:
 - 413 ○ Containment equipment

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

419 **External specialist resources**

420 A wide range of external specialists may be able to provide environmental protection assistance. This
421 includes private companies that specialise in the clean-up and transportation of hazardous waste. If
422 external specialists may be required, an early request should be made as their response time may be
423 extended.

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

426 **Cost recovery**

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

430 **STRATEGIC ACTIONS**

431 Fire and rescue services should:

Reference	Strategic action	Comment
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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 <u>Identify or develop personnel for the specialist role of hazardous material advisers</u>	<u>Amend - relevant content moved to CMK</u>
	<u>Establish joint working arrangements with specialist environmental protection resources</u>	<u>New</u>
	<u>Consider participating in joint training and exercises to ensure relevant personnel have an understanding of working arrangements for environmental protection resources</u>	<u>New</u>
	<u>Maintain a directory of specialist environmental protection resources</u>	<u>New</u>

432 TACTICAL ACTIONS

433 Incident commanders should:

<u>Reference</u>	<u>Tactical action</u>	<u>Comment</u>
12815	Consider the appointment of a hazardous materials adviser (HMA (or equivalent) to monitor or manage/oversee environmental protection activities	<u>Amend</u>
18091	Consider requesting specialist resources from own or neighbouring fire and rescue services, or partner agencies for appropriate environmental protection (EP) resources (e.g. hazmat advisor, EP equipment, pumps)	<u>Amend</u>
	<u>Consider requesting appropriate external specialist environmental protection resources</u>	<u>New</u>
	<u>Attempt to obtain details of the polluter for cost recovery purposes if environmental protection resources are used</u>	<u>New</u>

434 **Control measure – Containment of polluting materials**

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

437 CONTROL MEASURE KNOWLEDGE

438 ~~The principle of containment whenever~~ If practicable and safe to do, and unless there is a threat to life,
439 containment ~~is~~ is the preferred approach to managing incidents where polluting liquids or materials may
440 pollute/harm ~~the environment, have been released or generated by on-site activities, including firefighting.~~

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

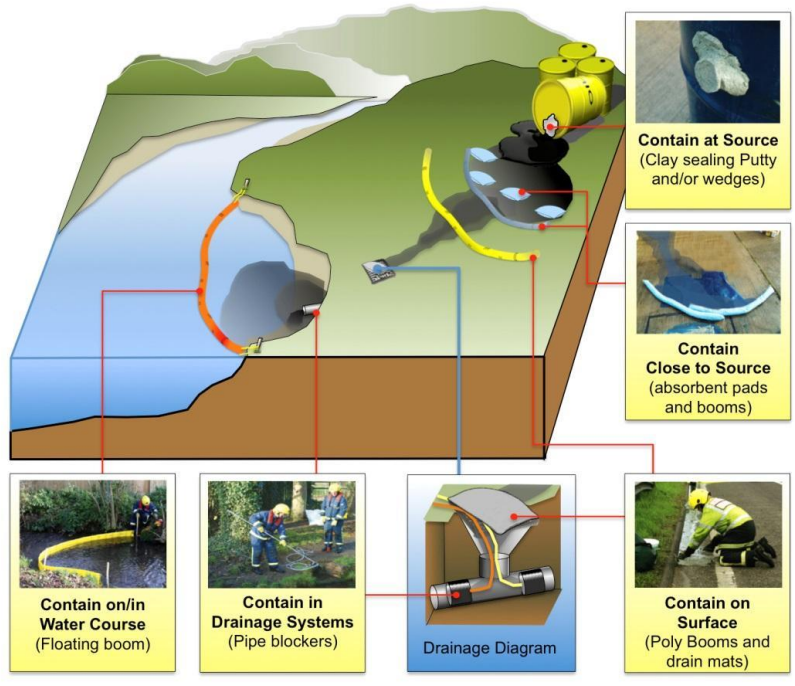
- Hierarchy Stage 1 – Contain at source: The most effective intervention is to stop a pollutant at source, the point where a pollutant is escaping from a container, tanker, pipework or other vessel
- Hierarchy Stage 2 – Contain close to source: Where it is not possible or practicable to contain the product 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.

Hierarchy	Activity	Description
1	Containment at source	The most effective intervention point is where the source of pollution can be controlled to stop or reduce the volume released. Methods include the use of clay seal putty, leak sealing devices, wedges, and drums. Contaminated fire water will ideally be contained at an incident scene either inside the building or as close to it as possible.
2	Containment close to source	The next point of intervention is as close to the source as possible. This may be when it is not possible to contain at source or where there has already been significant loss of pollutant. Methods include the use of grab packs, booms and pop-up pools.
3	Containment on the surface	The most common way for contaminants to enter the environment is via drainage systems. Methods to prevent this include the use of booms, clay drain mats, pipe blockers, pumps, and inflatable dams.
4	Containment in drainage system	Pollutants may be contained in drainage systems if they have already entered the system. This can be carried out using in-built pollution control devices in the drainage systems such as oil separators, drain closure valves and containment lagoons/tanks and ponds. Such a system should allow predictable volumes of run-off to be stored, although allowance should be made for rainfall and how well systems have been maintained. Portable equipment such as pipe blockers can also be used.

5	Containment on or in watercourse	The deployment of booms on a watercourse downstream of an incident is of significant benefit where a pollutant floats. Damming can be used where pollutants are mixed or do not float but is normally restricted to small ditches and streams with low flows. Booms can also be deployed around drinking water intakes.
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See Section 3.2, [Environmental Protection Handbook](#).

Pollution Hierarchy



Commented [AG2]: Diagram included in the Foundation for environmental protection

Advice or assistance for containment should be requested from environmental agencies, hazardous materials advisers or other organisations if required. In some areas places the environmental agencies have keep large volume pumps that can be used to support, supplement 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 is an alternative that can be considered by fire and rescue services. Foul sewerage systems can be used to contain polluting material, if approved by the sewerage company undertaker and environmental agency. When doing so, take 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.

477 It may ~~also~~ be possible to divert ~~pollutants-polluting materials~~ to a local sewage treatment works, where
 478 ~~the pollutant they~~ can ~~either~~ be treated ~~in the treatment process~~ or contained ~~in storm tanks~~ before
 479 ~~deciding on their~~ disposal. ~~These tanks are present at many~~ Sewage treatment works ~~have storm tanks~~
 480 ~~that~~ are used to store the large volumes of diluted sewage produced during high rainfall. Approval from
 481 the sewerage ~~company undertaker~~ must be sought before diverting pollutants to a sewage treatment
 482 works; ~~because~~ the treatment process can be affected if levels of pollution are too high ~~and~~. ~~This would~~
 483 result in the release of both pollutants and untreated or partially treated sewage. ~~See Section 1.66,~~
 484 ~~Environmental Protection Handbook.~~

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

490 ~~Unless there is an immediate risk to life, containment measures can be used and~~

491 ~~For further information see the Environmental Protection Handbook.~~

492 STRATEGIC ACTIONS

493 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 sewerage 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

494 TACTICAL ACTIONS

495 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 of the incident and fire service actions on the any identified environmental risk	Amend

18024	Consider the legal exemptions in relation to environmental protection- i.e. <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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 inform and/or seek advice or assistance for containment from environmental agencies, hazardous materials advisers, sewerage undertakers and/or other appropriate organisations sewerage undertakers where necessary	Amend
18082	Consider diverting polluting materials to holding areas or sacrificial areas for off-site containment, with appropriate approval that will not affect firefighting operations	Amend
12734	Consider diverting polluting materials to local the nearest sewage treatment works for containment or treatment, with their approval and whether it has the capacity to contain and or treat fire water run-off? Establish the location of	Amend
12775	Consider the availability and appropriate use of pollution control devices if permission can be obtained equipment and/or pollution containment facilities on site	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

~~In certain situations the best way to~~ When dealing with domestic quantities of ~~spillage~~ polluting materials, it may be appropriate to dilute ~~them~~ with a large ~~amount~~ 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. -

~~advice and guidance from environment agencies should be sought before making any attempt to dilute. Never add.~~

Approval should ~~also~~ be ~~obtained~~ sought from the environmental agency ~~and~~ sewerage ~~company~~ undertaker before diluting ~~polluting materials, a spillage~~ unless there is a threat to an immediate life risk. In such circumstances they ~~must~~ should be informed as soon as is reasonably practicable.

~~d~~ Detergent or ~~any~~ other cleaning products ~~should not be added to spillages~~ polluting materials ~~and never hose~~ spillages ~~hosed~~ to the drain without prior ~~agreement by~~ authority from the ~~appropriate~~ environmental agency ~~ies~~ and/or sewerage undertakers.

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

513 [See Guideline notification criteria Appendix 4, Environmental Protection Handbook For more information](#)
 514 [refer to Foundation for environmental protection - Additional pollution control techniques.](#)

515 **STRATEGIC ACTIONS**

516 Fire and rescue services should:

Reference	Strategic action	Comment
42810	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 adviser (HMA), receive specialist environmental training. This training should place emphasis on larger-scale incidents where there is significant environmental risk	Delete
42811	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
42812	Identify triggers where the local environment agency should be informed or where advice should be requested	Delete
42813	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

517 **TACTICAL ACTIONS**

518 Incident commanders should:

Reference	Tactical action	Comment
12820	Contain the spill 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 Seek guidance from environment agencies before diluting polluting materials any attempt at dilution	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 Not flush spillages down drains unless given permission to do so by the relevant organisation without approval from: <ul style="list-style-type: none"> • The local environment agency • Sewerage company 	Amend
42823	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

519 **Control measure – Absorption of polluting materials**

520 **CONTROL MEASURE KNOWLEDGE**

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

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

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

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

532 ~~Fire and rescue services will normally have the responsibility for disposing of waste they generate at~~
 533 ~~incidents they attend.~~

534 **STRATEGIC ACTIONS**

535 Fire and rescue services should:

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

536 **TACTICAL ACTIONS**

537 Incident commanders should:

Reference	Tactical action	Comment
12827	<u>Determine if the polluting materials can be dealt with by using</u> an <u>Consider the</u> appropriate type of absorbent material <u>to be used for</u> the pollutants	<u>Amend</u>
12828	Consider the benefits of using absorbents against the cost of disposal	<u>Delete</u>
	<u>Consider using the grab packs provided by an environmental agency</u> <u>or alternatives to absorb polluting materials</u>	<u>New</u>
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.	<u>Delete</u>
12830	<u>Hand over the absorbent material waste to the responsible person, or</u> <u>make arrangements for its disposal</u> Consider identifying who is responsible for the disposal. See <u>Disposal</u> section in <u>Fire water run</u> <u>off</u>	<u>Amend</u>

538 **Control measure – Treatment of polluting materials**

539 **CONTROL MEASURE KNOWLEDGE**

540 **Aeration**

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

545 **Chemical treatment**

546 Treatment of pollution in a watercourse, for example using activated carbon, or hydrogen peroxide, are
547 specialised techniques employed by an environmental agency or specialist contractor ~~rather than fire-~~
548 ~~and rescue service personnel~~. However, fire and rescue services may be asked to assist in the
549 emergency phase of an incidents where ~~thesesuch~~ techniques are employed.

550 **Memoranda of understanding**

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

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

556 **STRATEGIC ACTIONS**

557 Fire and rescue services should:

Reference	Strategic action	Comment
12838	Identify environmental protection activities that will need to be delivered by an environmental agency or specialist contractor and will not be carried out by fire and rescue service personnel and equipment	<u>Amend</u>
	<u>Consider establishing memoranda of understanding for assisting environmental agencies and specialist contractors with the treatment of polluting materials</u>	<u>New</u>

558 **TACTICAL ACTIONS**

559 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.	<u>Delete</u>
12841	<u>Assist environmental agencies and specialist contractors with the treatment of polluting materials if required. Ensure that where fire and rescue service personnel or equipment are requested to assist with any form of treatment activity a close liaison with the local environment agency and, where appropriate, specialist advisers is maintained</u>	<u>Amend</u>

560 **Control measure – Transportation of polluting materials**

561 **CONTROL MEASURE KNOWLEDGE**

562 There are strict controls on transporting hazardous waste. Fire and rescue services do have
563 dispensation in exceptional, life-saving circumstances. See Section 3.10.3, Environmental Protection
564 Handbook. For more information refer to:

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

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

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

576 **STRATEGIC ACTIONS**

577 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	<u>Retain</u>
12833	<u>Provide PPE suitable for dealing with</u> Develop procedures for the transportation and storage of small quantities of non-hazardous waste, which includes items such as disposable gloves or chemical protection suits. See Section 3.10.4, Environmental Protection Handbook	<u>Amend</u>

578 **TACTICAL ACTIONS**

579 Incident commanders should:

Reference	Tactical action	Comment
12777	Act within <u>Consider the legal exemptions if it is necessary to transport hazardous waste. See Environmental legislation</u>	<u>Amend</u>
12835	Consult with the relevant environmental agency if <u>Ensure that in the event that emergency transportation of hazardous waste is required, the relevant environment agency is to be informed of the incident as soon as possible and is involved in the decision to transport hazardous waste</u>	<u>Amend</u>
12836	Follow <u>Ensure that fire and rescue service procedures and use appropriate PPE for</u> relating to management the and transportation or storage of small quantities of non-hazardous waste are followed	<u>Amend</u>

580 **Control measure – Disposal of polluting materials**

581 *CONTROL MEASURE KNOWLEDGE*

582 The disposal of polluting materials, including fire water run-off, may be an appropriate action to take for
583 an incident. Disposal can be achieved by different means, depending on the situation and resources
584 available.

585 During the early stages of an incident, when activities to prevent harm or stop the incident developing
586 are the priority, when the fire service activities are more dynamic, it may not always be possible to
587 contain fire water safely. In these circumstances use of the disposal to a foul sewer may should be
588 considered suitable, and is likely to be required for fire water run-off disposal. However, this method
589 may be appropriate for other polluting materials, such as chemically contaminated wash water,
590 contaminated potable water or other spillages.

591 ~~The flow rates~~ should be controlled to avoid the foul sewer overflowing. Failure to control the flow could
592 result in polluting water materials entering the water environment. ~~See Fire water run-off.~~

593 ~~At some incidents, if the foul sewerage system is considered may be the best disposal option. If this is the~~
594 ~~case, the sewerage company undertaker will need to be involved must be contacted.~~ They will consider
595 the request and take account of the likely impact if they do not approve the discharge. Agreement from
596 the appropriate environmental agency ~~must should~~ be obtained before any release takes place. ~~This~~
597 ~~may initially can~~ be obtained by telephone, ~~which is later but must be~~ applied for and confirmed in writing
598 ~~later. See Section 1.6.6, Environmental Protection Handbook.~~

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

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

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

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

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

615 For more information refer to:

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

618 ~~For further information see Section 3.10.3 Environmental Protection Handbook: The movement of~~
619 ~~hazardous waste by the fire and rescue service in emergencies.~~

620 ~~For further information see Section 3.2.8 Environmental Protection Handbook.~~

621 STRATEGIC ACTIONS

622 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: <ul style="list-style-type: none"> • 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
	<u>Consider participating in joint training and exercises at sites with existing arrangements for the disposal of polluting materials</u>	<u>New</u>

623 TACTICAL ACTIONS

624 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: <ul style="list-style-type: none"> • 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	<u>Determine the most appropriate method to dispose of polluting materials</u> Identify if there are any alternative methods of disposal: <ul style="list-style-type: none"> • Suitable site arrangements for a waste disposal • Tankering away the contaminated water 	<u>Amend</u>
12759	Contact the relevant sewerage undertakers if use of the if discharge is to foul the water sewerage system is the preferred disposal option for polluting materials	<u>Amend</u>
	<u>Control flow rates of polluting materials to avoid the foul sewer overflowing</u>	<u>New</u>
12758	Obtain agreement from the relevant environmental agency before any release of polluting materials takes place is informed of the incident as soon as possible and is be involved in the decision to discharge	<u>Amend</u>

	<u>Refer to Site-Specific Risk Information (SSRI) or on-site emergency boxes for pre-existing arrangements for the disposal of polluting materials</u>	<u>New</u>
	<u>Identify the responsible party for the disposal of polluting materials and arrange for them to be contacted</u>	<u>New</u>
	<u>Be prepared to inform the responsible party about their responsibility to contain, organise and remove waste if the environmental agency is not present</u>	<u>New</u>
42760	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: <ul style="list-style-type: none"> ● 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 	<u>Delete</u>
48083	Identify potential drainage routes for fire water run-off and released vehicle content	<u>Delete</u>
48086	Ensure that waste products created by the fire and rescue service are disposed of legally and responsibly	<u>Delete</u>

Control measure – Decontamination of polluting materials

CONTROL MEASURE KNOWLEDGE

Use of Decontaminating equipment at the incident site ~~will~~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 ~~company~~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 ~~company~~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.

~~Where~~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. ~~This is not the case when decontaminating equipment, appliances and roadways. However, T~~here is no legal defence if pollution is caused ~~following by the~~ decontamination of equipment, appliances, roadways or body bags.

~~If required~~Where there is uncertainty, advice ~~should~~may be ~~requested~~sought from:

- Environmental agencies
- Tactical advisers, including:
 - ~~Hazardous materials advisers (or equivalent)~~
 - ~~Fire and rescue service~~ High volume pump (HVP) ~~tactical~~subject matter advisers
- The ~~local~~ sewerage ~~company~~undertaker

646 STRATEGIC ACTIONS

647 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

648 TACTICAL ACTIONS

649 Incident commanders should:

Reference	Tactical action	Comment
12847	Consider the level type of decontamination involved and develop an appropriate tactical plan to deal with it whether it is necessary to contain the decontamination agents used.	Amend
12849	Gain approval from the sewerage undertaker or environmental agency where any form of decontamination activity if required is carried out Consider informing the local sewerage undertaker or environmental agency where any form of decontamination activity if required is carried out	Amend
12848	Consider where people are being decontaminated; public drinking water supplies must be protected from the effects of run-off produced by the decontamination of polluting materials. (Consider the deployment of additional environmental protection equipment) Protect drinking water supplies from the effects of 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

650

651 **Hazard – Polluting materials: Fire-related incidents**

652 **HAZARD KNOWLEDGE**

653 Fires in bulk amounts of combustible materials, such as those found at open-air storage or waste sites,
654 particularly those storing waste can create large volumes of polluting smoke and fire water containing a
655 wide range of pollutants. Fires can spread, be very deep-seated and burn for a prolonged period. They
656 may also have several seats of fire. For more information refer to Fires in waste sites – Stacked
657 materials.

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

661 **Smoke plumes**

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

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

668 **Fire water run-off**

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

- 671 • Direct run-off into a body of water
- 672 • Soaking away into the ground
- 673 • or by Entering drainage systems, which These systems may then transport fire water pollutants
674 in the firewater into:
 - 675 ○ Rivers
 - 676 ○ Lakes
 - 677 ○ Estuaries and the sea
 - 678 ○ Groundwater
 - 679 ○ or to Sewage treatment works

680 Introducing a heated liquid into a watercourse is also a form of pollution, as because it may cause de-
681 oxygenation or kill aquatic organisms. See Section 1.6, Environmental Protection Handbook For more
682 information refer to Foundation for environmental protection - Surface water, groundwater and foul and
683 surface drainage systems.

684 **Firefighting foam**

685 Although Firefighting foam is a polluting material, causes water pollution. This should not stop fire and
686 rescue services from using foam if required where there is an operational need. In most cases,
687 preventive action can be taken to limit any impact. Using foam can also have environmental benefits,
688 such as reducing water use and extinguishing a fire more quickly.

689 The main environmental effects of firefighting foams are:

- 690 • They can lead to ~~the~~ de-oxygenation of water
- 691 • They can be toxic to aquatic life
- 692 • They may ~~and~~ present risks to drinking water supplies
- 693 • Some compounds in them do not break down in the environment and can accumulate in plants
- 694 and animals

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

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

697 CONTROL MEASURE KNOWLEDGE

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

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

705 **Multi-agency response to smoke plumes**

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

- 708 • Fire and rescue services, including:
 - 709 ○ Hazardous materials advisers (HMAs)
 - 710 ○ Waste fire tactical advisers
 - 711 ○ High volume pump tactical advisers
- 712 • Incident commanders should take advice from ~~e~~Environmental agencies
- 713 • ~~, p~~Public health bodies/organisations
- 714 • Local authorities
- 715 • ~~and the p~~Police at fires that produce large amounts of toxic smoke.

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

719 Information and advice should be used to make a joint decision about how to deal with the fire and
720 smoke plume. This will help them decide whether or not to extinguish the fire based on the environmental
721 and public health implications/impacts. ~~If they decide to extinguish the fire then pollution control~~
722 measures should be used to protect bodies of water from fire water run-off.

723 **Extinguish the fire**

724 The fire and rescue service can greatly assist environmental agencies by sharing knowledge about

725 tactical plan options for extinguishment and be assisted by the knowledge of the environmental agencies
726 about potential environmental damage. This shared understanding will enhance decision-making with
727 regards to extinguishing the fire using appropriate firefighting media.

728 If significant smoke plumes present a risk to the environment, large quantities of water and resources
729 may be required to implement an effective tactical plan. Fire and rescue service high volume pumps,
730 (HVPs), fixed installation pumps or pumps ~~secured-supplied by~~ from a third party, including
731 environmental agencies, ~~supplier~~ can be used to provide water for firefighting. Water may be provided by
732 the mains supply or open sources; however, the impacts of usage should be monitored to avoid a loss of
733 water supplies to the area or damage to ecosystems.

734 When using this type of equipment or when large volumes of water are being pumped, the appropriate
735 environmental agency must should be informed. ~~As well as containing run-off, care should be taken not~~
736 ~~to draw too much water because this can threaten water supplies and damage ecosystems.~~

737 Removal or separation of materials involved in fire

738 For specific guidance on fires involving waste sites see National Operational Guidance: Fires in waste
739 sites (including renewable energy facilities).

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

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

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

- 748 • Extinguish the fire using:
 - 749 ○ Water jets
 - 750 ○ Bunded pools
 - 751 ○ Tanks of water
- 752 • Use a controlled burning strategy
- 753 • Bury it, with the approval of the appropriate environmental agency and permission of the land
754 owner

755 For more information refer to:

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

758 STRATEGIC ACTIONS

759 Fire and rescue services should:

Reference	Strategic action	Comment
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	<u>Consider identifying or developing specialist personnel who can be mobilised to or provide advice for fires that produce large smoke plumes</u>	<u>New</u>
12790	<u>Establish sources of high volume pumps and how these can be requested</u> Develop procedures that incorporate the use of high-volume pumps for incidents that will require large volumes of water-fighting media to extinguish a fire	<u>Amend</u>
12791	<u>Identify sites where combustible materials may need to be extinguished using large volumes of water, and consider establishing joint working practices with relevant organisations</u> Liaise with local environment agencies, local authorities' statutory resilience forums to identify and formulate plans for sites that are likely to produce significant smoke plumes/require large amounts of water to extinguish if involved in fire. See National Operational Guidance: Operations. Identify foreseeable risk	<u>Amend</u>
12792	<u>Have procedures in place for the safe decontamination of high-volume pumping equipment after use. See the following sections of the Environmental Protection Handbook:</u> <ul style="list-style-type: none"> • 1.6.6 Protocol for disposing of contaminated water and associated wastes at incidents • 2.12.1 High volume pump decontamination 	<u>Delete (contained in the NR HVP control measures)</u>
12799	<u>Develop operational procedure for incidents involving fires at waste sites</u>	<u>Delete</u>
	<u>Identify sites where combustible materials may need to be removed or separated, and consider establishing joint working practices with relevant organisations</u>	<u>New</u>

760 TACTICAL ACTIONS

761 Incident commanders should:

Reference	Tactical action	Comment
	<u>Co-ordinate the smoke plume response with other organisations in attendance, applying the JESIP principles</u>	<u>New</u>
12793	<u>Request high volume pumps and specialist assistance for their use at a fire where the tactical plan requires large volumes of firefighting media</u> Seek technical advice – for instance, from a Hazardous Materials Advisor (HMA) or product specialist before deploying a high-volume pump	<u>Amend</u>
12794	<u>Consider the impact on water supplies to the area or damage to ecosystems</u> Complete an environmental risk assessment before deploying a high volume pumps	<u>Amend</u>
12795	Notify the local environmental agency if each time a high volume pump is deployed used or if where large volumes of water are required being pumped	<u>Amend</u>
12796	Consider the use of local environment agency pumps for incidents that are likely to be significantly protracted	<u>Delete – in CMK</u>
12797	Consider the decontamination of high volume pumping equipment after use	<u>Delete – included in HVP guidance and in the decontamination CM</u>
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	<u>Delete</u>

	provide rapid 'knock down' but often has minimal long term effects on larger waste fires)	
12801	Consider <u>using appropriate equipment to remove or separating burning material to create a firebreak, provide better access to seats of fire or apply alternative extinguishing techniques from the fire using heavy plant and extinguishing it with:</u> <ul style="list-style-type: none"> • Water jets • In bunded pools • Tanks of water • Controlled burn • <u>Burial with approval of the appropriate environment agency</u> 	<u>Amend (some content moved to CMK)</u>
12802	Make use of specialist fire and rescue service or on-site environmental protection equipment	<u>Delete</u>
12752	Consider a controlled burn strategy; see Controlled burning	<u>Delete</u>

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

763 **CONTROL MEASURE KNOWLEDGE**

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

767 **Fire water recycling**

768 ~~Pumps can be used to recycle fire water, but at an incident. It is important that this act of recycling~~
769 ~~water does not make the situation worse. Consistent/Repeated recycling of fire water run-off will~~
770 ~~increase the concentration of pollution, and the risk of spreading pathogens/contaminants contained~~
771 ~~within the recycled water spray.~~

772 ~~-Controls need to be put in place to incident commanders should make ensure that the recirculated-~~
773 ~~recycled fire water vapour cannot cause is not harmful to emergency responders/either to personnel~~
774 ~~attending the incident or the local population, -based on their location and distance from the incident.~~

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

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

784 A strategy for recycling fire water should consider:

- 785 • Monitoring the impact of recycling fire water and any identified risks
- 786 • The use of dams, pools, containment tanks or lagoons to reduce the possibility of blockages from
787 particles contained in the fire water run-off

788 • Replacing a proportion of the recycled fire water with fresh water, to reduce the level of pollutants
789 and debris in the fire water being applied

790 • The need to decontaminate equipment, including personal protective equipment (PPE)

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

795 • ~~Relevant e~~Environmental agency

796 • Public health ~~body~~organisation

797 • Tactical advisers:

798 ○ Bulk media

799 ○ Waste fire

800 ○ ~~Hazardous materials~~-adviser

801 • Sewerage undertakers

802 • Scientific advisers

803 For ~~further more~~ information ~~see Section 3.2.8 Environmental Protection Handbook~~ refer to Foundation
804 for environmental protection - Additional pollution control techniques.

805 Reducing the volume of fire water

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

809 The amount of fire water used, and therefore the amount of fire water run-off, can be reduced by using
810 water sprays instead of jets ~~and or~~ by using hand-held jets instead of ground monitors. ~~This will reduce~~
811 ~~the amount of fire water run-off.~~

812 STRATEGIC ACTIONS

813 Fire and rescue services should

Reference	Strategic action	Comment
12738	Have procedures for recycling fire water run-off <u>Consider procuring</u> <u>equipment suitable for recycling fire water run-off</u>	<u>Amend</u>
12739	<u>Establish arrangements with specialists</u> Where appropriate, have procedures for testing pollutants in recycled fire water run-off. This maybe undertaken by: <ul style="list-style-type: none">• Relevant environment agencies (biological and chemical sampling)• Sewage undertakers• Public health bodies• Alternative supplier/laboratories	<u>Amend</u>

	<ul style="list-style-type: none"> • Tactical advisers • Hazardous materials advisers/technical support teams 	
12750	Consider <u>procuring equipment that can be used to apply fire water maintaining a stock of hand-controlled branches capable of producing a fire fighting jet and/or water spray</u> at reduced levels of flow	<u>Amend</u>

TACTICAL ACTIONS

Incident commanders should

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

816 **Control measure – Use, containment and substitution of firefighting foam**

817 **CONTROL MEASURE KNOWLEDGE**

818 **Use and containment of firefighting foam**

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

823 The ability to contain firefighting foam run-off is preferable to allowing uncontrolled discharge of ~~if foam~~
824 ~~run-off~~ to drains. Foam ~~containment and~~ run-off is a form of polluting material that should be dealt with
825 by using the control measures for the hazard of Polluting materials, are the same as those for fire water
826 run-off. See Fire water run-off.

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

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

- 833 • Responsible person
- 834 • Environmental agency
- 835 • Nature conservation bodies
- 836 • Sewerage undertaker
- 837 • Local authority
- 838 • Highways agency

839 If firefighting foam may need to be used near or in sensitive sites, such as sites of special scientific
840 interest (SSSI) or water sources, risk assessments should include considerations about its potential
841 impacts and Extra care should be taken when using firefighting foam close to water sources or
842 sensitive environmental areas.

843 ~~Some sites have oil separators in drainage systems. Firefighting foam run-off should not be allowed to~~
844 ~~enter an oil separator because it will pass through it unaffected and may also flush oil into the drainage~~
845 ~~system. See Section 3.9, Environmental Protection Handbook.~~

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

852 **Substitution of firefighting foam**

853 ~~Where~~ If using firefighting foam has been applied and there is could present a significant risk to the
854 environment, substitution using alternative approaches should be considered, such as ~~evaluate~~:

- 855 • ~~Using a~~ Alternative types of foam ~~(if available)~~
- 856 • Using a different extinguishing media
- 857 • ~~Using H~~ high-pressure water fogging systems ~~(if available)~~
- 858 • ~~Adopting a controlled burning~~ strategy.

859 STRATEGIC ACTIONS

860 Fire and rescue services should

Reference	Strategic action	Comment
12782	When If procuring foam concentrate, identify assess the environmental risks of its use and ensure relevant personnel are aware of the risk identified impact and adjust procedures accordingly	<u>Amend</u>
12781	Implement protocols for Identify where alternative methods of extinguishing fires using firefighting should be considered within a foam strategy	<u>Amend</u>
12772	Identify sites Where appropriate, consult with local environment agencies, sewerage companies, and nature conservation bodies where it can be reasonably expected that the use of firefighting foam may need to be used and establish joint working practices with relevant organisation s considered	<u>Amend</u>
12771	Ensure that the <u>potential</u> impacts of using <u>firefighting</u> foam is are included <u>in risk assessments</u> for operations in and around protected sensitive sites (for example Sites of Special Scientific Interest)	<u>Amend</u>
42770	Develop foam procedures, which must include: <ul style="list-style-type: none"> • Containment of foam run-off • Environmental considerations 	<u>Delete - relevant content moved to CMK</u>

861 TACTICAL ACTIONS

862 Incident commanders should

Reference	Tactical action	Comment
	<u>Apply the protocols for using firefighting foam and consider</u> <u>substitutions for its use if required</u>	<u>New</u>
42783	Where foam has been applied and there is a significant risk to the environment, evaluate: <ul style="list-style-type: none"> • Alternative types of foam (if available) • Using a different extinguishing media • High-pressure water fogging systems (if available) Adopting a controlled burn strategy. See <u>Controlled burn</u>	<u>Delete - content moved to CMK</u>
42773	Make every effort to prevent firefighting foam entering surface and groundwater during an incident	<u>Delete</u>
12774	<u>Ensure firefighting</u> Consider the need to prevent foam run-off is not allowed to entering drains, including during make-up activity <u>oil separators</u>	<u>Amend</u>
42776	Consider the risk to the environment caused by the use of foam verses the benefits (rapid control of the fire)	<u>Delete</u>
42777	Consider the legal exemptions. See <u>Environmental legislation</u>	<u>Delete</u>
42778	Consider carrying out an <u>environmental analytical risk assessment</u>	<u>Moved to another CM</u>
12779	Consider informing relevant the following organisations about the use of <u>firefighting</u> foam, the location and the quantities involved:	<u>Amend</u>

	<ul style="list-style-type: none"> • Relevant environment agency • Sewerage companies (where foam is likely to enter the sewerage system) 	
--	--	--

863 **Control measure – Controlled burning: Environmental considerations**

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

866 **CONTROL MEASURE KNOWLEDGE**

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

871 It may be possible to restrict controlled burning to some stages of the fire, to minimise the environmental
872 damage. For more information refer to Foundation for environmental protection - Sites and locations
873 where a controlled burn may be employed.

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

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

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

- 881 • Environmental agencies
- 882 • Nature conservation bodies
- 883 • Public health organisations
- 884 • Local authority
- 885 • Water suppliers
- 886 • Sewerage undertakers

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

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

893 **STRATEGIC ACTIONS**

894 Fire and rescue services should:

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

895 TACTICAL ACTIONS

896 Incident commanders should:

Reference	Tactical action	Comment
	<u>Consider the short-term and long-term environmental impacts of carrying out controlled burning</u>	<u>New</u>
	<u>Consider restricting controlled burning to some stages of the fire, to minimise the environmental damage</u>	<u>New</u>
	<u>Consider avoiding the use of controlled burning near to sensitive locations</u>	<u>New</u>
	<u>Ensure the decision to carry out controlled burning is made following consultation with relevant organisations</u>	<u>New</u>
	<u>Arrange for the public to be informed about the controlled burning if required</u>	<u>New</u>
	<u>Arrange for the public to be evacuated or advised to shelter from the environmental impacts of the controlled burning if required</u>	<u>New</u>
	<u>Consider putting monitoring of environment impacts in place during and after the controlled burning</u>	<u>New</u>

897 **Control measure – Air quality cell function**

898 CONTROL MEASURE KNOWLEDGE

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

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

908 The air quality cell will co-ordinate air monitoring and ~~will~~ provide air quality information. Public health
909 ~~bodies-organisations~~ use this information to provide health advice to emergency responders and the
910 public. ~~See Section 3.8, Environmental Protection Handbook~~ For more information refer to Foundation for
911 environmental protection - Air quality risk assessment.

912 ~~Similar arrangements exist in Wales, Northern Ireland and in Scotland, where Scottish Environment~~
913 ~~Protection Agency (SEPA) provides air quality monitoring through the Airborne Hazards Emergency~~
914 ~~Response (AHER) service.~~

915 STRATEGIC ACTIONS

916 Fire and rescue services should:

Reference	Strategic action	Comment
12805	Ensure relevant personnel understand how to obtain and apply that lines of communication are in place to disseminate information provided by the air quality cell to incident commanders and other specialist advisers during major incidents or other significant events	<u>Amend</u>

917 TACTICAL ACTIONS

918 Incident commanders should:

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

919

DRAFT

920 **Hazard – Physical damage to the environment**

921 *HAZARD KNOWLEDGE*

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

- 926 • Historic England
- 927 • Historic Environment Scotland
- 928 • Historic Wales
- 929 • Historic buildings and monuments (Northern Ireland)
- 930 • UNESCO World Heritage

931 Important ecological and heritage assets may have designations such as:

- 932 • Sites of Special Scientific Interest (SSSI)
- 933 • Areas of Special Scientific Interest (ASSI) (Northern Ireland)
- 934 • Special Areas of Conservation (SAC)
- 935 • Special Protection Areas (SPA)
- 936 • Scheduled Ancient Monuments (as defined in the Ancient Monuments and Archaeological Areas
937 Act)
- 938 • Areas of Outstanding Natural Beauty (England, Wales, Northern Ireland)
- 939 • National Scenic Areas (Scotland)
- 940 • Ramsar sites

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

- 945 • Direct impacts, for example the careful movement and deployment of fire and rescue service
946 resources, including fire service vehicles, and equipment and personnel
- 947 • Indirect impacts, for example by the release of polluting materials will help to reduce the possibility
948 of physical damage.

949 **Control measure – Minimise physical damage to the environment**
950 **Defined paths and tracks**

951 *CONTROL MEASURE KNOWLEDGE*

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

955 **Defined paths and tracks**

956 Nature conservation sites often have defined paths and tracks, ~~that are~~ usually located away from the
957 protected areas ~~that are~~ most susceptible to physical environmental damage. If present, and once it has
958 been established that they are suitable for fire ~~and rescue~~ service use, including access for vehicles,
959 these ~~defined~~ paths and tracks should be used.

960 Control point sites

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

963 Fire and rescue service activity

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

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

968 Liaison with relevant parties

969 ~~Pre-planning has a significant role in enabling the effective protection of ecological and heritage assets~~
970 ~~during an incident. If this is carried out with the relevant land owners, land managers or nature~~
971 ~~conservation bodies, it should help to identify any potential hazards to ecological and heritage assets.~~
972 ~~Multi-agency groups can help fire and rescue services to determine the most effective strategies and~~
973 ~~tactics to minimise the environmental impact of incidents on ecological and heritage assets.~~ ~~Areas of~~
974 ~~nature conservation (ANC) such as Sites of Special Scientific Interest (SSSI), Areas of Special Scientific~~
975 ~~Interest (ASSI) in Northern Ireland) are important sites designated and protected for being the best~~
976 ~~examples of their characteristic wildlife and geology. Staff and volunteers from relevant nature~~
977 ~~conservation bodies normally manage these sites.~~

978 Operational risk plans

979 ~~However,~~ knowledge and identification of the most ~~susceptible sensitive~~ sites is ~~an~~ ~~the most~~ important
980 factor in reducing ~~physical~~ environmental damage ~~in to those~~ ~~these~~ areas.

981 ~~Although,~~ ~~each~~ ~~nature conservation~~ site will have its own environmental damage risks, which can be
982 captured ~~with in~~ individual operational risk plans. Where appropriate these plans should include:

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

985 ~~However,~~ a set of generic action plans will also help to identify ~~generic common~~ environmental protection
986 ~~action activity~~ to be taken in the early stages of an incident. ~~For more information refer to Foundation for~~
987 ~~environmental protection - Pollution intervention planning~~ ~~See Section 2.6.5, Environmental Protection~~
988 ~~Handbook.~~

989 STRATEGIC ACTIONS

990 Fire and rescue services should:

Reference	Strategic action	Comment
12852	e Ensure that the location of defined paths and tracks are included within any operational risk plans or maps	<u>Amend</u>

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 relating to areas susceptible to physical damage	Amend
12863	Consider introducing/developing operational risk information plans with environmental risk notes for sensitive sites of nature conservation that are more susceptible to environmental damage.	

991 TACTICAL ACTIONS

992 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 possible suitable, use defined/stay on marked 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 Take care when deciding where to place equipment or tool dumps or siting control points	Amend
12857	Carry out an environmental risk assessment	Delete
18092	Consider establishing 'exclusion zones' to protect sensitive ecological and heritage assets from that may be affected by fire and rescue service activity fighting	Amend
	Contain or redirect polluting materials, including fire water run-off, that could damage sensitive sites	New
12861	Seek advice from relevant parties/landowners and other bodies on to determine the most effective strategies and tactics to minimise the environmental impact of incidents on ecological and heritage assets/susceptible areas of the environment	Amend
12726	Implement an appropriate protection plan when an identified nature conservation site is at risk	Delete
12687	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

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

996 HAZARD KNOWLEDGE

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

1000 The Department for Environment, Food & Rural Affairs (Defra) publishes guidance on Environmental
1001 management. The Scottish Environment Protection Agency (SEPA) publishes guidance on Biodiversity.
1002 The Northern Ireland Department of Agriculture, Environment and Rural Affairs (DAERA) publishes
1003 guidance on Biodiversity. During emergencies, government scientific and technical decisions are
1004 supported by the Scientific Advisory Group for Emergencies (SAGE).

1005 When If invasive non-native (alien) species are transferred, they can transform ecosystems and threaten
1006 native species by outcompeting them/native species, degrading habitats and spreading disease. This is
1007 usually because of a lack of predators of the invasive non-native species and can cause long-lasting
1008 environmental harm, such as profuse plant growth affecting oxygen levels in a body of water.

1009 Whenever fire and rescue services work/operate, there is a risk that cross-contamination of diseases or
1010 invasive non-native species can occur. Environmental harm can be caused by that damages biosecurity,
1011 unintentionally transferring/introducing species to new areas or transmitting/ferring diseases along
1012 pathways that can harm the environment. Fire and rescue services can affect biosecurity by using water
1013 from one open water source and allowing it to run off into another, or by transferring materials on
1014 vehicles or equipment, including personal protective equipment (PPE) from one incident site to another.

1015 For more information refer to Foundation for environmental protection - Biosecurity and non-native
1016 species.

1017 **Control measure – Specialist advice: Biosecurity [previously published in water rescue**
1018 **and flooding guidance]**

1019 CONTROL MEASURE KNOWLEDGE

1020 National response and guidance to an exotic animal disease outbreak will be led by an appropriate
1021 governmental department, with special procedures adopted during outbreaks. During exotic animal
1022 disease outbreaks a governmental department will lead the response and They may issue appropriate
1023 guidance to emergency responders with the aim of:

- 1024 • Eradicating the outbreak
- 1025 • Protecting the health and safety of the public and those involved in controlling the outbreak
- 1026 • Minimising the burden on the taxpayer and the economic impact of the outbreak
- 1027 • Minimising the number of animals that must/need to be humanely destroyed

1028 The control measures required to minimise the effects of emergency responders on the eradication of
1029 the disease will depend on the type of outbreak and how it spreads. National and local contingency
1030 arrangements and emergency plans are available for identified risks. Fire and rescue services should
1031 consider them during development of contingency/business continuity plans and develop emergency
1032 response plans with emergency planning groups.

1033 STRATEGIC ACTIONS

1034 Fire and rescue services should:

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

1035 TACTICAL ACTIONS

1036 Incident commanders should:

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

1037 **Control measure – Clean equipment, vehicles, clothing and personal protective**
1038 **equipment (PPE) to maintain biosecurity [previously published in water rescue and**
1039 **flooding guidance]**

1040 **This control measure should be read in conjunction with Containment of polluting materials**

1041 CONTROL MEASURE KNOWLEDGE

1042 All equipment, vehicles, clothing and personal protective equipment (PPE), ~~clothing and equipment~~
1043 should be thoroughly inspected. Any debris such as mud, plant or animal matter should be removed and
1044 left at the site. Attention should be paid to the seams and seals of boots, ~~and~~ waders and drysuits. Any
1045 pockets of pooled water should be emptied. Equipment should be hosed down or pressure washed on
1046 site. The resulting contaminated water/polluting materials should be contained on site and not be allowed
1047 to enter any other watercourse or drainage system. If facilities are not available, on-site, any
1048 contaminated items/equipment should be carefully contained. Once cleaned, equipment may require
1049 dipping in disinfectant solution. This ~~will~~ may prevent the spread of some diseases but is unlikely to kill
1050 invasive non-native species.

1051 The GB non-native species secretariat (NNSS) provides 'Check Clean Dry' biosecurity advice:

- 1052 • Check your equipment and clothing after leaving the water for mud, aquatic animals or plant
1053 material. Remove anything you find and leave it at the site.
- 1054 • Clean everything thoroughly as soon as you can, paying attention to areas that are damp or hard
1055 to access. Use hot water if possible.
- 1056 • Dry everything for as long as you can before using elsewhere, as some invasive plants and
1057 animals can survive for over two weeks in damp conditions.

1058 ~~However, submersion in hot water for 15 minutes is an effective biosecurity measure. If facilities are not~~
1059 ~~available, on-site equipment should be carefully contained. The best way to prevent transfer of~~
1060 ~~waterborne species is to thoroughly dry equipment and PPE after use. Equipment should be dried for 48~~
1061 ~~hours before being used again. The drying process should be thorough, as some non-native species can~~
1062 ~~survive for up to 15 days in damp conditions and two days in dry conditions. This may not be possible~~
1063 ~~and alternative methods should be considered.~~

1064 STRATEGIC ACTIONS

1065 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 (SSI) and Site Specific Risk Information (SSRI)	Delete and add biosecurity to the SSRI control measure in Operations
	<u>Provide the means for contaminated equipment, vehicles, clothing and PPE to be sufficiently cleaned and dried to maintain biosecurity hazards</u>	<u>New</u>

1066 TACTICAL ACTIONS

1067 Incident commanders should:

Reference	Tactical action	Comment
21552	Use appropriate methods to <u>Check and clean and decontaminate equipment, vehicles, clothing and PPE before leaving the site to maintain biosecurity</u>	<u>Amend</u>
	<u>Ensure any contaminated items that cannot be cleaned on-site are carefully contained to maintain biosecurity</u>	<u>New</u>
21676	Consider liaising with environmental agencies for advice and support to decontaminate equipment and personnel	Delete
	<u>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</u>	<u>New</u>

1068

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 ~~exists in most parts of the UK. The pipelines~~ transport flammable liquids, including petrol, diesel, aviation fuel and oil. ~~At any one time~~ Several liquids may be in a pipeline and pressures can be as high as 85bar. ~~Should if~~ a leak or breach occurs, a mixture of the ~~two or three different~~ liquids could be released.

Oil Pipelines are typically 100 ~~to~~ 400-mm diameter steel pipes, laid in 1.5-m deep excavations. Marker posts normally identify the pipeline route. ~~Excavations, landslips, flooding, pipeline corrosion and operational errors may compromise the integrity of a pipeline. Should if damaged a break occur,~~ 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. See Section 2.7, Environmental Protection Handbook.

Pollution from high pressure oil pipe-lines can occur from:

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

Control measure – Environmental protection response to leaks from high pressure Diversion 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 ~~incident commanders may consider the following actions:~~

- Blanketing the pollutant with firefighting foam to reduce vapour and ignition risks.
- Providing resources to protect:
 - ~~drinking w~~ater supplies.
 - Ecological and heritage assets ~~important wildlife habitats and~~
 - ~~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 to find out if the affected section is being isolated. For more information refer to Utilities and fuel – Isolate pipelines.

See Section 2.7, Environmental Protection Handbook.

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 ~~(called 'sacrificial'~~ areas). For

1105 example, ~~it may be appropriate to use~~ low-lying areas, such as roadways ~~can be used~~.

1106 ~~This strategy must be agreed with the appropriate~~ Emergency plans and diversion strategies, including
1107 ~~arrangements for the equipment that would be required, for oil pipeline leaks should be agreed with the~~
1108 ~~agencies involved, which could include:~~

- 1109 • ~~e~~Environmental agency
- 1110 • ~~, h~~Highways authority agency
- 1111 • Pipeline operator
- 1112 • Sewerage undertaker
- 1113 • Nature conservation body
- 1114 • Public health organisations
- 1115 • Local authority
- 1116 • Police
- 1117 • Landowners
- 1118 • ~~Marine agency, and other relevant parties.~~

1119 STRATEGIC ACTIONS

1120 Fire and rescue services should:

Reference	Strategic action	Comment
12867	Identify if high pressure oil pipelines traverse are located in their area of response	<u>Amend</u>
12868	Where appropriate, have Consider having multi-agency emergency plans and diversion strategies, procedures and equipment in place for dealing with high pressure oil pipeline leaks incidents which include guidance relating to the diversion of oil	<u>Amend</u>

1121 TACTICAL ACTIONS

1122 Incident commanders should:

Reference	Tactical action	Comment
12869	Inform, or request the attendance of, the relevant environment agencies for responding to an oil pipeline leaky and any other appropriate agencies: Pipeline operator Nature conservation bodies Public Health organisations Local authority Highway agencies Other relevant parties including police, landowners and marine agencies	<u>Amend</u>
12870	Follow the established diversion strategy or identify a suitable location that can be used for the diversion of oil from a compromised pipeline sacrificial areas where products can be diverted	<u>Amend</u>

12871	Notify the environmental agency about the oil pipeline leak so that they can take steps to protect the environment Ensure water companies and other water abstractors are aware of threats to drinking water and other abstractions, which can be achieved via environment agency	<u>Amend</u>
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- 1124 **Removed or combined components**
- 1125 Control measure – Aeration [CONTENT COMBINED INTO TREATMENT OF POLLUTING MATERIALS]
- 1126 Control measure – Liaison with conservation bodies [CONTENT COMBINED INTO MINIMISE THE
1127 PHYSICAL DAMAGE TO THE ENVIRONMENT]
- 1128 Control measure – Operational risk information plan (Nature conservation sites) [CONTENT COMBINED
1129 INTO MINIMISE THE PHYSICAL DAMAGE TO THE ENVIRONMENT]
- 1130 Hazard – Smoke plumes [COMBINED INTO POLLUTING MATERIALS: FIRE-RELATED INCIDENTS]
- 1131 Control measure – Extinguish [COMBINED INTO MINIMISE THE ENVIRONMENTAL IMPACTS OF
1132 FIRE-RELATED INCIDENTS]
- 1133 Control measure – Removal or separation [COMBINED INTO MINIMISE THE ENVIRONMENTAL
1134 IMPACTS OF FIRE-RELATED INCIDENTS]
- 1135 Hazard – Fire water run-off [COMBINED INTO POLLUTING MATERIALS: FIRE-RELATED INCIDENTS]
- 1136 Control measure – Recycling [COMBINED INTO RECYCLING OR REDUCTION OF FIRE WATER]
- 1137 Control measure – Reduction [COMBINED INTO COMBINED INTO RECYCLING OR REDUCTION OF
1138 FIRE WATER]
- 1139 Hazard – Firefighting with foam [CONTENT MOVED TO POLLUTING MATERIALS]
- 1140 Control measure – Substitution [COMBINED INTO USE, CONTAINMENT AND SUBSTITUTION OF
1141 FIREFIGHTING FOAM]
- 1142 Control measure – Containment (Foam) [COMBINED INTO USE, CONTAINMENT AND
1143 SUBSTITUTION OF FIREFIGHTING FOAM]
- 1144 Control measure - Controlled burning [REMOVE FROM ENVIRONMENTAL PROTECTION – THIS
1145 CONTROL MEASURE ALSO APPEARS IN FIRES AND FIREFIGHTING, WHICH IS AWAITING
1146 REVIEW, AND FIRES IN WASTE SITES]