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Heliport fire and rescue services

LONDON
HER MAJESTY'S STATIONERY OFFICE
FOUR SHILLINGS NET

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BOARD OF TRADE

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This document provides details of the Fire and Rescue provisions for licensed heliports. It was produced by the Board of Trade in consultation with helicopter operators.

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Heliport Fire and Rescue Services

1. CATEGORY

A heliport's Fire and Rescue category is assessed on the basis of the heaviest helicopter using the heliport. The fire and rescue requirements in relation to each category are specified in tables 1, 2 and 3. Only operations for the public transport of passengers are subject to these provisions.

The extinguishing equipment required in any category may utilise mobile appliances or fixed installations provided that this equipment can be deployed and operated effectively at the rates of discharge specified in tables 1 and 2.

2. GUIDANCE ON FIRE FIGHTING PROVISIONS

Vapourising liquids

Experience in the use of vapourising liquids is insufficient to permit precise quantities to be specified in tables 1 and 2. When such liquids are used in combination with foam they should be provided in amounts at least equivalent to the amount of CO₂ or dry chemical shown in columns 6 and 7 or tables 1 and 2.

Foam liquid/water solution

The quantities of foam liquid in column 4 of tables 1 and 2 are calculated on a foam liquid/water solution strength of 5 per cent, which is suitable for most types of foam-producing equipment. If the equipment requires a higher solution strength, the quantity of foam liquid shall be increased to maintain the appropriate discharge ratio with water.

Transfer of water

Water, when transferred to foam-producing appliances, shall be transferred at a rate adequate, at least, to sustain the output required in column 5 of tables 1 and 2, without interruption of foam production.

Supplementary agents

When dry powder is the supplementary agent separate equipment should be available for engine start fires. This equipment may deliver CO₂ or any other suitable agent and should be designed to facilitate the admission of the agent to the engine.

Dry powder agents to be employed in dual-agent applications shall be of a foam-compatible type.

Scales of media

The quantities of extinguishing agents and the rates of application required in tables 1 and 2 have been calculated as appropriate for initial fire control purposes when employed by trained personnel. This concept assumes that the duration of the initial attack will permit the helicopter to be evacuated or the occupants to be rescued.

Consideration should be given to the provision of additional supplies of media to ensure that the fire is extinguished.

The quantities of agents required for a heliport are primarily for use in accident situations and may not be acceptable to the local fire authority for the protection of buildings in the heliport complex.

Heliport/aerodrome fire cover

Where a heliport is situated on an aerodrome any existing Fire and Rescue provisions may be recognised as suitable for the protection of helicopter operations provided that:

they are at the levels which would be required for the helicopter using the facility, and

the anticipated response times and availability of aerodrome appliances is acceptable to the licensing authority.

Reserve stock

In addition to the quantities of media in tables 1 and 2 reserves equivalent to 200 per cent of the required foam liquid and 100 per cent of CO₂, dry chemical or vapourising liquid shall be held in store. These reserves must be stored in suitable conditions to minimise the risk of deterioration and consignments should be used in delivery sequence to avoid a prolonged shelf-life.

MINIMUM QUANTITIES OF EXTINGUISHING MEDIA REQUIRED

Table 1: Mobile Provisions

Heliport category	Maximum authorised take-off weight of helicopter	Water and foam liquid for foam production		Total rate of discharge	Supplementary agents	
		water	foam liquid		CO ₂	dry or chemical
1	2	3	4	5	6	7
H-1	up to 8,000 lb	none	none	none	15	
H-2	8,001 to 30,000 lb	60	5	40	100	50
H-3	30,001 to 60,000 lb	300	15	100	300	150

Table 2: Fixed Installation

H-1	up to 8,000 lb	none	none	none	15	
H-2	8,001 to 30,000 lb	100	5	40	100	50
H-3	30,001 to 60,000 lb	300	15	100	300	150

3. MOBILE PROVISIONS

Whenever operations are taking place the media and rescue equipment shall be carried on one or more appliances capable of reaching any area within the heliport boundaries.

Appliances that are not self-propelled shall be connected to a suitable towing vehicle.

4. FIXED INSTALLATIONS

It will be necessary to show that the water supplies can maintain the necessary flow and pressure values, without interruption, at all times when the heliport is available for use.

The appropriate scale of equipment in table 3 shall be immediately available for use in the event of an accident at any point within the licensed area.

5. AVAILABILITY OF HOSE

Sufficient hose shall be available to permit the delivery of media to any part of the alighting area.

An adequate reserve of hose shall be available to allow the interchange of lengths for training, repair or maintenance purposes.

6. RESCUE EQUIPMENT

The scale of equipment shown in table 3 shall be provided.

Table 3 MINIMUM LEVELS OF RESCUE EQUIPMENT

Item	H-1	H-2 & H-3
Axe, rescue, large non-wedging type	-	1
Axe, rescue, small non-wedging or aircraft type	1	1
Cropper bolt, 24 inches	1	1
Crowbar, 3 feet 6 inches	1	1
Chisel, cold 1 inch	-	1
Hammer 4 lb	-	1
Hook, grab or salving	1	1
Hacksaw, heavy duty c/w 6 blades	1	1
Blanket, fire resisting	1	1
Ladder, extending (of overall length appropriate to the helicopter types in use)	-	1
Line, 2 inch, 50 feet length	1	1
Pliers, 7 inch, side cutting	1	1
Saw, double-edged or carpenter's 20/24 inch	1	1
Screwdriver, large slotted	1	1
Screwdriver, large Phillips type	1	1
Snippers, tin	1	1
Pneumatic rescue chisel, plus spare cylinder, chisel and retaining spring	-	1
Knives, quick release c/w sheath*	1	2
Gloves, flame resisting*	2	3

*Appliance equipment, unless issued to individual crew members.

7. MANNING AND CREW AVAILABILITY

- a. When a heliport is open for operations adequate staff of all grades shall be available and detailed to man the fire and rescue appliances. In determining the manning for any appliances consideration must be given to delivering the output of the appliances, in foam and supplementary agents, effectively, including the use of side-lines.
- b. The minimum number of men to be in the immediate vicinity of appliances or installations shall permit an immediate response and the effective employment of the media defined in tables 1 and 2.

Subject to the provision of paragraphs 7a and 7b personnel may be employed on other duties provided they do not prevent staff from responding immediately to an alarm and effectively manning the equipment to which they have been detailed.

In determining the nature of 'other duties' which may be reasonably undertaken by personnel who have fire and rescue responsibilities, due regard should be given to the degree of dispersal that can be accepted. Since appliances cannot respond effectively to incidents until crews are complete the delay will be determined by the time taken by the most distant crew-member to reach his appliance. The operational plan should provide for the attendance of all appliances to allow uninterrupted foam production at the scene of an accident.

Arrangements shall be made for alerting duty personnel in the event of an emergency or accident.

Table 4

Minimum number of men to be in the immediate vicinity of:

<i>Heliport category</i>	<i>mobile appliances</i>	<i>fixed installations</i>
H-1	1	1
H-2	2	2
H-3	3	2

8. SELECTION OF PERSONNEL FOR FIRE AND RESCUE DUTIES

Due regard should be given to the arduous nature of fire and rescue work. Personnel selected for these duties should be free from any physical disability, including defective colour vision, which may limit their performance or which could be aggravated by a high level of exertion.

9. TRAINING OF PERSONNEL FOR FIRE AND RESCUE DUTIES

Fire and rescue duties require skill, initiative, endurance and cannot be adequately performed without suitable training. A definition of suitable levels of competence is given at appendix A and is related to the expression "fully-trained". In addition to any courses taken at an approved training school, fire and rescue personnel should be

given regular station training to ensure the efficient employment of appliances and equipment.

At least 50 per cent of the staff including the Officer-in-Charge should hold a Certificate of Competence issued by the Board of Trade to show they are qualified for duties on heliports. See appendix A.

All personnel employed on fire and rescue duties should be trained in first aid to provide for the aftercare of casualties.

10. PERSONAL EQUIPMENT FOR FIRE AND RESCUE PERSONNEL

Firemen shall be equipped with suitable protective clothing, including leather knee boots and a helmet with vizor, designed to give protection against radiated heat without restricting the mobility and endurance of the wearer. Hand lamps, or portable lighting equipment, shall be provided at heliports licensed for night use, but this may be carried on the appliances.

11. EMERGENCY ORDERS

Emergency procedures shall be laid down and shall include arrangements for the 'Calling Out' of the Fire and Rescue service, the notification of other aerodrome sections and the summoning of externally-based emergency services.

Emergency orders shall be subject to at least two operational tests each year, involving the attendance of all the emergency and supporting services. Where heliports are licensed for night use alternate exercises should be held at night.

In compiling emergency plans provision should be made for the alerting and conveyance of personnel trained and equipped to act in support of the fire and rescue crews.

12. SITING OF HELIPORT FIRE STATIONS

Fire appliances should be housed in suitable premises, preferably heated, which may also provide accommodation for personnel, the storage of reserves, equipment, facilities for training and the testing and inspection of equipment. The premises should be sited to give unobstructed access to the movement area.

13. TESTS AND INSPECTIONS OF APPLIANCES AND FIXED INSTALLATION EQUIPMENT

All appliances and equipment provided for fire and rescue purposes shall be maintained in a condition which will ensure their availability and effective use in an emergency. Consideration should be given to the provision, or temporary acquisition, of suitable reserve appliances to cover absences due to unserviceability or maintenance.

14. HELIPORTS LOCATED ADJACENT TO WATER OR SWAMPY AREAS

For heliports immediately adjacent to difficult or muddy terrain, water or swampy areas, plans should exist for the operation of suitable emergency arrangements and equipment.

15. INSPECTION

The Board of Trade will inspect the Fire and Rescue service at licensed heliports at least once per year and more frequently if the need arises. The inspecting officers will need to be satisfied that the Fire and Rescue service is operating as an efficient unit; they may require a full scale demonstration for test purposes.

The inspecting officers will wish to see documentary evidence relating to the competency of personnel, training periods, inspections of appliances and equipment and joint exercises with other emergency services.

16. ADVICE

Advice on any aspect of the Fire and Rescue requirements may be obtained from the appropriate Divisional Controller.

Appendix A NOTES ON THE TRAINING,
QUALIFICATIONS AND CERTIFICATION
OF PERSONNEL EMPLOYED ON
FIRE AND RESCUE DUTIES

1. QUALIFICATIONS - SUPERVISORY GRADES

- a. *Category H.1 Heliports.* The Officer-in-Charge should hold a Certificate of Competence to the level approved for the lower category aerodromes and heliports.
- b. *Category H.2 Heliports.* The Officer-in-Charge should hold a Certificate of Competence to, at least, the Basic Course level.
- c. *Category H.3 Heliports.* The Officer-in-Charge should hold a Junior Officer Certificate of Competence.

The requirements of paragraphs 1a to 1c are the minimum and are not intended to preclude the appointment of officers of a higher qualification where this is considered necessary.

2. TRAINING OF STAFF OTHER THAN SUPERVISORY GRADES

It is expected that men detailed for Fire and Rescue duties should be trained and qualified at an approved fire service training school. In any case, at least 50 per cent of the personnel on duty at any given time, including officers, should be qualified at the appropriate level.

3. QUALIFICATIONS NECESSARY FOR ACCEPTANCE OF STUDENTS ON TRAINING COURSES AND FOR ISSUE OF THE CERTIFICATES OF COMPETENCE

Category I and II Aerodromes and H.1.
Heliports

Candidates should be sent for training on appointment, or as soon as possible thereafter.

The candidate must qualify by examination at the completion of the course at the BOT Fire Service Training School. The pass marks shall be 60 per cent of all possible marks and not less than 50 per cent in any one subject.

Basic Course

Candidates should be sent for training on recruitment, or at any date thereafter, preferably within the first 12 months of their service.

The Student must qualify by attaining 60 per cent of the possible marks in the examination and not less than 50 per cent in any one subject.

Firemanship Course

Candidates should have a Basic Course Certificate. The Student must qualify by attaining 60 per cent of the possible marks in the examination and not less than 50 per cent in any one subject.

Junior Officer Course

The candidate must have at least two years fire service experience in a recognised fire service organisation. This can be a fire service maintained by a local authority, an aerodrome fire service, fire service duties with the armed forces or works fire brigade and should have a Firemanship Certificate of Competence.

The student must qualify by attaining 60 per cent of the possible marks in the examination and not less than 50 per cent in any one subject.

Officer Course: Grade II Certificate

The candidate must have at least five years fire service experience in a recognised fire service organisation and have a Junior Officer Certificate of Competence. This can be a fire service maintained by a local authority, an aerodrome fire service, fire service duties with the armed forces or works fire brigade. It is desirable that at least two years should have been spent in aerodrome fire and rescue duties.

The student must qualify by attaining not less than 60 per cent of the possible marks and not less than 50 per cent in any one subject.

Officer Course - Grade I Certificate

The candidate must have an Aerodrome Fire Officer Grade II Certificate.

The student must qualify by attaining not less than 75 per cent of the possible marks and not less than 60 per cent in any one subject.

4. REVALIDATION OF CERTIFICATION OF COMPETENCE

Revalidation of Certification of Competence shall be by a further course of training and examination every five years or at such time as the Board decides in individual cases as a result of reports submitted by its inspecting officers.

Courses for revalidation have provisionally been determined as follows:

Category I and II aerodromes and category I heliports: : a one-week course.

Firemanship : three-week course

Junior officer : a one-week course

Officer (grades I and II) : a one-week course

5. A schedule setting out the requirements in relation to each heliport fire and rescue category is at table 5.

Table 5 SCHEDULE OF PERSONNEL CERTIFICATION REQUIREMENTS AT
LICENSED HELIPORTS

<i>Heliport category</i>	<i>Fire Officer Grade I</i>	<i>Fire Officer Grade II</i>	<i>Junior Officer</i>	<i>Firemen</i>	<i>Certification of Competence to a level approved for lower category aerodromes and heliports</i>
H-1	-	-	-	-	one as officer i/c
H-2	-	-	-	One as officer i/c	50 per cent trained men per duty watch
H-3	-	-	One as officer i/c	50 per cent trained men per duty watch	

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