DTLR
TRANSPORT
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REGIONS

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To: All Chief Fire Officers

28 May 2002

Dear Chief Officer

DEAR CHIEF OFFICER LETTER 2/2002

This letter deals with matters described briefly below. More detailed information is contained in the relevant "Items" attached.

A NEW ROADS AND STREET WORKS ACT 1991 – HYDRANT TESTING

Requirements of the legislation when testing hydrants are discussed.

B FIRE SERVICE MANUALS – OPERATIONS AND TRAINING

Publication of some Fire Service manuals dealing with operations and training will occur in June.

C INDUSTRIAL GAS CYLINDER IDENTIFICATION

This item provides Chief Officers with the details of colour coding of industrial gas cylinders following the publication of BS EN 1089-3:1997 (Transportable gas cylinders – cylinder identification) and further to the British Compressed Gases Association (BCGA) Technical Information Sheet No. 6: 2001.

D SMOKE SHAFT PROTECTING FIRE-FIGHTING SHAFTS

Information is provided concerning the BRE/FRS fire research project report is now available.

E BRITISH STANDARDS - BS EN 54-10:2002

This item brings to the attention of Chief Fire Officers a standard that has just been published concerning fire detection and smoke alarm systems.

F COLLAPSED STRUCTURES – INTERIM GUIDANCE

As part of the New Dimension project the Urban Search and Rescue (USAR) response within the UK Fire Service is being reviewed. A working group, consisting of members of the UK Fire Service Search and Rescue Teams (UKFSSART), CACFOA and HMFSI are currently developing national procedures for use at collapsed structure incidents. Whilst this work is progressing, guidance on collapsed structures has been produced to assist brigades in planning for such incidents.

G RADIO SPECTRUM ISSUES FOR THE FIRE SERVICE

Revised HOCAP Guidance Note HGN(F) 8 Issue 2 is attached. An early approach to the Radiocommunications Agency is recommended as the availability of radio spectrum to meet any particular replacement system cannot be guaranteed.

Yours faithfully

GRAHAM MELDRUM CBE OStJ QFSM DUniv FIFireE CIMgt
HER MAJESTY'S CHIEF INSPECTOR OF FIRE SERVICES

INVESTOR IN PEOPLE

ITEM A
DCOL 2/2002

NEW ROADS AND STREET WORKS ACT 1991: UPDATE – HYDRANT TESTING

(Previous DCOL issued in October 2001)

1. Following requests from CACFOA amongst others, we have asked DTLR colleagues to review their decision not to give an exemption from the requirements of the above legislation when testing hydrants.

2. Whilst accepting that it was not the intention for the Act to catch things such as hydrant testing, **NO EXEMPTION** can be given and the requirements of the Act apply to all tests involving the lifting of a cover in the road surface. When carrying out testing we must comply with the requirements set out in " Safety at Street Works and Road Works - A Code of Practice " (ISBN 011551958-0).

3. The four areas that have been causing particular difficulties are;

- Signing
- Training Requirements
- Visibility clothing
- Prior notification of tests

Signing

4. A keep left/right sign must be displayed to warn traffic of the work being undertaken. It is appreciated that this has cost implications and may impact on stowage (page 66 of Code refers).

Training

5. The training required for the opening of a hydrant for testing purposes where this involves lifting a cover in the road is covered in the Street Works (Qualifications of Supervisors and Operatives) Regulations 1992. The requirements will be met if the operative has achieved the unit of competence set out as Unit 2 - signing, lighting and guarding. Although this includes learning how to set up temporary traffic lights etc, <u>all</u> areas must be covered for certification to be obtained.

6. Courses are being changed and details including accredited providers can be obtained from;

City and Guilds of London Institute
1 Giltspur Street
London EC1A 9DD ☎ 020 7294 2468

Certification and Assessment Board for the Water Industry
1 Queen Anne's Gate
London SW1H 9BT ☎ 020 7957 4517

7. There is a charge for the issue of a record of achievement for each unit and the assessment centres have established their own scale of charges for candidates undergoing assessment. Details of fees and charges are obtainable from relevant organisations.

8. Information about re-registration and the qualifications held by operatives can be obtained from;

Street Works Qualifications Register
Hanover House
24 Douglas Street
Glasgow G2 7NQ ☎ 0141 242 2239

Visibility Clothing

9. Unless we use cones and barriers to define the "work space" the Code of Practice requires that long sleeved high visibility clothing must be worn on dual carriageway roads with a speed limit over 50 mph. The Code refers to BSEN471:1994. which specifies the minimum areas of visible material per square meter and how this should be placed and requires that Class 3 garments must be worn.

10. Whilst the BSEN does not require full length sleeves, this has been inserted when the Code of Practice was written. As the Code of Practice is part of the legislation rather than simply guidance the requirement for long sleeves must be met.

Prior Notification of Tests

11. There is a requirement to give 3 days notice of tests on traffic sensitive streets. Each hydrant has to be registered for which a fee may or may not be charged. You are presently advised that **if you register using electronic forms no fee is payable**. The fee is a handling charge for dealing with paper applications and was introduced to encourage the use of IT when the system was set up. Colleagues are advised centrally if charges are being made incorrectly as they will take action against the authority.

Next Steps

12. Please take action to ensure you comply with the requirements of the Act.

We have obtained an assurance that when the Code of Practice is reviewed, amendments will be considered in order to reduce the burden, but this is not likely in the next few years.

Contact Point Maggie Smith ☎ 020 7217 8150
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Horseferry House

FIRE SERVICE MANUALS – OPERATIONS AND TRAINING

Introduction

Chief Fire Officers should know of the publication in June of the following Fire Service Manuals:

Volume 2 Fire Service Operations - Safe Working near, on or in water
Volume 2 Fire Service Operations - Rope Working
Volume 4 Fire Service Training - Guidance, Compliance and Training Framework for Rope Working

Fire Service Manual Volume 2 Fire Service Operations – Safe Working near, on or in water

This manual has been published to provide information and guidance to Brigades when working, or planning to work near, on or in water. It covers the Service Aim, Incident types, Operational procedures, Personal Health considerations and Training Courses. Additional Sections will be published in due course, covering boat handling and training. These will be included in the initial cost and to facilitate easy updating, the Manual will be produced in loose-leaf format.

Volume 2 Fire Service Operations – Rope Working

This Manual replaces the second edition of Technical Bulletin 1/1990 'Rope Rescue Procedures and Equipment'; together with information on ropes and rope working previously contained in Manuals of Firemanship Books 2 and 11. It provides guidance and identifies best practice in rope working, both in training and at operational incidents and has been designed to support the development of all personnel in their respective roles.

Volume 4 Fire Service Training - Guidance, Compliance and Training Framework for Rope Working

A range of regulations and developments in good practice are increasingly having an impact on fire service activities that involve work in areas where there is a risk to personnel from falls, or where ropes, harnesses and associated equipment are used for other purposes. This document draws on the requirements of regulations and examples of good practice to provide guidance that will inform decision-making within brigades when safe systems of work are being developed and equipment purchased.

Chief Fire Officers will be provided with one free copy of each publication. Further copies can be obtained from The Stationery Office at a cost of £15.95 for Volume 4 Fire Service Training – Guidance, Compliance and Training Framework for Rope Working and £15 each for the other two. The discount scheme for fire brigades and personnel, for orders placed through brigade purchasing officers is available as notified in DCOL 8/98.

Contact - Publications Assistant Inspector Tony Boyer ☎ 01202 658590
tboyer-hmfsi@lineone.net

ITEM C
DCOL 2/2002

INDUSTRIAL GAS CYLINDER IDENTIFICATION - COLOUR CODING AND LABELLING

Summary

1. This item provides Chief Officers with the details of colour coding of industrial gas cylinders following the publication of BS EN 1089-3:1997 (Transportable gas cylinders – cylinder identification) and further to the British Compressed Gases Association (BCGA) Technical Information Sheet No. 6: 2001.

Who should this item be brought to the attention of?

2. This item will be of particular interest to operational personnel and may also be of interest to fire safety officers.

Related documents

3. This item should be read in conjunction with the Manual of Firemanship, part 6c: Practical firemanship – III, plates 42-45.

The colour coding system

4. BS EN 1089-3:1997 specifies a colour coding system for the identification of the contents of industrial and medical gas cylinders with particular reference to the property of the gas or gas mixture. The Standard does not apply to liquefied petroleum gases (LPG) or fire extinguishers.

5. The system calls for specific colours to be applied to the shoulder of the cylinder, but the colour of the body is not specified by the standard and may be different as chosen by the owner. The shoulders of cylinders containing either mixtures of gases, or gases which are toxic/flammable or toxic/oxidising are marked using two colours in either bands or quadrants.

6. The following gases are identified by specific colours:

Flammable gases:	
Acetylene	MAROON
Oxidising gases:	
Oxygen	WHITE
Nitrous oxide	BLUE
Inert gases:	
Argon	DARK GREEN
Nitrogen	BLACK
Carbon Dioxide	GREY
Helium	BROWN

Gas mixtures used for inhalation:

Air or synthetic air	WHITE plus BLACK
Helium/oxygen	WHITE plus BROWN
Oxygen/carbon dioxide	WHITE plus GREY
Oxygen/nitrous oxide	WHITE plus BLUE

7. Other gases are identified by a colour classification indicating the property of the contents in accordance with the risk diamond on cylinder labels as follows:

Toxic and/or corrosive	YELLOW
Flammable	RED
Oxidizing	LIGHT BLUE
Inert (except for inhalation)	GREEN

8. Where there is a secondary hazard, this colour may also be applied to the cylinder shoulder:

Toxic and/or corrosive and flammable	YELLOW plus RED
Toxic and/or corrosive and oxidizing	YELLOW plus LIGHT BLUE

Action by brigades

9. Brigade should note that the new colour coding will be introduced progressively as it replaces the current colour markings for gas cylinders shown in the Manual of Firemanship, part 6c: practical firemanship – III, plates 42 - 45. Brigades should therefore expect to see both colour systems operating for a number of years and should, **in all cases**, focus on the cylinder shoulder for identification rather than the main body of the cylinder.

10. All gas cylinders are required to be labelled to indicate the contents of the cylinder and the colour of the cylinder is therefore only a guide.

Useful background documents

11. The BCGA Technical Information Sheet (TIS) No. 6: 2001 is a useful source document for showing the new cylinder markings and can be accessed on the BCGA website – www.bcga.co.uk.

12. Copies of BS EN 1089-3 : 1997 can be obtained from the British Standards Institution (BSI), 389 Chiswick High Road, London W4 4AD, telephone 020 8996 7002.

Financial and Manpower Implications

13. This item has no significant financial or manpower implications.

Contact - DTLR:

Dennis Ricketts ☎ 020 7217 8428 **email:** Dennis.Ricketts@dtlr.gsi.gov.uk

ITEM D
DCOL 2/2002

SMOKE SHAFT PROTECTING FIRE-FIGHTING SHAFTS – PERFORMANCE AND DESIGN

1. The report for the BRE/FRS fire research project (on behalf of DTLR) concerning smoke shaft protecting fire-fighting shafts, performance and design is now available. The report presents the findings of research carried out on natural smoke ventilation of fire-fighting shafts. These findings are based on one-fifth physical scale modelling and computational fluid (CFD) dynamics modelling.

2. Existing guidance on the requirement and design of fire-fighting shafts is currently contained in Approved Document B and British Standard 5588 Part 5. It was considered that there was no scientific basis for the parameters set in the two documents regarding natural smoke ventilation, justifying the need for research, and clarification and guidance on the design aspects of smoke ventilation of fire-fighting shafts, and in particular, the efficacy of naturally ventilated smoke shafts.

3. The research findings were based on work carried out to look at:

- external wall ventilation, with no wind and wind conditions,
- ventilation to a smoke shaft, with no wind and wind conditions, and also reviewed the U and W-tube shafts scenarios,
- alternative smoke shaft design, the "chimney effect".

4. In its conclusion the report identifies alongside other points, that the alternative smoke shaft design, which serves only the lobbies in a building, performs as well as, or better than the current design of smoke shaft or external wall mounted ventilation. The alternative design is space saving in concept and will reduce costs at installation compared with current design guidance.

5. It be should be noted that when the alternative lobby system is operating efficiently, the lobby is subject to the products of fire, in that it is liable to be smokelogged.

6. It should be emphasised that the research and resultant report identifying the alternative design of smoke shaft is not a replacement for a pressure differential system where it is considered that this form of smoke control is required.

7. The report is issued in the medium of a CD ROM. Contact details for ordering the CD, with a cost implication of £75 are;

☎ 01923 664000 email: frsenquiries@bre.co.uk website: www.bre.co.uk

alternatively contact M P Eady ☎ 020 7217 8724.

BRITISH STANDARDS

BS EN 54 – 10:2002 Fire Detection and Fire Alarm Systems Part 10: Flame detectors - point detectors

Chief Officers will wish to be aware that this standard has just been published and came into effect on 14 February.

This European Standard specifies requirements, test methods and performance criteria for point type, resettable flame detectors that operate using radiation from a flame for use in fire detection systems installed in buildings.

The standard does not cover flame detectors working on different principles from those described in this standard.

Note: The context of this Standard has not been checked with relative information that may be cited in fire service manuals. Brigades should ensure that personnel currently holding reference material, e.g. fire safety manuals are made aware of these changes in order that existing information can be updated as appropriate.

HMFSI contact: HMI G Bowles ☎ 020 7217 8037

COLLAPSED STRUCTURES – INTERIM GUIDANCE

As part of the New Dimension project, the Urban Search and Rescue (USAR) response within the UK Fire Service is being reviewed. Funding is being sought to provide an enhanced level of national resilience against terrorist attack or natural disaster in the light of the September 11th events.

A working group, consisting of members of the UK Fire Service Search and Rescue Teams (UKFSSART), CACFOA and HMFSI are currently developing national procedures for use at collapsed structure incidents. This group is also developing national specifications for USAR equipment and vehicles.

Whilst this work is progressing, guidance on collapsed structures has been produced to assist brigades in planning for such incidents.

Introduction, Purpose and History

1. The simultaneous attacks on the twin towers of the World Trade Centre and the Pentagon on September 11th 2001, indicated an urgent need for the UK Fire Service to review its response capabilities to the greater threat from terrorist organisations which would sacrifice their members for their cause, the "new dimension" of terrorism. To meet this need a "New Dimension Group" was established, drawing upon representatives from Her Majesty's Fire Service Inspectorate (HMFSI), Chief and Assistant Chief Fire Officers Association (CACFOA), Fire Brigade Union (FBU), and the Local Government Association (LGA). The group under the leadership of the HMCIFS was tasked with advising the minister with responsibility for fire on what needed to be done to meet this new level of challenge.

2. An immediate, but short term action that the group felt should be pursued as soon as possible was to use the UK Fire Service Search and Rescue Teams (UKFSSART) to respond to incidents within the UK. Using their search and rescue skills and expertise gained from deployments abroad (India, Turkey etc) into earthquake disaster zones, it was felt that they would immediately enhance the ability of brigades to deal with the consequences of these types of attack.

3. The New Dimension Group went on to identify that the increased threat from terrorist attack required an enhancement of the Fire Services' ability to respond and deal with catastrophic events by developing a resilient search and rescue capability, which would allow a rapid and measured response to all incidents, including any catastrophic incident(s) anywhere within its borders. The Group also identified that the scale of the incidents demanded a unified response across and between all of the brigades in the CACFOA districts so to provide an effective regional and national search and rescue capability. Work to identify resources required for this purpose and to manage the conception, design and implementation of appropriate Urban Search and Rescue facilities, procedures and training is progressing well.

4. This interim guidance is seen as a step in the process of meeting UK community needs and builds upon guidance previously issued by CACFOA Operations Committee in a document titled, "Conventional & non-Conventional (CBRN) Terrorism" and in DCOL 2/1999 titled "Attendance at Terrorist Incidents".

Scope

5. Each year in the UK, the Fire Service attends many incidents involving collapsed structures, with the attendant dangers. This interim guidance seeks to reduce further the risks posed by incidents of this nature by providing information on the type of hazards, the risk posed by those hazards and examples of precautionary/control measures which should be adopted by front line crews attending incidents of this type.

Associated Guidance and legislation

6. This guidance is intended to provide a starting point for brigades to conduct their own assessments and comply with Regulation 3 of the Management of Health and Safety at Work Regulations (MHSWR) 1999. It is based on attendance at an incident involving a single structure. However, the principles will apply equally to all incidents of this type.

7. Entry into a collapsed structure equates to entry into a confined space, as defined in the Confined Space Regulations 1997. Also see Generic Risk Assessment 5.5 (Confined Space).

8. Personnel attending this type of incident should also be familiar with the content of the following Generic Risk Assessments:

- Rescue from Sewers
- Rescue from Silos
- Rescue from trench/Pits
- Rescue from height.

9. Generic Risk Assessment 2.6, Rescue from Collapsed Structures is currently being revised, attached at Appendix B is the summary.

10. Guidance on the national deployment of UKFSSART was circulated to all CFO's and Fmr's in October 2001 (see attached appendix).

Operational Information and Guidance

11. This interim guidance deals with the more specific hazards, risks and precautions/controls relevant to rescues from collapsed structures with particular attention to the following:

- Causes of Collapse
- Type of building
- The nature of collapse
- Significant Hazards
- Manual handling
- External Conditions
- Internal conditions
- Precautionary Measures
- Pre-planning
- Provision & Use of Specialist Equipment
- Operational training
- Command & Control

Causes of Collapse

12. Structural collapse can be caused by many different actions. These can be broken down under two main headings.

a. Natural:
   - Earthquake,
   - Hurricane,
   - Lightning,
   - Flooding,
   - Subsidence, etc.
   - Accidental gas explosion

b. Human:
   - Premises under renovation
   - Accidental impact
   - Arson
   - Terrorist Induced (Aeroplane Impact, Vehicle Impact, etc).

13. On many occasions the collapse will occur without any or extremely little warning, leaving victims little or no time to escape from the subsequent emergency. This can leave numerous casualties trapped under large amounts of debris that is often unstable.

Type of Building

14. Depending upon the circumstances, buildings of the same class and type of construction may collapse in much the same way and common conditions are present in which trapped persons may survive for comparatively long periods of time. To know where these safe places occur, it is necessary to know the characteristics of various types of construction. When considering structural damage, buildings may be divided into two classes:

a. Framed Buildings

A skeleton or frame of steel or reinforced concrete supports the structural load in this type of building, i.e. the floors and roof. This type of construction is generally encountered in modern public buildings, e.g. office blocks and hospitals. Framed buildings have a greater resistance to collapse and, in general, failures that occur are more localised.

b. Unframed Buildings

In this type of building the walls carry the structural loads. This is the traditional form of construction in the UK and many countries abroad. Walls support floors and roofs, and typical brick and joist structure is usual. If the load bearing walls fail along with columns or floor beams, the result is an extensive collapse, with a large area of debris.

Voids and spaces can be formed by the support of strong structural members, machinery and furniture.

The Nature of Collapse

15. Collapse types can be categorised as being Internal, External or Total Collapse.

a. Internal Collapse

(i) Pancake collapse: is often mistakenly referred to as total collapse. This type of collapse occurs when there is a failure of load bearing walls, or an upper floor fails. The floor falls horizontally, or pancakes upon a lower floor and the added weight causes this and other floors to fall to a lower level, but not always to ground level. See fig 1

(ii) Lean-to collapse: occurs when one of the supporting walls collapse and a beam fails at one end. A triangle shaped void is formed where occupants may survive. See fig 2

(iii) "V" collapse: occurs when heavy loads or a collapse from above, place undue strain on the centre of the floor, which causes it to fail in the middle. See fig 3

(iv) Tent collapse: occurs when floor beams fail near the outer walls, but an interior load bearing wall or girder remains intact. See fig 4

b. External Collapse

(i) 90°angle collapse: is the most dangerous form of external collapse as the wall falls outwards for a distance at least equal to its height. See fig 5

(ii) Curtain fall collapse: is where the wall comes straight down, not unlike a curtain cut loose at the top and debris piles up near the base of the wall. See fig 6

(iii) Inward/Outward collapse: is where the wall cracks horizontally in the middle and causes the top half to usually fall inwards and the lower half to fall outwards. See fig 7

c. Total Collapse

This is the most severe form of structural failure, where all the floors have collapsed to the ground or basement level and all walls have collapsed onto the floors.

Significant Hazards

16. Firefighters require an awareness of the hazards and precaution/control measures associated with collapsed structure incidents in order to carry out an adequate dynamic risk assessment in accordance with the principles set out in 'Dynamic Management of Risk at Operational Incidents - a fire service guide' and avoid becoming victims themselves.

17. Rescue operations are time critical and the crews involved may be subject to extreme pressure created by public expectation. The effect of this pressure on the decision making process poses an additional risk which should not be underestimated. Incident Commanders should recognise that incidents of this type will almost always be protracted and plan accordingly

18. After a structural collapse the remainder of the structure may well be left in an unstable condition. This will mean that further collapse is likely. This situation may be exacerbated by the activities of the rescuers on site. In addition the bulky, heavy equipment required at this type of incident present hazards to the rescuers and casualties alike.

Manual Handling

19. At rescues from collapsed structures there is a heightened risk of musculoskeletal injuries to personnel resulting from:

- Possible restricted access
- Bulk and weight of equipment
- Bulk and weight of casualty
- Bulk and weight of debris
- Underfoot conditions

External Conditions

20. At rescues from collapsed structures there is a heightened risk from External Conditions which may include:

- Obstructed Access
- Underfoot conditions
- Restricted vision e.g. smoke, dust, etc.
- Overhanging hazards
- Falling Objects
- Airborne particulates
- Secondary collapse
- It is possible that an incident could be the result of terrorist action and therefore further acts of terrorism must be considered.

Internal Conditions

21. If entry has to be made to a collapsed building, rescuers may encounter adverse conditions within the debris including:

- Oxygen deficient atmospheres
- Explosive/flammable atmospheres
- Poor lighting
- Biological hazards
- Exposed and damaged utilities, (gas, electricity and water)
- Asbestos
- Sharp objects (glass, nails etc)

Precautionary Measures

22. It is vitally important that all fire service personnel appreciate the hazards associated with incidents involving collapsed structures. Rescue personnel must constantly observe all safety precautions to protect themselves from injury and be aware of any changes in conditions that may cause additional threats to safety and alert all team members of the danger. Training in awareness, and practice in applying the appropriate precautionary measures, should be put in place.

23. Measures to be considered are: (this list is for guidance only and is not definitive.)

- Appliances and equipment may cause vibration and further collapse and, therefore, should be positioned well away from weakened buildings/structures.
- Use of appropriate PPE.
- Establishment of safe operating areas.
- All round observations should be employed prior to entering to check for overhead hazards and underfoot conditions.
- Doors or windows should not be forced as they may be wedged in a position that is supporting a load.
- When inside buildings keep close to walls if the floor is weakened, as they may collapse with the additional weight of the rescuer.
- Maintaining liaison with and control of specialist contractors and the activities of other rescuers.
- Utilities should be isolated, wherever possible, before any rescue work proceeds. Rescuers should be aware that some supplies might not have been located and made safe. Rescuers, therefore, should not cut water/gas pipes or electrical cables.

Pre-Planning

24. It should be appreciated that fire service personnel would find it extremely difficult to arrive at an incident of any description and take no action to try to rectify or mitigate the situation. Nevertheless brigades should use the principles of risk assessment to decide to what extent operations at this type of incident can be authorised.

25. Further reference should be made to the previously issued CACFOA Operations Committee Document titled Conventional & non-conventional (CBRN) Terrorism and DCOL2/1999.

26. Brigades should participate in regular inter agency meetings so that an integrated approach can be made to this type of incident.

27. Consideration should be given to identifying the location and availability of specialist equipment that may be required at this type of incident. This would include items such as:

- Heavy lifting and cutting equipment
- Dog search teams

28. The Provision and Use of Specialist equipment

- The types of equipment in general use are audio and visual devices such as vibraphones and search cameras. All detection equipment requires strict operating procedures at the incident site to be effective.

- Thermal imaging cameras are in use in many brigades but have limitations for detection of buried casualties. Alternative methods of detection, such as search dogs, may be used but have limitations.

- Whatever type of equipment is used to detect trapped casualties, the overriding requirement for a search is that it is carried out methodically, and with control of resources by the Incident Commander.

Operational Training

29. Operational training should be carried out in accordance with the principles detailed in the fire service training manual and previously issued Fire Service Circulars.

Command and Control

30. Incident Command procedures must be implemented as detailed in the Fire Service Manual Volume 2 Fire Service Operations – Incident Command. *Additionally*,

a. On arrival, the Incident Commander will make an initial survey. During the overall inspection of the area, the information gathered (use of building, cause of collapse etc), will help to formulate the plan. This plan will need to be flexible in operation and capable of adapting to changing circumstances. It should be methodical and follow a general pattern i.e.

- Immediate access
- Location of victims
- Searching
- Debris removal

Apart from additional fire brigade resources the help and advice of other organisations and agencies may be required. See previously issued guidance on national use of UKFSSART. (See Appendix A)

b. The Incident Commander should undertake a dynamic risk assessment to identify specific hazards, control measures and resource requirements (which may include other services/authorities) for this type of incident.

c. The Incident Commander should ensure that crews take no action until positive directions are given. All actions should contribute to the overall incident plan.

d. The Incident Commander should appoint safety officers to monitor the safety of crews and other personnel working within the inner cordon. These safety officers should not be appointed any other tasks.

e. An agreed evacuation signal and assembly point must be communicated to all personnel in the inner cordon.

f. Anyone working within the inner cordon should receive a safety briefing and should be equipped with appropriate PPE.

g. Only the minimum amount of personnel necessary to carry out the task should be used in order not to expose rescuers to unnecessary risks.

h. Rescue workers must be rotated at frequent intervals to avoid fatigue.

i. An emergency team should remain ready for deployment throughout the time that rescuers are committed in case of further collapse. This team should not be used for any other operation. If they are deployed, a further emergency team should be assembled

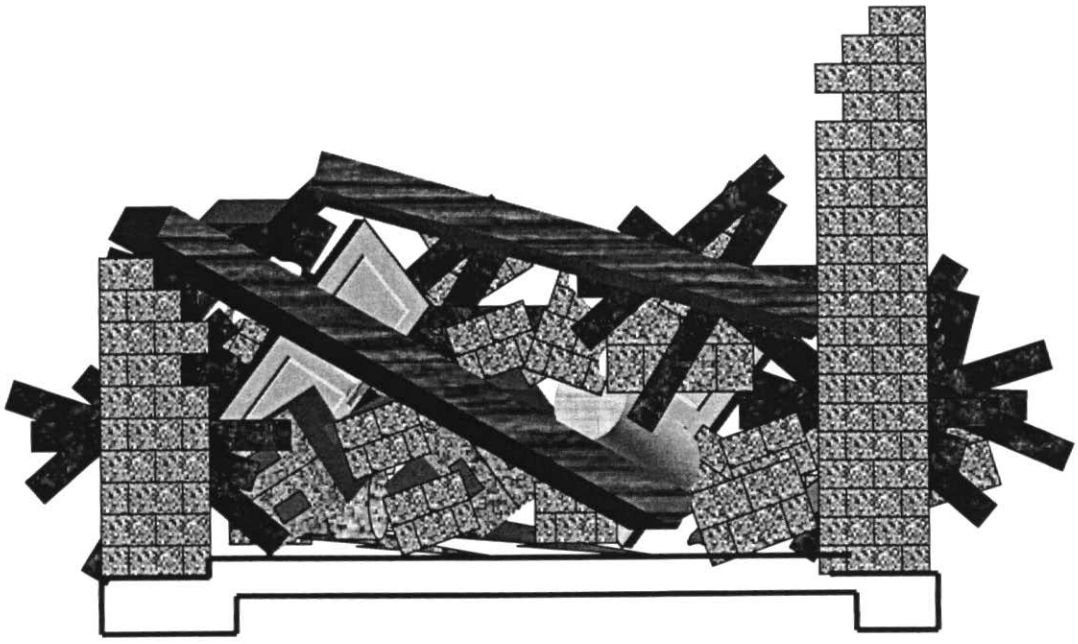


Figure 1: Pancake Collapse

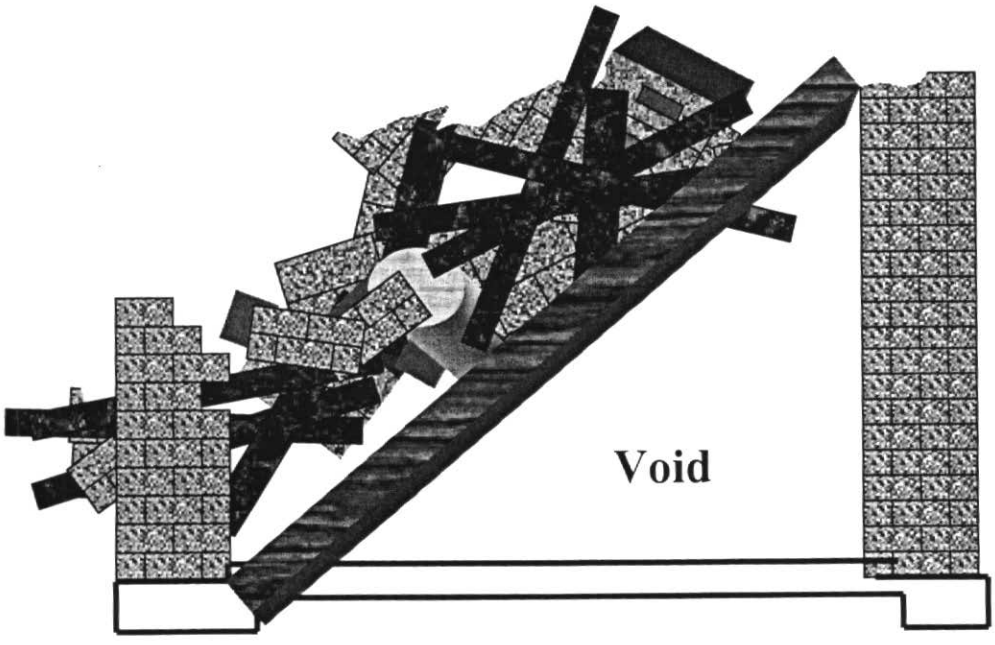


Fig 2: Lean to Collapse

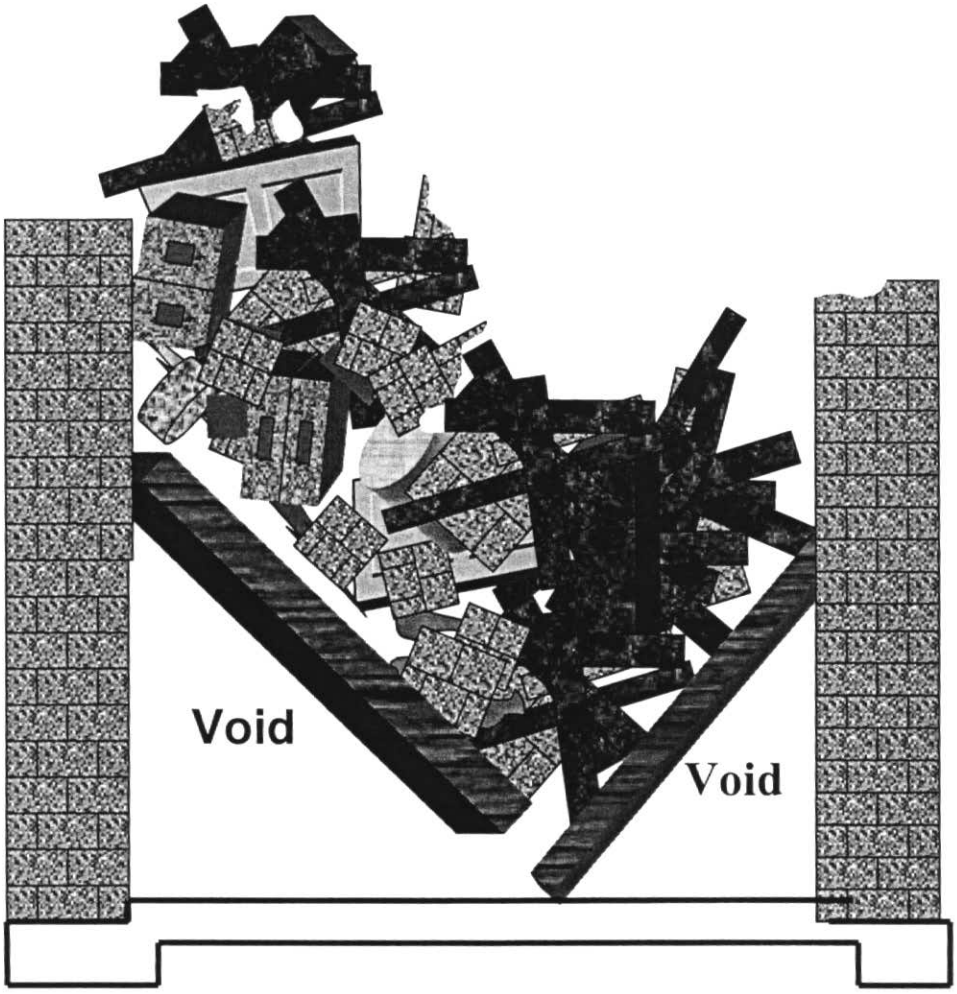


Fig 3:"V" Collapse

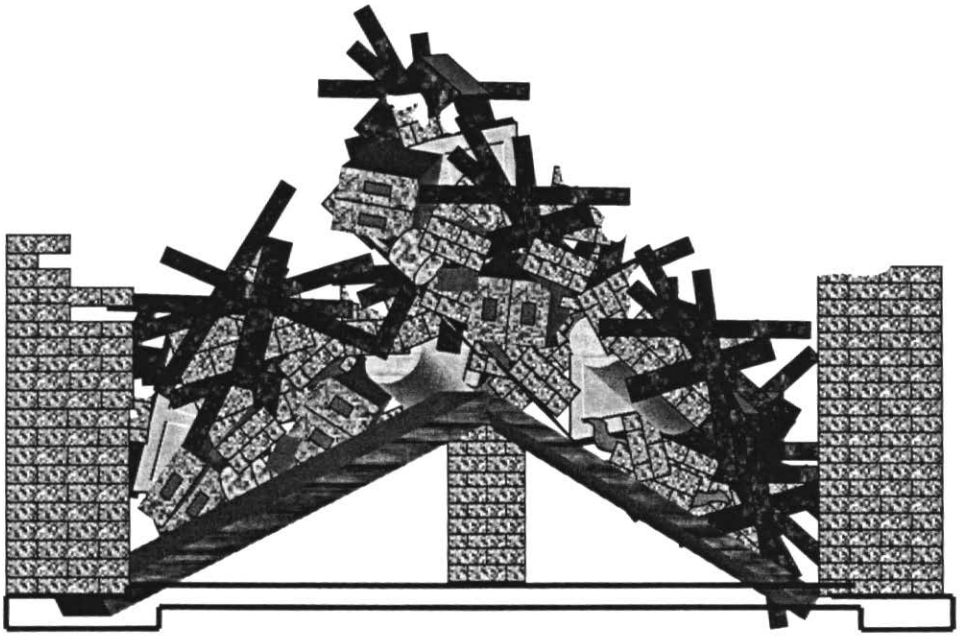


Fig 4: Tent Collapse

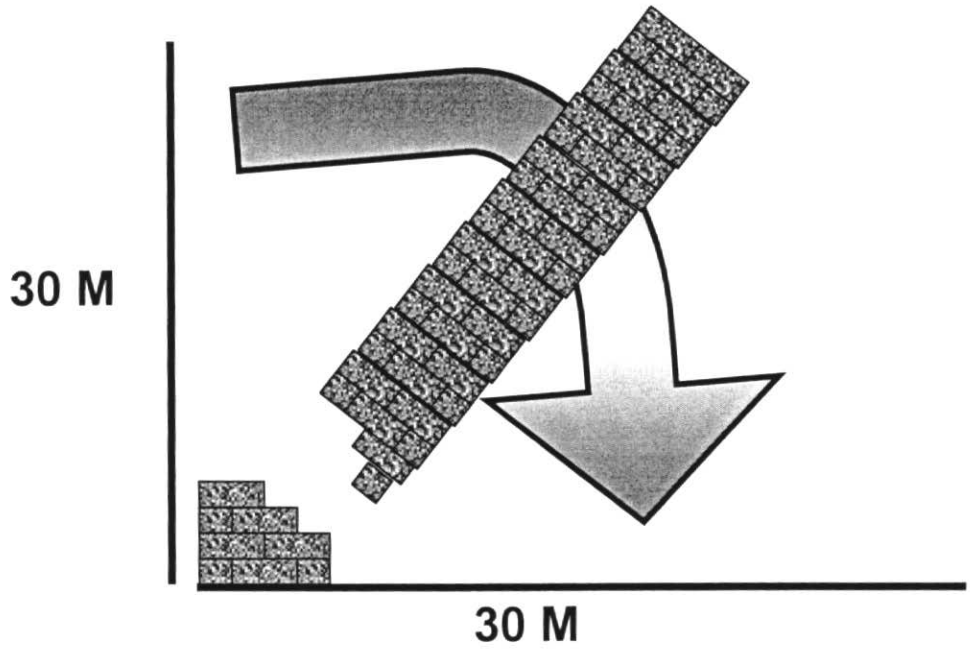


Fig 5: 90 ^{0} Angle Collapse

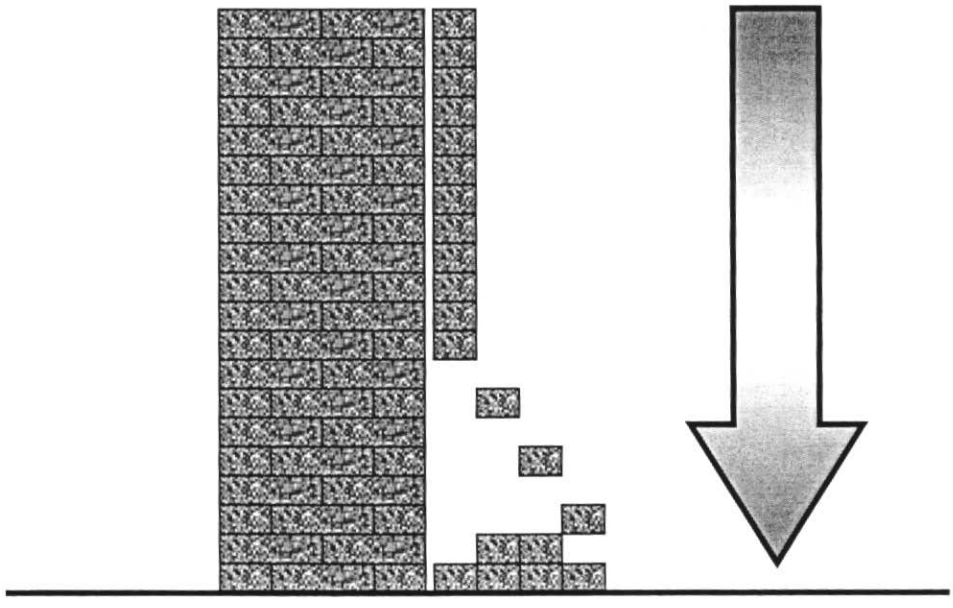


Fig 6: Curtain Fall Collapse

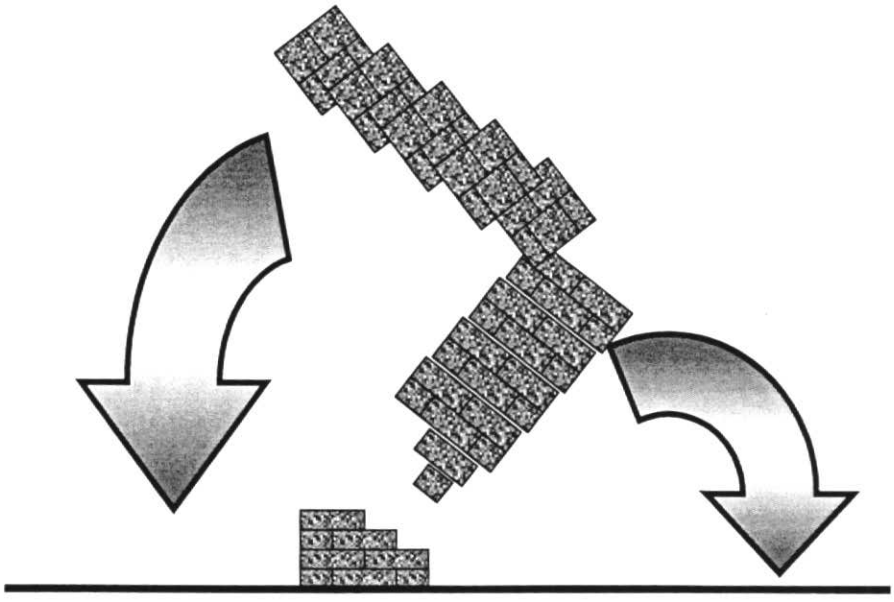


Fig 7: Inward/Outward Collapse

31. **Technical References**

Conventional & non-Conventional (CBRN) Terrorism.

DCOL 2/1999 titled Attendance at Terrorist Incidents.

Management of Health & Safety at Work Regulations 1999

Guidance on the National deployment of UKFSSART as sent to CFO's and Fmr's in October 2001

Confined Space Regulations 1997.

Generic Risk Assessments;

2.6 Rescue from Collapsed Structures
5.5 Confined Space
2.3 Rescue from Sewers
2.4 Rescue from Silos
2.5 Rescue from Trench/Pits
2.7 Rescue from Height

Dynamic Management of Risk at Operational Incidents - a fire service guide

Fire Service Training Manual

Fire Service Manual Volume 2 Fire Service Operations – Incident Command

Appendix A
ITEM F
DCOL 2/2002

UK FIRE SERVICE SEARCH AND RESCUE TEAM

Levels of Response

1. Advice by telephone.

2. The attendance of an advisor to support the Incident Commander in any structural collapse incident.

3. The attendance of specific search and rescue teams e.g. a search dog team, an acoustic search team, a team capable of precision drilling through structural concrete.

4. The attendance of a full SAR Team that is capable of searching for, location and rescue of casualties trapped by structural collapse.

The UKFSSART operational structure is based on the Incident Command System.

Capabilities/Equipment available to UK Brigades

- Search and Rescue in collapsed buildings/structures
- Provision of search dogs
- Vibraphones/audio monitoring equipment
- Search cameras with probes
- Concrete drilling equipment
- Communication probes
- Lightweight/portable cutting equipment
- Shoring equipment
- Various ancillary equipment

Call out arrangements

The London Fire Brigade Command Support Centre should be telephoned on 020 7587 4704 giving the following information:

- Type of incident e.g. Entrapment, building collapse.
- Number of persons trapped (if known).
- Address including brief directions.

All communications should be passed via the LFB Command Support Centre.

FIRE SERVICE RISK ASSESSMENT SUMMARY SHEET				
OPERATIONAL ACTIVITY	GRA 2:6	RESCUES – FROM COLLAPSED STRUCTURES		
TASK	HAZARD/RISK	LEVEL OF RISK	RISK GROUPS	CONTROL MEASURES
Approaching collapsed buildings/structures	Secondary actions, blasts or explosions	Med	A,B,C,D,E	• Information from caller and operational intelligence from police as to the nature of the collapse. • Operational Procedures including dynamic risk assessment. • Training – all personnel should be made aware of the hazards associated with collapsed buildings/structures. • Cautious approach, position appliances safely, use of RVP's. • Restrict access by use of cordons, clear public from the site as soon as possible. • Commit minimum numbers whilst information is being assessed.
	Collapse or partial collapse of building/structure	High	A,B,C,D,E	
	Impact with public/casualties, other services	Med	D,E	
Working in and around collapsed building/structures	Slips, trips and falls	Med	A,B,C,D	• Pre-planning to include operational procedures (based on an assessment of risk), identification of specialist resources/equipment and inter-agency working. • Information as to the nature of collapse, hazards and persons missing. • Training/instruction – all personnel should be aware of the operational procedures to be followed at a collapse incident. • All personnel are under appropriate supervision, safety officers are appointed and an operational plan is created.
	Secondary collapse or partial collapse of building/structure	High	A,B,C,D,E	
	Fire, burns and smoke inhalation	Med	A,B,C,D,E	
	Falling objects	High	A,B,C,D,E	
	Falls from height	Med	A,B,C,D,E	

	Environmental hazards including chemical, biological, radiological and nuclear contamination. Damaged Utilities – leading to ingress of water, escape of gases/vapours and electrical hazards Uneven or haphazard working area Oxygen deficiency and asphyxiation Manual handling injury Inhalation of dust, fumes and particles	Med Med Low Low Med High	A,B,C,D A,B,C,D,E A,B,C,D,E A,B,C,D,E A,B,C,D A,B,C,D,E	• Specific hazards should be removed or clearly marked as appropriate. • Briefing – all personnel must receive information concerning the operational plan, including; conditions, specific hazards, control measures, evacuation and emergency arrangements. • Suitable PPE is worn by all personnel including, a hard hat, protective footwear, gloves, eye and appropriate respiratory protection. • Utilities should be isolated. • Fires must be contained and extinguished as a priority. • Tests for contamination and atmospheric monitoring to be carried out. Appropriate controls put in place including the use of suitable PPE and decontamination equipment. • Sufficient and suitable lighting should be provided. • Awareness of the particular hazards and control measures required for confined space working.
Rescues from collapsed buildings/structures		Low Med Low Med Med	A,B,C,D A,B,C,D A,B,C,D A,B,C,D A,B,C,D	• Pre-planning to include operational procedures (based on an assessment of risk), identification of specialist resources/equipment and inter-agency working. • Training, instruction and awareness of hazards. • Supervision and medical support including decontamination. • Manual handling training including the use of stretchers and correct lifting techniques. • Limit exposure to blood and body fluids. • Hygiene measures including appropriate PPE inc. medical gloves and masks and the use of body bags. • Rotation of all personnel, suitable arrangements for reliefs and rest facilities in the event of protracted working. • Arrangements for de-briefing including psychological support.

RADIO SPECTRUM ISSUES FOR THE FIRE SERVICE

HOCAP Guidance Note HGN (F) 8 Issue 2

HOCAP Guidance Note HGN (F) 8 Issue 2 is attached. Future HOCAP guidance notes will also be issued in this way. It includes guidance on the procedures of applying for radio spectrum for the Fire Service. Please note that queries concerning currently held spectrum and systems should continue to be addressed to the Radio Frequency and Communications Planning Branch at the Home Office. Queries relating to the availability and future use of radio spectrum should be addressed to the Radio Communications Agency, unless the guidance note states otherwise.

HOCAP Guidance Note HGN(F)8 Issue 2
Radio Spectrum Issues for the Fire Service.

INTRODUCTION

This document replaces HGN(F)8 Issue 1, issued by the Home Office in March 2001. As a result of inter-departmental discussions with the Radiocommunications Agency and a review of the timescale for vacation of police assignments from current Home Office bands, HGN(F) 8 Issue 2 is now being published. It provides an updated indication of the potential availability of radio frequency spectrum that may be available to support the replacement of fire service radio systems in accordance with Fire Service Circular 11/2001 (the Firelink) project.

This document may require further revision as a result of recommendations arising from the Cave Spectrum Review, which will report in March 2002. Further information about this review is available from the Radiocommunications Agency's website at **www.radio.gov.uk**. As well as Home Office allocations, this document details a number of additional options, which may become available within the timeframe of Firelink as a result of continuing discussions with the Radiocommunication Agency.

Brigades are advised that the availability of radio spectrum to meet any particular replacement system cannot be guaranteed, although the Radiocommunications Agency (RA) and the Home Office will work toward a workable solution. The process for identifying radio spectrum for any solution is time consuming and an early approach by brigades to the Licensing Authority, the Radiocommunications Agency, is recommended.

The Licensing Authority for the radio spectrum described in this Guidance Note is the Radiocommunications Agency of the Department of Trade and Industry. Unless this Guidance Note indicate otherwise, queries relating to the availability and future use of the radio spectrum should be addressed to the Radiocommunications Agency.

If any fire brigade or regional procurement group has been unable to procure working replacement wide-area radio system by December 2005, the Home Office and the RA are prepared to consider applications for continued used of the current mobile systems beyond the current 2005 end date, to the extent that this is necessary to allow the replacement to take place. Any use of the current mobile systems beyond 2005 will be subject to frequency changes to meet UK spectrum management objectives. Fire brigades which are unlikely to meet the 2005 end date (or regional groups acting on their behalf) are advised to seek the earliest possible guidance

LOW BAND VHF

55MHz SUB BAND

As a result of the inter-departmental discussions with the Radiocommunications Agency, allocations may be available in this band subject to further discussions within the national frequency forum. Any proposals for the use of this band should be made the subject of an early approach to the Licensing Authority, the Radiocommunications Agency, seeking advice on availability/timescale and regulatory

constraints. This band is currently vacant and already aligned to T/R25-08, and subject to equipment availability may be a potential Firelink replacement band.

70.5 - 71.5MHz & 80.0 – 81.5MHz AND OTHER LOW BAND VHF

Should the low band VHF spectrum became available in December 2005, this may be used to support a project to re-align the low band VHF in accordance with the CEPT recommendation, T/R25-08. This recommendation details the configuration of a number of radio frequency bands and is referred to in the European Common Allocation Table, ERC Report 25, which has a timeframe for implementation by December 2008. UK frequency bands are not completely in compliance with T/R25-08, however the Radiocommunications Agency, which has responsibility for UK radio frequency management, intends over the coming years to realign those bands that do not comply. Further details of this programme will be included in a future UK Spectrum Strategy document. See Appendix 6 for outline details of the T/R25-08 recommendation. Allocations may be available in the medium term, after 2005, to support fire service requirements if a regional re-alignment program were put into effect.

HIGH BAND VHF

143-144, 146-148, 152-153, 154-156 MHz

The current availability of VHF high band assignments for the fire service is severely limited in many geographical areas due to wide scale use of the band by other emergency service mobile radio schemes. Future availability of allocations is primarily dependent on the release of assignments following the migration of existing police wide-area communications and links to the Airwave Service.

The Home Office has revised the results of the earlier study to estimate high band availability during and following police migration to the Airwave service. These updated findings on a year on year basis are presented in England and Wales map format at Appendices 1 to 4. The maps show a county by county indication using a three-colour key. The details in Appendices 1 to 4 are indicative only, and based on the information as of the date of this note. The current planned Airwave ready for service dates for the police service, as forecast by PITO in November 2002, are given at Appendix 5. It should however not be taken as a commitment that spectrum will be available in any particular time scale or at all. Requests for spectrum will need to be subject to detailed evaluation on a case by case basis.

Brigades, which may be seeking VHF high band allocations, are strongly recommended to make early contact with the Licensing Authority, the Radiocommunications Agency. However, RFCPB will continue to advise brigades on access to VHF high-band spectrum until further notice. The timescale for making VHF spectrum available may prove critical to replacement programmes and possible requirements need to be identified at an early stage in the procurement process. Also of regulatory importance is that if a regional or shared system is being contemplated, details of potential sharers must be raised with the Licensing Authority, the Radiocommunications Agency, or RFCPB, as there may be additional regulatory requirements that may need to be considered.

SUB BAND III 220MHz

Allocations may be available in this band subject to further discussions within the national frequency forum. Any proposals for the use of this band should be made the subject of an early approach to the Licensing Authority seeking advice on availability and regulatory constraints.

UHF BAND

380 - 400 MHz

In accordance with the European Radiocommunications Committee Decision ERC/DEC/(96)01 of 7 March 1996, a total of 10 MHz (2 x 5MHz) of spectrum has been allocated for emergency service and public safety use within the UK. Frequencies within the limits 380 - 385 MHz and 390 - 395 MHz can be made available, subject to availability, to meet the mobile communications needs, including wide area and at incident communications, of agencies and organisations whose primary role is the provision of emergency and public safety services.

Spectrum for public safety mobile applications is subject to licensing under the Wireless Telegraphy Acts 1949 and 1998 and is granted on the recommendation of the Public Safety Spectrum Management Group (PSSMG). This is an interdepartmental committee currently comprising of representatives of the Radiocommunications Agency, Scottish Executive and the Home Office. It is envisaged that future membership will extend to Department for Transport Local government and Regions (DTLR) and possibly other government Departments responsible for public safety radio spectrum.

Frequencies for public safety use outside of the Airwave service in this band are limited for a number of reasons relating to the national management of the band. Applications for assignments outside of the Airwave service will be considered if accompanied by a business case. In scrutiny of applications, the PSSMG will look for confirmation that a justifiable case for spectrum has been made and that the proposal meet the criteria contained in the Joint Policy Statement by the Radiocommunications Agency and the Home Office entitled "Radio Spectrum For Public Safety Communications" dated 23 December 1999. A copy of this statement is attached at Appendix 7.

Applications for spectrum in this band should be routed via the brigades' sponsoring authority, which is currently the Home Office RFCPB.

AT-INCIDENT COMMUNICATIONS (450 - 470 MHz)

It is the intention of the Home Office to withdraw the current police divisional UHF assignments on completion of police service migration to the Airwave service. This is envisaged for end 2004. There is no intention to withdraw use of the UHF band for fire at-incident channels described in FPS16. However brigades should note that fire at-incident channels will, in due course, be subject to spot frequency changes and band reversal to comply with national frequency management objectives. More information can be found in RFCPB policy statements FPS 12 "Changes to Fire service Assignments within 450-470 MHz Band", issued on 17 July 2000 and FPS 18 "Inter Agency Commander's Channel" issued on 12 April 1991. FPS 18 is included in this text as the Inter Agency Commander's Channel will also be subject to spot frequency changes.

WIDE AREA COVERAGE COMMUNICATIONS (450 - 470 MHz)

Spectrum released by the Police Service after migration to Airwave will be used to support a project to re-align the 450-470MHz in accordance with the CEPT recommendation, T/R25-08. Allocations may be available in the short term, after 2002, to support fire service requirements within the current band arrangement on a duplex separation of 14MHz. It should be recognised that it may be necessary to re-assign individual services before 31st December 2004 to meet national frequency management objectives. Any services remaining in this band after this date will be subject to further changes during re-alignment of this band. Full details of the band arrangements can be obtained from the Radiocommunications Agency, paul.jarvis@ra.gsi.gov.uk or the Home Office RFCPB, mireille.levy@homeoffice.gsi.gov.uk.

INDICATIVE AVAILABILITY OF VHF HIGH BAND SPECTRUM TO MEET FIRE SERVICE REQUIREMENTS – REVISED JANUARY 2002

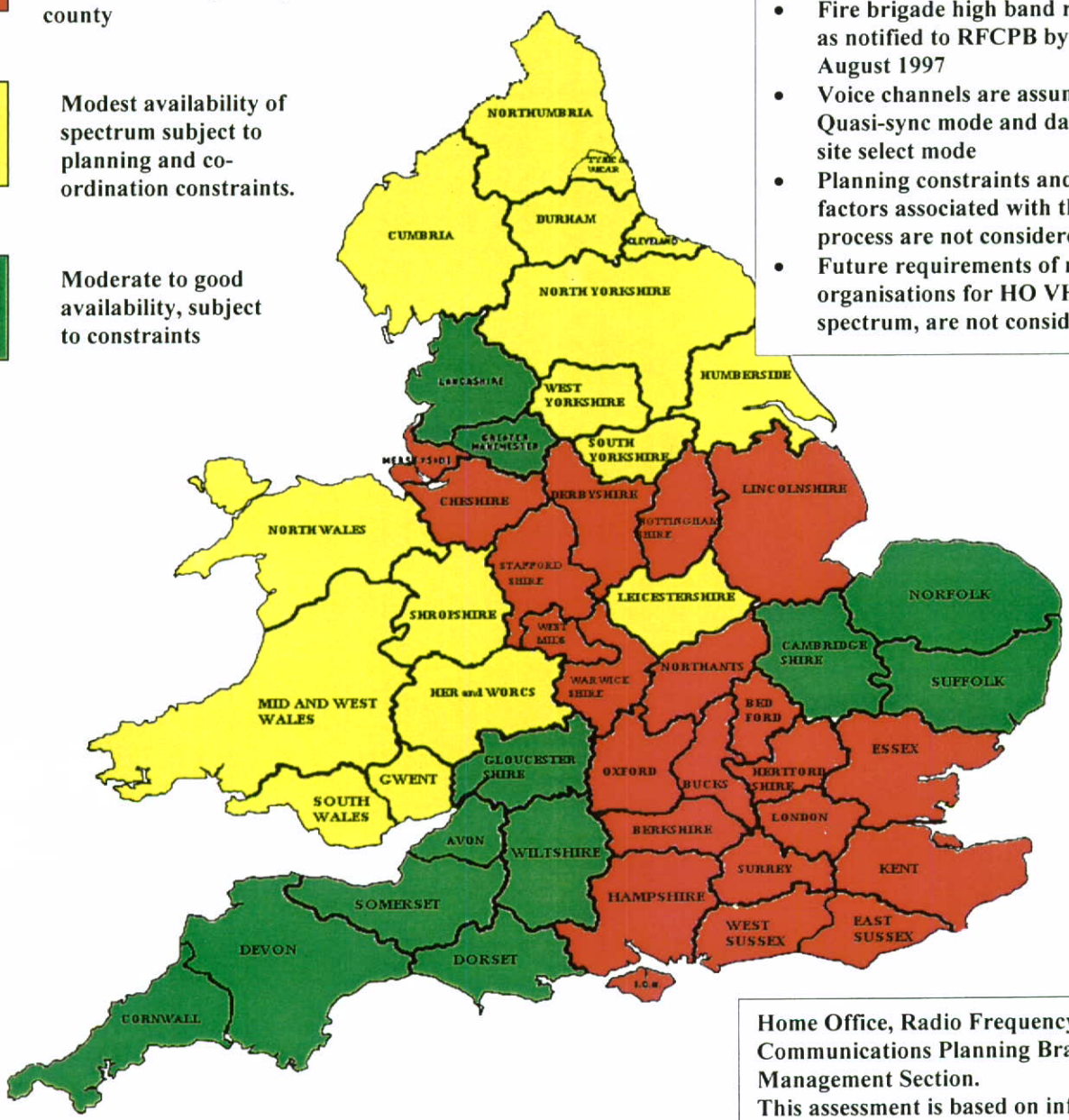
The availability of high band VHF spectrum for the fire service is based on the following assumptions and considerations:

- Only the following bands have been considered; 143-144,146-148,152-153, and 154-156 MHz
- Police forces roll out as per the current plan for releasing VHF spectrum within 1 year of migration to Airwave
- Fire brigade high band requirements are as notified to RFCPB by HMFSI in August 1997
- Voice channels are assumed to operate in Quasi-sync mode and data channels in site select mode
- Planning constraints and co-ordination factors associated with the HO planning process are not considered
- Future requirements of non fire service organisations for HO VHF high band spectrum, are not considered

Very little availability of spectrum. Any assignment in one county will affect availability in adjacent county

Modest availability of spectrum subject to planning and co-ordination constraints.

Moderate to good availability, subject to constraints



Home Office, Radio Frequency & Communications Planning Branch, Spectrum Management Section.
This assessment is based on information available January 2002. This information is indicative only and does not commit the supply of any particular spectrum in any timescale. Any request for spectrum will be subject to detailed evaluation on a case by case basis.

2002 Start of 4th Quarter

APPENDIX 2

INDICATIVE AVAILABILITY OF VHF HIGH BAND SPECTRUM TO MEET FIRE SERVICE REQUIREMENTS – REVISED JANUARY 2002

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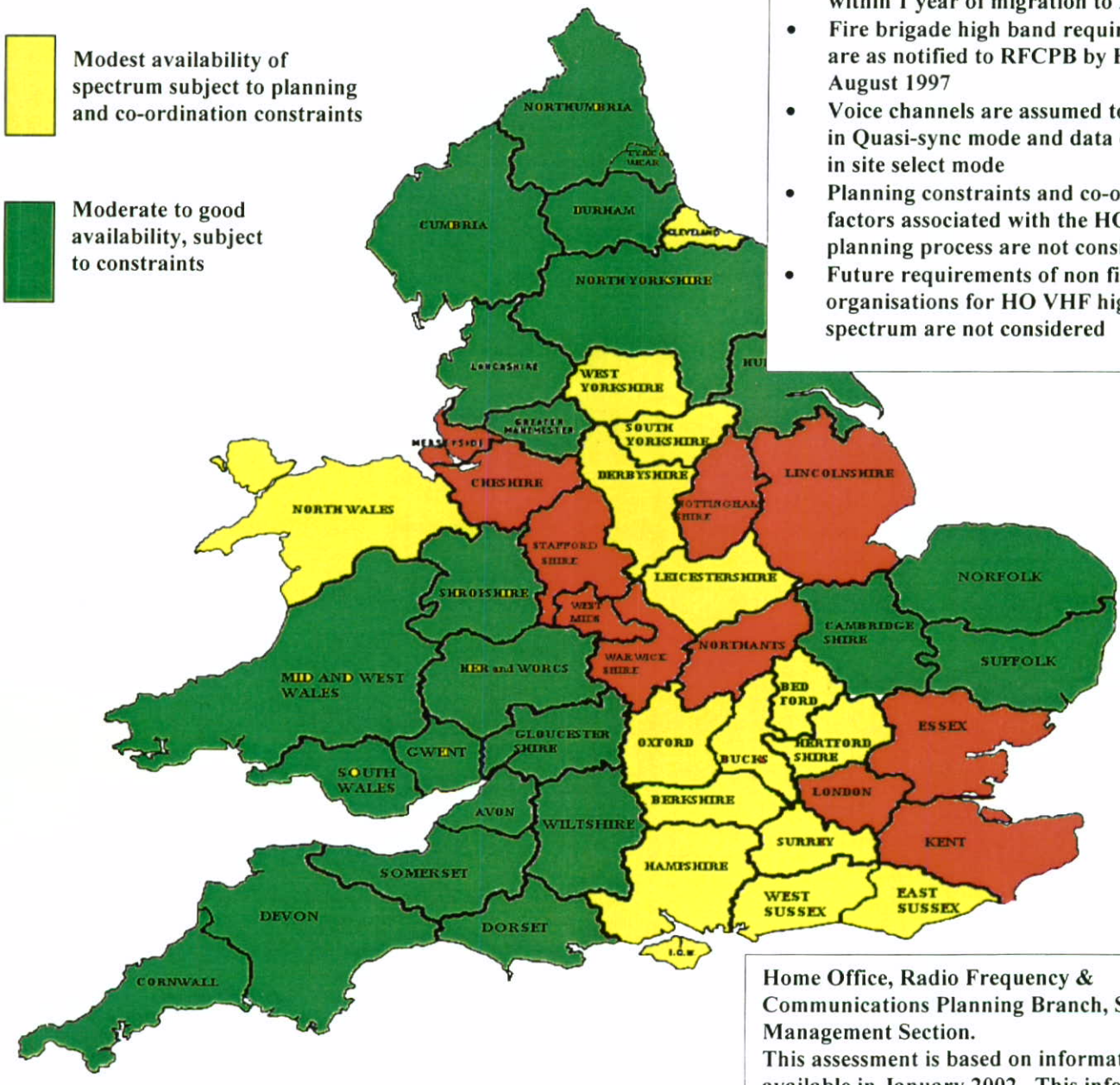

Home Office, Radio Frequency & Communications Planning Branch, Spectrum Management Section.
This assessment is based on information available in January 2002. This information is indicative only and does not commit the supply of any particular spectrum in any timescale. Any request for spectrum will be subject to detailed evaluation on a case by case basis.

2003 Start of 4th Quarter

INDICATIVE AVAILABILITY OF VHF HIGH BAND SPECTRUM TO MEET FIRE SERVICE REQUIREMENTS – REVISED JANUARY 2002

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- Only the following bands have been considered;
  143-144, 146-148, 152-153 and 154-156 MHz
- Police forces roll out as per the current plan for releasing VHF spectrum within 1 year of migration to Airwave
- Fire brigade high band requirements are as notified to RFCPB by HMFSI in August 1997
- Voice channels are assumed to operate in quasi-sync mode and data channels in site select mode
- Planning constraints and co-ordination factors associated with the HO planning process are not considered
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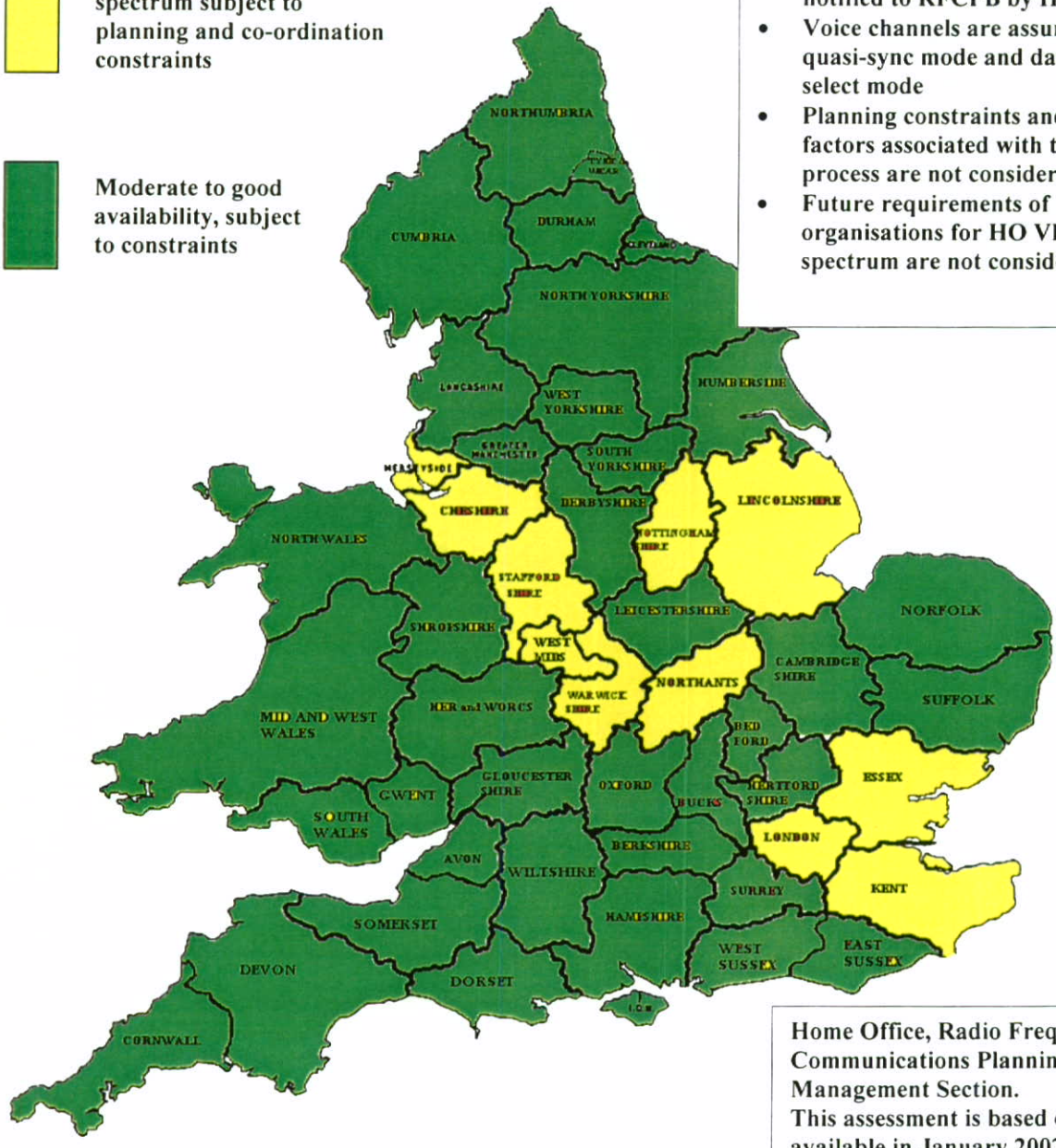

Home Office, Radio Frequency & Communications Planning Branch, Spectrum Management Section.
This assessment is based on information available in January 2002. This information is indicative only and does not commit the supply of any particular spectrum in any timescale. Any request for spectrum will be subject to detailed evaluation on a case by case basis.

2004 Start of 4th Quarter

INDICATIVE AVAILABILITY OF VHF HIGH BAND SPECTRUM TO MEET FIRE SERVICE REQUIREMENTS – REVISED JANUARY 2002

The availability of high band VHF spectrum for the fire service is based on the following assumptions:

- Only the following bands have been considered: 143-144, 146-148, 152-153, and 154-156 MHz
- Police forces roll out as per the current plan releasing VHF spectrum within 1 year of migration to Airwave
- Fire brigade high band requirements are as notified to RFCPB by HMFSI in August 1997
- Voice channels are assumed to operate in quasi-sync mode and data channels in site select mode
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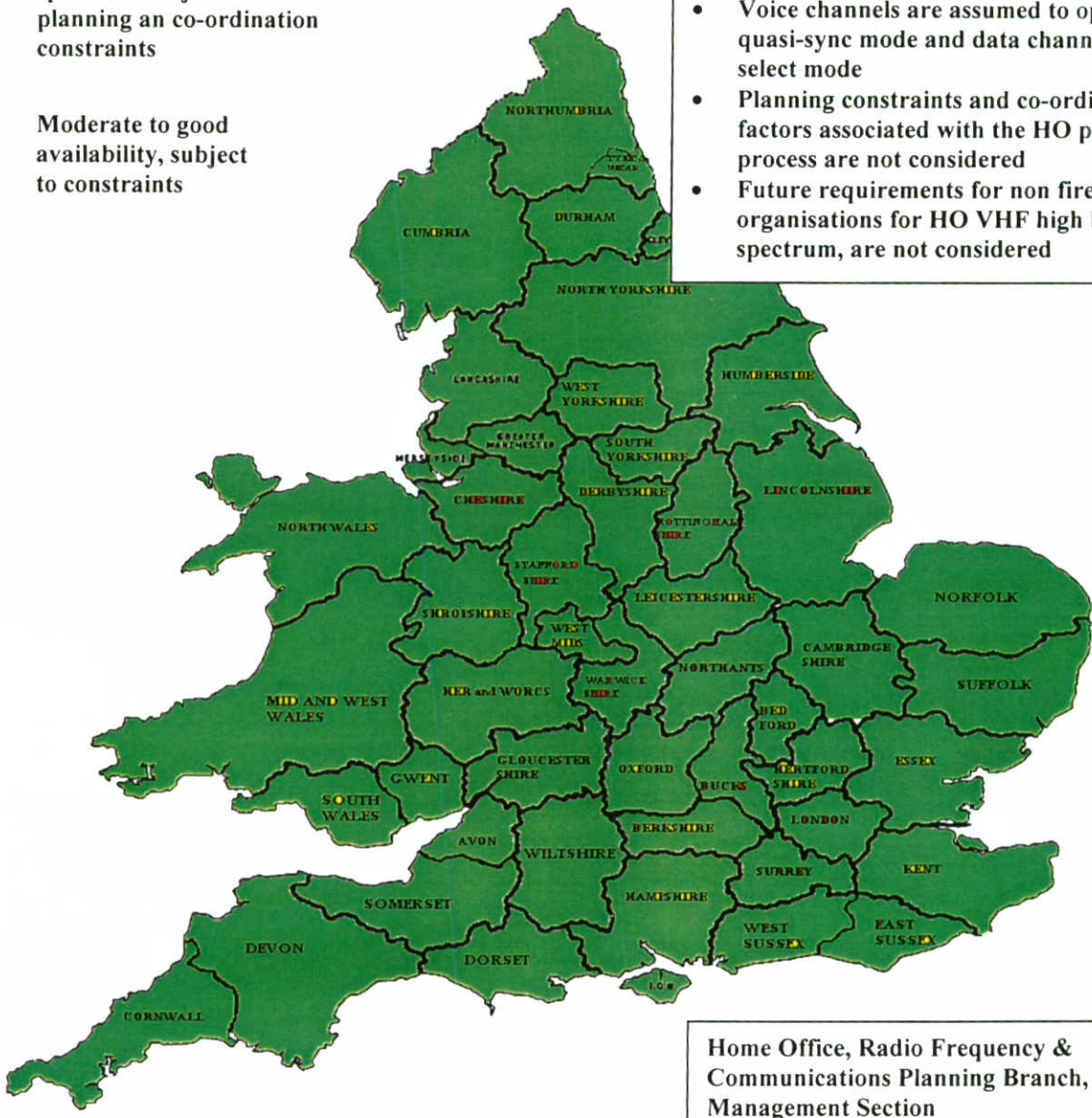
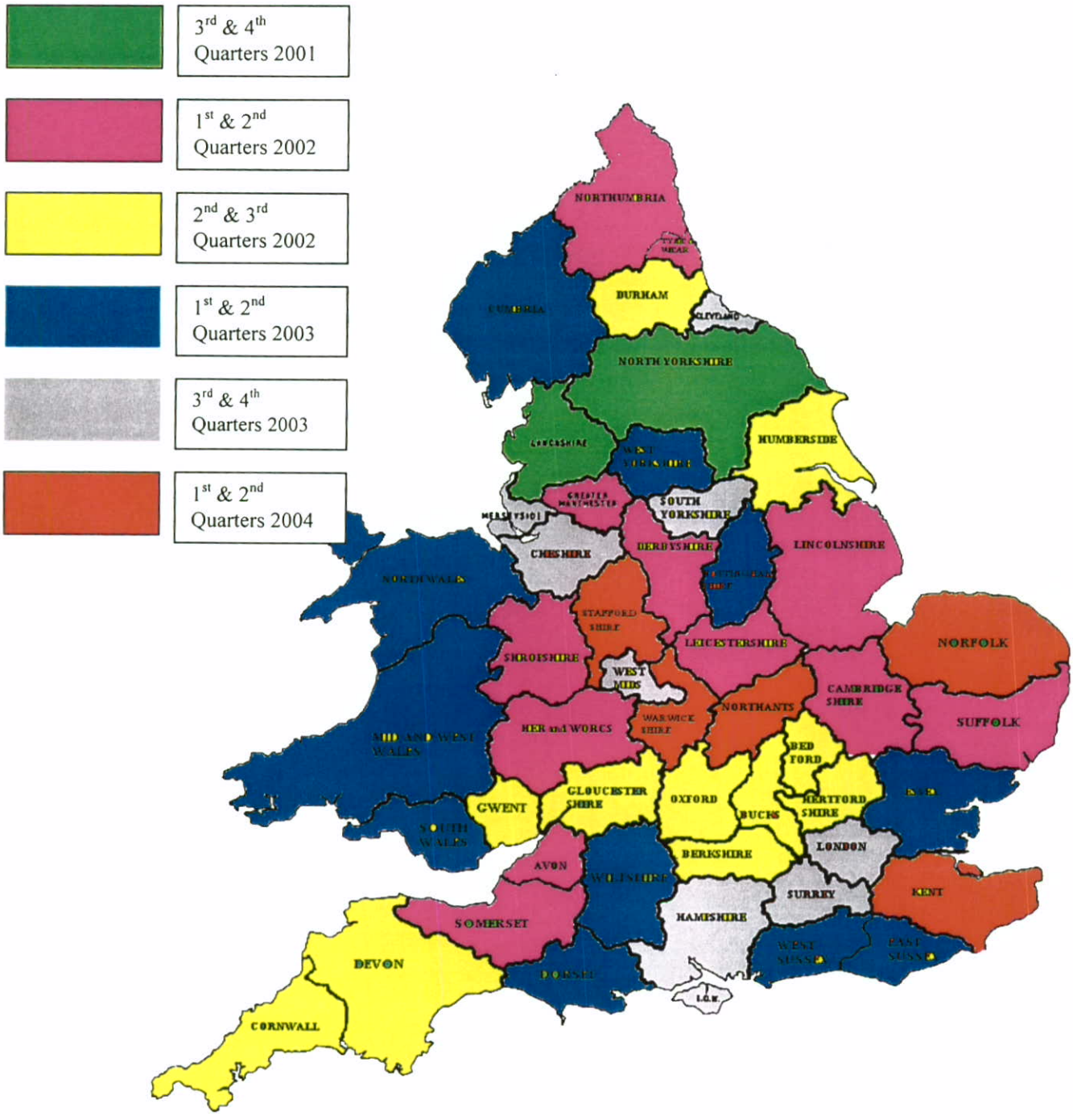


Home Office, Radio Frequency & Communications Planning Branch, Spectrum Management Section
This assessment is based on information available in January 2002. This information is indicative only and does not commit the supply of any particular spectrum in any timescale. Any request for spectrum will be subject to detailed evaluation on a case by case basis.

2005 Start of 4th Quarter

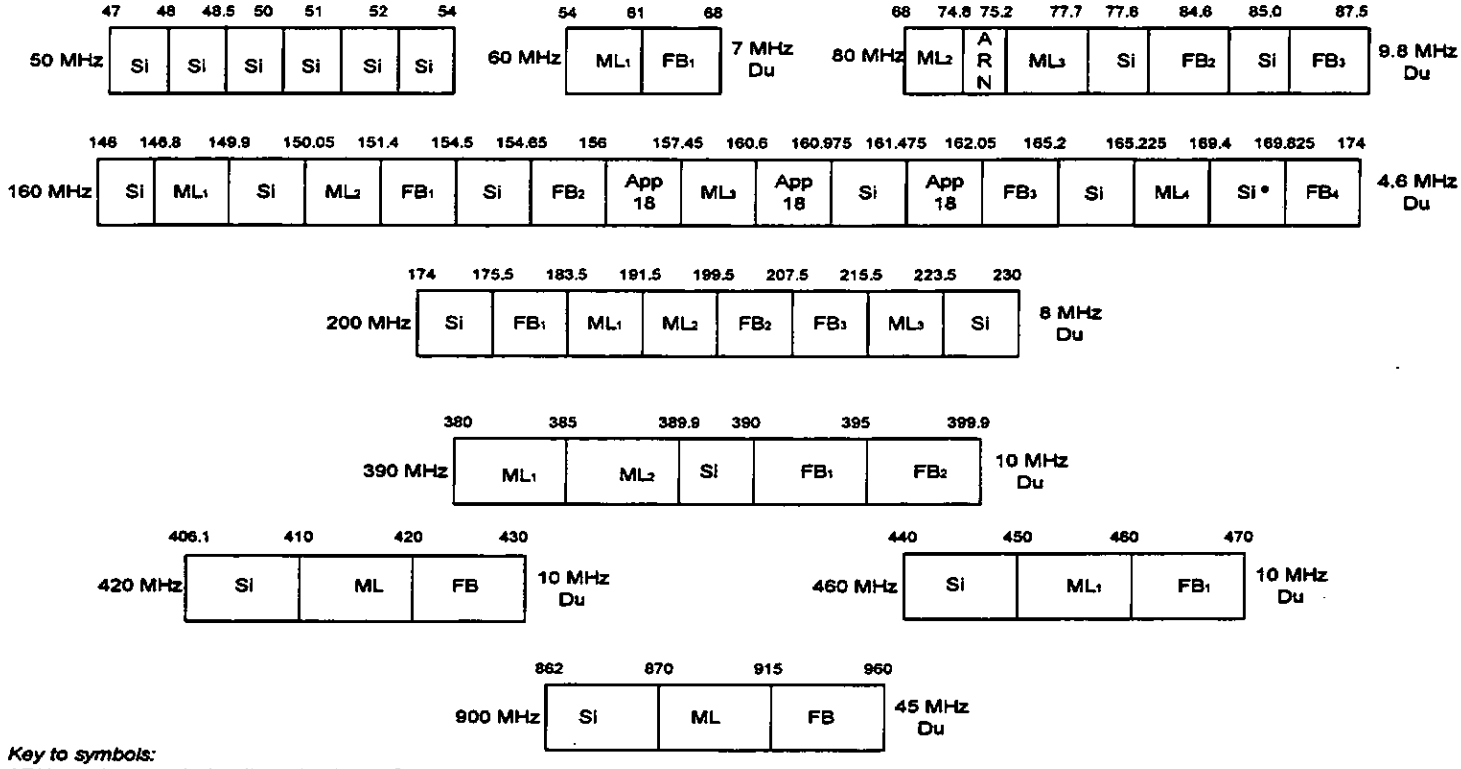
APPENDIX 5

AIRWAVE READY FOR SERVICE DATES NOVEMBER 2001



APPENDIX 6

CEPT RECOMMENDATION T/R25-08 – CONFIGURATION OF MOBILE BANDS



Key to symbols:

ARN	Aeronautical radionavigation (ILS/Marker beacons)
Du	Duplex operation
FB	Base station
ML	Mobile station
Si	Simplex operation
e	ERMES in band 169.4125 - 169.8125 MHz

App 18 Use in accordance with RR Appendix S18 "Table of Transmitting Frequencies in the VHF Maritime Mobile Band"

APPENDIX 7

RADIO SPECTRUM FOR PUBLIC SAFETY COMMUNICATIONS

JOINT POLICY STATEMENT BY DTI RADIOCOMMUNICATIONS AGENCY (RA) AND HOME OFFICE

1. Introduction

In accordance with the European Radiocommunications Committee Decision ERC/DEC/(96)01 of 7 March 1996, a total of 10 MHz of spectrum has been provisionally allocated for Emergency Service and Public Safety use within the United Kingdom. Frequencies within the limits 380 to 385 MHz and 390 to 395MHz will be made available to meet the mobile communication needs of agencies and organisations whose primary role is the provision of emergency and public safety services. Such organisations have been defined by DTI Communications and Information Industries (CII) Directorate and are listed in Annex A of this statement.

The Public Safety Radio Communications Service (PSRCS) (now Airwave) has been procured by the Police Information Technology Organisation (PITO) for, and on behalf of, police forces to meet the mobile requirements of the police service in England, Wales and Scotland. Other public safety users may also take up the service. PSRCS (now Airwave) has commenced roll out and will be available in England and Wales by 2004. It is expected that the PSRCS (now Airwave), which has been designed specifically to meet the requirements of the police, will also be suitable to meet the needs of other user organisations listed in Annex A. As PSRCS is a commercial service provision, the Radiocommunications Agency and Home Office recognise that:

- *The service provider (British Telecommunications plc (BT)) (now mmO2) must have confidence that sufficient spectrum is available to market PSRCS successfully to all users described in Annex A;*

- *The Government must ensure that spectrum is available for an alternative solution in accordance with ERC/DEC/(96) 01 for any user who does not join PSRCS (now Airwave).*

This statement describes the regulatory policy to be adopted by DTI Radiocommunications Agency and Home Office in considering requests for spectrum allocations from within the bands 380 to 385 MHz and 390 to 395 MHz.

2. *Public Safety Spectrum Management*

Spectrum for Public Safety mobile applications is subject to licensing under the Wireless Telegraphy Act 1949 and 1998 and is granted on the recommendation of the Public Safety Spectrum Management Group (PSSMG), an interdepartmental committee comprising representatives of the DTI Radiocommunications Agency and the Home Office. As the PSRCS (now Airwave) provider, BT (now mmO_2) will advise PSSMG on planning the band 380/385 and 390/395 MHz as required. The PSSMG is a standing group which provides rapid authoritative advice on changes to the allocation and assignment of public safety spectrum in the UK.

The PSSMG notes that frequencies for public safety applications in the UK are limited by:

- *Shortages of spectrum generally to meet commercial mobile needs;*
- *Poor grade of service available in shared (i.e. non exclusive) PMR bands due to congestion in some areas, making them generally unsuitable for safety of life applications;*
- *The high grade of service required for safety of life services which in turn may limit frequency re-use;*
- *Growth in mobile communications required to meet the needs of modern and efficient emergency services;*
- *ERC Decision ERC/DEC/(96)01 which allocates 2 times 5 MHz. to national public safety.*

Without prejudice to the possible need to assign frequencies for systems outside the PSRCS (now Airwave), in accordance with decisions taken by the relevant public service authorities, the PSSMG considers that the establishment of a single national network for the provision of public safety mobile communications offers the possibility of securing significant advantages including:

- *Operational benefits from interworking*
- *Financial benefits from economy of scale*
- *Spectrum efficiency savings from a fully integrated infrastructure planned to common standards*

PSSMG procedures in respect of (now Airwave) are outlined in Annex C and for other services in Annex D.

2.1 Eligible Users of Public Safety Bands 380-385 and 390-395 MHz

Organisations and agencies eligible to communicate in the bands 380-385 MHz and 390-395 MHz subject to licensing are listed in Annex A. Licences will only be issued for network infrastructure and associated Direct Mode Operation (DMO).

Annex A is subject to change from time to time in accordance with procedures set out under the Telecommunications Act (1984). Under this Act, BT (now mmO2) is licensed to provide mobile services to all the agencies and organisations in Annex A. Where such changes occur to the PSRCS (now Airwave) Telecommunications Act Licence through normal DTI/CII procedures, corresponding amendment will be made to the list in Annex A.

PSRCS (now Airwave) is a network solution only. Terminal equipment will be procured separately by PSRCS (now Airwave) customers through competitive tender.

2.2 Spectrum allocation to PSRCS (now Airwave)

An initial allocation of 2 times 3 MHz has been made to PSRCS (now Airwave), which has been sized to meet the needs of the police in England and Wales. This allocation will be extended as necessary in order to permit expansion of PSRCS (now Airwave) to meet increased traffic demands resulting from:

- *Expansion of the service to non police users detailed in Annex A*
- *Expansion of services offered to existing users*
- *Introduction of new PSRCS (now Airwave) based applications*

The spectrum allocations to support the PSRCS (now Airwave) was initially made following confirmation that the project meets the NAO definition of VFM (i.e. "the achievements of the optimum combination of whole of life cost and quality to meet customer's requirements"). The following additional documentary evidence will be required from BT (now mmO2) to support any application for an additional release of spectrum allocation for non-police users:

- *Anticipated traffic profiles of new users*
- *Network Management statistics showing current traffic profiles (or estimated if data is not available in the first year)*
- *Technical constraints limiting additional frequency re-use within current allocation*

BT (now mmO2) may apply for additional spectrum by written justification against a non-police customer specific marketing plan in advance of formal contracts from a specified non-police customer. An allocation which the PSSMG estimates will meet the requirement will be held in escrow for a period to be agreed with BT (now mmO2) on a case by case basis. If BT (now mmO2) subsequently fail to win the customer within the agreed period the spectrum will be released from

2.3 Spectrum allocation to non PSRCS (now Airwave) applications

Applications for assignments within the public safety bands but outside of PSRCS (now Airwave) will only be considered if accompanied by an approved Business Case. In scrutiny of applications, the Public Safety Spectrum Management Group will look for confirmation that a case has been made, and agreed, that the proposal:

- *meets the National Audit Office (NAO) definition of Value for Money (VFM), i.e. "the achievement of the optimum combination of whole life cost and quality to meet customer's requirements" (further advice is attached in Annex B);*
- *gives proper consideration to whole life costs and is financially sound in comparison with the preferred more spectrally efficient alternative that the user should join PSRCS (now Airwave);*
- *describes how it better meets the users operational requirements than joining PSRCS (now Airwave) ;*
- *Can be properly maintained and is suitable for technology refresh.*

In respect of Value for Money, applicants should show evidence that they have considered and quantified the risks inherent in a non-PSRCS (now Airwave) solution taking account of:

- *Design and implementation*
- *Technology and obsolescence*
- *Financing*
- *Commissioning and operating*
- *Demand for volume/usage*

Evidence will also be required that a sensitivity analysis has been completed on major assumptions to demonstrate their impact on the VFM comparison. Further, the applicant must confirm that their proposed non-PSRCS (now Airwave) solution will remain value for money for reasonable changes in future coverage and capacity requirements.

Any proposal will also be expected to describe the Business Benefits of adopting an alternative to PSRCS (now Airwave) and include detailed consideration of:

- *Security*
- *Resilience including availability*
- *Arrangements for interworking with other agencies listed in Annex A.*

ANNEX A

THE LIST OF SHARERS

Adjutant General's Corps - Provost Branch

Air Ambulance

Army Ambulance

Air and Land Search and Rescue Organisations

Airport Fire Brigade

Ambulance services of England, Scotland, Wales and Northern Ireland

Armed Forces Bomb Disposal Teams

Army Fire

British Transport Police

Coastguard Service

Defense Fire Service

Donor Organ Transplant Transport Teams

Enforcement Branch of Customs & Excise

Environmental Agency Enforcement Officers

Fire Brigades of England, Scotland Wales and Northern Ireland

Firing Range Security

Fraud Investigation Branches of DSS

Home Office Fire & Emergency Planning Fire Appliances and Assigned Personnel

Immediate Care Schemes (e.g. BASICS)

Immigration Department Intelligence & Investigation Unit

Inland Revenue Special Compliance Department

Intelligence Corps

Local Authority Emergency Planning Departments

London Transport Police

MOD Police

MOLD replacement

Navy Ambulance

Navy Fire

Navy Police

NHS Community Trust Staff

NHS Hospital Trust Staff

Nuclear Accident Authority

Patient Transport Services

Police Forces of England, Scotland Wales and Northern Ireland

Ports Police

Post Office Security and Investigation Service

Prison Service

Private Ambulance Services

Private Prisoner Transport

Privatised Police Patrols (including stadia and complexes)

RAF Ambulance

RAF Fire

RAF Nuclear Accident Response Organisation

RAF Police

RNLI

Royal Marines Police

Royal Military Police

Royal Parks Police

Security Service

Special Forces

Traffic Wardens

UKAEA Police

Voluntary First Responders

ANNEX B

Guidance on Likely National Audit Office Requirements

Any organisation applying for spectrum to implement an alternative self provided system must satisfy itself that its business case will meet the requirements of the National Audit Office/Audit Commission

Particular attention is drawn to ;

- **The extent to which user requirements are meet**
- **"Local" user**
- **Inter-agency**
- **National**
- **Growth in needs over lifetime**

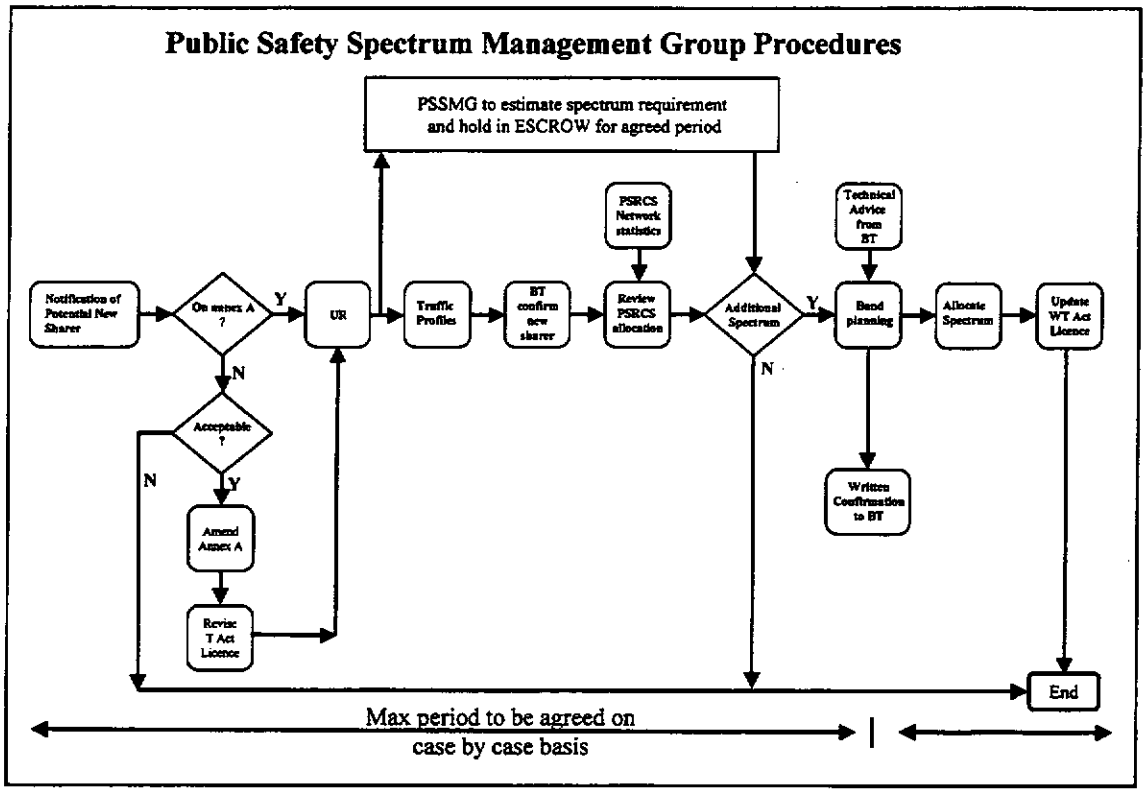
- **Relative costs and value for money**
- **Whole of life costs**
- **Value not cost (against requirements)**
- **Contractual protection**

- **relative risk**
- **Design implications**
- **Quality of service**
- **Flexibility/changes in requirements**
- **Capacity of service provider or self to operate and maintain**
- **Operational/interworking risks**
- **Technologies**

- **Spectrum efficiency implications**

ANNEX C

Public Safety Spectrum Management Group Procedures for (now Airwave) sharers



ANNEX D

Public Safety Spectrum Management Group Procedures for other users