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Our reference:  
 Your reference:

TO All Chief Fire Officers

No 12/1985

30 September 1985

Dear Chief Officer

- A. ANTI-VANDAL DOOR LOCKS ON LIFTS
- B. AUDIBLE REVERSING ALARMS
- C. CIVIL DEFENCE, COLLEGE, EASINGWOLD: INCIDENTAL EXPENSES ALLOWANCE
- D. DOOR OPENING TOOL FOR FIRE SERVICE USE
- E. FIRE SERVICE DRILL BOOK
- F. FIRE SERVICE RESEARCH AND TRAINING TRUST
- G. FIRE TUNICS
- H. IONISING RADIATION REGULATIONS
- J. LIAISON VISITS TO ROYAL NAVY SHIPS IN PORT
- K. SWINGFOG SMOKE GENERATOR
- L. TRAINING IN THE USE OF BOOM LADDERS FITTED TO HYDRAULIC PLATFORMS
- M. OPERATIONAL STUDY ON BREATHING APPARATUS

In the interests of economy I have included 12 items in this letter. To facilitate handling each item is on a separate sheet.

Yours sincerely,

*Peter Darby*  
 SIR PETER DARBY

- A. FIR/84 40/20/1
- B. FIR/84 306/2/1
- C. FIR/81 257/64/3
- D. FIR/81 82/101/1
- E. FIR/83 620/21/1
- F. FIR/84 11/21/3
- G. FIR/84 301/41/1
- H. FIR/85 619/3/11
- J. FIR/85 100/1/2
- K. FIR/83 302/90/1
- L. FIR/84 620/13/6
- M. FIR/85 620/33/11



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**A - ANTI-VANDAL DOOR LOCKS ON LIFTS**

1. I am writing to draw your attention to the increasing use of anti-vandal doors in lifts. At present there are several different key designs for those doors. The National Association of Lift Makers and the British Standards Institution have been advised that this can pose problems for fire brigades and other emergency services, for example when they rescue persons trapped in lifts. The Home Office has urged the adoption of a single basic design and trials are now underway. If they are successful it should be possible to develop a universal anti-vandal release key.
2. In the meantime, you may care to review the present information you hold about any anti-vandal lift doors and arrangements for obtaining the appropriate release key.
3. This note is for information and there are no manpower or cost implications.

File reference FIR/84 40/20/1

Telephone number of contact - 01-213 5307

B - AUDIBLE REVERSING ALARMS

In 1983 the Joint Committee on Fire Brigade Operations concluded after consideration that there was no operational requirement for appliances to be fitted with audible reversing alarms. Chief Fire Officers are however asked to note that an amendment to the Motor Vehicles (Construction and use) (Amendment) Regulations affecting the use of these alarms became operative on 28 February 1985.

The Regulations now permit audible reversing alarms to be fitted to goods vehicles with a maximum gross weight of not less than 2 tonnes, a large passenger carrying vehicle, engineering plant, or a works truck. Such alarms must also avoid confusion with the sound emitted in the operation of pedestrian crossings. The full Regulations are published as Statutory Instruments 1985 No 91, available from HM Stationery Officer at 75p.

The guidance on the reversing of fire appliances which was issued in April 1984 under cover of DCOL 3/1984 is not affected by the Regulations.

This note is for Chief Fire Officers' information. There are no financial implications other than the small cost of the document mentioned above.

File reference FIR/84 306/21/2

Telephone number of contact - 01-213 5307

C. CIVIL DEFENCE COLLEGE, EASINGWOLD: INCIDENTAL EXPENSES ALLOWANCE

1 We have been asked to clarify the rate of incidental expenses allowance payable to course members attending the Civil Defence College, Easingwold. The Home Office is prepared to reimburse course members at civil defence rates (currently £3.40 per night) although some local authorities may decide to apply the rate applicable to the existing Scheme of Conditions of Service. This expenditure is eligible for civil defence grant at 100% and may be included in your authority's grant claim in accordance with the Civil Defence (Grant) Regulations 1953 and the Civil Defence (Grant)(Amendment) Regulations 1983.

2 Changes in the civil service rate of allowance will not be circulated; current rates of allowance will be shown on accounts presented to those attending the Civil Defence College.

FIR/81 257/64/3

Telephone contact 01-213 5083

## D. A DOOR OPENING TOOL FOR FIRE SERVICE USE

1. Research Report number 21, issued with Fire Service Circular No. 22/1982, described the development and brigade evaluation of a Mark II Door Opening Tool, and announced the intention of subjecting 10 modified versions, known as the Mark III, to a further limited series of brigade trials. The modifications to the Mark II model were introduced with the main intention of making the design more economical and suitable for quantity production, but also to simplify stripping and assembly and to strengthen the tool.
2. I am now writing to advise you that there have been many design and manufacturing problems with the Mark III model. The proposed trials have not been conducted because a satisfactory fault-free model for brigade assessment was not produced within reasonable limits of time and expenditure. In the circumstances the Joint Committee on Fire Research has agreed that no further work be undertaken and that this project in the Home Office Fire Research Programme be regarded as completed.
3. Despite the failure of the new model Chief Officers may wish to note that the Mark II version proved satisfactory in a variety of applications, as was outlined in Research Report 21. Although not currently being commercially produced the Design Unit of the Department of Mechanical Engineering at the University of Newcastle has the drawings and could have units of the Mark II manufactured under contract should there be a requirement. It is not possible to be precise about costs of the Tool as this would be dependent on overall demand. A production run of 10 for example might result in an approximate price of £660 per unit, whereas a run of 100 could reduce unit costs to about £403. It is suggested therefore that brigades wishing to obtain the Mark II model should in the first instance register their interest with the Fire Experimental Unit, Moreton-in-Marsh, who will thereby be in a position to assess overall demand and explore the possibility of negotiating with the Design Unit on the basis of placing a joint order. It will be for individual fire authorities to decide whether purchase of the tool is justified in the light of the FEU's cost assessment.
4. There are no manpower implications arising from this letter.

FER/81 82/101/1

Telephone contact 01 213 3161

E. FIRE SERVICE DRILL BOOK

The fully revised edition of the Fire Service Drill Book - announced in DCO letter No 10/1985 - was published on 12 August 1985.

File Reference : FIR/83 620/21/1  
Telephone number of contact : 01-213-3136

## F. FIRE SERVICE RESEARCH AND TRAINING TRUST

The Fire Service Research and Training Trust is a registered charity and the objects of the Trust are to promote and assist fire research; to promote and assist the training of fire brigade personnel; to secure improvements in fire appliances; and generally to secure the efficiency and effectiveness of fire services as a whole. In pursuance of these objectives the Trust makes grants to the fire service bodies and others concerned with fire research and training.

One of the ways the Trust is able to help individual officers in brigades is through the block education grant it makes every year to the Institution of Fire Engineers. The IFE in turn deals with individual requests for assistance with the costs of education courses and makes awards out of the Trust grant.

Grant application forms are obtainable from the Institution of Fire Engineers, 148 New Walk, LEICESTER LE1 7QB. Membership of the Institution is not a pre-requisite to the award of a grant.

The Fire Service Research and Training Trust and the Institution of Fire Engineers would very much like to see this grant fully taken up every year and hope that Chief Officers and their staff will do all they can on a continuing basis to ensure that the availability of such assistance and the method of applying for it are widely known within their brigades and will encourage officers to undertake further study or research in this way.

File Reference : FIR/84 11/21/3  
Telephone Contact : 01 213 3136

### G. IMPERMEABLE FIRE TUNICS

1. Initial advice is set out in Dear Chief Officer letter No. 5/1970.
2. The Joint Committee on Appliances Equipment and Uniform (JCAEU) recently discussed use of impermeable fire tunics. At their request the Home Office asked the London School of Hygiene and Tropical Medicine (LSHTM) to review the report on comparative physiological trial on garments for fire fighting, prepared by the Army Personnel Research Establishment (APRE) in August 1969, and to say whether its conclusions were still valid. The LSHTM's paper, by Dr G W Crockford, confirmed that advice about the hazards of wearing impermeable tunics for fire fighting purposes contained in the APRE report remained valid. It also suggested that techniques for measuring clothing ventilation properties had improved since 1969, and could be used for defining garment performance.
3. The Home Office had previously engaged their consultants on matters relating to protective clothing, British Clothing Centre (BCC), to investigate the practicality of producing specifications for fire tunics/suits which could be expressed in terms of performance rather than, as now, designating particular materials. The JCAEU agreed that BCC should be asked to take account of LSHTM's remarks in their investigation.
4. In the meantime existing advice contained in DCOL No. 5/1970 about the potential hazards of impermeable tunics remains valid and has been endorsed by the JCAEU. Wool or Nomex tunics, as described in specifications A1 and A19, continue to offer the best protection currently available.

File Reference: FIR/84 301/41/1

Telephone number of contact: 01-213 3648



H: - THE IMPACT OF THE IONISING RADIATIONS REGULATIONS  
ON LOCAL AUTHORITY FIRE BRIGADES

Introduction

1. Item 1 in DCOL 9/1984 explained that guidance on the role of the fire service at incidents involving radioactivity had been reviewed and updated, and it enclosed a detailed definitive document on fire service procedures. It also stated (paragraph 2e) that supplementary guidance would be issued if necessary when the Ionising Radiations Regulations were published. These Regulations are to become effective on 1 January 1986.
- .... The Regulations have been published as S.I. 1985 No.1333, and are available together with an explanatory code of practice, from HMSO (price £5.80).
2. The Regulations aim to minimise exposure to radiation. They apply to peripatetic workers, including local authority fire services where radiation sources kept for training need adequate safeguards, to the calibration of instruments, and to operational procedures. The Regulations require the appointment of radiation protection advisers, and allow appointments to be made from 1 October 1985 before the Regulations come into operation on 1 January 1986. These Regulations will apply to local authority fire services. In the main, existing procedures are consistent with them but in some cases further action may be necessary. This note draws the attention of Chief Fire Officers to those aspects which are of most concern to them.

The Ionising Radiations Regulations 1985

3. During the consultation period set by the Health and Safety Executive, the proposals were considered by the Joint Committee on Fire Brigade Operations. In this way the views of the local authority associations and all fire service representative organisations have been made known to the HSE both orally and in writing. The following notes explain the outcome, and the main impact of the Regulations on local authority fire services.

Regulation 4 - Cooperation between employers

4. During fire prevention work and section 1.1(d) inspections, members of fire brigades may need to visit premises in which ionising radiations occur, and to enter an area where radiation above the threshold is present. In such circumstances, fire brigade personnel should follow the advice of the host employer and his radiation protection adviser if any. Many major establishments where ionising radiations may be present will be subject to the Fire Certificates (Special Premises) Regulations 1976; the HSE issues fire certificates in such cases. Where the premises of a major user of
- ....

ionising regulations are not subject to these Regulations, and fire prevention officers draw up fire certificates the circumstances could require consultation between employers with advice from radiation protection experts.

#### Regulation 5 - Notification of certain work

5. The HSE have been unable to accept the suggestion that, since fire brigades normally hold only very small sources of radioactive material for training purposes, there is no need for any notification. However, the work entailed should be minimal. A brigade with a current certificate of registration issued under the Radioactive Substances Act will not be required to re-notify under these proposals. Where no certificate of registration is held, brigades should notify their holdings of type 'A', 'B', and 'C' sources (radium and radio-cobalt) until they are phased out. The replacement 'Y' source (Caesium 137) described in paragraph 44 of the definitive fire services document on radiation must be notified. The replacement 'X' source (Strontium 90) has an activity of 2.22 kilo becquerels, which is below the notifiable quantity for Strontium 90. It will therefore not require notification, unless it is stored with one of the other mentioned sources. The HSE have advised that the existing certificate or a once-for-all new notification should in practice prove sufficient in most cases, although significant subsequent changes would have to be notified.

#### Regulation 8 - Designation of controlled and supervised areas

6. There is no question of complete exemption because brigades generally hold radioactive material above the level (an instantaneous dose rate of 7.5 microsieverts an hour) which triggers off this regulation. The HSE have given the following advice on how the requirement to designate "controlled areas" might be applied realistically in fire service circumstances. Where a brigade undertakes the calibration of its own equipment, a 'controlled' area will need to be established during the period of work with the source. Otherwise, provided the material is kept in a container which provides shielding so that the dose rate on the outside does not exceed 7.5 microsieverts an hour, such a container would count as the "controlled area". For the convenience of brigades it has been suggested by the HSE that when the source is to be used for calibration, the work is undertaken in a temporarily designated "controlled area", until the sources are replaced in the container.

Admittance during this period of work would have to be restricted to those whom the brigade nominates as "classified workers" (see Regulation 13 below). For illustrative purposes, the HSE also envisaged a scenario where a radioactive source is used on a dummy for training purposes. The area surrounding the dummy where the dose rates exceeded 7.5 microsieverts an hour would be a "controlled area". This affected area would need to be marked clearly, possibly in chalk but brigades may find other ways preferable in particular circumstances. Access to the area should be restricted to classified persons or those entering under a written system of work. It would be prudent if training practices which raised doubts in relation to the proposed Regulations were referred for clearance to a Radiation Protection Adviser (see Regulation 10 below).

#### Regulation 9 - Designation of classified persons

7. Since it is the case that few operational firefighters will ever encounter radioactive material, there was concern to clarify the intention of designating those "likely to receive" more than a minimum stated dose of ionising radiation. In particular, that this requirement should not apply to all operational firefighters as a matter of course. The HSE have advised that the Regulation does not exclude operational firefighters, but they take the view that the majority will not need to be classified because they might very infrequently, if ever, have to deal with a fire in which radioactive materials are involved. Such selectivity is further indicated in the Code of Practice issued with the Regulations, which suggests that main groups of designees would be those working in controlled areas, or with large sources of ionising radiation.

8. Fire authorities, as employers, will be able to deal with the situation where personnel on operational or fire prevention duties need to enter a known "controlled area" without designating them as classified persons by using Regulation 8(6)(b) and having a suitable written system of work. Brigade procedures for dealing with fires involving radioactive materials could form a written system of work - and would enable the employer to demonstrate for example by the use of dosimeters that doses received did not exceed the stipulated levels.

#### Regulation 10 - Appointment of radiation protection advisers

9. Some fire authorities may need the services of a Radiation Protection Adviser (RPA). This would be so if the dose rate from the sources used exceeded the minimum stipulated for this purpose in the Regulations. Brigades may find it best to use the NRPB or a university. The RPA could alternatively be an employee of the brigade with adequate and appropriate experience, though career moves might prove a drawback. The HSE have advised that only a small amount of time should be required - there is no question of creating a full time post. The HSE consider that one or two short consultations a year should be sufficient to meet fire service needs. The most important point is that brigades should make arrangements to obtain advice when necessary on radiation matters from a suitably qualified person. Notice of an intention to appoint an RPA must be given to and acknowledged by the HSE in advance.

#### Regulation 11 - Definition of "employer"

10. For the purpose of this regulation, the Fire Authority is the employer. The delegated authority or position of command need not be affected. The HSE have confirmed that in practice, the Chief Fire Officer may carry out the tasks of making and implementing local rules, and arranging for supervision and protection.

#### Regulation 13 - Dose assessment

11. Only for the very small number of those who will need to be designated "classified persons" (see Regulation 9 above) is assessment and recording needed under this Regulation. Any such record will need to be kept for 50 years. Brigades will need to designate staff involved in the calibration of equipment, or training with radioactive sources as "classified persons". These persons will need dosimeters from an approved dosimetry service; these may be film badges or thermo luminescent types. The quartz-fibre dosimeter is not satisfactory for this purpose.

#### General

12. This note is for the information of Chief Fire Officers, and carries no manpower implications. The direct cost implications are limited to the purchase of                      copies of the Regulations and                      the Code of Practice from HMSO (see paragraph 1). The Regulations themselves also carry cost implications, but in the case of the local authority fire services

it is envisaged these should not be significant because existing measures are generally consistent with the requirements of the Regulations. The main item would be the relatively modest cost of the services of a radiation protection adviser (see paragraph 9) where this is deemed necessary.

File reference: FIR/85 619/3/11

Telephone number of contact: 01-213-6131

DCOL 12/1985

J. LIAISON VISITS TO ROYAL NAVY SHIPS IN PORT

DCO letter No 43/1979 set out the background to the arrangements for fire-fighting in Royal Navy ships in port. Effectiveness in fighting ship fires has been greatly increased through the working relationships established between the Royal Navy and the local brigade.

The Royal Navy is about to issue an instruction so that in the future all Royal Navy ships will contact the local authority brigade on arrival at ports including those away from their home base and arrange for a 'ship acquaint' visit. The objectives of the visit will include familiarisation with the ship's lay-out, the installed fire-fighting equipment (including the thermal image camera) and ship fire-fighting practice and organisation. I am sure you will wish to co-operate fully in this initiative and in any combined training exercises which may be suggested.

File Reference : FIR/85 100/1/2  
Telephone number of contact : 01-213-4150

**K. SWINGFOG SMOKE GENERATOR**

1. Initial advice is set out in Section B of Dear Chief Officer letter No.4/1984. The Fire Research Station (FRS) have since carried out tests on a new Swingfog smoke generator and on a generator which had previously been in use with a fire brigade.
2. The tests included production of smoke (fog) in rooms containing naked flames, exposure of tunics with subsequent application of a flame to the fog created (including exposure at close quarters) and fog generation directly into a flame. None of these experiments produced any ignition of the atmosphere or flaming of the tunics.
3. The used Swingfog machine was in need of some maintenance and it was noted that glowing particles were emitted from the fogger nozzle though without causing any ignition of the fog.
4. FRS also quantified the concentration of oil mist generated by the Swingfog. It was found that 3 minutes of fog production was more than adequate to produce fog in the 44m<sup>3</sup> test chamber in which the experiments were carried out, and this resulted in a concentration of oil mist of about 25% of the lower explosive limit (LEL).
5. The overall conclusion reached by FRS was that as long as the manufacturer's instructions are followed and providing that the machines are not operated for excessive periods in small spaces, the fog from the recommended oil (Ondina EL) should not represent an explosion hazard. Mal-operation of the Swingfog can induce flaming or sparking at the end of the nozzle and if this is directed into hose or ducting, which itself may be coated with oil, a fire could result. In this connection it is important that the Swingfog should not be switched off and on again without first clearing all the oil from the exhaust; failure to clear the oil can result in a flame issuing from the outlet on re-starting.
6. The JCAEU considered the report by FRS on their experimental work and endorsed its conclusions. Additionally, the JCAEU advise that:
  - a. when used for smoke-making the Swingfog machines should be located in a non-enclosed area; and
  - b. Swingfog machines should not be operated for excessively long periods. Fogging should be restricted to a period of 3 minutes which is more than adequate to create dense fog in BA training premises.
7. There are no cost or manpower implications in this advice.

**File Reference: FIR/83 302/90/1**

**Telephone number of contact: 01-213 3648**

L. TRAINING IN THE USE OF BOOM LADDERS FITTED TO HYDRAULIC PLATFORMS

1. To help the Joint Training Committee of the CFBAC to determine the need for training in the use of boom ladders on hydraulic platforms, I would be grateful if Chief Fire Officers could have the enclosed questionnaire completed and returned to Mr J M Corkery, Home Office, Fire and Emergency Planning Department, Room 941, 50 Queen Anne's Gate, London, SW1H 9AT, by 15 November 1985.

2. I appreciate your co-operation in this matter.

File reference number: FIR/84 620/13/6

Telephone number of contact: 01-213 3136



QUESTIONNAIRE

..... Fire Brigade

1. Are there any hydraulic platforms (HPs) in the brigade fleet?
2.
  - a. Are any fitted with boom ladders?
  - b. Are members of the brigade required to train in the use of these ladders?
  - c. Briefly describe training required.
3.
  - a. Are there any HPs originally equipped with boom ladders where the ladders have since been removed?
  - b. Briefly state reasons for removal.
  - c. Has an alternative means of escape been provided?
4.
  - a. Are there any HPs without boom ladders but which are provided with an alternative means of escape?
  - b. Briefly describe the alternative means of escape.
  - c. Are members of the brigade required to train in the alternative means of escape?
  - d. Briefly describe the training required.
5. Are there any HPs without boom ladders or alternative means of escape?

M - OPERATIONAL STUDY ON BREATHING APPARATUS

.... I attach for your information a copy of the report on the Operational Study on Breathing Apparatus held at the Fire Service College in April this year. The indexed report details the proceedings and papers of the Study along with the ensuing discussions.

The Study proved to be a timely reminder that Breathing Apparatus plays a part in fire brigade work, and that its availability has increased substantially in recent years. It is hoped that the report will stimulate discussion on the many topics covered in the Study, such as the testing and maintenance of sets, and help identify priorities for further examination. The Joint Committee on Fire Brigade Operations will be giving comprehensive consideration to the outcome of the Study, using the report as a background to their deliberations.

It is hoped that the report will be made widely available in brigades.

File reference      FIR/85 620/33/11

Telephone number of contact 01 213 5307