

FIRE SERVICES EXAMINATIONS BOARD

STUDY NOTE

EXAMINATION	STATION OFFICERS' EXAMINATION
PAPER	FIRE SAFETY, EDUCATION AND ENFORCEMENT
SUBJECT	FIRE SAFETY LEGISLATION
ITEM	THE HEALTH AND SAFETY (SAFETY SIGNS AND SIGNALS) REGULATIONS 1996
STUDY NOTE No.	3203

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.

THE HEALTH AND SAFETY (SAFETY SIGNS AND SIGNALS) REGULATIONS 1996

1. Introduction

The majority of Fire Safety Legislation requires that those exit routes not normally in use and emergency routes to be clearly marked and the provision of a fire warning system to enable the occupants of a building to be alerted should fire occur.

The Health and Safety (Safety Signs and Signals) Regulations 1996 sets out the requirements for such signs to ensure that they are adequate for the purpose and consistently applied to enable employees and the public to recognise their meaning.

2. Interpretation

This study note is an interpretation of those sections of the regulations that are considered relevant to Station Officers. Candidates taking the examination should have an understanding and appreciation of the legislative intent of the regulations.

In the Regulations, unless the context otherwise requires:

- (a) "The 1974 Act" means the Health and Safety at Work etc. Act 1974.
- (b) "Acoustic signal" means a coded sound signal, which is released and transmitted by a device designed for that purpose, without the use of a human or artificial voice.
- (c) "Dangerous goods" has the meaning assigned to it by regulation 2(1) of the Carriage of Dangerous Goods by Road and Rail (Classification, Packaging and Labeling) Regulations 1994.
- (d) "Emergency escape or first-aid sign" means a sign giving information on escape routes or emergency exits or first-aid or rescue facilities.
- (e) "Fire safety sign" means a sign (including an illuminated sign or an acoustic signal) which:
 - (i) Provides information on escape routes and emergency exits in case of fire;
 - (ii) Provides information on the identification or location of firefighting equipment; or
 - (iii) Gives warning in case of fire.
- (f) "Hand signal" means a movement or position of the arms or hands or a combination thereof, in coded form, for guiding persons who are carrying out maneuvers which create a risk to the health or safety of persons at work.
- (g) "Illuminated sign" means a sign produced by a device made of transparent or translucent materials which are illuminated from the inside or the rear in such a way as to give the appearance of a luminous surface.

- (h) "Mandatory sign" means a sign prescribing behaviour.
- (i) "Prohibition sign" means a sign prohibiting behaviour likely to cause a risk to health or safety.
- (j) "Safety colour" means a colour to which a meaning is assigned.
- (k) "Safety sign" means a sign referring to a specific object, activity or situation and providing information or instructions about health or safety at work by means of a signboard, a safety colour, an illuminated sign, an acoustic signal, a verbal communication or a hand signal.
- (l) "Signboard" means a sign which provides information or instructions by a combination of geometric shape, colour and a symbol or pictogram and which is rendered visible by lighting of sufficient intensity.
- (m) "Symbol or pictogram" means a figure which describes a situation or prescribes behaviour and which is used on a signboard or illuminated surface.
- (n) "Verbal communication" means a predetermined spoken message communicated by a human or artificial voice.
- (o) "Warning sign" means a sign giving a warning of a risk to health or safety.

3. Application

- (a) The Regulations shall not apply:
 - (i) To signs used in connection with the supply of any dangerous substance, preparation, product or equipment except to the extent that any enactment (whether in an Act or instrument) which requires such signs makes reference to the 'The Health and Safety (Safety Signs and Signals) Regulations 1996';
 - (ii) To dangerous goods during the course of their transport by road, rail, inland waterway, sea or air;
 - (iii) Signs used for regulating road, rail, inland waterway, sea or air traffic; or
- (b) The Regulations shall apply:
 - (i) In Great Britain; and
 - (ii) To and in relation to the premises and activities outside Great Britain to which sections 1 to 59 and 80 to 82 of the 1974 Act apply by virtue of the Health and Safety at Work etc. Act (Application outside Great Britain) Order 1995 as they apply within Great Britain.
 - (iii) These Regulations shall not extend to Northern Ireland.

4. Information, Instruction and Training

Every employer shall ensure that comprehensible and relevant information on the measures to be taken in connection with safety signs is provided to each of his employees.

Every employer shall ensure that each of his employees receives suitable and sufficient instruction and training in the meaning of safety signs and the measures to be taken in connection with safety signs.

5. Enforcement

The enforcing authority in relation to fire safety signs shall be:

- (a) The Health and Safety Executive, in the case of:
 - (i) Premises where the Fire Certificates (Special Premises) Regulations 1976 apply; or
 - (ii) Premises and activities to which these Regulations apply by virtue of paragraph 3b(ii) above.
- (b) In any other case the authority or class of authorities responsible for enforcing the relevant legislation which applies to the case.

6. Types of Signs

- (a) Permanent signs
 - (i) Permanent signboards must be used for signs relating to prohibitions, warnings and mandatory requirements and the location and identification of emergency escape routes and first-aid facilities.
 - (ii) Signboards and/or a safety colour must be used to mark permanently the location and identification of firefighting equipment.
 - (iii) Signboards on containers and pipes must be placed as laid down in the regulations.
 - (iv) Places where there is a risk of colliding with obstacles or of falling must be permanently marked with a safety colour and/or with signboards.
 - (v) Traffic routes must be permanently marked with a safety colour.

(b) Occasional Signs

- (i) Illuminated signs, acoustic signals and/or verbal communication must be used where the occasion requires, taking into account the possibilities for interchanging and combining signs to signal danger, to call persons to take a specific course of action and for the emergency evacuation of persons.
- (ii) Hand signals and/or verbal communication must be used where the occasion requires, guiding persons carrying out hazardous or dangerous manoeuvres.

7. Interchanging and Combining Signs

Any one of the following may be used if equally effective:

- (a) A safety colour or a signboard to mark places where there is an obstacle or a drop.
- (b) Illuminated signs, acoustic signals or verbal communication.
- (c) Hand signals or verbal communication.
- (d) Some types of signs may be used together:
 - (i) Illuminated signs and acoustic signals.
 - (ii) Illuminated signs and verbal communication.
 - (iii) Hand signals and verbal communication.

8. Safety Colour of Signs

The instructions in the table below apply to all signs incorporating a safety colour.

Colour	Meaning or purpose	Instructions and information
Red	Prohibition Sign	Dangerous behaviour
	Danger Alarm	Stop, shutdown, emergency cut out devices, Evacuate
	Firefighting Equipment	Identification and location
Yellow or Amber	Warning sign	Be careful, take precautions or examine
Blue	Mandatory sign	Specific behaviour or action , wear personal protective equipment
Green	Emergency escape, first aid sign	Doors, exits, routes, equipment, facilities
	No danger	Return to normal

9. Effectiveness of a Sign

A sign must not be adversely affected by:

- (a) The presence of another emission source of the same type which interferes with visibility or audibility; therefore in particular.
 - (i) The placing of too many signs too close together should be avoided;
 - (ii) Two illuminated signs, which are likely to be confused, are not to be used at the same time;
 - (iii) An illuminated sign is not to be used in the proximity of another similar illuminated source;
 - (iv) Two acoustic signals are not to be used at the same time; and
 - (v) An acoustic signal is not to be used if there is too much ambient noise.
- (b) Poor design, insufficient number, incorrect positioning, poor state of repair or incorrect functioning of the signs or signaling devices.

10. Maintenance of Signs

Signs and signaling devices must be cleaned, maintained, checked, repaired, and if necessary replaced on a regular basis to ensure that they retain their intrinsic and/or functional qualities.

11. The Number and Positioning of Signs

The number and positioning of signs or signaling devices to be installed will depend on the extent of the hazards or dangers or on the zone to be covered.

12. Emergency Supply

Signs requiring some form of power must be provided with a guaranteed emergency supply in the event of a power cut, unless the hazard has thereby been eliminated.

13. Activation of Sign or Signal

The triggering of an illuminated sign and/or acoustic signal indicates when the required action should start; the sign or signal must be activated for as long as the action requires. Illuminated signs and acoustic signals must be reactivated immediately after use.

14. Functionality

Illuminated signs and acoustic signals must be checked to ensure that they function correctly and that they are effective before they are put into service and subsequently at sufficiently frequent intervals.

15. Sight and Hearing Impediment

If the hearing or the sight of the workers concerned is impaired, including impairment by the wearing of personal protective equipment, measures must be taken to supplement or replace the signs concerned.

16. Dangerous Substances

A suitable warning sign must indicate areas, rooms or enclosures used for the storage of significant quantities of dangerous substances or preparations unless the labeling of the individual packages of containers is adequate for this purpose.

17. General Requirements Concerning Signboards

(a) Essential features

- (i) The shape and colour of signboards are set out in paragraphs 8 and 18, in accordance with their specific object.
- (ii) Pictograms must be as simple as possible and should contain only essential details.
- (iii) The pictograms used may be slightly different from or more detailed than those shown in paragraph 18, provided that they convey the same meaning and that no difference or adaptation obscures the meaning.
- (iv) Signboards are to be made of shock and weather-resistant material suitable for the surrounding environment.
- (v) The dimensions and calorimetric and photometric features of signboards must be such that they can be easily seen and understood.

(b) Conditions of use

- (i) Signboards are to be installed at a suitable height and in a position appropriate to the line of sight, taking account of any obstacles, either at the access point to an area in the case of a general hazard, or in the immediate vicinity of a specific hazard or object. The signboard will be in a well-lit and easily accessible and visible location.
- (ii) Phosphorescent colours, reflective materials or artificial lighting should be used where the level of natural light is poor.
- (iii) The signboard must be removed when the situation to which it refers ceases to exist.

18. Categories of Signboards

(a) Prohibitory Signs

- (i) Round shape.
- (ii) Black pictogram on white background, red edging and diagonal line (the red part to take up at least 35% of the area of the sign).
- (iii) Signs to be used – graphic.

Examples



No Smoking



Do Not Extinguish with Water

(b) Warning Signs

Essential features:

- (i) Triangular shape.
- (ii) Black pictogram on a yellow background with black edging; (the yellow part to take up at least 50% of the area of the sign).
- (iii) Sign to be used - graphic.

Examples



Radioactive Material



Biological Risk

(c) Mandatory Signs

Essential features:

- (i) Round shape.
- (ii) White pictogram on a blue background; (the blue part to take up at least 50% of the area of the sign).
- (iii) Sign to be used – graphic.

Examples



Safety Helmet Must Be Worn



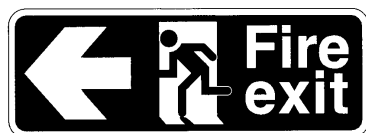
Eye Protection Must Be Worn

(d) Emergency Escape or First-aid Signs

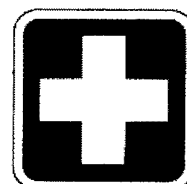
Essential features:

- (i) Rectangular or square shape.
- (ii) White pictogram on a green background; (the green part to take up at least 50% of the area of the sign).
- (ii) Sign to be used – graphic.

Examples



Emergency escape route



First aid Post

(e) Firefighting Signs

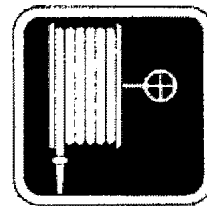
Essential features:

- (i) Rectangular or Square Shape.
- (ii) White pictogram on a red background; (the red part to take up at least 50% of the area of the sign).
- (iii) Sign to be used – Graphic.

Examples



Fire Extinguisher



Fire Hose

19. Identification and Location of Fire Fighting Equipment

- (a) Firefighting equipment must be identified by using a specific colour for the equipment and placing a location signboard, and/or by using a specific colour for the places where such equipment is kept, or their access points.
- (b) The colour for identifying this equipment is red. The red area must be sufficiently large to allow the equipment to be identified easily.
- (c) The signboards as described in paragraph 18(e) must be used to mark the locations of this equipment.
- (d) Fire Extinguishers may be colour coded to indicate their type. A zone of colour of up to 5% of the external area, positioned immediately above or within the section used to provide the operating instructions may be used to identify the type of extinguisher. This zone should be positioned so that it is visible through a horizontal arc of about 180 degrees when the extinguisher is correctly mounted. The colour coding should follow the recommendations of the appropriate British standard.

20. Illuminated Signs

- (a) Essential features
 - (i) The light emitted by a sign must produce a luminous contrast which is appropriate to its environment, in accordance with the intended conditions of use of the sign, but without producing glare for an excessive amount of light or poor visibility as a result of insufficient light.
 - (ii) The luminous area emitting a sign may be of a single colour or contain a pictogram on a specified background.
 - (iii) The single colour must correspond to the table of colours and their meanings set out in paragraph 8.
 - (iv) Likewise, when the sign contains a pictogram, the latter must comply with all the relevant rules set out in paragraphs 17 and 18.
- (b) Specific rules governing use
 - (i) If a device can emit both continuous and intermittent signs, the intermittent sign should be used to indicate a higher level of danger or a more urgent need for the requested/imposed intervention or action than is indicated by the continuous sign.

The duration of each flash and the frequency of the flashes of an intermittent illuminated sign must be such as to:

- (a) Ensure the proper perception of the message, and
- (b) Avoid any confusion either between different illuminated signs or with a continuous illuminated sign.
- (c) If a flashing sign is used instead of, or together with, an acoustic signal, identical codes must be used.
- (d) Devices for emitting flashing signs in the event of grave danger must be under special surveillance or be fitted with an auxiliary lamp.

21. Acoustic Signals

From information previously provided in this study note it will have been noted that:

- (a) 'Acoustic signal' means a coded sound signal which is released and transmitted by a device designed for that purpose without the use of a human or artificial voice; and
- (b) 'Fire safety sign' means a sign (including an illuminated sign or an acoustic signal) which:
 - (i) provides information on escape routes and emergency exits in case of fire;

- (ii) provides information on the identification or location of firefighting equipment; or
- (iii) gives warning in case of fire.

It is reasonable to assume that the acoustic signal will, therefore, be mainly related to the latter of these.

Every employer should also ensure that comprehensive and relevant information on the measures to be taken in connection with the *acoustic signals* is provided to each of their employees, and that suitable and sufficient instructions and training in their meaning and the measures to be taken with them.

The enforcing authority in relation to these matters has been identified in Section 5 of this study note.

Acoustic signals must be used where the occasion requires taking into account the possibilities for interchanging or combining signs to signal danger, to call persons to take a specific course of action and for the emergency evacuation of persons.

Acoustic signals must not be adversely affected by:

- (a) the presence of another emission source of the same type which interferes with audibility therefore, in particular:
 - (i) Two acoustic signals are not to be used at the same time; and
 - (ii) An acoustic signal is not to be used if there is too much ambient noise.
- (b) poor design, insufficient number, incorrect positioning, poor state of repair or incorrect functioning of the signalling devices.

The maintenance, number and positioning, and provision of emergency power for *acoustic signals* are dealt with in Sections 10, 11 and 12 of this study note.

The triggering of an *acoustic signal* indicates when the required action should start, the signal must be activated for as long as the action requires and must be reactivated immediately after use.

Acoustic signals must:

- (a) Have a sound level that is considerably higher than the level of ambient noise, so that it is audible without being excessive or painful.
- (b) Be easily recognizable, particularly in terms of pulse length and the interval between pulses or groups of pulses, and be clearly distinct from any other acoustic signal and ambient noises.

If a device can emit an acoustic signal at variable and constant frequencies, the variable frequency should be used to indicate a higher level of danger or a more urgent need for the requested/imposed intervention or action in relation to the stable frequency.

The signal for evacuation must be continuous.

22. Summary

The Health and Safety (Safety Signs and Signals) Regulations 1996 impose requirements in relation to the provision and use of safety signs and signals at work.

Safety signs are required where the risk assessment made under regulation 3 of the Management of Health and Safety at Work Regulations 1992 indicates that the risks cannot be avoided or adequately controlled in other ways.

Fire safety signs must also be provided where they are required to comply with the provisions of any enactment.

The regulations also require that safety signs be maintained and that employees receive adequate instruction and training in the meaning of safety signs and the measures to be taken in connection with safety signs.

References

The Health and Safety (Safety Signs and Signals) Regulations 1996
Fire Safety - An Employers Guide.