

FIRE SERVICES EXAMINATIONS BOARD

STUDY NOTE

EXAMINATION	SUB-OFFICERS EXAMINATION
PAPER	OPERATIONS
SUBJECT	OPERATIONAL PROCEDURES AND INCIDENT COMMAND
ITEM	POLLUTION
STUDY NOTE No.	2102

INTRODUCTION TO THE STUDY NOTE

This study note has been prepared as the basis of study in connection with the qualifying examinations for promotion.

Candidates will be expected to demonstrate knowledge of the information contained in the study note and understand how it should be applied:

The 'References' made at the end of the Study Note are included for information only and candidates will not be expected to study these as part of the bibliography.

POLLUTION

1. Introduction

An agreed "Memorandum of Understanding" exists between the Fire Service and the following bodies:

- (a) The Environment Agency and
- (b) Scottish Environmental Protection Agency (SEPA)

This memorandum has been established to ensure effective co-operation between them, when dealing with incidents that have the potential for polluting the environment. The Memorandum also aims to assist with a combined effort to minimise the hazard to the water environment from firefighting action and preventative measures at the contingency planning stage for special risk sites.

2. Legislation

- (a) Water Resources Act 1991
 - (i) Under Section 85 it is an offence to cause or knowingly permit polluting substances to enter controlled waters. (See 3(b)(i)).
 - (ii) Section 89 gives the Fire Service a statutory defence to the offence, i.e.

A person shall not be guilty of an offence under Section 85 in respect of the entry of any matter into any waters or any discharge if:

- (a) the entry is caused or permitted, or the discharge is made, in any emergency in order to avoid danger to life or health;
 - (b) that person takes all such steps as are reasonably practicable in the circumstances for minimising the extent of the entry or discharge and of its polluting effects; and
 - (c) particulars of the entry or discharge are furnished to the Authority (Agency) as soon as reasonably practicable after the entry occurs.
- (b) The Environment Act 1995

The former role of the National Rivers Authority (NRA), Her Majesty's Inspectorate of Pollution and the Waste Regulation Authorities was transferred to the Environment Agency and SEPA along with all the statutory duties associated with them.

3. Legislative Roles and Responsibilities

(a) The Fire Service

The Fire Services Act 1947 places a duty on the Fire Service to protect life and property from fire.

The Senior Fire Officer attending an incident will be in sole charge of operations and is empowered to take whatever actions are deemed necessary to extinguish the fire, this authority does not extend to incidents other than fire.

The Fire Services Act 1947 also empowers fire authorities to use their personnel and resources for purposes other than firefighting and if they feel fit may make such charge as they determine for services rendered.

(b) The Environmental Agency/SEPA

The respective agencies have the responsibility for protecting the environment as a whole, (air, land, and water) with the exception of certain aspects of the controlling and monitoring of radioactive substances.

The Agency regulates the following processes:

- (i) discharges to controlled waters (such as inland waters like rivers, streams, lakes etc, and coastal waters);
- (ii) disposal and management of waste;
- (iii) major industrial processes; and
- (iv) management and disposal of radioactive substances.

The Agency has the responsibility to take legal action if any of the above areas are violated, and will reclaim costs it incurs in dealing with pollution incidents. The latter includes the costs of contractors called in by the Agency, not the costs of organisations attending in their own right. The agency is not responsible for the impact of smoke within the environment unless it is within the confines of a regulated site.

4. Working Arrangements

(a) Fire Service

The Senior Fire Officer present will endeavour to take all precautions that are reasonably practical, to minimise the impact on the environment during the incident, seeking advice if required. The determination of priorities at an incident will be the responsibility of the Senior Fire Officer.

The Fire Service and Environmental Agency should work together to formulate action plans for potential risk sites. Equipment and resources that

may be of use to each other during incidents should be identified and requested.

(b) Environment Agency/SEPA

The Agency will take responsibility for remedial actions in connection with water pollution and regulate waste management issues arising at an incident. Whilst rescue or firefighting activities are continuing, the Agency will only operate within the fireground scenario with the permission of the Senior Fire Officer present.

All Agency personnel responding to an incident will report to the incident command point. They will be clearly identifiable by means of a tabard bearing the Agency initials and logo.

Communication with the Fire Service will be co-ordinated through the Agency's site controller, who will give advice on environmental issues. The Agency's site controller will make himself or herself known to the Senior Fire Officer present on arrival. If the Agency's controllers change during the incident the Fire Service will be advised.

5. Areas of Mutual Interest

(a) Water Pollution

Pollution of the water environment may occur at accidents or may result from firefighting operations. The Fire Service should inform the Agency of incidents where water pollution has occurred or could occur as soon as reasonably practicable. The Agency will take responsibility for the remedial and subsequent actions required in dealing with the pollution of controlled waters in such cases.

In situations where it is not possible to avoid water pollution because of higher operational priorities eg protection of life, the Fire Service will take all reasonably practical steps to mitigate its effects. In these circumstances liaison between all relevant parties will take place before a final decision is reached, if it is reasonably practical.

The Agency may advise modification of Fire Service activities when necessary, such as "contain" rather than "dilute", or, if appropriate, "controlled burn" in order to minimise environmental damage. The term "Contain or Containment" is taken to mean the act of confining or the confinement of firefighting run-off and/or spilled materials.

The Senior Fire Officer should consider advice given in context with other specialist advice and legal responsibilities.

(b) Decontamination Procedures

It is important that all steps, that are reasonably practical, are taken to protect the environment when decontamination is being carried out. The Fire Service should inform the Agency as soon as possible when decontamination procedures are being used so that advice can be given to prevent environmental pollution. There are two main issues associated with decontamination procedures.

- (i) In most cases the large dilution afforded to any chemicals present on protective suits will ensure that decontamination run-off will have no, or only minimal environmental impact. However, there are a few chemicals which may cause problems even below the recommended rates of dilution.
- (ii) Due to the large volumes of water used in decontamination showers, pollutants on road surfaces or within drainage systems may inadvertently be flushed into "controlled waters". Careful consideration should therefore be given to the placing of any shower unit where any run-off needs to be contained.

The decontamination of equipment and property may give rise to environmental pollution, the severity of which depends on:

- Local Environment
- Quantity involved
- Nature of contaminant

Advice should be sought at local level before the commencement of operations, as any run-off may have to be contained.

6. Training

Cross training should be encouraged where resources permit to facilitate an exchange of information and encourage working relationships.

Firefighting foam is a potential source of pollution, particularly to "controlled waters". The Fire Service should liaise with the Agency on a local basis to ensure that the use of firefighting foam during training exercises does not cause pollution. It may be necessary for the Agency to issue an appropriate consent at fixed Fire Service sites.

7. Exchange of Information

The Fire Service should build into their procedures a system for notifying the Agency of incidents that have the potential to cause environmental pollution. A general guide to occasions when the Agency should be informed is provided in Appendix A. The Fire Service should ensure that the information given is as clear and accurate as possible and should contact the Agency when in doubt.

When informed of an incident the Agency will consider the information supplied and offer appropriate advice and assistance, initially by phone. At incidents involving a significant or potentially significant environmental impact or if requested by the Fire Service, the Agency will attend. If attending, the Agency will advise of an estimated time of arrival.

If a Fire Service area is covered by more than one Agency Region, the Agency Region with the largest area will form the single point of contact for the Fire Service. Any relevant details will be passed to neighbouring Agency Regions.

8. Pre-Planning

Liaison between the Fire Service, the Environmental Agencies the site operator and other interested parties should take place as soon as possible to establish emergency plans to minimise the environmental impact of a potential incident.

9. Disposal of Contaminated Materials

The Agency's role is regulatory, and has no direct responsibility to dispose of contaminated materials at an incident.

The responsibility will vary depending upon the exact location of the materials. The usual responsible parties are given below: -

Local Authority	Responsible for materials on playing fields, public open spaces, beaches etc
Landowner	Responsible for materials on private land.
Highways Agency or their Representatives	Responsible for materials on motorways and major trunk roads
County, Metropolitan or Unitary Authorities	Responsible for materials on roads not covered by Highways Agency

The Agency will only act to manage waste when all other avenues have been exhausted, or the estimated time of response is felt unacceptable. The Agency will seek to recover costs from responsible parties.

The Fire Service should arrange waste disposal procedures with the relevant Authority.

10. Radioactive Substances

Where radioactive substances are suspected to be involved at an incident, the Agency should be informed immediately. The Agency will provide advice, in particular relating to the possible contamination of drinking water abstractions.

References

"Memorandum of Understanding" between the Fire Service and The Environment Agency and Scottish Environmental Protection Agency (SEPA).

GUIDELINES TO OCCASIONS WHEN THE ENVIRONMENTAL AGENCY/SEPA SHOULD BE INFORMED OF ENVIRONMENTAL INCIDENTS

There are no definitive guidelines for occasions when the Fire Service should inform the Agency of incidents, this should be agreed locally. The following list is included as an example of the criteria that may be included, and is not meant to be exhaustive.

- 4 pump incidents (with 2 or more jets in use);
- Spillage of Hazchem listed chemicals;
- Spillage of low hazard products with polluting potential (see Appendix B);
- Petrol spillage greater than 100 litres;
- Oil spillage greater than 25 litres;
- Incidents involving the use of foam (car fires excluded);
- Exercises involving the use of foam (unless a designated test area);
- Major incidents in areas known to be on a combined drainage system (surface and foul water);
- Incident by / near a watercourse;
- Incidents at Agency identified risk sites;
- Incidents where the local Authority major incident plan is activated;
- Incidents involving radioactive materials.

If doubt exists to the categorisation of an incident the Agency should be contacted for advice.

LOW HAZARD PRODUCTS WITH POLLUTING POTENTIAL

This list is for guidance.

SUBSTANCE	EXAMPLE
Detergents	Washing powders, shampoo's, soaps
Disinfectants	Household bleach, dettol.
Food stuffs	Most have a potentially environmental impact, but of particular concern are, milk, cream, sugars, salt syrups.
Beverages	Beers, wines, spirits, soft drinks.
Fertilizers	All
Paints & dyes	All
Other organic liquids, slurries	Blood, offal, farm yard slurries, sewage slurries, cooking oils, water saveable polymers
Inorganic Powders	Silk, sand, cement, chalk, plaster

The effects of these and similar products vary widely with their impact on aquatic life and their environment. Examples being: -

Detergents	-	Toxic and can lead to deoxygenating.
Silt and Sand	-	Smothering – choking
Foodstuffs, Beverages, Blood	-	Deoxygenating