HOME OFFICE
HORSEFERRY HOUSE, DEAN RYLE STREET
LONDON SW1P 2AW

To: All Chief Officers

24 May 1994

Dear Sir

DEAR CHIEF OFFICER LETTER 4/1994

This letter deals with a number of matters which are summarised below. More detailed information is contained in the relevant Items attached to this letter.

A AIRBAG SYSTEMS

2. This item informs Chief Fire Officers about the possible activation of vehicle safety airbags by radio transmissions. Modern vehicles are now fitted with inflatable airbags for the protection of drivers and, on some vehicles, front seat passengers. These airbags automatically inflate when the vehicle suddenly impacts with another vehicle or object.

Fire brigade personnel attending road traffic accidents and other incidents where a vehicle's airbag has not inflated, should be advised not to use radios within 10 metres of the vehicle until the vehicle battery has been disconnected for at least one minute.

B ADDENDUM TO TECHNICAL BULLETIN 1/1993 - OPERATIONAL INCIDENTS IN TUNNELS AND UNDERGROUND STRUCTURES

3. This item provides further guidance to Chief Fire Officers on two matters mentioned in Technical Bulletin 1/1993 concerning operational incidents in tunnels and underground structures. The first concerns additional locations where the advice contained in the Technical Bulletin might be applicable. Secondly, clarification of the term "safe air" which appears in the Technical Bulletin is provided.

C ACCIDENTS TO FIREFIGHTERS

4. The Fire Research and Development Group (FRDG) were asked by the Joint Committee on Fire Research to undertake a short study of the frequency and causes of accidents to firefighters. This followed a request from the Fire Brigades Union. FRDG has completed its study of available statistics and the results were presented to the Joint Committee. The enclosed summary report is circulated to Chief Fire Officers for information.

D FIREFIGHTING AND RESCUE OPERATIONS IN MINES

5. This item advises Chief Fire Officers of the current situation within the coal industry and gives clear advice that local authority fire brigade personnel must not attend incidents below ground in coal mines. The item gives guidance on fire brigade attendances at incidents above ground and at mines other than coal mines.

E INTERNAL THERMO CLADDING BUILDING PANELS

6. This item advises Chief Fire Officers of a number of recent fires which have caused concern. These fires have occurred at premises with a cavity roof space and a particular type of insulation material. The item advises Chief Fire Officers to alert operational firefighters to the potential dangers of these types of premises.

F DISTRESS AND CIVIL URGENT CALL PROCEDURES

7. We have been informed by British Telecom that despite the use of the phrases "Distress Call" and "Civil Urgent" having been discontinued, the facilities themselves are still available. This item advises Chief Fire Officers of the present situation.

G NEW CARRIAGE OF DANGEROUS GOODS BY RAIL REGULATIONS AND THE CARRIAGE OF DANGEROUS GOODS BY ROAD AND RAIL (CLASSIFICATION,PACKAGING AND LABELLING) REGULATIONS

8. This item informs Chief Fire Officers of the introduction of new regulations regarding the transportation of dangerous goods by rail and road.

The new regulations, which came into effect on 1 April 1994, introduce safety measures which freight operators are required to implement when transporting dangerous goods by rail or road. They relate to construction and maintenance of containers, segregation of goods, precautionary measures to prevent fire, explosion and leakage and the packaging and labelling of goods to be transported.

H FIRECODE - ISSUE BY NHS ESTATES OF NEW AND REVISED DOCUMENTS

9. This item advises Chief Fire Officers of the issue by NHS Estates of three new and three revised documents in the Firecode series and the consequent withdrawal by the Home Office of the "Draft guide to fire precautions in hospitals". The Home Office recommends that the Firecode documents be used by fire prevention officers when responding to requests for advice. One copy of each document is enclosed for the information of the Chief Officer.

I FIRE MODELS: A GUIDE FOR FIRE PREVENTION OFFICERS

10. Item 3 of Dear Chief Officer Letter 3/1993 informed Chief Officers of the outcome of a Home Office Fire Research project to evaluate a number of computer-based models used in fire risk analysis. The enclosed Guide for Fire Prevention Officers gives

further guidance in the use of a selected range of such fire models.

J MANUAL OF FIREMANSHIP BOOK 11

11. This item informs Chief Officers that the "emergency release mechanism fitted to some London Electricity substations" referred to on page 125 is no longer fitted and the reference should be deleted. The item advises that substations should not be entered until after notification by an authorised person of the Electricity Company that it is safe to do so.

Yours faithfully

BRYAN T A COLLINS
Her Majesty's Chief Inspector
of Fire Services

ITEM A
DCOL 4/1994

AIRBAG SYSTEMS

1. Introduction

1.1 All Fire Service personnel will be aware that many modern vehicles are fitted with inflatable impact safety bags (airbags) for the protection of drivers and, on some vehicles, front passengers. Their fitment is also likely to extend to rear passenger positions in the forseeable future. All airbags currently in use operate by the rapid evolution of a gas produced by the ignition of a pyrotechnic composition and are therefore classified as explosives (Class 1 of the United Nations classification of dangerous goods). In the UK the devices are classified as explosives under the Classification and Labelling of Explosives Regulations 1984 and the Explosives Act 1875. Many models available in the UK are classified as Class 6 Division 1 Explosives.

1.2 There is no specification covering the quality or marking of airbags and no agreement on the need to mark a vehicle fitted with such a device. Some devices may be marked with warnings on risk and safety for persons handling the device.

2. Hazards

2.1 Personnel attending incidents such as car fires or road traffic accidents should bear in mind that vehicles may be fitted with airbag devices which may or may not have activated before the brigade's arrival.

2.2 Sodium Azide used in certain models of airbags is contained in a sealed container of stainless steel or aluminium. Operation of the system is by an electrical charge, triggered by impact to initiate a chemical reaction and produce nitrogen gas. Although free Sodium Azide is toxic by ingestion, the possibility of such ingestion is considered to be extremely unlikely under any circumstances.

2.3 Where an airbag has actuated, it will automatically deflate and should not require any further puncturing to gain access to any casualties in the vehicle.

2.4 Where an airbag has not actuated, personnel should be aware of the possible hazard of unexpected actuation. This is unlikely to occur due to fire, accident damage or defect after the brigade's arrival but, in the course of carrying out conformance tests, the Home Office has become aware of a further remote possibility that radio transmissions could trigger activation of an airbag.

3. Safety measures to be observed by crews

3.1 Normal procedures dictate that vehicle batteries should be disconnected to obviate electrical hazards. Such disconnection

should always be made in the case of vehicles fitted with airbags in order to remove their primary power source. However, personnel should be made aware that, for periods of up to one minute after disconnection, sufficient energy may still be stored (via a charged capacitor) to allow airbag operation.

3.2 Although airbag systems are extremely unlikely to activate as a result of localised radio transmissions, radios should not be used within 10 metres of an affected vehicle until the vehicle battery has been disconnected for at least one minute.

4. Conclusion

4.1 This item is for the information of Chief Fire officers. There are no manpower or financial implications.

File reference: FEP 91 195/1500/1

Telephone contact number: 071 217 8746

ITEM B
DCOL 4/1994

ADDENDUM TO TECHNICAL BULLETIN 1/1993 - OPERATIONAL INCIDENTS IN TUNNELS AND UNDERGROUND STRUCTURES

1. Introduction

1.1 Recent discussions within the Technical Working Group on Breathing Apparatus, a Working Group of the Joint Committee on Fire Brigade Operations, have identified a need to give further guidance on two matters:

a) locations additional to those mentioned in the title of the publication, where the advice contained in Technical Bulletin 1/1993, Operational Incidents in Tunnels and Underground Structures, might be applicable and

b) clarification of the meaning of the expression "safe air" which appears in paragraph 17.8 of Technical Bulletin 1/1993 but is not referred to in Technical Bulletin 1/1989 on Breathing Apparatus.

2. Working Group on Firefighting in Tunnels and Similar Structures

2.1 The terms of reference of the Working Group on Firefighting in Tunnels and Similar Structures which was established in 1985 by the Joint Committee on Fire Brigade Operations were:

> "to examine available information and in the light of experience apply this knowledge with regard to fires and other incidents in road or rail tunnels and similar structures, including underpasses, but excluding pressurised workings, and to consider the issue of advice to fire authorities as appropriate".

2.2 Technical Bulletin 1/1993 represented the results of the work of the Working Group, whose terms of reference specifically excluded mines. Furthermore, members did not consider the Channel Tunnel in their deliberations because work on that project was being undertaken elsewhere. It follows that the Working Group did not consider other locations outside of their terms of reference in drafting the guidance.

3. Application of Technical Bulletin 1/1993

3.1 Technical Bulletin 1/1993 was therefore written as guidance for dealing with incidents in a particular type of location and there is no intention to extend its terms of reference to include other large structures or to draw up a definitive list of locations where the guidance in the document could be applied.

3.2 However, it is recognised that some of the guidance in the publication could be applicable to locations other than tunnels and similar structures. Chief Fire Officers are advised to follow the guidance in appropriate circumstances. In particular,

the guidance on donning of breathing apparatus at paragraph 17.8 and the need to "start up" in "safe air" conditions could be applicable in a number of situations. Similarly, the advice at paragraph 17.12 on the positioning of bridgeheads, forward control and breathing apparatus entry control points would be equally sound for locations such as high rise buildings.

4. "Safe air" and "fresh air"

4.1 Paragraph 5.1 of Technical Bulletin 1/1989 on Breathing Apparatus said that "breathing apparatus should be donned and started up in fresh air". Technical Bulletin 1/1993 made use of the expression "safe air" in paragraph 17.8, which dealt with starting up, but the document did not contain a definition of the term "safe air".

4.2 It has been agreed that the terms "safe air" and "fresh air" are synonymous and that "safe air" can be defined as "an atmosphere that will not cause respiratory discomfort or injury". This paragraph has been agreed by the Health and Safety Executive.

5. Conclusion

5.1 This item is for the information of Chief Fire Officers. There are no cost or manpower implications.

File reference number: FEP 93 66/1502/2
Telephone contact number: 071 217 8746

ITEM C
DCOL 4/1994

ACCIDENTS TO FIREFIGHTERS - RESEARCH PROJECT

1. In response to a request from the Fire Brigades Union, the Joint Committee on Fire Research (JCFR) decided to undertake a short study into the reportedly rising frequency of accidents to firefighters. The Home Office Fire Research and Development Group (FRDG) was asked to carry out the study based on available statistics from Brigades and the Health and Safety Executive. The study concentrated on determining the extent and severity of injuries throughout the UK as a whole, rather than focusing on individual incidents.

2. FRDG completed the study and the results were presented to the Joint Committee. A number of general conclusions can be drawn from the analysis of the statistics:

a) the number of firefighter injuries at incidents has increased proportionally with the number of incidents attended.

b) about half of all injuries to firefighters occur whilst attending incidents.

c) sport is the only cause of injuries showing a significant increase in magnitude.

d) leg, hand and back injuries have been the most frequently reported.

3. A copy of the FRDG report is enclosed for information. Further copies of the report are available on request from:

Fire Experimental Unit Information Desk
c/o Fire Service College
Moreton-in-Marsh
Gloucestershire
GL56 0RH

Telephone 0608 51470

File reference number: FEP/93 20/1500/2

ITEM D
DCOL 4/1994

FIREFIGHTING AND RESCUE OPERATIONS IN MINES

1. Introduction

1.1 The purpose of this item is to provide Chief Fire Officers with information and guidance on the implications of the current developments within the coal industry. Discussions have taken place recently between the Home Office, Health and Safety Executive (HSE) and HM Inspectorate of Mines (HMIM) about the possibility of the fire service having a greater part to play in future emergency incidents in mines. There has been an increase in the number of requests for local authority fire brigade attendance to incidents in a variety of types of mines in recent months. Such incidents have highlighted the need to ensure effective liaison between fire and mines rescue services in the event of fire brigades being called out and the need for some central guidance to be issued to the fire service.

1.2 The following guidance explains where local authority fire brigades should not become involved in incidents in mines; those circumstances in which their involvement might be possible, subject to proper arrangements and safeguards being in place; and gives a broad indication of the various matters which should be considered by brigades in pre-planning and implementing arrangements for firefighting and rescue in mines.

2. HM Inspectorate of Mines

2.1 HMIM, led by HM Chief Inspector of Mines, is part of HSE and is responsible for enforcing health and safety legislation in mines. England, Scotland and Wales are split into two operational districts.

3. Legislation

3.1 Health and Safety legislation relating to mines is chiefly contained in the Mines and Quarries Act 1954 and in the Health and Safety at Work Act 1974 and regulations made under the two Acts. Firefighting and rescue operations in mines are dealt with in the Coal and Other Mines (Fire and Rescue) Regulations 1956 (SI 1956/1768). It should be noted that the requirements on rescue in these regulations apply only to mines of coal and shale which employ more than 10 persons below ground. This position will, however, change with the implementation of a forthcoming EC Council Directive which will require all mineral extracting mines to have an effective rescue organisation and underground workers to be provided with self-escape apparatus.

3.2 The regulations place a duty on every mine owner (of both privately and publicly owned mines) to provide a rescue station or to make arrangements to ensure that there are available to the mine such facilities provided by a rescue

station. The regulations stipulate the permissable distance from the mine of the rescue station but allow inspectors power to grant exemptions in certain circumstances. The regulations deal with staffing, training, communications, record-keeping, equipment, signals, accommodation etc.

3.3 British Coal has several permanently staffed rescue stations together with two colliery sub-stations. British Coal is the licensing authority for private coal mines. (See paragraph 5.4 below). The terms of the present British Coal licence for private mines make provision for availability of rescue facilities. The interpretation of this provision currently gives rescue cover for these mines but new licences recently issued do not provide this facility.

3.4 HSE is undertaking, in collaboration with the industry, a complete review of the existing legislation. The aim of the review is to take account of the changes within the industry, particularly the reduction in the size and geographical spread of British Coal, and devise a legal framework to meet the changing needs of the industry. HSE will seek, with its new legislation, a common approach to rescue for all mines with necessary balance of risk assessment. This will result in higher legal safety requirements for smaller licensed coal and other mines.

4. The rôle of the fire service

4.1 Section 1(1)(a) of the Fire Services Act 1947 requires a fire authority to provide "services for their area of such a fire brigade and such equipment as may be necessary to meet efficiently all normal requirements". Underground coal workings present particular and extreme hazards and are not regarded as "normal" and the fire service does not generally attend mines incidents. There are circumstances, as outlined below, where the fire service is strongly advised not to become involved in mines incidents. However, in some circumstances, it may be practicable for the fire service to carry out specific support functions at such incidents, or, in certain types of mine, it may be feasible for the fire service to undertake a firefighting and rescue rôle, subject to effective arrangements and procedures as outlined below being in place.

5. Types of mine

5.1 Mines can be divided into two broad categories, namely coal mines and non-coal mines. The potential for local authority fire brigade involvement at mines incidents will in general be dependent on the type of mine.

A Coal mines

5.2 HSE and the Department of Trade and Industry (DTI) are clear that the special hazards involved in coal mines mean that rescue can only be effected in safety by experienced miners who are familiar with the mine and specially trained and equipped for the purpose. The

legal responsibility for securing the provision of such services must and will remain with the owner.

5.3 The firm advice of HSE and the Home Office is that local authority fire brigades should not enter underground workings in coal mines and to do so would put the lives of firefighters in jeopardy. This is especially true of licensed mines (see paragraph 5.4 below). The only possible exception to this general rule is where local authority fire brigades are requested by the Mines Rescue Service to provide specialist equipment and where the Mines Rescue Service and HMIM have confirmed that it is safe for them to do so.

5.4 Licensed mines are coal mines, which are not operated by British Coal. Size varies from those employing less than ten personnel underground to those employing several hundred. Operations are controlled by conditions of the licence.

B Non-coal mines

5.5 There are over a hundred non-coal mines of a miscellaneous nature. They can be mines where minerals other than coal are extracted. They can vary in size, some employing only a few staff, others several dozen. There are notable exceptions which employ hundreds of personnel and have extensive underground complexes. The salt mine, at Winsford, in Cheshire and the potash mine, at Boulby, in Cleveland are examples. Other mines can also include tourist mines and those used only for storage.

5.6 These mines also present hazards which may go beyond what can be regarded as normal. However, generally the risks at non-coal mines are lower than at coal mines, although in some there may still be special hazards such as the presence of methane. It is recognised that local authority fire brigades are increasingly being called upon to become involved with this sector. Where this is the case, it is essential that local liaison should take place between the mine owner and the fire brigade and that HMIM should be involved in these discussions.

5.7 Non-coal mines are not currently covered by regulation but will be covered by the new legislation which should be in place before the end of 1994.

5.8 Some of the larger of these mines have their own rescue teams whilst some smaller mines have trained rescuers who use short duration breathing apparatus sets. Local authority fire brigades intending to become involved in incidents at these types of mine must pay close attention to the guidance notes below, particularly those concerning pre-planning and procedures.

5.9 Disused mines are mines that have been worked out, or become uneconomic to work and have been abandoned by

their owners. Problems arising in disused mines are under the jurisdiction of the local authority and not HMIM.

6. Pre-Planning

6.1 In pre-planning, brigades should take account of the firm advice (see paragraphs 5.3 and 9.1) concerning coal mines. Where the owner of a non-coal mine wishes to enter into an arrangement with a local authority fire brigade for firefighting or rescue purposes and the fire brigade is able efficiently and safely to respond to such a request, it is recommended that the latter should develop a plan for such occasions.

6.2 It is essential that all contingency plans are prepared in consultation with HMIM and where appropriate the relevant Mines Rescue Service to determine the precise support rôle to be undertaken by the local authority fire brigade and how that is to be achieved at an emergency incident. In relation to non-coal mines, plans will need to be drawn up in consultation with any on site mines rescue corps or personnel having responsibility, by agreement with the owner, for firefighting and rescue purposes.

6.3 In pre-planning, the following points should be considered:

- Methods of raising the alarm and alerting the essential services.
- Speed and weight of the necessary response.
- Efficiency of inter-service liaison arrangements.
- Establishment of controls and communications.
- Initial reconnaissance arrangements.
- Firefighting procedures (where appropriate).
- Rescue and casualty handling.
- Types of equipment and clothing safe to be used at the scene.
- Specialised equipment needed.
- Range of support functions and tasks.
- Compatibility of plans of other services.
- Use of mine resources and equipment.
- The need for specialist training and inter-service exercises.
- Media liaison.

- Health, safety and welfare of personnel.

- Any other special arrangements or procedures.

7. Method of Call

7.1 Calls to an incident in an underground coal mine would not normally be received from the general public. In any event, arrangements should be in place to alert the appropriate Mines Rescue Service and attendance of the fire brigade should be by prior agreement.

7.2 In relation to incidents in non-coal mines, calls may be received from any source and arrangements should be made to alert any Mines Rescue Service, Corps or individuals who are part of the attendance. This will normally be undertaken by contacting the owner or his nominated representative.

8. Communications

8.1 At any type of multi-agency incident, effective communication is vital to the success of the operation. Fire service communications equipment is unlikely to be certified to a standard suitable for use in underground coal mines. It is therefore essential in pre-planning to identify the type of equipment which can and cannot be used at an incident.

9. Firefighting Procedures

a) Coal mines

9.1 In no circumstances should local authority fire brigade personnel undertake firefighting procedures in underground coal mines. Any support function to firefighting activity must be through prior agreement and through liaison with the Mines Rescue Service at the incident. Special safety standards apply to equipment used in coal mines as well as the use of non-flammable fluids and extra protection for electrical circuits. Fires in coal mines do occur and are usually dealt with by underground firefighting teams and facilities. Major incidents involving spontaneous combustion of coal seams are dealt with in a specialist manner and the involvement of fire service personnel is not envisaged.

9.2 It is recognised that there may be a requirement for firefighting above ground. This may include coal tips, plant and machinery, and other items which might be found within the curtilage of a coal mine. A risk assessment should be carried out and all training undertaken by the local authority fire brigade should be aligned to the risk. Consideration should also be given to the provision of specialised equipment and protective clothing.

b) Non-coal mines

9.3 An owner of a mine may enter into an agreement with a local authority fire brigade, whereby the brigade undertakes

the duties of firefighting both above and below ground. Before entering such an agreement, the brigade must be able to satisfy the training requirements.

10. Rescue Procedures

a) Coal mines

10.1 Persons may need to be rescued through tunnel collapse, by being trapped in machinery, being overcome by fumes or due to accident or illness. Local authority fire brigade personnel should not undertake rescue operations in underground coal mines; this is a task for Mines Rescue teams. However, through pre-planning with HMIM and the Mines Rescue Service, arrangements may be made for the involvement of the local authority fire brigades in rescue support activities on the surface.

10.2 One area where the specialised knowledge and skills of the fire service may be invaluable is in the rescue of casualties trapped by machinery or within transport vehicles. In coal mines this should only be undertaken by prior arrangement and under the co-ordination of the Mines Rescue Service.

b) Non-coal mines

10.3 The owner of a mine may enter into an agreement with the local authority fire brigade for the brigade to provide an underground rescue service. However, this should only be undertaken after close liaison and consultation with HMIM and Mines Rescue Service as to the level of training and provision of specialised equipment. The training requirement is dealt with in paragraph 12 below.

10.4 Rescue from non-coal mines depends upon local arrangements, the nature of the task and the expertise of fire service personnel. Structural collapse requires specialist knowledge in shoring techniques and may involve "digging out". Furthermore, persons may be trapped considerable distances underground, in conditions unfamiliar to fire service personnel and therefore beyond their experience and training, or in circumstances where they are ill equipped. If a local authority fire brigade envisages involving its personnel in mines rescue it is imperative that it ensures that its personnel are trained and equipped appropriately to undertake any pre-determined task. This can be best achieved by way of risk assessment and close collaboration with the mine owner and HMIM.

10.5 There are particular difficulties in pre-planning for incidents in disused mines. Casualties will usually be persons who, having gained unauthorised access, have fallen or become trapped through collapse of tunnels or misuse of abandoned equipment. Where Mines Rescue personnel are available, arrangements should be made for their attendance as old shafts may cave in and it requires specialist knowledge and training to gain safe access and egress. Accordingly

where local authority fire brigade personnel are trained, exercised and equipped in such procedures they can be safely utilised but the local authority fire brigade should ensure communication with the Mines Rescue Service for help and assistance.

11. Support rôle

11.1 During an underground incident which is being attended by the Mines Rescue Service, a local authority fire brigade may be called upon to give assistance above ground in a support rôle. The type of service and assistance which can be provided would have to be determined by pre-planning and a risk assessment. These operations could be:-

i. provision of lighting;
ii. assistance with casualty handling;
iii. provision of specialised equipment;
iv. assistance with demarcation of hazard areas; or
v. assistance in evacuation of a site.

Additional fire brigade training would not normally be necessary.

12. Training

12.1 All personnel who are likely to attend emergencies in mines must receive training appropriate to their responsibilities. Where it is envisaged that operations underground might take place, particularly in mines prone to flooding, fire brigade personnel should be able to swim. It is recommended that training for dealing with incidents in mines in a support rôle should form part of routine brigade training for targeted personnel and exercises are vital with the Mines Rescue Service, corps or personnel as applicable. However, firefighting and rescue procedures in mines demand special training instructions and recording procedures.

12.2 A record identifying the types of training given and participation in exercises should be entered into each individual firefighter's training record.

12.3 Training for any operations underground must be carried out in liaison with HMIM and should incorporate:-

i. **Instruction in safe methods of working underground.**

Usually 20 days, under close personal supervision. This applies to anyone working underground and is aimed predominantly at mineworkers.

ii. **Self Rescuer Training**

Self rescue breathing apparatus. No exemption for fire brigades. Training takes approximately 45 minutes, with an annual refresher course. A nominated person could receive the training on behalf of the brigade, and train other personnel.

iii. **Underground Firefighting Training**

Basic training in underground firefighting techniques and equipment, again aimed predominantly at mineworkers, who need to be capable of first strike firefighting.

iv. **Operation and Recharge of Fire Extinguishers**

Basic training as above, again aimed at mineworkers. Adequately covered in present fire brigade training.

12.4 The type of training required for rescue operations would need to mirror that given to Mines Rescue Teams and would incorporate the following:-

i. Instruction in safe methods of working underground;
ii. Self Rescuer Training;
iii. Underground working conditions;
iv. Safety and Welfare equipment.

13. Firefighting and Rescue Equipment

13.1 Although on-site firefighting and rescue equipment may be available, it is recommended that local authority fire brigades should plan always to provide their own equipment. In certain circumstances, it may be appropriate to pre-box safety equipment that has been designated for use in mines to ensure that unsafe equipment is not accidentally introduced into hazardous areas. In their pre-planning, fire brigades may wish to draw up a list of essential equipment for attendance at mine incidents.

13.2 It is important to note that the type of breathing apparatus used by fire brigades is not approved for use in coal mines. Any electrical or electronic equipment including communications equipment must be certified as being safe for use in mines and any metal components, eg miscellaneous tools, branches etc should be of a sparkproof variety made from phosphor bronze. Velcro fastenings are also banned from use underground.

13.3 Generally fire service breathing apparatus is of comparatively short duration when compared to those used by the Mines Rescue Service. Fire brigades intending to utilise extended duration breathing apparatus will need to establish through risk assessment, training and exercises, the limits of the air/oxygen supply in terms of safe distance. Points to be considered include the problem of working in irrespirable or explosive atmospheres; distance; vertical shafts and terrain; tunnel collapse and poor, or no, lighting. (See also Technical Bulletin 1/1993 - Operational incidents in Tunnels and Underground Structures).

13.4 Annex 1 indicates some of the equipment which may be needed for firefighting and rescue operations in mines. It is essential that the equipment designated should be agreed in

any preplanning arrangements.

14. Safety and Welfare Equipment

14.1 Working underground is often cold, dirty and exhausting. It may involve working in irrespirable atmospheres, total darkness or dust whilst operating in narrow tunnels, vertical shafts and water. Particular attention should therefore be paid to appropriate provision being made for the safety and welfare of the personnel taking part.

14.2 It is recommended that safety and welfare equipment should include that set out in Annex 2.

File reference number: FEP 90 29/436/1
Telephone contact number: 071 217 8746

ANNEX 1
ITEM D
DCOL 4/1994

ESSENTIAL ADDITIONAL EQUIPMENT

1.1 In order to comply with legislative requirements, certain conditions must be met concerning items taken below ground. Matches, cigarette lighters and other means of creating a naked flame are not permitted. Only electrical equipment certified as safe for use in mines is permitted. Metallic components, such as handtools, branches, etc must be sparkproof and therefore be made from phosphor bronze or plastic. Velcro fastenings are also banned. In all circumstances, it is essential that HMIM is consulted regarding any equipment that is proposed to be taken underground.

Fire Kit

1.2 The firefighter's traditional fire kit is designed to give protection to personnel from surrounding dangers by protecting the head and shielding the body. Mineworkers, including the Mines Rescue Staff, wear the following range of clothing when underground:

a. Underwear (not nylon)
b. Vest or T shirt
c. Boiler suit/overalls
d. Socks (not nylon)
e. Safety boots
f. Helmet/hard hat
g. Ear defenders
h. Safety glasses/goggles
i. Safety gloves
j. Knee pads
k. Dust mask
l. Lamp
m. Self rescuer set

1.3 All the above equipment is of the appropriate standard authorised for use underground and, in the case of British Coal Mines with the exception of items (a) and (b), may be appropriate for local authority fire brigade use as agreed with HMIM.

Firefighting and Rescue Equipment

1.4 Over the years, local authority fire brigades have replaced firefighting and rescue equipment with lighter materials, for example, hose couplings are now alloy instead of brass and rescue equipment is made predominantly of steel. This is inappropriate for underground use in a coal mine as it is not sparkproof.

Communications Equipment

1.5 Fire Brigade communications equipment is not normally certified as safe for use in mines and should not be used below ground. British Coal communications equipment is usually available at their sites.

Special Clothing/Equipment

1.6 It is likely that local authority fire brigades undertaking a firefighting or rescue rôle in mines will need special clothing. In certain circumstances, arrangements may be made with British Coal or an alternative owner for their provision.

Emergency Equipment held at Mines Rescue Stations

1.7 Brigades intending to attend incidents in mines should familiarise themselves with items of emergency equipment available at Mines Rescue Stations.

SAFETY AND WELFARE EQUIPMENT

All additional equipment, listed at Annex 1, concerns the safety and welfare of firefighters. Other items include:

1.1 **Barrier Cream**

Used before proceeding underground: offers protection to exposed areas of skin from dermatitic infection.

1.2 **Eyewash**

Available in some first aid kits: offers immediate treatment for dust particles in the eyes, although the wearing of goggles would minimise the occurrence.

1.3 **Change of Clothing**

Currently used by some brigades as part of decontamination procedures. A track suit/plimsolls would afford dry clothing following withdrawal from wet, dirty conditions.

1.4 **Washing/Showering Facilities**

At most working mines these facilities will be provided for the workforce, and can be utilised by fire and rescue personnel. Storage and tourist mines are usually clean and so would not present a problem. Rescuers involved in other dirty conditions could usually be transported to the nearest fire station. Alternative arrangements would have to be made where disused mines are situated in isolated locations.

1.5 **Rest/Feeding Stations**

As 1.4, rest and feeding facilities are usually provided for the workforce, and could be utilised by fire and rescue personnel. Alternatively, the brigade's fireground feeding procedures could be implemented.

ITEM E
DCOL 4/1994

INTERNAL THERMO CLADDING BUILDING PANELS

1. Introduction

1.1 Since 1984 there have been a number of fires where the presence of an unrevealed cavity roof space has led to an unexpected course of the fire. Several of these fires have also involved a type of insulation material which can be found in premises such as cold stores or meat processing factories where hygiene is a priority. The insulation is foamed polymer either polyurethane or polystyrene and is generally used in sandwich constructed panels in walls and ceilings. The surfaces of the panels may be coated with polyester powder to allow easy cleaning in the process areas.

2. A recent fire

2.1 Recently a fire occurred in a large single-storey, brick and steel-clad, steel pitch-roof construction adapted for the hygienic handling of meat and internally re-arranged to provide compartments round a main packing enclosure. The premises had no cavity barriers, no fixed firefighting installations, no compartmentation and an apparent lack of fire protection to the structural steelwork.

2.2 Refurbishment some two years before the fire had effectively created a building within a building, with extensive use of polystyrene panels, backed each side by sheet steel, for walls and ceiling. A continuous roof void had been created between the insulation panels and the external roof of the building. The premises had been refurbished for meat processing and cold storage. The extensive alterations together with the use of the thermo cladding building panels created very difficult operational conditions.

3. Difficulties with fire fighting

3.1 Difficulties with firefighting in large uncompartmentalised buildings with inadequate fixed installations are well known. Although partitions were visible in the building they did not continue into the roof void and the lack of venting in the roof aided the spread of smoke. The particular building involved was not considered to be a specific risk. The type of insulating material caused the fire to spread rapidly and the relatively flimsy manner of its incorporation into the building, virtually a building within a building, led to the unexpected collapse of the building.

4. Future work

4.1 The Fire Research Station has investigated the fire and will be carrying out further research work on various sandwich panels in conjunction with developments in ISO for the testing of such panels. Chief Fire Officers will be kept informed of developments. In the interim, they are advised to be aware that

this type of insulation material is increasingly being used in the catering industry and this should be borne in mind when carrying out section 1(1)(d) inspections. A number of similar fires have been reported recently. Such fires should be treated with extreme caution.

4.2 Consideration is being given to the question of whether Building Regulations require amendment.

5. Conclusion

5.1 This item is for the information of Chief Fire Officers and should be brought to the attention of all operational firefighters. There are no manpower or financial implications.

Telephone contact number: 071 217 8746
File reference number: FEP 94 16/355/1

ITEM F
DCOL 4/1994

DISTRESS AND CIVIL URGENT CALL PROCEDURES

The Manual of Firemanship, Book 10, chapter 1, page 17, section 10, paragraphs (a) and (b) refers to "Distress Call" and "Civil Urgent" procedures. Paragraph (a) gives direction on the procedure to adopt when the immediate safety of life or property is at risk and a British Telecom operator assisted call is required and paragraph (b) gives direction for urgent operational calls which do not meet the above criteria regarding life and property.

2. We have been informed by British Telecom that despite the use of the phrases "Distress Call" and "Civil Urgent" having been discontinued, the facilities themselves are still available. These are:

a) the interruption of a fire brigade officer's telephone may be requested via the BT operator by dialling 100.

b) by dialling 999 for connection to the appropriate emergency control room where immediate safety of life or property is at risk; this cannot be used for other operator services.

3. If difficulties are encountered making any call assistance can be obtained from the operator by dialling 100.

ITEM G
DCOL 4/1994

NEW CARRIAGE OF DANGEROUS GOODS BY RAIL REGULATIONS AND THE CARRIAGE OF DANGEROUS GOODS BY ROAD AND RAIL (CLASSIFICATION, PACKAGING AND LABELLING) REGULATIONS

1. This item advises Chief Fire Officers of the new regulations regarding the carriage of dangerous goods by rail and road.

2. The Carriage of Dangerous Goods by Rail Regulations (CDG Rail) [SI No. 670/94] and the Carriage of Dangerous Goods by Road and Rail (Classification, Packaging and Labelling) Regulations (CPL) [SI No. 669/94] came into force on 1 April 1994.

3. The CDG Rail Regulations introduce requirements and prohibitions in relation to the carriage of dangerous goods by rail in freight containers, packages, tank containers, tank wagons and wagons. Guidance on these regulations can be found in "The Carriage of Dangerous Goods by Rail Regulations 1994 - Guidance" (ISBN 0-7176-0698-8) which is available, price approximately £8, from:

HSE Books
PO Box 1999
Sudbury
Suffolk
CO10 6FS
Tel: 0787 881165

4. The Regulations require that operations be carried out so as not to create a hazard to the health and safety of any person. Under their provisions, operators are required to ensure that:

i. containers, wagons etc have been adequately constructed and maintained;

ii. goods are adequately segregated;

iii. appropriate information is available to operators at all times and

iv. all necessary precautions are taken to prevent fire, explosion and leakage.

5. CDG Rail will be dependent upon the CPL Regulations for their packaging and labelling requirements. These latter Regulations, which combine packaging and labelling requirements for rail and road transport, supersede the transport provisions of the Chemicals (Hazard Information and Packaging) Regulations 1993, which applied to road transport, and extend them to cover rail transport as well. They will introduce the UN packaging design type testing and certification scheme which currently only applies to dangerous goods carried in international transport and to the domestic transport of explosives.

6. Information on the Chemicals (Hazard Information and Packaging) Regulations 1993 was provided in item C of Dear Chief Officer Letter 2/1994.

Financial and Manpower Implications

7. These regulations will have minimal financial and manpower implications.

Telephone contact: 071 217 8745

ITEM H
DCOL 4/1994

FIRECODE - ISSUE BY NHS ESTATES OF NEW AND REVISED DOCUMENTS

NHS Estates (an Executive Agency of the Department of Health) has recently issued to health estate managers three revised and three new publications in the "Firecode" series. The publications are as follows:-

FIRECODE: POLICY AND PRINCIPLES

This document advises NHS chief executives and general managers of legislative changes affecting fire safety in their healthcare premises. These changes arise mainly from the application of the National Health Service and Community Care Act 1990 but reference is made to other important legislative changes. The publication is a revision of the 1987 version and supersedes that document.

Copies may be purchased from Her Majesty's Stationery Office, priced £15.00; ISBN 0 11 321711 0.

FIRECODE: HEALTH TECHNICAL MEMORANDUM 83: FIRE SAFETY IN HEALTHCARE PREMISES - GENERAL FIRE PRECAUTIONS

HTM 83 draws attention to the key role of management in devising and implementing policies and programmes for dealing with life-threatening situations presented by fire in an extremely vulnerable environment, and for ensuring that staff at all levels receive appropriate and regular training in fire safety and evacuation procedures. The memorandum supersedes the document of the same title published in 1982.

Copies are available from HMSO priced £20.00;
ISBN 0 11 321725 0.

FIRECODE: HEALTH TECHNICAL MEMORANDUM 85: FIRE PRECAUTIONS IN EXISTING HOSPITALS

HTM 85 technically updates the "Draft guide to fire precautions in hospitals" produced jointly by the Home Office and Scottish Home and Health Department in 1982. It applies (from 1 May 1994) to the upgrading and minor alterations of fire precautions in NHS hospitals which fall outside the scope of Firecode: HTM 81 "Fire precautions in new hospitals" published in 1987. Paragraph 1.9 of the document adds that it may also be used as good practice guidance for the provision of fire precautions in existing non-NHS hospitals and nursing homes registered under Part II of the Registered Homes Act 1984.

As a result of the introduction of HTM 85,

(i) the draft guide will - with immediate effect - no longer be available from the Home Office;

(ii) the Department of the Environment will inform building control authorities about the introduction of the HTM and the consequent withdrawal of the draft guide - having regard to the fact that the draft guide is at present cited in Approved Document B, Fire safety, attached to The Building Regulations 1991.

Copies are available from HMSO priced £20.00;
ISBN 0 11 321733 1.

FIRECODE: HEALTH TECHNICAL MEMORANDUM 86: FIRE RISK ASSESSMENT IN HOSPITALS

HTM 86 replaces the HTM of the same number issued in 1987 under the title "Assessing the fire risk in existing hospital wards". The new document provides a fire engineering approach to risk assessment based on the balancing of life risk, fire hazards and existing fire precautions. Using such an approach it can be possible to determine what, if any, additional fire precautions are necessary.

Copies are available from HMSO priced £20.00;
ISBN 0 11 321734 X.

FIRECODE: FIRE PRACTICE NOTE 4 - HOSPITAL MAIN KITCHENS

FPN 4 is a new publication which provides general and technical guidance relating to the additional fire precautions which may be required for new and existing main kitchens on hospital premises.

Copies are available from HMSO priced £15.00;
ISBN 0 11 321713 7.

FIRECODE: FIRE PRACTICE NOTE 6 - ARSON PREVENTION AND CONTROL IN NHS PREMISES

FPN 6 is another new publication. It has been prepared with the assistance of the Arson Prevention Bureau and provides guidance in respect of additional fire and other safety precautions which may be necessary to prevent, control and detect arson in NHS premises.

Copies are available from HMSO priced £15.00;
ISBN 0 11 321712 9.

2. These documents form an essential part of Firecode with which the Secretary of State for Health requires NHS trusts and health authorities to comply. The Home Office recommends that they and other Firecode documents be used by fire prevention officers when responding to requests for advice.

3. There are no cost implications, apart from the purchase of additional copies of the publications, and no additional manpower implications arising from the issue of this guidance to fire brigades.

Home Office contact: Andy Jack 071 217 8741
FEP/93 47/94/1

ITEM I
DCOL 4/1994

FIRE MODELS: A GUIDE FOR FIRE PREVENTION OFFICERS

Dear Chief Officer Letter 3/1993, issued 15 March 1993, informed Chief Officers of the outcome of a Home Office Fire Research project to evaluate a number of computer-based models used in ... fire risk analysis. The enclosed Guide for Fire Prevention Officers gives further guidance in the use of a selected range of such fire models.

2. It has to be emphasised that the evaluation of proposals for fire safety in buildings where computer based modelling has been used is not an easy task. Accordingly, fire modelling is only intended for use by persons with considerable knowledge of fire safety and the behaviour of people within a building.

3. Modelling techniques are frequently used to estimate the different effects a fire may have when making comparative assessments of fires of different sizes and growth rates in various locations. At best such techniques give only an approximation of what might happen in the event that the input parameters match those of the actual fire.

... 4. Comments on the enclosed guidance would be welcomed. Any such comments will be important in assessing the guide's usefulness and the need for further guidance especially in respect of models which may be developed. Any suggestions should be addressed to HMI Tinley, HM Inspectorate of Fire Services, Room 740, Horseferry House, London SW1P 2AW (Tel: 071 217 8037).

File Ref: FEP/93 17/20/1

Telephone numbers of contact: 071 217 8043 (policy)
071 217 8037 (technical)

ITEM J
DCOL 4/1994

MANUAL OF FIREMANSHIP - BOOK 11

On page 125 of this book there is a reference to "an emergency release mechanism" fitted to some London Electricity substations.

These devices are no longer fitted and the reference (lines 10 - 21), along with the accompanying illustration on page 126, should be deleted from any copies of the book.

The reference states that the device is for firefighters to make "rapid forcible entry". It should be noted that any entry to substations should only be undertaken following notification by an authorised person of the Electricity Company that it is safe to do so.

Book 11 will be updated in due course.

Telephone contact number: 071 217 8098