



RADIOCOMMUNICATIONS
AGENCY



Annual Report and Accounts 2002-03



optimal use of the radio spectrum to promote a dynamic and



successful UK economy with enhanced quality of life through



excellence, efficiency and innovation in spectrum management



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Chief Executive's

Review

The last 12 months have been a memorable year for all concerned with communications in the UK, and for the Radiocommunications Agency in particular. This is our last annual report before the Communications Bill, currently before Parliament, transfers the Agency's functions to Ofcom, the new merged communications regulator; subject to passage of the Bill, the Agency will become part of Ofcom at the end of 2003. It is a substantial piece of legislation of over 400 clauses and 19 schedules. Considerable effort has gone into its preparation.



The Communications Bill makes it one of Ofcom's primary duties to secure the "optimal use for wireless telegraphy of the electromagnetic spectrum" and, in so doing, to have regard to the needs and interests of *all* spectrum users. This recognises the exceedingly broad range of spectrum users, from radio amateurs to cellular networks and from private mobile radio to radio astronomy, as well as the special communications requirements of essential public services and national security.

The Bill also introduces various reforms to facilitate more effective management of the radio spectrum, including spectrum trading and recognised spectrum access (RSA). Spectrum trading will help provide faster access to spectrum for the new services through the market, as an alternative to applying for a licence. RSA is a new spectrum management system that will provide enhanced security of quality of spectrum to users who cannot be licensed. Such developments will help spectrum management keep up with the frenetic pace of technical and market developments in the fast-moving communications sector, and help spectrum management to facilitate innovation and growth.

Just as much effort is going into the vital task of preparing for Ofcom and making sure that this proceeds as seamlessly as possible for our customers, of whom I met a good number during the Agency's autumn roadshows around the UK. The feedback from these and from the customer surveys has been positive. My aim is to ensure that the transition to Ofcom proceeds smoothly and successfully. A key part of this goal is to keep customers informed of developments and to continue to provide the same high standards of service throughout.

As time goes on we are in ever closer touch with the Ofcom Chairman David Currie, the Chief Executive Stephen Carter and the new Ofcom management team.

Review of spectrum management

This year has seen no fewer than two external reviews of spectrum management, first by Professor Martin Cave and later by the Trade and Industry Committee.

Professor Cave's report, published in March 2002, supported the reforms of spectrum pricing and auctions that were introduced with the Wireless Telegraphy Act 1998 and made a series of recommendations to develop and extend these, including the introduction of spectrum trading. The Government accepted virtually all his recommendations. We have started the groundwork to implement them, working with the new Ofcom management to ensure a smooth transition.

The Trade and Industry Committee's enquiry followed the scrutiny of the draft Communications Bill over the summer. The report, published in December, largely supported the general direction of spectrum management policy, but was critical of the proposal for RSA. The Government's response, published on 14 March 2003, took note of the Committee's conclusions, many of which will be matters for Ofcom, but defended RSA.

The new European Directives on electronic communications were adopted last March. Once implemented on 25 July 2003, these will require a number of changes to our licensing and enforcement processes, and will open the door to the introduction of spectrum trading.

Against the background of these major changes, 'business as usual' continues to have its highlights: the vital role played by the Agency in supporting the success of the Commonwealth Games, the progress on e-licensing which

won us a management consultancy association award for IR2008. There are many measures of our achievements in this report.

On the enforcement side, the prosecution statistics speak for themselves, but I also read in the media recently that the Agency was single-handedly destroying the music industry! Fortunately, there is plenty of evidence to the contrary, but such a headline showed that our new approach of targeting pirate stations through advertisers and party organisers was having a real impact.

Even as I write, the 3.4 GHz auction is in full swing, and the Agency team at the World Radio Conference in Geneva is negotiating to set the ground rules for spectrum use for many years to come.

During the passage of the Communications Bill, Stephen Timms, Minister of State for e-Commerce and Competitiveness, mentioned the effective way in which the Agency carries out vital if unsung tasks, and the respect it commands from its international counterparts and those on the receiving end of its work in the UK.

Since I joined in July, I have become aware of the tremendous depth of expertise, commitment and teamwork that go to make the Agency a success. Without this work, many activities and services that people have come to take for granted in their daily lives – from mobile communications and the broadcast media through to safe aircraft landings – would not be possible. So I would like to add my own tribute to that of Stephen Timms.

Development of staff

We have continued to develop our people both by providing support for professional qualifications and by nurturing personal development and diversity. The converged Ofcom presents them with wider and more stimulating opportunities, and I am confident that they will continue their proud record there.

On a personal note I would like to thank Mike Goddard for stepping in as Acting Chief Executive at the start of the year. I am also grateful to the Management Board in particular and to everyone in the Agency for the warm welcome they gave me when I arrived, and for the help, support and commitment that they have shown.



Rolande Anderson
Chief Executive
9 July 2003

The Agency Management Board: left to right, David Smith, Director of Corporate Services and Facilities; Mike Goddard, Director of Spectrum and International Policy; Rolande Anderson, Chief Executive; Hazel Canter, Director of Spectrum Services; Barry Maxwell, Director of Customer Services





DTI Objective

Competition

To develop and sustain consistent and transparent competitive frameworks

RA business objective 1

To make full and appropriate use of all available spectrum management tools, including regulation, administrative spectrum pricing and, where suitable, auctions, in order to promote the best social and economic use of the radio spectrum

1.1 New spectrum management tools

Following the publication of the new European Electronic Communication Directives in April 2002, this was a year of preparation for change in the legislative framework that permits radio spectrum use to be licensed and authorised.

The Communications Bill, currently before Parliament, provided a focus for these changes. It carries the legal measures necessary to implement the Directives (in July 2003) and new initiatives for managing spectrum, including the introduction of spectrum trading and recognised spectrum access (RSA) to complement auctions and incentive pricing.

Spectrum trading

In broad terms, the introduction of spectrum trading will allow the authorisation rights of Wireless Telegraphy Act licences to be transferred or leased by the licensee directly to another person or organisation.

There are many potential variants of spectrum trading, from simple change of ownership to complex arrangements allowing change of use and reconfiguration. It will be for Ofcom to decide where trading should be allowed, and which restrictions and regulations will apply.

In July 2002, the Agency published a consultation document, 'Implementing Spectrum Trading'. We received more than 40 responses, indicating widespread support in principle for spectrum trading. In October, the Government Response to the Independent Review of Radio Spectrum Management (the Cave Review) proposed a progressive phasing-in of trading, starting in 2004. In December, the Agency supported an event at the Royal Society hosted by the Spectrum Management Advisory Group (SMAG), at which a wide range of helpful views on spectrum trading were expressed.

The timing of spectrum trading will depend on the Communications Bill's progress and decisions to be taken by Ofcom; some forms of trading in some licence classes could be introduced in 2004. In developing proposals, we are taking full account of European and international developments and obligations. Regulations will be required to implement trading.

Recognised spectrum access

RSA is a new concept which recognises users' access to radio spectrum for services that, for one reason or another, are not suitable for licensing. If an assignment is subject to an RSA, Ofcom will do its best when planning the

The Cave Review, published in January 2002 following a public consultation, recommended the introduction of spectrum trading as soon as possible. This year the Government published its response, proposing that trading should be phased in from 2004



“Spectrum trading and recognised spectrum access will help spectrum management keep up with the frenetic pace of technical and market developments in the fast-moving communications sector, and help to facilitate innovation and growth.”

Rolande Anderson, Chief Executive

spectrum to ensure that the assignment does not suffer interference from other services (whether licensed, licence-exempt or also subject to an RSA). In other words, the RSA will take the assignment into account in the spectrum planning process, providing formal assurance that the quality of the spectrum is good and will be maintained.

RSA will provide the same recognition as that accorded under a licence in similar terms. It has some similarities with licensing, but is voluntary (whereas a licence constitutes permission to install and use apparatus, backed by criminal sanctions). RSAs will also be able to be traded.

1.2 Broadband Fixed Wireless Access (BFWA)

The European Directives and the Communications Bill both permit the continued use of auctions to ensure that scarce blocks of spectrum can best be used by those who most value that use.

28 GHz auction

This year the Agency monitored the progress of operators that had won licences in the 28 GHz BFWA auction held in November 2000. The licensees are at various stages in deploying their networks; Your Communications is the most advanced, offering broadband to corporate customers in its licence regions (covering the West Midlands and northern England).

Your Communications celebrating the provision of its pioneering Broadband Wireless Access service 'Flexible Broadband' to Birmingham City Football Club in 2002



Following the end of a second award process on 14 October 2002, we published a consultation document ('BFWA at 28 GHz: proposals to amend new and existing licences and for the next stage of the award process'), seeking views on a new award process for unsold licences. After considering the responses, the Government concluded that the Agency should:

- modify the 'purpose of use' condition within new and existing licences, to allow the deployment of any fixed service;
- remove the 'use it or lose it' condition within new and existing licences; and
- consider offering licences in smaller geographic regions – by issuing licences for pre-determined areas (e.g. county licences), letting operators nominate the areas they want, or licensing individual base stations.

Following further discussions with industry, we are looking at how we might award licences in smaller regions. We plan to open the award process later in 2003.

40 GHz (40.5 to 43.5 GHz)

In the summer of 2002, the Agency held discussions with interested companies on the scope for developing the 40.5 to 43.5 GHz band for multimedia wireless systems.

The band is a key resource for developing the next generation of broadband services: it has the capacity to deliver very high bandwidth, sufficient to support a number of broadcast services as well as high-capacity, two-way telecommunication links such as video on demand and video conferencing. Companies generally supported opening the band, but believed that there would not be a market for services at very high bandwidths for another two or three years.

The Agency therefore proposes working with industry to develop a licence award process that will meet industry's requirements for delivering services when the demand emerges. In the interim, we will consider the feasibility of offering commercial trial licences.

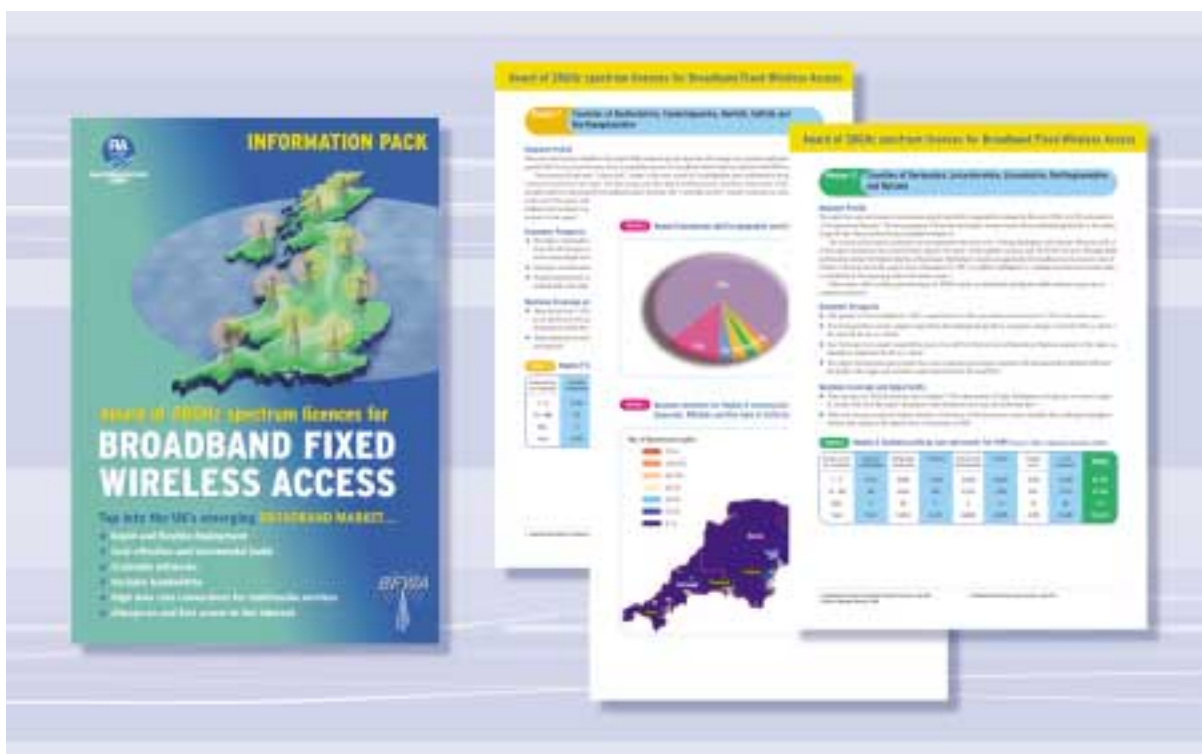
The Agency has also been preparing for a new auction at 3.4 GHz – see Section 1.7.

1.3 Administrative pricing

We continued the annual implementation of administrative pricing. The fifth-year rollout, completed in July 2002, included further incentive changes to some public wireless network licences, some new private business radio (PBR) classes and some changes to programme-making classes.

Preparations for the sixth year are under way, but are less significant pending a long-term revaluation of spectrum as recommended by the Cave Review. A contract to review and update the principles of spectrum pricing commenced in April 2003.

Before the second award process for 28 GHz BFWA licences, which ended in October 2002, the Agency produced extensive information – including economic profiles of the regions where licences were available – for prospective applicants



1.4 Sound broadcasting

The demand for spectrum for analogue sound broadcasting services in the FM band remains strong, and it is increasingly difficult to find frequencies for new services. As well as the range of BBC national and local services, there are now twice as many commercial radio licences as in 1990.

The Communications Bill provides for a new tier of 'access radio'; the FM Review, commissioned jointly by the Agency, the BBC and the Radio Authority, fed into this. During 2002-03 we also carried out an examination, with the Radio Authority, of the technical practicability of using shortwave spectrum for UK short-distance broadcasting; Ofcom will take forward the licensing of this resource.

National multiplexes (the BBC and commercial) are transmitting digital VHF, and the Radio Authority is licensing sub-national multiplexes at the rate of about one per month. Prices for both in-home and in-car equipment are falling and take-up is increasing.

The international agreements concerning the sharing of spectrum in the L band were concluded this year. Ofcom will take over the consideration of licensing this resource, which is due to be empty of fixed links by 2007.

Proposed uses of the band include:

- ┌ overcoming VHF spectrum limitations in parts of the country for local digital radio;
- ┌ more digital radio multiplexes;
- ┌ more generic mobile multimedia services, using the Eureka 147 technology flexibly for a range of sound broadcasting, data and video services; and
- ┌ more flexible use of broadcasting satellite services.

Work is now complete in the International Telecommunication Union (ITU) on recommended standards for digital radio in the HF band. This is likely to generate considerable interest in re-planning not only the shortwave bands but also the MF and LF bands for digital use; the Agency is supporting these activities to improve the attractiveness of this spectrum.

Steve Culling (right) from the Agency's North West England office assisting a customer at the City of Manchester Stadium in the build-up to the Commonwealth Games in July/August 2002



1.5 Television broadcasting

Around 40% of UK households now watch digital television over cable, satellite and terrestrial platforms. The Independent Television Commission (ITC) is working with the BBC, other broadcasters and the Agency to boost the coverage of digital terrestrial television (DTT) and improve robustness of reception, while ensuring minimal interference to analogue television. The Agency is working to support these objectives and to gain international co-ordination of our DTT networks.

This year, Ministers announced the terms on which the six digital television multiplexes will use spectrum after switchover. This is part of the Digital TV Action Plan – a strategy to deliver an all-digital environment for television, involving broadcasters, regulators, the Government, manufacturers, retailers and viewer organisations. The ITC and the BBC were told to plan the multiplexes in no more than 32 of the currently available 46 channels. Spectrum planners, led by the ITC and including the Agency, are developing the details of these plans.

The Agency is also preparing for an ITU Regional Radio Conference, to be held in two parts in 2004 and 2005-06, which will revise the Stockholm 1961 Agreement. This work is being conducted within the Spectrum Strategy Committee, and involves all parties (broadcasting and others) with an interest in the VHF and UHF broadcasting bands. The conference will set out the way that broadcasting spectrum in these bands will be shared and planned between administrations, taking into account the needs of other users (including some unique to the UK). The UK aims to gain an equitable share of the spectrum, enabling the implementation of our plans for the six digital multiplexes and also the fullest use of the spectrum released on switchover (both nationwide cleared spectrum and channels interleaved with the six multiplexes).

It is premature to consider possible uses of the spectrum freed up by the closure of analogue transmissions, although options include more digital multiplexes, mobile television, programme-making, data delivery, mobile multimedia and various other 'converged' services.

1.6 Programme-Making and Special Events (PMSE)

In April 2002, the Joint Frequency Management Group (JFMG) was awarded the contract to manage the spectrum devoted to PMSE. A high point of the year was the successful planning and management of the vast array of spectrum requirements and usage at the Commonwealth Games.

The pressure on the spectrum is growing because more programmes, events and shows are being made, and more spectrum is required for each of them. More annual events (not only the British Grand Prix) are taking on the characteristics of 'special' events, requiring careful management of spectrum use and the 'borrowing' of spectrum from other users (e.g. for broadcasters' requirements) so that all users are catered for as fairly as possible and without interference.

At the same time, the supply of spectrum is being affected by decisions on spectrum for other services such as broadband and digital television. The Agency is providing some replacement spectrum and considering how to manage the supply/demand balance efficiently in future (by promoting more efficient digital technology, spectrum pricing etc.)

1.7 Fixed wireless access (FWA) at 3.4 GHz

After consulting on the availability of spectrum at 3.4 GHz and 10 GHz, we made the final arrangements in May 2002 for awarding licences in the 3.4 GHz band. The award of 10 GHz licences was separated from this process, allowing further studies to be carried out. We decided to award 15 regional licences by auction in the 3.4 GHz band; this will take place in May 2003.

We are continuing to investigate whether spectrum in the 3.6 to 4.2 GHz band can be made available for FWA, based on an economic and technical assessment of the options. Sharing and co-ordination studies are under way, and a consultation is expected in the second half of 2003.

1.8 Fixed terrestrial and satellite links

The Agency works to maximise the amount of spectrum available for fixed-link operators. We aim to ensure that the requirements of technologies such as 3G mobile operations can be met, while also introducing tailored management arrangements for the fixed services spectrum allocations (thus allowing existing infrastructure networks to expand).

Throughout 2002-03, the UK's Fixed Satellite Service and Fixed Service international interests were protected and promoted within the ITU and the European Conference of Postal and Telecommunications Administrations (CEPT).

Agreement was reached on closedown dates for the remaining high-power 2 GHz trans-horizon systems operating between Scotland and North Sea oil rigs in the UK sector. The last such link will be replaced by alternative systems in 2008, removing a potential constraint on the mobile services moving into this band.

Discussions for the Agency to resume managing the 18 GHz band, currently self-managed by a major operator, went well. This band will pass into Agency management in 2003 as scheduled, completing the take-back programme.

The 58 GHz unco-ordinated frequency band was deregulated – see Section 1.9. Negotiations on future management arrangements for scanning telemetry spectrum in the 450 to 470 MHz band are on course for agreement and implementation in 2003-04.

The medium-term plan ensuring fair and equitable access to the general pool of fixed-links spectrum, as agreed with industry via the Fixed Link Co-ordination Committee, is steadily being implemented. As noted in last year's Annual Report, two-thirds of the 32 GHz, 52 GHz and 55 GHz frequency bands are being held back to allow scope for testing innovative assignment and/or allocation processes that may supplement the traditional approach of allowing different uses to share the same bands.

The Agency is helping to develop a UK position, taking into account the interests of the fixed-link industry, on whether to permit ultra wide band (UWB) motor vehicle radars to use spectrum from 21.5 to 26.5 GHz ('24 GHz'). If permission is granted, a significant number of currently assigned fixed links in the band may need to be moved, at considerable cost to the operators.

We are also helping the European Telecommunications Standards Institute (ETSI) to rationalise the many digital fixed radio standards into a single, multi-part harmonised standard. This will simplify and speed up the drafting process for revising standards within ETSI, and will help industry to distinguish the relevant R&TTE Directive requirements.

Action is under way to open a new band for high-density, high-capacity, fixed point-to-point links between 64 GHz and 66 GHz (the 65 GHz band), which will be subject to a light licensing regime. We anticipate that each operator will hold a single licence covering all its 65 GHz links; each link will be registered and co-ordinated by the operator itself through an online system.

Two new online computer tools, e-Flatco and SatClear, became operational this year. They allow, respectively, fast clearance of Transportable Earth Stations and the registration of Network (formerly VSAT) terminals without the day-to-day involvement of the Agency's assignment and licensing staff.

The spectrum pricing algorithms for Permanent and Transportable Earth Stations, implemented by the July 2001 Fees Regulations, required only minor adjustment and simplification this year. After discussion with industry representatives, a further algorithm to cover Network licences was agreed and implemented.

Demand for new terrestrial links remained buoyant during the year at more than 450 per month. The total number of current licensees and licensed links is shown in Table 1.

Table 1: Fixed Links/Space Service licences on issue at 31 March 2003

Description	Number of licences	Number of links/stations
Fixed Services		
Fixed Links (not at 58 GHz)	368	32,256
Fixed Millimetric Radio Relay Link (58 GHz) ¹	0	0
Scanning Telemetry Link	66	9,738
Point-to-Multipoint (31 GHz)	81	107
Space Services		
Permanent Earth Station ²	174	323
Transportable Earth Station (three classes) ³	91	173
Network licence (formerly VSAT)	37	See ⁴

Notes

- 1 The 58 GHz band is now licence-exempt.
- 2 Permanent Earth Station licences are now issued on the basis of one licence for each site containing earth stations (not one licence per earth station).
- 3 The Transportable Earth Station licensing regime was reorganised during 2002-03.
- 4 One Network licence is now issued for each network; approximately 14,088 subscribed terminals are associated with these licences.

1.9 Licence-exempt public telecommunications

Under the new European Directives, the Agency must scrutinise the need on spectrum management grounds for spectrum use to be licensed; if interference to other services is likely to be small, licence-exemption should be considered.

Following a consultation exercise in October 2001, two significant exemption regulations were brought into force this year. The first, in July 2002, exempted public services using the 2.4 GHz band for low-powered wireless local area networks (WLANs).

The second, in February 2003, updated and consolidated all the existing regulations. WLANs operating in accordance with UK Radio Interface Requirement 2006 in Bands A and B at 5 GHz, as well as two new mobile satellite networks and unco-ordinated fixed links at 58 GHz, were exempted from licensing.

The 5 GHz bands primarily enable the use of WLANs to deliver broadband internet access in public areas and/or private networks – see Section 1.12.

1.10 Terrestrial Trunked Radio (TETRA)

In the UK, Public Access Mobile Radio (PAMR) using the digital TETRA standard operates in the 410 to 430 MHz European harmonised band. Dolphin, the national TETRA operator, currently has 2 x 4 MHz providing 160 channels.

This year Dolphin was awarded a further licence to provide a national high-speed data system using the TETRA Advanced Packet Service (TAPS) standard. The new service will use 2 x 4 MHz in the European 900 MHz TETRA band; this will enhance the existing TETRA system, affording data rates comparable with the General Packet Radio Service (GPRS).

The work on clearing military communications services out of the 410 to 430 MHz band continued through the year and is now nearly complete, with only residual services remaining.

1.11 Public mobile telephony: 3G networks

Network trials by the UK operators continued during 2002-03, and Hutchison 3G (now branded '3') soft-launched its service in the spring of 2003. The other operators are expected to launch later this year or in 2004.

Harmonisation and standardisation development continued within the ITU and the 3rd Generation Partnership Project (3GPP). Within Europe, Project Team 1 of CEPT's Electronic Communications Committee (CEPT ECC PT1) delivered a Report and associated Decision required under the European Commission Mandate on the expansion spectrum (2500 to 2690 MHz) for 3G (IMT-2000) systems. These were completed in November 2002, and were considered and endorsed by the Commission's Radio Spectrum Committee (see Section 9.5) and the ECC.

A further mandate on the detailed spectrum pairing arrangements is currently being considered; once agreed, this will be addressed by CEPT ECC PT1, which will also be the European co-ordinating body for agreeing common positions within ITU-R – see Section 9.1.

1.12 Private business systems

The spectrum access regulations for WLANs were a major area of work during 2002-03. Bands A and B are now available (see Section 1.9) and proving very popular, and further sharing studies and rules for FWA are being developed in order to provide access to Band C.

3G mobile telephone networks – the first of which, '3', launched its service in early 2003 – can deliver a variety of services including digital maps to help users find their way anywhere in Britain



© Jim Marks

“In its first 12 months, the new Foundation licence attracted 3,500 people to amateur radio for the first time.”

Within the cross-Government Public Safety Spectrum Policy Group, the Agency worked to ensure that the public safety services radio network (Airwave) is correctly co-ordinated with other users and our European neighbours. As a result, a number of licences were issued for both the terrestrial network and the development of an air-ground-air network.

Other important public services such as bus and coach radio systems are being developed to meet the requirements of the Real Time Passenger Information initiative. An innovative time-division standard was developed to aid the introduction of low-cost data applications for taxis, private hire and other dispatch-type uses.

Another important issue this year was the new National Rail GSM-R licence for England. This will gradually replace the communications systems to and from locomotives, and will carry some signalling information.

Projects such as the Mobile Assignment Technical System (MASTS) are now well under development, and will pave the way for spectrum to be assigned rapidly for wide-area PBR services. This system will be available for thorough testing in the licensing centres later this year, and for online assignments next year.

The Agency commissioned a report, 'Keeping Britain Working: Maintaining the social benefits of private mobile radio within a market based system', from the Social Market Foundation. The report is available from the Agency Library.

1.13 Amateur Radio

The key event of 2002 was the introduction of the Foundation licence. In its first 12 months, 6,300 licences were issued, of which 3,500 were to people new to amateur radio. (The rest were issued to existing class B licensees who wished to gain access to the HF bands.)

Andrew Finch – the 5,000th amateur radio licensee - and his parents, flanked by the Agency's Alan Betts (left) and Bob Whelan (right), President of the Radio Society of Great Britain, at a presentation in October 2002



It is most rewarding that, of the 700 newcomers who were due to renew their licences in the first three months of 2003, only 11 failed to do so.

The revised intermediate licence syllabus was published towards the end of 2002-03, and two pilot exams involving 150 candidates were held. Congratulations are due to the clubs and societies providing training and examination facilities, which have been key to the scheme's success.

I.14 CB

The number of licensed Citizens' Band (CB) enthusiasts has fallen from 300,000 at its peak to only 23,000. In line with the European Authorisation Directive, we consider CB to be a candidate for deregulation (i.e. the removal of the need for individual licences). A consultation document was issued in March 2003, seeking CB users' views on proposals to deregulate from July 2004 and to close the 40 'UK only' channels from July 2010 (making those frequencies available for alternative use). Under these proposals, the remaining 40 CEPT (Pan-European) CB channels will continue.

I.15 Maritime and aeronautical licensing

This year, the Agency continued to raise awareness of aeronautical and maritime radio and associated licensing issues among the UK maritime and aeronautical communities, attending a number of events.

We carried out a comprehensive project on the characteristics of radars, to investigate the factors and limitations affecting spectrum usage. The study employed a variety of methods, including a measurement campaign as well as technical evaluations and analyses. We expect that the resulting information will enable radar spectrum bands to be better managed, and (in the longer term) will assist in examining the potential for reducing bandwidth requirements and re-evaluating spectrum pricing for radars.

Maritime

The Maritime and Coastguard Agency (MCA) made good progress towards updating the licence details of its systems, beginning with its fleet and then its Coastal Station Radios (CSRs) and Navigational Aids. We are also working with the Royal National Lifeboat Institution to update the licensing of its systems; this will avoid potential problems caused by the UK's decision to begin recycling vessel call signs and Maritime Mobile Service Identity (MMSI) numbers in 2003.

The contracted-out licensing of ships' radio systems continues to work well. The Radio Licensing Centre fulfils this role, consistently meeting its performance targets.

Two new licence categories were introduced this year. The Coastal Station Radio Training Establishment (CSRTE) licence allows marine radio units to be set up on land, enabling maritime radio procedures to be taught. The Maritime Radio Suppliers licence enables businesses to install, test, repair and/or demonstrate maritime radio transmitting/receiving equipment. This work may be performed at the licensee's main place of business, on board UK vessels owned by the licensee's customers (not at sea), and at special events such as boat shows – provided that we are notified in advance.

Much of the year was spent preparing for the 2003 World Radiocommunication Conference (WRC-03). Key developments for the Agency were:

- making a key contribution to work in CEPT and ITU fora to shore up European proposals promoting the use of the Global Maritime Distress and Safety System (GMDSS); and
- helping to secure a common European position in addressing the potential shortfall of MMSI numbers;

The Agency and the MCA were co-sponsors of a US/UK joint maritime radar trial to determine the effects of simulated radiolocation (and other) interfering signals into maritime radars. The results were favourable for supporting radiolocation as a primary allocation in the 3 GHz band, along with the incumbent radionavigation service allocation – an issue that will be debated at WRC-03.

Aeronautical

Contracted-out day-to-day licensing of aeronautical radio, operated on the Agency's behalf by the Civil Aviation Authority (CAA), took off to an excellent start. The collaboration with CAA helps to consolidate licensing operations for the sector; and provides an effectively unified point of contact for the customer.

As in other areas, much of our aeronautical work was in preparation for WRC-03. We were instrumental in securing a common European proposal for enabling the use of 108 to 117.975 MHz (for augmentation data) in Global Navigation Satellite Systems (GNSS). A contribution to CEPT sought to amend the spurious emission limits in the Radio Regulations, to cater for a further type of radar. We also helped to develop a European position striking the balance in a proposal relating to the future use of the 5091 to 5150 MHz band by Microwave Landing Systems and the Non-Geostationary Orbit Mobile Satellite Service feeder links.

Table 2: Number of licences on issue at 31 March 2003

Licence sector/category		2003	2002
Aeronautical	Aeronautical Ground Stations:		
	AGS (General Aviation)	328	325
	AGS (Operations Control)	787	710
	AGS (Air Traffic and Ground Movement Control)	206	196
	AGS (Airfield Flight Information Service) ¹	115	30
	Aeronautical Ground Stations subtotal	1,436	1,261
	Aircraft:		
	Aircraft	7,298	6,471
	Aircraft Transportable	1,367	1,347
	Aircraft subtotal	8,665	7,818
Aeronautical Navigational Aids and Radar	360	276	
Aeronautical total		10,461	9,355
Amateur and CB	Amateur:		
	Amateur Radio A	29,440	30,549
	Amateur Radio B	22,269	23,146
	Amateur Radio A/B ²	0	391
	Amateur Radio Intermediate A ³	234	230
	Amateur Radio Intermediate B ⁴	2,291	2,504
	Foundation Licence	6,738	0
Amateur subtotal	60,972	56,820	
Citizens' Band Radio	23,109	25,969	
Amateur and CB total		84,081	82,789
Broadcasting	Transmission of Terrestrial UHF TV Services	2	2
	Transmission of National and Local Broadcasting Services	217	236
	Restricted Radio Services Transmission ⁵	362	723
	Restricted Television Services Transmission	29	25
	Digital radio	41	0
	Access radio ⁶	19	0
Broadcasting total		670	986
Fixed Services ⁷	Fixed Links	368	368
	Fixed Millimetric Radio-Relay Link (58 GHz) ⁸	0	210
	Scanning Telemetry Link	66	4
	Point-to-Multipoint	81	6
Fixed Services total		515	68
Maritime	Maritime Radio Suppliers	72	34
	Coastal Station Radio:		
	CSR (UK)	507	558
	CSR (Marina)	431	442
	CSR (International)	492	464
	CSR Training Establishment	20	2
	Coastal Station Radio subtotal	1,450	1,466
	Ship Radio (including Ship Portable Radio):		
	Charities	436	332
	Others	62,046	58,618
Ship Radio subtotal	62,482	58,950	
Maritime Radio Navigational Aids and Radar	78	65	
Differential Global Positioning System	21	23	
Maritime total		64,103	60,538

Notes

- 1 Includes AGS (Glider, Hang Glider and Balloon), and AGS (Special Mobile) licences.
- 2 Now merged with the Class A licence.
- 3 Previously Novice (A).
- 4 Previously Novice (B).
- 5 Administered on the Agency's behalf by the Radio Authority.
- 6 Access radio is a new class of licence, also administered by the Radio Authority.
- 7 See Table 1 for details of the number of links represented by these licences.
- 8 The 58 GHz band is now licence-exempt.

Licence sector/category		2003	2002
Private Business Radio	PBR UK General and Private Mobile Radio (Standard)	3,106	3,200
	On-Site PBR (Speech and Data Systems)	26,036	26,092
	Private Mobile Radio Road Construction	6	7
	On-Site PBR (Local Communications Systems)	1,777	1,862
	Wide Area PBR (One-Way Paging and Speech Systems)	334	340
	Police and Fire Service Comprehensive Radio	118	120
	Wide Area PBR (Speech and Data Systems)	12,770	13,241
	National and Regional PBR	58	59
	PBR Suppliers	468	484
	On-Site PBR (Hospital Paging and Emergency Speech Systems)	473	458
	On-Site PBR (One-Way Paging and Speech Systems)	1,893	1,754
	Wide Area PBR (Distress Alarm Systems)	18	12
	Self-Select PBR (One-Way Paging Systems)	7,834	7,502
Private Business Radio total		54,891	55,131
PMSE	Programme Making and Special Events ⁹	2,324	2,150
	Programme Making total	2,324	2,150
Public Telecommunications Networks	Common Base Station Operator	716	793
	Public Wide Area Paging Networks	5	6
	Public Mobile Data (Non-Voice)	5	5
	Public Access Mobile Radio	5	7
	2G Cellular Telephones	4	4
	3G Cellular Telephones	5	5
	TETRA Digital PAMR	2	1
	Asset Tracking	1	1
	Channel Islands and Isle of Man Cellular Telephones	4	3
	Fixed Wireless Access	3	4
	Band One	6	6
Remote Meter Reading	2	2	
Public Telecommunications Networks Mobile Communications total		758	837
Space Services ¹⁰	Permanent Earth Station	174	397
	Transportable Earth Station ¹¹	91	52
	Network licence (formerly VSAT)	37	46
Space Services total		302	495
Technology Development	Testing and Development	368	371
	Radar Level Gauge	376	313
	Unspecified Operational Radio Use	7	6
	Unspecified Temporary Radio Use	35	14
Technology Development total		786	704
GRAND TOTAL		218,891	213,666

⁹ Each customer holds an annual licence which may contain numerous frequency assignments. During the licence term, frequencies may be added as the customer requires, for either short-term or annual use. The number of frequency assignments made during 2002-03 was 65,402.

¹⁰ The number of licences in each category does not equate to the total number of licensed earth stations/terminals. See Table I for details of the number of licensed earth stations/terminals in each category.

¹¹ The Transportable Earth Station licensing regime was re-organised during 2002-03.

RA business objective 2

To manage spectrum in accordance with a clear strategic plan, and to adopt innovative and progressive approaches to spectrum management

2.1 Spectrum Strategy

As foreshadowed in last year's Annual Report, the sixth edition of the UK Spectrum Strategy ('Strategy for the Future Use of the Radio Spectrum in the UK') was published in May 2002. The Strategy gives a comprehensive picture of how the whole frequency spectrum from 9 kHz to 105 GHz is allocated and used, and outlines our thinking on how its use will develop over the next few years.

The Agency produces the Strategy in collaboration with other Government departments and agencies that have an interest in spectrum management or that manage it for specific services. As well as providing an overview of spectrum use, it covers all the major radio services that use the spectrum, and describes the key issues and challenges in each area. A major feature of this edition is the Ministry of Defence's contribution, which describes how the 28% of the spectrum currently allocated to defence is used and how this use may change in the future.

A draft Strategy was published for consultation with users; a number of comments were received and were taken into account in the final version. Further user comments on the published version are very welcome.

Many spectrum allocation and management decisions taken by the Agency over the past year reflected the priority areas highlighted in the Strategy:

- ┌ public mobile services;
- ┌ fixed links and fixed wireless access (FWA); and
- ┌ short-range radio links, including licence-exempt services.

Significant developments in these areas included:

- ┌ the decision to make spectrum available for FWA services at 3.4 GHz (see Section 1.7);
- ┌ the opening up of a further fixed-links band at 65 GHz (see Section 1.8);
- ┌ the steps being taken to make the 2.5 GHz band available for 3G mobile services in due course (see Section 1.11); and
- ┌ the opening up of Bands A and B at 5 GHz for commercial wireless local area networks (WLANs) (see Section 1.9).

The current members of SMAG, with the Minister for e-Commerce and Competitiveness, Stephen Timms MP (front row, second from left)



Strategic spectrum management will be increasingly complex in the future, owing to rapid technological change and continued increases in demand. In line with the recommendations of the Cave Review, it will be vital to manage the spectrum flexibly, placing as many decisions as possible in the hands of users within an increasingly market-based framework while also balancing the widest possible range of needs and interests.

2.2 Band alignment

The Agency published a consultation document in December 2002, seeking views on the proposed alignment process in the 450 to 470 MHz band. The consultation period has just closed, and we are currently analysing the responses. We are developing an IT tool that will model the changes and help to re-plan this band, releasing the maximum amount of spectrum that is consistent with at least maintaining the current quality of customer assignments.

2.3 Spectrum Management Advisory Group (SMAG)

SMAG is a non-departmental public body which provides the relevant DTI Minister and the Agency with independent strategic advice on spectrum management. Chaired by Dr John Forrest CBE, SMAG continues to examine a number of key spectrum issues.

The major topics discussed in 2002-03 were:

- [the response to the Cave Review;
- [public-safety spectrum policy;
- [management of new technologies such as software-defined radio and ultra wide band;
- [spectrum trading;
- [management of licence-exempt spectrum; and
- [Broadband Britain.

SMAG hosted a consultation event on licence-exempt spectrum in June 2002 and an open forum on spectrum trading in December (see Section 1.1), following the Agency's consultations on these subjects. SMAG's annual brainstorming, held in November, focused on software-defined radio. During 2002-03 two new members were appointed; full details of SMAG's membership and work can be found on its website (www.smag.radio.gov.uk).

RA business objective 3

To ensure compliance with spectrum management requirements imposed for the benefit of all radio users in order to keep the spectrum clear of undue interference

3.1 Enforcement and prosecutions

Many essential services depend on good radiocommunications, and a clean radio spectrum is integral to the Government's agenda for Broadband Britain. Agency staff play a key role in policing the civil radio spectrum, and the Agency is resolute in enforcing the law where this is in the interest of authorised radio users.

Underlining the importance of our enforcement work, the Communications Bill contains provisions that, if enacted, will make the more serious offences we investigate – pirate radio, hoax radio calls and deliberate interference – arrestable. At the same time, all other currently indictable offences contrary to section 1 of the Wireless Telegraphy Act 1949 will become summary only; this will reduce the burden on the courts.

Pirate radio operators in particular felt the strength of the Agency's resolution in 2002-03, with 56 convicted (compared with 29 in 2001-02) and equipment seized on 947 occasions. We also succeeded in cancelling fundraising events organised by pirate radio stations and terminating telephone and internet services used by them. During the year, electronic-tagging curfew sentences and Community Punishment Orders up to the maximum 240 hours were imposed on those convicted of pirate radio offences. Table 3 contains details of all prosecutions, cautions and warnings.

Staff at our local offices are trained in the requirements of the Police and Criminal Evidence Act, the Criminal Procedure and Investigations Act and the Regulation of Investigatory Powers Act (RIPA), and their associated Codes of Practice. In this context, we are seeking to ensure that we will have continued access to communications data in the course of our criminal investigations once Part I, Chapter II of RIPA comes into force.

Table 3: Prosecution cases concluded in the courts and warning letters issued 2002-03

Categories	Persons prosecuted	Persons convicted	Total fines imposed (£)	Total costs awarded (£)	Forfeiture orders	Conditional discharges ¹	Absolute discharges	Admonishments (Scotland)	Official cautions	Warning letters sent
CB AM	6	6	1,000	750	3	3	0	3	4	
CB FM	6	6	400	620	1	1	0	10	0	
Pirate radio	56	56	6,475	12,893	43	19	0	9	42	
Cordless telephones	0	0	0	0	0	0	0	0	2	
PMR	2	2	1,300	540	1	0	0	8	2	
Amateur	0	0	0	0	0	0	0	0	0	
Marine	2	2	100	450	0	1	0	10	0	
6.6 MHz	2	2	3,400	250	1	0	0	0	0	
Others ²	7	7	4,200	12,760	6	2	0	7	5	
TOTAL	81	81	16,875	28,263	55	26	0	2	47	55

Notes

- Conditional discharges were handed down for the following periods and offences:
 - 1 x six months (pirate);
 - 15 x 12 months (1 x unlicensed marine radio use, 1 x offence under the R&TTE Directive, 1 x selling mobile telephone jammers, 4 x CB, 8 x pirates);
 - 9 x 18 months (pirates); and
 - 1 x 24 months (pirate).
 Other penalties applied were:
 - Community Punishment Orders – 1 x 60 hours (R&TTE offence), 1 x 120 hours (pirate), 1 x 200 hours (pirate), 1 x 240 hours (pirate);
 - 2 x 100-hour Community Service Orders (pirates);
 - 1 x Attendance Court Order (pirate);
 - 2 x three-month Youth Offending Team referrals (pirates);
 - 1 x one-year suspended sentence (CB);
 - 1 x 12-month Community Rehabilitation Order (pirate);
 - 1 x two-year probation order (PMR); and
 - 2 x curfews enforced by electronic tagging (pirates).
- Three convictions in this category were for marketing cellphone-jamming devices; four were for R&TTE offences. Official cautions were for possessing and offering for sale restricted apparatus (video senders), operating a short-range device at excessive power; and R&TTE offences.

3.2 Helping business

The Agency prefers to work with customers to find solutions, and we use our enforcement powers only as a last resort.

3.3 Enforcement Concordat

The Agency has been a signatory to the Enforcement Concordat, a Government initiative to improve regulatory services to business, for four years. Working with business is at the heart of the Concordat; annual reviews of the Agency's performance show that our customers believe we act proportionately, explain why remedial work is necessary and allow a reasonable period for it to be completed.

3.4 Monitoring

Based at the monitoring station near Baldock in Hertfordshire, the Agency's monitoring section addresses national and international requirements to keep the spectrum clean and work it harder.

The section's primary aim is to contribute to spectrum management by offering spectrum monitoring services to the Agency and our external customers. It provides key monitoring evidence to underpin spectrum policy and assignment decisions, helps prevent undue interference where possible, and swiftly resolves cases of interference that do occur. Its work is split between on-site monitoring, field monitoring activities remote from Baldock, and strategic projects (see Section 14.1).

On-site monitoring

This comprises terrestrial and satellite monitoring facilities.

The Terrestrial Monitoring Unit (TMU) is staffed 24 hours a day and is the Agency's central point of contact for the emergency services outside normal working hours. This year 1,278 reports of interference were received from users, including the emergency services, in the UK and from other administrations worldwide; Table 4 breaks down these reports by topic. In every case, the target time set by Ministers for dealing with such cases was met or surpassed.

TMU is responsible for contacting the Agency's field staff in the Nations and Regions in cases of urgent interference to emergency services outside normal hours. Clearance requests for Transportable Earth Stations are now provided online by the e-Flatco system (see Section 1.8), but Baldock staff continue to offer a back-up service.

Baldock maintains satellite monitoring facilities to observe and measure the use of the geostationary arc by communications and broadcast satellites. The facilities comprise two fully steerable, large parabolic reflectors for use in the Ku and C bands and a smaller 1.8 m antenna for the L band. However, this year the monitoring section concluded its work within the European Conference of Postal and Telecommunications Administrations (CEPT), and the Memorandum of Understanding on satellite monitoring was signed. The agreement aims to rationalise and centralise such assets through shared use of the German Leeheim station, which will provide efficient and strategic satellite monitoring on a Europe-wide basis.

Table 4: Terrestrial monitoring activities



Field monitoring

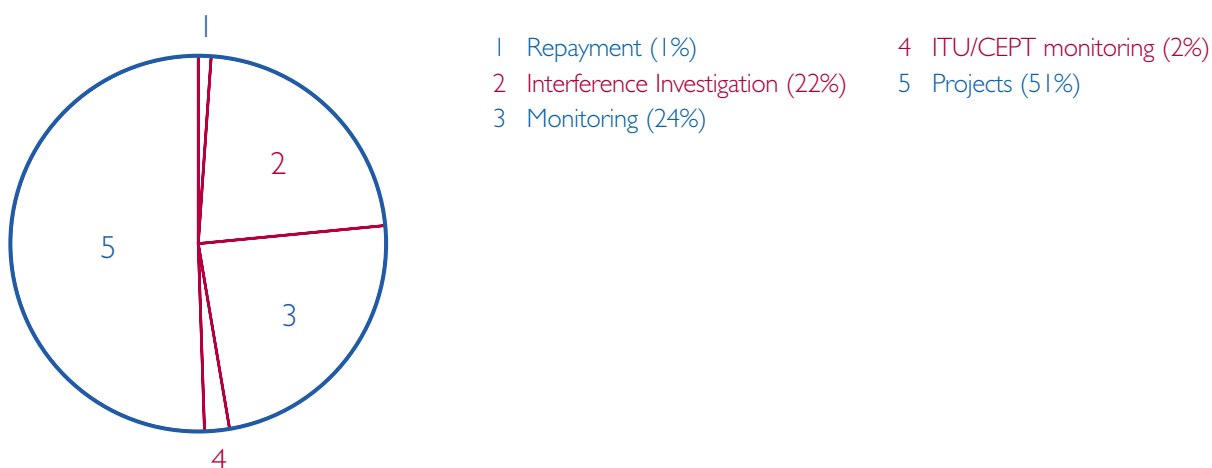
This work, which covers spectrum monitoring and measurement at potentially any location in the UK, has two strands:

- ┌ reactive interference investigation and EMC regulatory measurement in support of local offices or enforcement action; and
- ┌ spectrum monitoring and measurement in support of the Agency's licensing sections.

Three field teams operate from Baldock using specialist mobile laboratories and calibrated test equipment, accredited to UK Accreditation Service (UKAS) standards. The laboratories can do complex measurement and interference work across the whole radio spectrum. Their many roles include supporting the Agency's field staff in technically complex interference cases – particularly in the higher frequency ranges, as they are equipped with measurement and monitoring equipment up to 110 GHz.

To support the Agency's spectrum management policymaking and licensing processes, the teams continue to survey and audit frequency bands at appropriate locations throughout the UK. During this year, they were active in support of our work on 2G, 3G, FWA, 28 GHz BFWA, Common Base Stations and CB.

Table 5: Field monitoring activities



3.5 Solving interference to domestic television and radio reception

Interference to television and radio reception can have many causes – for example, illegal radio use (by pirate radio stations etc) or faulty electrical equipment such as thermostats. The Agency can investigate these problems under its regulatory responsibilities. Interference may also arise if a television or radio installation lacks a suitable aerial or if the receiver lacks sufficient immunity to outside radio signals that, under ideal reception arrangements, should not cause interference.

Interference arising from deficient receiver installation should be dealt with by dealers, service engineers or aerial contractors. However, it can be difficult for householders to assess the cause of the interference; since the problem may be a regulatory matter, they can report the interference to the Agency for advice and, if necessary, on-site investigation and diagnosis. If we find that we can deal with the problem under our regulatory responsibilities, no charge is made – but if the problem is caused by deficiencies in the affected receiver, a charge of £50 is payable. This charge does not cover the full cost of our non-regulatory domestic interference work, which is funded by the BBC from television licence fee revenue; we have regular discussions with the BBC to ensure that this work is cost-effective. During 2002-03, 2,732 householders requested an investigation.

3.6 Mobile telephone base station audit

Following the publication in May 2000 of the report by the Independent Expert Group on Mobile Phones (the Stewart Report), the Government asked the Agency to audit mobile telephone base stations. Our audit programme measures emissions from base stations to determine exposure levels. The guidelines used are the non-occupational maximum exposure levels set by the International Commission on Non-Ionizing Radiation Protection (ICNIRP).

In 2001, the audit covered 100 base stations located on school sites. In 2002 the focus was on base stations located near schools and hospitals. The audit covered 109 sites (82 schools and 27 hospitals); as in 2001, all showed emissions levels significantly below the guidelines (from $1/19,907,515$ to $1/731$ of the guideline levels). Details of all the audits are on the Agency's website.

Despite public fears about exposure to radiation emissions, the Agency's 2002 audit of 109 sites near mobile telephone base stations found emissions levels that in all cases were hundreds or even millions of times lower than the international guidelines





DTI Objective

Delivery

To become truly customer focused, and to ensure the best possible delivery of our services (Modernising Government and Civil Service Reform)

“The Government is committed to greater openness in the public sector, and believes that more information about frequency assignments should be published – if legitimate concerns about national security, law enforcement and commercial confidentiality can be met.”

RA business objective 4

To improve the Agency’s business processes and operations, in order to provide a more efficient service to customers

4.1 Customer project

This year the Agency began to clean and rationalise the existing customer data held in our unified licence database (RULES) and other internal systems, with a view to improving the quality of information used to support business processes.

We also started to develop a central Customer Information System to improve efficiency in dealing with customers generally, but this is now on hold pending consideration of any overall requirements for an Ofcom central customer database.

4.2 Single Owner, Shared Access (SOSA)

The 2001-02 Annual Report introduced SOSA – a set of principles with which all our future development projects will comply. SOSA aims to allow interconnection between the Agency’s administrative and technical systems and databases, enabling data to be shared between them. Each element of data has an owner who is responsible for it; other staff may access it on a read-only basis, thus avoiding duplication and all the problems caused by holding duplicated data.

SOSA has now firmly established itself and is being taken forward in the form of a software tool, ‘Casewise’. This enables the Agency’s structure, business processes and system architectures to be represented and manipulated in a single and coherent way. Casewise has proved itself within the Agency, and is now finding new uses in the development of Ofcom.

4.3 Access to assignment information

The Government is committed to greater openness in the public sector. At present, most licensing data are held in confidence, but the Agency is now re-examining this policy. Greater openness of licensing and assignment information will be a precondition for spectrum trading, and will help us to meet the transparency requirements set out in the European Commission’s Authorisation Directive and Radio Spectrum Decision. It will also help to introduce a range of measures, set out in the Government’s response to the Cave Review, designed to empower spectrum users to take a more significant role in managing the radio spectrum.

In April 2002, the Agency concluded its consultation on proposals to publish more information about licensed radio use. Responses to the consultation indicated considerable support, but also concerns about security and

confidentiality. Separately, the Cave Review's Recommendation 5.2 stated that the Agency 'should seek to implement an online frequency register covering all the civil radiocommunications bands and the radio systems utilising them.'

In its response to the Cave Review, the Government restated its belief that more information about frequency assignments should be published, if legitimate concerns about national security, law enforcement and commercial confidentiality can be met. The Communications Bill includes powers enabling this information to be published, but further consultation is planned on the disclosure mechanisms and safeguards before new regulations are drafted.

In parallel with these developments, the Agency continued its dialogue with the Mobile Services Committee subgroup on frequency and assignment data, to find out what information its members would like published so that they can make better use of the radio spectrum. As a result, in November the Agency (in co-operation with the subgroup) commissioned its IT partner, Radio Spectrum International, to carry out a feasibility and planning exercise on the information technology needed to support wider access, while addressing some of the concerns highlighted by responses to April's consultation.

4.4 e-Business

This year saw the introduction of the Agency's e-licensing form for IR2008, which provides the foundation for developing online forms for all high-volume, low-value licences. This was a major step towards the provision of a single, 'intelligent' online application function; the excellent consultation work undertaken in developing the form, along with the e-Flatco service (see Section 1.8), was recognised through a Management Consultancies Association award.

In the coming year we will develop our online services, taking into account revised operational requirements brought about by the Agency's transition into Ofcom.

Testing and Development and Temporary Use licences

In 2002-03 we significantly improved the processing of applications to use spectrum for testing and development and temporary applications. A shorter application form was introduced, and internal business processes were improved to speed up technical co-ordination and decisions on granting licences. A new electronic co-ordination process halved licensing turnaround times. The Agency now provides better customer service with more communication about the progress of applications.

4.5 Modernising Government and Reforming the Civil Service

We continue to work towards achieving the Government's objectives in this area. Across the Agency the following initiatives progressed during the year:

Business Excellence Model

We continued to work with the European Foundation for Quality Management's (EFQM) Excellence Model during 2002-03. Use of the model was extended to Business Units across the Agency, covering 18% of staff. All participating Units reported improvements in key business areas such as communications, business processes, links to personal objectives, and use of customer survey results to improve business performance.

Balanced Scorecard

The Balanced Scorecard is a widely used, top-down approach to measuring performance. This year we developed a fully functional pilot Scorecard based around the Agency's business. However, this project was deferred for Ofcom to develop further when its organisational requirements are known.

4.6 Spectrum Quality Management (SQM)

SQM is the new information, case-management and time-allocation system for the Agency's Customer Service Executive. Introduced in April 2002 for use by staff in the Regional Services Unit and at Baldock, it uses workflow to monitor and control casework, and provides access to much of the Agency's customer and spectrum assignment information via a web-browser interface. The system is delivered to the user desktop through the Agency's network infrastructure, and is accessible from remote locations via laptop PCs using mobile or landline telephony links.

SQM has the potential to support Agency initiatives in such areas as e-business, information sharing and open government, electronic records management, and customer information management. The remote access facilities will also allow us to take advantage of anticipated advances in data transmission, such as 3G mobile telephony and broadband technology.

A second stage of development and refinement is planned, aimed primarily at streamlining some process controls within the system and simplifying some aspects of system navigation. This work is expected to be completed by September 2003.

Table 6: Performance against Ministerial Quality of Service targets

Subject	Target ¹	Volume of cases	Achievements (%)			
			02-03	01-02	00-01	99-00
Licence applications and amendments						
Licence category A	100% in 5 days	100,683	100% ✓	98% ✗	99% ✗	99%
Licence category B	90% in 15 days	11,583	99% ✓	99% ✓	100% ✓	98%
	remainder in 25 days	140	1% ✓	0% ✗	0% ✓	1%
Licence category C	90% in 40 days	6,976	92% ✓	90% ✓	78% ✗	34%
	remainder in 60 days	570	8% ✓	10% ✓	22% ✓	65%
Enforcement (interference complaints)						
Safety of life ²	100% in 24 hours	196	99% ✗	100% ✓	100% ✓	100%
Business services ³	98% in 5 days	550	97% ✗	99% ✓	100% ✓	100%
	remainder in 10 days	16	1% ✗	1% ✓	0% ✓	
Domestic television and radio ³	98% in 1 month	2,404	99% ✓	100% ✓	100% ✓	100%
	remainder in 2 months	36	0% ✗	0% ✓	0% ✓	
Formal letters to complainants	90% in 10 days	3,313	84% ✗	99% ✓		
	remainder in 20 days	527	3% ✗	1% ✓		
Chief Executive's correspondence⁴						
	100% in 10 days	30	70% ✗	100% ✓	87% ✗	92%
Enquires						
	95% in 30 seconds	42,495	97% ✓	96% ✓	96% ✓	96%
Payment of invoices						
	100% in 30 days	8,532	100% ✓	100% ✓	100% ✓	100%

Notes

- 1 In these targets, 'days' refers to working days.
- 2 All cases were dealt with within the target, but one case (not involving safety of life) was wrongly entered and consolidated in the computer recording system as being a safety-of-life case.
- 3 The introduction of a new computer system created a number of technical difficulties, which resulted in delays to cases in April and May 2002.
- 4 Cases missed the target because the Agency was awaiting third-party advice.

4.7 Quality of Service targets

The Agency's Quality of Service targets are set by Ministers. They cover licence applications and amendments (for the three main licence categories), interference complaints, correspondence, enquiries and payment of invoices. Table 6 shows how we performed against these targets in 2002-03 and in previous years.

The targets are reviewed annually to take into account our performance and our customers' views. Furthermore, on 1 July 2003 there will be slight changes to the targets because of the new European Authorisation Directive; the licence categories will change (see Table 7), as will some of the targets themselves. Tables 8 and 9 list our targets for the coming year, both before and after 1 July.

Table 7: Changes in licence categories

Licence category	Licences in this category until 30 June 2003	Licences in this category from 1 July 2003
Category A		
(Licences that involve no frequency assignment, site clearance or international co-ordination)	Aircraft Amateur and Citizens' Band PBR Suppliers Private Mobile Radio Road Construction Self-Select PBR (One-Way Paging) Ship Radio Programme Making & Special Events	Aircraft Amateur and Citizens' Band PBR Suppliers Private Mobile Radio Road Construction Self-Select PBR (One-Way Paging) Ship Radio Programme Making & Special Events (unco-ordinated)
Category B		
(Licences that involve frequency assignment but no site clearance or international co-ordination)	All PBR classes not in Category A, except public safety networks and individual licences requiring co-ordination Coastal Station Radio and Aeronautical Ground Stations (except those requiring international clearance) Common Base Stations Programme Making & Special Events requiring frequency assignment	All PBR classes not in Category A, except public safety networks and individual licences requiring co-ordination Coastal Station Radio and Aeronautical Ground Stations (except those requiring international clearance) Common Base Stations
Category C		
(Licences that require frequency assignment and site clearance and/or international co-ordination)	PBR licences requiring co-ordination Coastal Station Radio and Aeronautical Ground Stations requiring international clearance Fixed Links (other than 58 GHz) Fixed Link Point-to-Multipoint Services (31 GHz) Scanning Telemetry Permanent Earth Stations Satellite Network licence (licence applications and terminal amendments exceeding the site clearance/co-ordination threshold of 50 dBW)	PBR licences requiring co-ordination Coastal Station Radio and Aeronautical Ground Stations requiring international clearance Fixed Links (other than 58 GHz) Fixed Link Point-to-Multipoint Services (31 GHz) Scanning Telemetry Permanent Earth Stations Satellite Network licence (licence applications and terminal amendments exceeding the site clearance/co-ordination threshold of 50 dBW) Programme Making & Special Events (co-ordinated) Testing and Development (being renamed Non-Operational Development from July 2003) Any other class added to the Frequency Authorisation Plan, except for awards by competition

Table 8: Ministerial Quality of Service targets for 2003-04: licence applications/authorisations

Licence	Target until 30 June 2003	Target from 1 July 2003
Category A		
	100% of licence applications for new or varied services to be awarded or rejected (with explanation) within five working days.	100% of valid licence applications for new or varied services to be awarded or rejected (with explanation) within seven days.
Category B		
	90% of licence applications for new or varied services to be awarded or rejected (with explanation) within 15 working days; and the remainder to be awarded or rejected within 25 working days.	90% of valid licence applications for new or varied services to be awarded, or rejected with explanation, within 21 days; and the remainder to be awarded or rejected within 42 days.
Category C		
	90% of licence applications for new or varied services to be awarded or rejected (with explanation) within 40 working days; and the remainder to be awarded or rejected within 60 working days or an explanation of the delay to be given.	100% of valid licence applications for new or varied services to be awarded or rejected (with explanation) within 42 days; except, where international clearance is involved, applications to be awarded or rejected within 60 days or an explanation of the delay to be given.

Table 9: Other Ministerial Quality of Service targets for 2003-04

Subject	Target
Interference complaints	
affecting:	
☐ safety of life services	100% to be investigated within 24 hours
☐ business customers	98% to be investigated within five working days (remainder within a further five days)
☐ domestic customers	98% to be investigated within one month (remainder within a further month)
	90% of interference complainants will be sent a formal case update within 10 working days of the start of an investigation, and the remainder within a further 10 days
Correspondence	
	The Agency's Chief Executive to respond within 10 working days to all letters from Members of Parliament delegated to her by Ministers or otherwise for reply, and to written complaints addressed to her about the Agency's services
Enquires	
	95% of calls to the Agency's Enquiry Point to be answered within 30 seconds
Payment of suppliers' invoices	
	100% of valid invoices to be paid within 30 days of receipt by the Agency (or as agreed with the supplier)

RA business objective 5

To listen to our customers, through our consultative committees, local customer panels, survey and communications audit so that we deliver the best possible services to help industry be productive and innovative

5.1 Licensee satisfaction survey 2002

In 2001, the Agency began a rolling programme of annual customer satisfaction surveys. This showed that our customers' satisfaction levels were generally high, compared with public- and private-sector benchmarks for service quality.

The Agency completed its second annual survey during late 2002 and early 2003. Approximately 2,400 licensees took part; the survey took the form of telephone interviews, with participants also having the option to complete the survey online.

The results are being compared with those from the 2001 licensee satisfaction survey, to assess whether the Agency has sustained its high level of customer satisfaction. The information gathered will be used to review business processes, measure performance and establish an ongoing survey programme.

The Agency appreciates the contribution made by those licensees who took part in the survey.

5.2 Customer panels

The three devolved Nations, the five English Regions and Baldoock each have a customer panel to help guide their activities. Every panel met at least once during 2002-03. The panels are a valuable two-way forum – we have the chance to explain the reasoning behind Agency policies, while our customers can give us their views on local and national issues. If panel members want to discuss specific topics, relevant staff from headquarters will attend the meetings. Every local office sets aside resources to be used in areas agreed by its panel members; this allows us to target extra resources in areas of concern to our customers.

An encouraging development has been the establishment of subpanels to focus on areas of interest to specific customer groups. Among the more successful subpanels is the enforcement panel hosted by the Kenley office; at its meeting in February 2003, for example, representatives of local councils, the police, the fire brigade and the Radio Authority talked to the Agency about improving co-operation to tackle pirate radio in London and the south-east.

Also this year, Northern Ireland panel members invited a communications representative from the Republic of Ireland Government to attend their panel, allowing a number of cross-border issues to be discussed.

5.3 Consultations

During the year we published 14 consultations, including one (on 'Dispute resolution under the new EU Directives') published jointly with Ofcom. All these consultations, and the responses, are published on the Agency website.

5.4 Freedom of Information

The Agency complies with the Cabinet Office Code of Practice on Access to Government Information, which will remain the standard until the Freedom of Information Act (FOI) comes into force in January 2005.

We have been preparing for FOI; in 2002 we complied with its requirements by preparing our publication scheme, which was approved by the Information Commissioner and published on our website in November, meeting the target date. We also published for the first time a comprehensive list of 'who does what' in the Agency and much of our internal staff guidance, as the Act suggests.

5.5 Website

The Agency website continues to be one of our main channels of communication with our customers, enabling them to access all our published information and use our online services. This year the website attracted 2.8 million hits, an increase of 37% on last year and 174% on three years ago.

The trend towards providing information electronically rather than on paper continues; this year we sent out 6% fewer paper information sheets than last year (a 72% reduction on three years ago). Our website team has worked with colleagues in the other regulators since September 2002 on planning the Ofcom website – both the transitional site, which went live in January 2002, and the permanent Ofcom site.

5.6 Enquiry point and document distribution

During the year, the Enquiry Point handled 42,495 calls and achieved its target of answering 95% of these calls within 30 seconds.

5.7 Publicity activities – roadshows and exhibitions

The Agency had a presence at 29 events during the year, including the London and Southampton boat shows, sound broadcasting events and various amateur radio rallies around the country. We attend events to raise awareness and to give licensees the chance to meet our staff, ask questions and discuss topics of interest.

Our 'Joining In' roadshows were again a great success with our stakeholders; the autumn 2002 series included roadshows in Newport, Dunblane, Durham, Reading, Bradford, Warrington, Coventry, London, Southampton and Belfast. They aim to inform stakeholders of changes in the management of the radio spectrum, and to get feedback from them on their general concerns. We were joined by our future Ofcom colleagues at several of the roadshows, and were pleased to welcome Stephen Timms, Minister for e-Commerce and Competitiveness, at the London roadshow held at the ExCeL conference centre in Docklands.

RA business objective 6

To ensure the efficiency, effectiveness and integrity of the Agency's business processes

6.1 Financial monitoring

The Agency's quarterly review process, reporting to the Management Board, continues to ensure that we operate efficiently under the 'net running costs' regime. It provides a rigorous means of measuring and reviewing progress on work priorities, performance targets and use of resources.

In financial terms the Agency reports to DTI on a resource accounting basis, and this year we operated resource budgets internally down to Business Unit level for the first time. A training programme was arranged to assist key staff with the transition, prior to the establishment of annual budgets; targeted training then continued during the

Senior Agency staff, including Mike Goddard and Rolande Anderson, were among those meeting customers at this year's 'Joining In' roadshows around the country



year. We also carried out a review of internal reports, resulting in the development of a suite of reports designed to provide the necessary resource-based data.

We obtained the National Audit Office's agreement to apply more fully the principles of resource accounting to income, revising our policy so that major customers' licence fees are spread over the life of the licence rather than simply accounted for when payments are due. Payments from these 35 or so major customers constitute over 85% of our annual income. We continued to provide formal regular monitoring reports to DTI, including monthly cash forecasts in line with Treasury requirements.

6.2 Efficiency measures

The Agency continues to meet its efficiency target agreed with Ministers, with a provisional gain of 5% in 2002-03. The measurement of our efficiency involves detailed analysis of licensing volume, reflecting a variety of spectrum-priced products and covering licences for simple classes, assignments for classes that involve additional activity, and weighted income for licences awarded by competition.

The Agency intended to develop and enhance this measurement technique further, working with DTI's Operational Research Unit; we planned to incorporate weighting of base stations rather than income for public mobile operations, and the rollout of 3G and broadband. However, we decided to halt this work and allow Ofcom to consider how it would like to measure efficiency and demand for spectrum.

6.3 Strategy Management Information System (SMIS)

SMIS is the Agency's data warehouse, providing access to information for our decision-makers. It currently holds about 40 million rows of current and historic data, which can be retrieved quickly and easily to inform a wide range of management and strategy decisions.

SMIS is an adaptive and resilient information source, designed for easy querying; it allows us to use Agency data to examine, understand and monitor key processes as well as assessing the implications of policy and providing evidence on how we are meeting our licensing targets.

However, what sets SMIS apart from the other systems available is its ability to combine data from disparate sources, both internal and external, and to highlight data quality issues from the transaction systems.

6.4 Project management

We continue to work towards implementing the recommendations of the Office of Government Commerce's 'Successful IT: Modernising Government in Action' report.

During 2002-03 we continued to deliver in-house courses on the principles of the PRINCE2 (Projects in Controlled Environments) project management methodology for all our project managers, with further specialised training for all Senior Responsible Owners responsible for delivering benefits from projects. This training is designed to support wider Agency objectives, and is accompanied by written guidance. A series of project management masterclasses is in development, to allow staff involved in managing projects to develop their skills.

6.5 Risk management

We are committed to managing business risk effectively and implementing the Turnbull Report's recommendations fully. During 2002-03, Business Unit managers received training in risk management techniques; this aims to go beyond the existing processes whereby a review of risk registers for Business Units, Executives and the Agency as a whole is included in the planning and quarterly review processes.

To ensure compliance with the new arrangements, a formal structure for monitoring and reporting risk is now in place, supported by a policy and guidance document, and there is ongoing monitoring of all Agency risk registers. These new arrangements were fully endorsed by DTI auditors, who praised them as a model of best practice.

Risk management co-ordination continues; it is critical for the successful transition of the Agency's business and continued service to customers during the transfer to Ofcom. However, further IT developments to manage risk are on hold until Ofcom decides how it will take risk management forward.

6.6 Ofcom

This year, our Change Management Unit (CMU) saw a considerable increase in the volume and complexity of its Ofcom work. It continued to provide strategic support for the Chief Executive and Directors/senior managers actively engaged in the transition process. In particular, it supported the more detailed design work for Ofcom before the appointment of the Ofcom Chief Executive. Because of this strengthening of its focus, the Management Board agreed during the year that CMU should be dedicated solely to supporting the Ofcom transition.

RA business objective 7

To maintain and enhance fully integrated modern information systems that meet the Agency's business requirements and the demands of e-business

7.1 Information systems

2002-03 saw no reduction in the number or importance of the business drivers requiring us to develop new systems and modify existing ones. However, the imminent creation of Ofcom means that the long-term requirement for system developments is uncertain. Consequently, strategic projects such as the Customer Information System (see Section 4.1) and the Electronic Records Management System were 'mothballed', and the scope of others such as e-licensing was reduced.

The major system launch in 2002 was Spectrum Quality Management – see Section 4.6. After some teething problems involving the new technology, user understanding of and confidence in the system grew steadily, and benefits are now being delivered. The year also saw the live introduction of further elements of the Agency's e-Business Programme, including IR2008 (see Section 4.4) and the Common Licence Product Dialogue.

Work is under way to ensure that the Agency's functions and responsibilities are transferred smoothly to Ofcom – which will have its headquarters at Riverside House on London's South Bank – once the Communications Bill has been enacted



Maintaining the Agency's IT infrastructure, which includes the Oracle databases supporting all major systems, is as important as introducing new systems. During the year, the Agency successfully completed a major migration to Oracle 9i; this was necessary ahead of Ofcom to avoid the business risk of running on versions no longer supported by the supplier.

7.2 RSI contribution to Agency projects and other major work

Like the Agency, Radio Spectrum International (RSI) is affected by the 'Ofcom factor' and the need to reduce its expectation of work from the Agency while retaining enough skilled staff to maintain existing services to contracted levels. A further complication for RSI was the merger between its parent company (CMG) and Logica, which resulted in a small number of redundancies in RSI; these were handled without any obvious adverse impact on the quality of the services delivered.

Non-project work involving RSI included the Business Continuity (Disaster Recovery) exercise, and negotiating the annual Service Improvement Plan; some worthwhile financial benefits to the Agency were identified during these negotiations, and were later implemented.

RA business objective 8

To be a caring and considerate employer and, as an Investor in People, develop the skills of the Agency's staff and unleash their creativity

8.1 Training and development

The Agency's training and development activities support the facilitation of development opportunities in line with changing business needs and the development of a learning culture. Our change programme for 2003-04, which looks forward to the values that will be embraced in Ofcom, reflects these objectives.

To ensure that our people's technical skills reflect the cutting edge of industry development, we support continuous professional development and attendance at conferences. Our Graduate Trainee Engineer Scheme was re-accredited by the Institution of Electrical Engineers (IEE) in 2002-03, and is now complemented by a scheme encouraging non-technical staff to develop engineering skills. These schemes give further impetus to maintaining our engineering profile.

Project and risk management skills were emphasised during 2002-03, enabling staff to add value to their business objectives – see Sections 6.4 and 6.5.

The Agency championed the benefits of effective leadership and improved its leadership capability through the Leadership Development Programme, which was extended to all managers. It yielded tangible technological, professional and internal and external status benefits that are well understood by managers and staff.

8.2 Investors in People

The Agency was awarded re-recognition to the Investors in People standard in May 2002, confirming that it is well placed to lead the way in terms of best practice in leadership, organisational development, valuing diversity and change management.

8.3 Intranet and internal communications; Rapport

Development of the Agency intranet continued steadily throughout the year, with enhancements made to improve usability, navigability and speed of access. The Intranet User Group contributed to the success of the intranet, which attracts on average 850 unique users per month. However, because of Ofcom, the intranet's development was limited; resources were concentrated on planning and developing the Ofcom transitional intranet and website, both of which were launched in early 2003.

We continued to publish our quarterly staff magazine, 'Rapport', which keeps staff informed of developments in specific business areas. Our staff suggestions scheme, 'Inspirations', this year attracted 42 ideas, six of which we intend to implement.

8.4 Internal performance targets

The Agency operates an array of targets to measure its own performance in areas such as training and development, communications, human resources, finance, change management, information systems, facilities, radio

technology and compatibility studies, site clearance, research, and the production of Management Board minutes.

Performance against these targets is constantly monitored; to ensure that staff are aware of the Agency's performance, the results are published on our intranet. The most significant targets are subject to more stringent monitoring as part of the quarterly review process, and are reported to the Management Board every month.

The targets are reviewed as part of the Agency's annual resource planning cycle, to ensure that they remain valid and demanding measures of performance. This year, in light of Ofcom, it was decided not to restructure the targets radically.

8.5 Health and safety

The Agency made good progress on health and safety issues this year. Codes of practice were approved on alcohol, drugs and smoking and on portable electrical equipment, and we published guidance for contractors. On the issue of stress, we established a review group, produced a statement of intent, surveyed staff and ran a highly successful awareness campaign for European Week of Safety; we continue with work on risk assessment of stress. The Chief Executive signed a new Health and Safety Policy Statement, and an overall review of safety policy is under way.

8.6 Equal opportunities and diversity

Our strategy is to build a diversity-oriented organisation that is consistent with Ofcom's vision and values. Our policies reflect this strategy, and all managers and their teams receive training to raise awareness of the benefits that diversity brings to achieving business success.

Our annual Diversity Open Forum focused this year on celebrating our achievements to date and sharing ideas with staff from other Ofcom regulators – see Section 8.7.

The Agency retained accreditation as a Disability Two Ticks employer this year, and is planning a disability awareness event for all staff in May 2003. We published a cultural awareness handbook on the intranet, provided a reflection room for prayer and meditation, and contributed to DTI's achievement of a silver award in the Race for Opportunity benchmarking survey 2002.

We continue to make good progress against our diversity benchmarks for 2005 on achieving a balanced profile of staff across our grading structure in terms of gender, ethnicity and disability – see Tables 10 and 11.

8.7 Racial Equality Advisory Group (REAG)

REAG is an internal committee, established in 1999 to advise the Chief Executive and Management Board on issues relating to ethnic minorities. The committee comprises around 15 ethnic minority staff, and has representatives from the Human Resources Unit and Training and Development Unit. REAG-proposed initiatives (from the way we recruit to the development and promotion of staff) have benefited all staff.

REAG's main priority for 2002-03 was to ensure that the Agency's momentum in promoting a fair, diverse working environment continues into Ofcom. REAG played a leading role in organising the Agency's Diversity Open Forum, held in January 2003. This highly successful event featured presentations and attendees from all the Ofcom regulators, and proved an excellent opportunity to exchange thoughts, concerns and perspectives. A clear theme from the event was that Ofcom's key priority of promoting diversity in the services it regulates is best served by ensuring and valuing diversity in its own staff.

REAG is therefore keen to continue its advisory role on race equality and cultural diversity into Ofcom, providing forward-thinking initiatives to ensure that Ofcom is a racially equal and culturally diverse organisation – and that the best service is delivered to its diverse customers.

8.8 Trade union side

Trade union side activity during the year was dominated, as expected, by discussions with management through the Agency's Whitley machinery about the transition to Ofcom.

Staff representatives were particularly pleased with securing the right of return to DTI for all staff, but realise that this is not an appropriate option for everybody. They were also pleased to secure an optional two-year secondment period for all staff – but with TUPE applying only on day one ('vesting day'), this option will again not be viable for staff wishing to be sure of continued employment.

Any progress to be made on TUPE conditions will depend on discussions with DTI rather than with Agency management.

The trade unions look forward to early notification of the terms and conditions applicable to staff transferring to Ofcom, and to discussions with the Ofcom management team. They also look forward to a meaningful approach from Ofcom management, to reassure union members that proper industrial relations will operate in the new organisation.

Table 10: Ethnic mix of Agency staff

Mix of staff (administrative) 2003				
	White	Minority ethnic	Undeclared	Total
Fast Stream	0	0	1	1
Range 1	0	0	0	0
Range 2	7	4	5	16
Range 3	38	14	5	57
Range 4	35	22	6	63
Range 5	17	5	3	25
Range 6	30	9	5	44
Range 7	18	3	3	24
Range 8	25	8	2	35
Range 9	15	2	1	18
Range 10	9	0	5	14
Range 11	6	0	1	7
SCS	5	0	1	6
Total	205	67	38	310

Mix of staff (technical) 2003				
	White	Minority ethnic	Undeclared	Total
RS1	4	1	0	5
RS2	99	4	9	112
RS3	17	4	3	24
RS4	48	5	6	59
RS5	32	7	4	43
RS6	13	1	2	16
RS7	6	0	3	9
RST (F)	4	0	3	7
RST (G)	3	2	1	6
RST (T)	1	0	0	1
Total	227	24	31	282

Table 11: 2002 ethnic survey of applicants for Radiocommunications Agency jobs

Of 1810 external applications received this year, 1,801 applicants chose to participate in this survey.

	Gender		Ethnic origin						
	Male	Female	White	Black	Asian	Other	Not stated	Total minority ethnic	
Application	Application received	1,234	567	1073	199	255	73	201	527
	Satisfied sift criteria	194	130	230	25	39	10	20	74
	Guaranteed Interview Scheme	4	3	4	1	2	0	0	3
Interview	Invited for interview	194	130	230	25	39	10	20	74
	Did not attend interview	19	24	32	6	3	2	0	11
	Not successful at interview	134	88	163	14	29	6	10	49
	Guaranteed Interview Scheme	4	3	4	1	2	0	0	3
Appointment	Offered job	32	21	42	1	5	0	5	6
	Waiting list	5	1	3	2	1	0	0	3
	Declined offer	4	2	4	1	0	0	1	1
	Appointed	33	20	41	2	6	0	4	8



DTI Objective

Innovation

To focus on driving innovation, building on investment in the science base

RA business objective 9

To seek improvement in global and regional spectrum management co-ordination to the benefit of the UK

9.1 International Telecommunication Union (ITU)

The UK attaches great importance to the ITU as the only global forum in which it is possible to discuss telecommunications issues (whether policy, regulatory, operational or technical) and agree the framework for telecommunications development nationally, regionally and globally.

However, the fundamental reason for the UK's involvement in and funding of the ITU, and the reason why the Agency leads for the UK in ITU matters, is the ITU Radiocommunication Sector (ITU-R) – and particularly its role in allocating radio spectrum. Whether they involve new allocations or the defence of our existing interests, ITU-R decisions are of great strategic and economic importance to the UK.

The ITU's powers can bind Member States and, through them, telecommunications operators to take certain courses of action. However, many such powers are not relevant to the current telecommunications environment and we do not wish to see them exercised. We have striven therefore to increase the organisation's ability to achieve its core functions while restricting itself to policy issues where global intergovernmental rule-setting and regulation are appropriate, and avoiding involvement in areas where self-regulatory or other lighter-touch solutions are more effective.

Within the ITU's Telecommunication Standardization and Development Sectors (ITU-T and ITU-D), we pressed this year for globally harmonised standards (drawing on work done in other standards-making arenas such as ETSI), and advised developing countries on best practices to encourage the development of their telecommunications infrastructure and services. Overall, we view this work not just in terms of our narrower objectives in those Sectors, but also in terms of how it helps us achieve our objectives in ITU-R.

In the lead-up to the ITU Plenipotentiary Conference held in Marrakesh in September and October 2002, we continued our efforts to reform the ITU's working methods and internal management. Unfortunately, strong conservative forces prevail in the ITU, and the conference was a disappointment in terms of adopting new reform proposals. Furthermore, we failed in our bid for re-election to the ITU Council, and for the Agency's Malcolm Johnson to be elected Director of the Radiocommunication Bureau.

The ITU is becoming more politically oriented, with various geopolitical groupings determining its direction; these alliances influence proceedings even at working level. We therefore revised our strategy regarding the ITU after the Marrakesh Conference, in consultation with other Government departments and UK stakeholders. We decided to broaden our political alliances, proposing to base these on:

Delegates from 27 countries in the Commonwealth Telecommunications Organisation attended a spectrum management workshop co-hosted by the Agency and RSI in June 2002 – and rated it as the best CTO conference to date



- ┌ maintaining strong links with our European partners;
- ┌ increasingly recognising the role of the European Union (see Section 9.5) alongside CEPT (see Section 9.3) in coming years;
- ┌ working with Commonwealth countries; and
- ┌ achieving a closer understanding of and liaison with the US prior to key events.

Ministers agreed to reduce the level of UK funding for the ITU, which is paid by the Agency, and to review our representation in and involvement with the ITU, identifying areas that are crucial for spectrum management. This will probably lead to a refocusing of priorities and the rationalisation of resources.

In March 2003, the Agency hosted a Commonwealth seminar on the next ITU World Radiocommunication Conference (WRC-03), to be held in June 2003. The seminar presented the main agenda items for WRC-03, particularly those where there are divergent views, and explored the options with a view to finding common ground. The event was attended by 36 high-level participants (including one Minister) from 28 Commonwealth countries, and was very much appreciated. We continue to take every opportunity to develop our Commonwealth links further, particularly through our involvement in the Commonwealth Telecommunications Organisation.

We devoted considerable resources to WRC-03 preparations over the year. The individual co-ordinators for each of the many agenda items were extremely active, working with interested parties from UK Government and industry and within the relevant European and global preparations, with a view to agreeing proposals acceptable to all UK interests. Terry Jeacock of our International Policy Unit served as vice-chairman of the principal European Conference Preparatory Group (CPG), chaired one of the CPG's main project teams, and took part in preparatory meetings in other regions. We fielded experts at each CPG meeting and at the ITU's Conference Preparatory Meeting in Geneva in October 2002. UK preparations for WRC-03, co-ordinated through the International Frequency Planning Group, are almost complete. The effectiveness of all of this effort will be apparent when the Conference ends in early July.

9.2 CISPR

The International Special Committee on Radio Interference (CISPR) is responsible for standards (used as harmonised European standards under the EMC and R&TTE Directives) that protect radio services against interference from electrical and electronic products. The Agency's Peter Kerry has the presidency of this key committee until 2004.

The restructuring of CISPR, reported last year, is working well, and the UK is in a good position to influence the development of radio interference standards.

Advances in technology have produced four main problem areas, which the CISPR is seeking to resolve:

- ┌ The proposals to provide broadband services via the electricity supply require new limits to be developed, so that HF radio services are adequately protected. We hope that this work will reach fruition in the coming year.
- ┌ Increases in computer processing speed require the development of emission limits to protect radio services operating above 1 GHz. The Agency's contribution, regarding the measurement method, is well on the way to becoming accepted, but the actual limits to be used are still being keenly fought over.
- ┌ The Agency's contribution to CISPR on interference from lighting was accepted this year, and the standard is being amended to reduce interference from low-energy lighting systems.
- ┌ Following the identification of deficiencies in the standard for limiting interference from domestic appliances, the Agency is studying how CISPR can remedy them.

9.3 CEPT

Most of the Agency's involvement in the European Conference of Postal and Telecommunications Administrations (CEPT) is closely related to our objectives in the ITU. CEPT is the European regional organisation responsible for harmonising spectrum use in Europe and preparing European Common Proposals (ECPs) for ITU conferences. National positions and proposals agreed within the UK consultative machinery are submitted to CEPT, with the intention that they will be given European status. This year we were largely successful in this, with many of our proposals incorporated in the ECPs to the Plenipotentiary Conference and WRC-03.

We also continued our efforts to consolidate the reforms of CEPT introduced in 2001, through our membership of the CEPT managing troika (comprising the past, current and future CEPT Presidencies).

The new Electronic Communications Committee (ECC) is proving a successful combination of the two previous committees that dealt separately with telecommunications and radiocommunications. The ECC adopted many new Decisions during the year on a variety of subjects, including harmonised frequency bands (particularly 2500 to 2690 MHz for 3G expansion – see Section 1.11), free circulation and use of equipment, and exemption from licensing.

The Agency's Jo Madigan continues to hold the chair of the ECC regulatory affairs working group.

9.4 European Telecommunications Standards Institute (ETSI)

ETSI is a standardisation body, mandated by the European Commission (EC) to provide harmonised standards for radio equipment and systems under, among others, the EMC and R&TTE Directives.

The Agency continues to provide the head of Delegation to the ETSI General Assembly, and to chair the UK ETSI Members Conference – the forum where UK interests are co-ordinated before Assembly meetings. The Agency's Oly Wheaton chairs the ETSI Technical Committee on EMC and Radio Spectrum Matters (TC-ERM), which is responsible for:

- ☐ co-ordinating ETSI's views on spectrum use;
- ☐ interfacing with the CEPT ECC and its working groups; and
- ☐ co-ordinating harmonised standards under the R&TTE Directive.

ETSI maintains close co-ordination with CEPT and the EC on spectrum issues. The task-oriented model for standardisation activities, pioneered in TC-ERM, is now widely accepted within the ETSI technical community.

The ETSI website provides free access to all ETSI's published documents. Features relevant to the Agency's work include:

- ☐ tables linking ETSI standards to available or foreseen frequency bands;
- ☐ EMC and R&TTE Directive information linked to ETSI standards; and
- ☐ features on aeronautical, maritime, land mobile and satellite applications, plus a range of supporting information.

For example, a full range of harmonised standards for the IMT-2000 family of 3G equipment is now available online.

The Agency participates in a range of ETSI activities, with an emphasis on harmonised standards for products and product families such as DECT, TETRA, BRAN (broadband access and associated IEEE WLAN activities), satellite earth stations, broadcast transmitters and broadcast ancillaries, point-to-point and point-to-multipoint fixed links, and 3GPP (see Section 1.10).

ETSI also maintained an active collaboration with CENELEC in the EMC arena this year, through TC-ERM's EMC working group. A joint group is preparing mandated harmonised EMC standards for implementing broadband services on power-line, cable and telecommunication systems.

The integration of radio with non-radio equipment and radio equipment operating simultaneously on more than one frequency band was also studied this year, and two advisory reports were published.

A seminar in March 2003, hosted by the Agency, gave regulators from Commonwealth countries an opportunity to find common ground on issues that will be discussed at the forthcoming World Radiocommunication Conference



9.5 European Union

Following the adoption of the Electronic Communication Directives and the Radio Spectrum Decision on 24 April 2002, the EU dimension in spectrum management has become increasingly important. The new Framework and Authorisation Directives have significant implications for licensing and authorising spectrum use (see Section 1.1), and work was taken forward this year to implement the new requirements by the deadline of 25 July 2003. The Communications Bill will give legal effect in the UK to the new EU provisions.

In addition, the Spectrum Decision introduced new arrangements for spectrum management at EU level; these came into force immediately. Under the Decision, and following discussion with Member States, the EC delegated power to adopt spectrum harmonisation measures to a new Radio Spectrum Committee (RSC).

Another committee, the Radio Spectrum Policy Group (RSPG), was set up under a separate Decision to provide the EC with high-level strategic direction on spectrum management priorities. The RSC met in October and December 2002, and the RSPG had its first meeting in December. The Agency represents the UK on both.

Our objective in both these committees is to ensure that the EU adds value to the spectrum management process in Europe by concentrating on strategic issues with a European-wide dimension rather than duplicating CEPT's work. On the evidence so far, it appears that this priority is shared by other Member States.

9.6 R&TTE Directive

The Agency continued to work closely with industry during 2002-03 to ensure that UK manufacturers and suppliers achieve the full benefit from harmonised standards for radio terminal equipment and, where available, common frequency plans. We contributed to the EC's first review of the R&TTE Directive since its adoption into UK law in 2000. We also continued to monitor the R&TTE Directive's impact on the UK radio equipment market and UK industry.

RA business objective 10

To facilitate innovative developments in spectrum use

10.1 New developments in spectrum use

Many new developments in spectrum use are covered elsewhere in this document. We have continued to monitor developments and conduct trials and research where necessary, and we have facilitated Testing and Development licensing.

One subject that attracted a lot of attention this year was ultra wide band (UWB).

10.2 Ultra wide band

The Agency continued to investigate the potential of emerging UWB technology, including its possible effects on existing radio services. The results of practical measurements carried out at our Radio Technology Compatibility Group (RTCG) laboratories (see Section 14.2) were used to support participation in the relevant international technical committees that investigate UWB. We also sponsored, through our research programme, an independent study into the possible effects of UWB technology on 3G mobile services. The results of this work were published on the Agency website and will support our work in CEPT and the ITU.

Currently we do not permit the use of UWB except under a strictly controlled Testing and Development licence.

RA business objective 11

To promote a programme of contracted research to underpin developments in the utilisation of the radio spectrum

11.1 Research programme

The Agency's technical research activity will continue into Ofcom, and we held liaison meetings with the other regulators this year to prepare for the transition.

The Engineering and Research Unit (ERU) managed a comprehensive research programme covering the Agency's

present and future needs. Individual research projects included short- and long-term studies as well as research exploring the impact of emerging technologies on the radio spectrum.

Research was carried out mostly through external contracts with small and large companies and universities; it covered radiowave propagation, coexistence studies, spectrum efficiency and EMC issues, and new radio technologies. The results of many of these studies serve as inputs to ITU-R study groups and other national or international groups such as BSI, CENELEC, ETSI and CISPR.

The propagation element of our research programme now focuses on the higher frequency bands, where use is expected to increase because of congestion in the lower bands and the possible deployment of broadband applications. Studies in this area during 2002-03 investigated the use of higher frequencies, taking account of radiowave propagation's physical limitations, to provide more spectrum for conventional and innovative radio applications.

Considerable effort was also dedicated to measurement campaigns to support and enhance the Agency's radio frequency assignment tools. These focused primarily on establishing the reasons for higher-than-expected outages in terrestrial fixed links. The objective is to ensure that operators can achieve the service availability levels for which they have been licensed. To support navigation and satellite services, we began a measurement campaign to develop accurate earth-to-space prediction models for rain and cloud attenuation.

This year, ERU organised some public events as part of the Agency's research function. These were widely advertised, and were followed by articles in professional journals, raising the Agency's profile. A one-day meeting on ultra wide band (UWB) technology was very well attended, as was a two-day conference on use of the spectrum. Both meetings were held at the Institution of Electrical Engineers in London. The Radio Research Advisory Committee (RRAC) presented its second annual review to an Open Forum meeting in November 2002. A summary of the year's technical research was presented at this meeting, together with results arising from the Agency's task groups. (These groups, which meet about three times a year, comprise industrial and academic participants who have a joint interest in key radio technology areas.)

ERU is currently hosting two university placement students for 12 months between the second and third years of their undergraduate study. It also supports four postgraduate students through the CASE scheme, operated in conjunction with the Engineering and Physical Sciences Research Council.

Ashwina Seerutun, a placement student in the Agency's Engineering and Research Unit, with John Mellish of the Radio Technology Compatibility Group



In addition to the Agency's technical research budget, the research element of the Spectrum Efficiency Scheme (SES) was approved by the Treasury in late 2002 for 12 months and a total value of up to £2.5 million. The Agency invited expressions of interest in the SES; the response provided additional research directions for consideration, and expanded our database of potential contractors and their competencies. The SES funding comes at a time when we are considering how to implement aspects of the Cave Review, which states that economic aspects of spectrum management must be considered in conjunction with the technical aspects. Because of the Cave Review, further technical research programmes will be needed to introduce new methods of spectrum management.

Topics submitted to the Agency through the SES included fixed wireless access rollout, dielectric antennas, spectrum sharing between independent networks, radar systems, UWB systems, optimum use of wireless local area networks (WLANs), protocol and propagation issues, frequency-selective structures, adaptive antennas, virtual antenna arrays and MIMO systems.

Much of ERU's work involves understanding the state of the art in radio and communications technology, and providing studies to support the introduction of new services and model their effects on existing services. Current projects support broadband access, software-defined radio, UWB, in-home communications, 3G services and beyond. ERU's research into the development and deployment of new and improved services will help to inform the UK Government and industry about spectrum needs tomorrow, when wireless devices will be even more important than they are today.

RA business objective 12

To commercially exploit through Radio Spectrum International (RSI) the Agency's reputation and expertise through the provision of international consultancy services

12.1 International consultancy

This year we provided resources for consultancy projects managed by Radio Spectrum International (RSI), our partnership with LogicaCMG. RSI completed consultancy assignments in Trinidad and Tobago, the Bahamas, Ireland, Gibraltar and Nigeria.

The Agency completed its work on the Polish EU 'twinning' project.

In June 2002, the Agency and RSI hosted a workshop, 'Spectrum Management: A Framework for the Future', for members of the Commonwealth Telecommunications Organisation (CTO). The Agency hosted a further CTO workshop on WRC-03 for all Commonwealth countries – see Section 9.1.

Towards the end of the year, the Agency decided to reduce its international consultancy work, in anticipation of Ofcom.

RSI's Stephen Bailey (centre) and Paul Jarvis (right), Head of the Agency's Private Business Systems Unit, taking part in a comprehensive review of the Bahamas' new Public Utilities Commission this year



RA business objective 13

To facilitate more intensive exploitation of the spectrum through measures aimed at promoting greater efficiency in management and use

13.1 Spectrum efficiency

As the range and scope of radio use increases, with the emergence of new applications and greater demand for existing uses such as broadcasting, mobile telephony and fixed links, there is a growing need to use the finite spectrum resource more intensively and efficiently. In pursuit of this goal, the Agency uses economic, regulatory and technical tools.

Our economic tools include the continued rollout of administrative pricing (see Section 1.3), which should ensure that licence fees are set at a level that gives users appropriate incentives to use spectrum effectively. Administrative pricing now applies to most classes of radio use, and licence fees are continually reviewed in the light of experience and the Cave Review's recommendations.

Auctions can be an effective tool for making spectrum available to those who value it most and are therefore likely to use it most effectively. The Agency is currently planning competitions for BFWA spectrum at 3.4 GHz and 28 GHz (see Sections 1.2 and 1.7).

Other economic tools – spectrum trading and recognised spectrum access – are being introduced in the Communications Bill (see Section 1.1). Spectrum trading will be an important step forward in spectrum management; it has the potential to be a quick, flexible and effective means of helping users obtain the spectrum they need at a price dictated by the market.

The Agency recognises that making spectrum available on a licence-exempt basis, subject only to compliance with certain technical requirements, can facilitate effective and innovative spectrum use in appropriate cases. This year, we significantly extended licence-exemption by making the 2.4 GHz band and Bands A and B at 5 GHz available for commercial services (see Section 1.9).

Finally, the Agency funds relevant technical research, aiming to promote technical developments that will extend the use of the spectrum. The research element of the Spectrum Efficiency Scheme is aimed particularly at supporting collaborative projects that may lead to more efficient and intensive use of the spectrum (see Section 1.1.1).

The breadth of radio use at the 2002 Commonwealth Games by broadcasters, organisers and others highlighted the increasing pressure on the radio spectrum. For the spectrum to be able to cope with this demand, it must be used as efficiently as possible



RA business objective 14

To utilise the science and engineering base of the Radio Technology Compatibility Group and the Baldock Monitoring Station to get the best value out of the spectrum

14.1 Baldock Monitoring Station

During the year the station maintained its standing as a centre of monitoring excellence, hosting many international visitors including delegations from Commonwealth countries, Europe, Brazil and Qatar.

Monitoring committees

Staff from the station actively represent the UK in European and international discussions on monitoring matters within CEPT FM22 and ITU-RWPIC. These committees harmonise measurement procedures and monitoring techniques, agree common data exchange formats and draft associated recommendations. The monitoring section hosted the March 2003 meeting of CEPT FM22 and welcomed over 35 European delegates to the monitoring station.

Strategic projects

Two strategic projects are under way at Baldock, and are having a significant positive impact on its monitoring services. Both have a large element of remote monitoring through nationwide networks of fixed and transportable stations.

The first project, to provide **unattended monitoring systems** (UMSs), addresses the needs of the Agency's policymakers, spectrum planners and frequency assignment engineers for national, systematic monitoring of use in all required bands. This ongoing programme contributes to future decisions on frequency allocation and assignment, and supports the setting of costs using spectrum pricing.

The UMSs are totally self-contained and transportable, and are installed in major urban areas of congestion to assess channel occupancy and so aid future assignments. We now have 20 such systems operational, and are arranging to install further units that will meet the objective of measuring spectrum occupancy over every city or town with a population of over 100,000.

The occupancy data generated are available online (with a newly enhanced user interface) to field engineers in the Nations and Regions and to the licensing sections at Agency headquarters, to help them in their daily work of assigning frequencies and resolving interference.

The second project is to develop and deploy a nationwide network of fixed and transportable **remote monitoring and direction-finding** (RMDF) systems. These will provide remote VHF and UHF monitoring and direction-finding capabilities, and will help to locate and eliminate illicit and harmful interference.

Following the award of an equipment supply contract and the delivery of the first batch of RMDF equipment, six remote stations were installed and commissioned this year. These are now in active service, with the control and operation shared between the Baldock Operations Room monitoring officers and the field engineers in the Agency's local offices, to help them quickly resolve interference reported either directly or via Baldock Operations Room.

Typical RMDF installations (left), and (right) operating control screens for remote monitoring and pinpointing interference



14.2 Radio Technology Compatibility Group (RTCG)

This year RTCG was involved in several important projects to help the Agency obtain the best value from the radio spectrum:

- Measuring radiowave propagation (height-gain study) in urban areas to improve ITU-R recommendations. This should help mobile and other operators to plan new services.
- Engaging with the Agency's research work by providing practical assistance with equipment and giving technical advice and help. This ensures that the Agency obtains best value and valuable results from its research spending. Projects ranged from investigating radar interference and spectrum requirements to measuring man-made radio noise. Novel radio isolation techniques such as frequency-selective surfaces were measured in collaboration with the developers, to exploit their potential to reduce unwanted radio emissions in buildings.
- Measuring xDSL emissions from broadband internet connections, and drafting standards for radio emissions from these types of cable system. This helps to ensure that UK broadband rollout will not destroy the value of the lower frequency spectrum, some of which is used for AM broadcasting. Work also took place on power-line transmission systems, with a view to examining their potential for radio interference.
- Designing and producing equipment to trace and direction-find pirate microwave radio links, used to send illegal signals from pirate radio studios to pirate FM transmitters. This work supported the Agency's local office staff.
- Producing equipment to give highly accurate timing signals, based on Global Positioning System (GPS) signals. This is used to test private business radio (PBR) equipment working to the Agency IR2008 standard. The new standard introduced by the Agency allows much better use of some of the PBR spectrum.
- Contributing to ETSI standards, including the use of fully anechoic chambers for measuring emissions. This will allow more accurate measurements to be made using cost-effective facilities.
- Investigating ultra wide band (UWB) radio services to determine their potential for interference with many radio services, including wireless local area networks (WLANs) in the 2.4 and 5 GHz bands. This work was made possible with help from major suppliers of UWB equipment.

RTCG continues to provide active technical support to the Agency, to help obtain the best value from the radio spectrum.

Measuring emissions from a television set inside a fully anechoic chamber – one of the wide range of facilities at RTCG

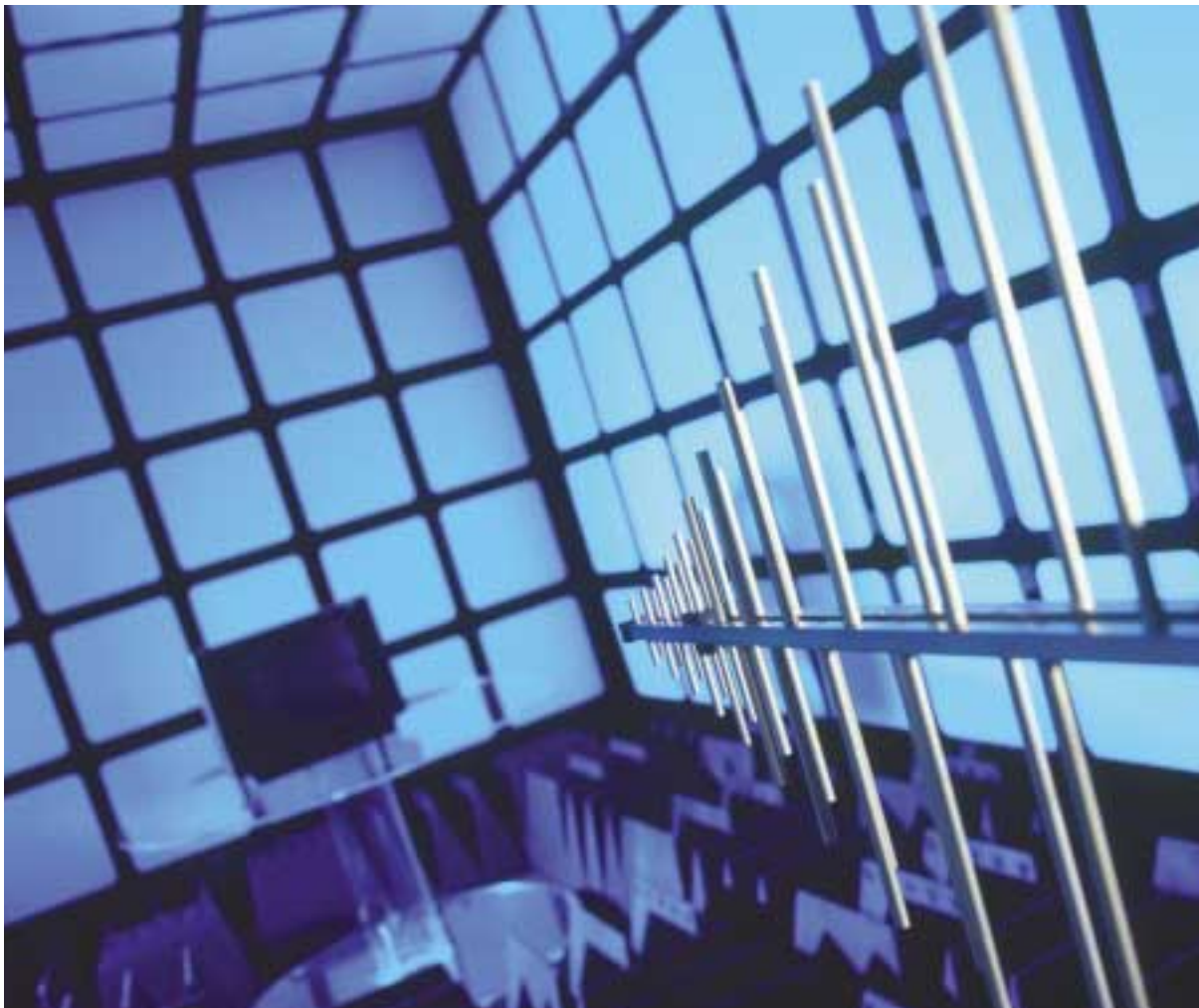
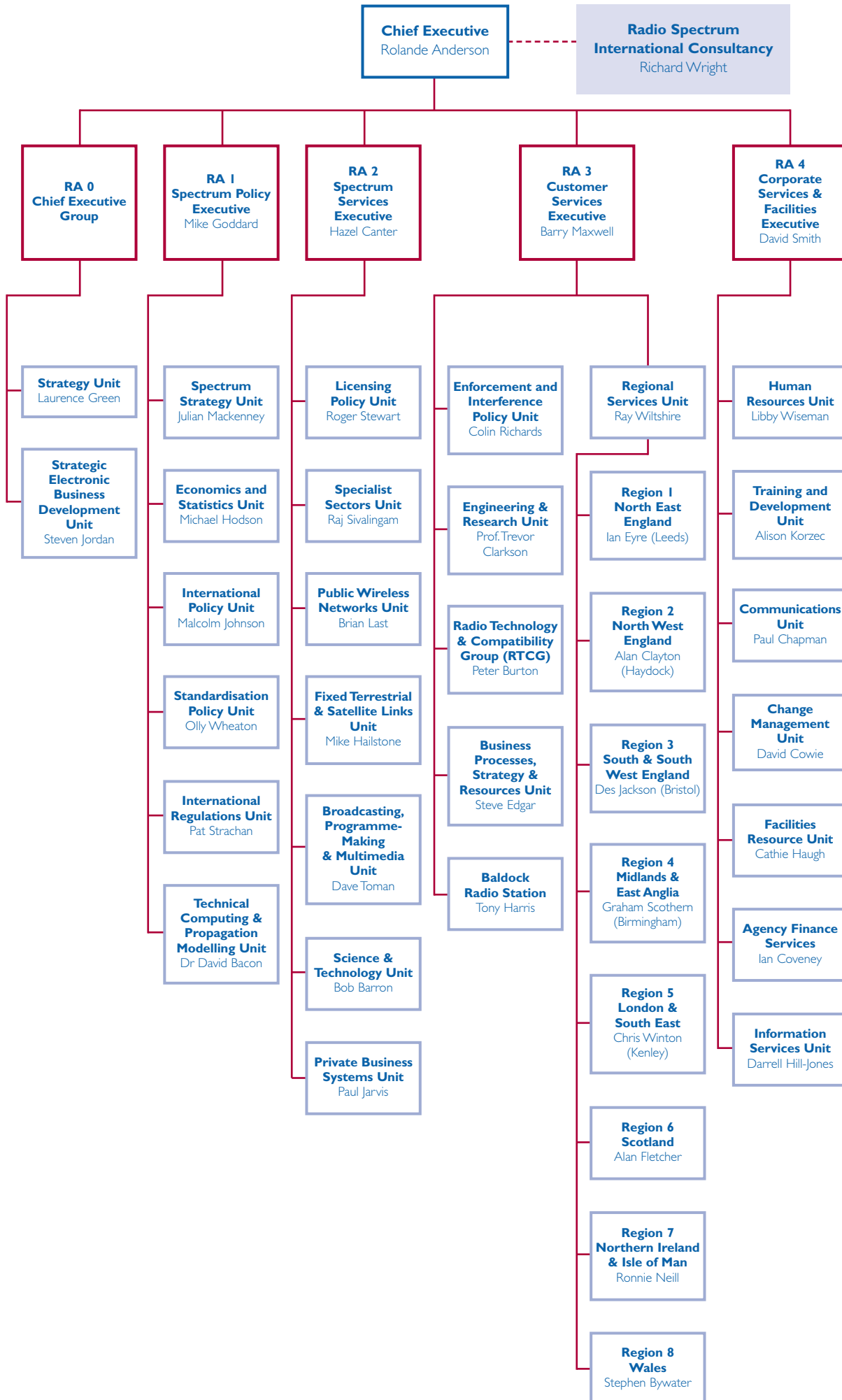


Table 12: Radiocommunications Agency Business Units



Agency publications and contact details

Major publications 2002-03

Strategy for the Future Use of the Radio Spectrum in the UK 2002 ([April 2002](#))

Land Mobile Radio Licensing and Channel Statistics Report for 2002 ([May 2002](#))

Annual Report and Accounts 2001-02 ([July 2002](#))

Government response to the Independent Review of Radio Spectrum Management ([October 2002](#))

RA publication scheme ([November 2002](#))

United Kingdom Frequency Allocation Table 2002 ([December 2002](#))

Information Memorandum: Fixed wireless access – auction of 3.4 GHz ([February 2003](#))

Consultation documents

Fixed wireless access at 2 GHz – proposal to amend the licence and coverage conditions of Zipcom ([April 2002](#))
Responses ([May 2002](#))

Public fixed wireless access: proposal by the Radiocommunications Agency to package and deliver licences at 3.4 GHz ([April 2002](#))
Responses ([June 2002](#))

The future use of the 169 MHz band ([May 2002](#))
Responses ([September 2002](#))

Introducing recognised spectrum access ([July 2002](#))
Responses ([October 2002](#))

Implementing spectrum trading ([July 2002](#))
Responses ([October 2002](#))

Final proposals on the proposed Consolidated Wireless Telegraphy Licence-Exemption Regulation ([September 2002](#))
Responses ([October 2002](#))

Broadband Fixed Wireless Access (BFWA) at 28 GHz: proposals to amend new and existing licences and for the next stage of the award process ([October 2002](#))
Responses ([November 2002](#))

Dispute resolution under the new EU Directives: a consultation by Ofcom and the Radiocommunications Agency ([November 2002](#))

Public wireless networks – exemption of user stations ([November 2002](#))
Responses ([February 2003](#))

Spectrum for asset-tracking mobile data networks using meteor burst systems ([November 2002](#))

450-470 MHz band alignment ([December 2002](#))

Public fixed wireless access: consultation on the auction notice for the award of licences at 3.4 GHz and the template Wireless Telegraphy Act licence ([January 2003](#))

Spectrum pricing: year six ([March 2003](#))

Deregulation of Citizens' Band radio and eventual withdrawal of the 40 UK-only channels ([March 2003](#))

Other publications

This year we produced 13 new information sheets, and updated more than 30 of our existing information sheets.

We launched two new newsletters – ‘Broadband Wireless Update’ (available on our website only) and ‘PWN News’ – as well as continuing to produce our newsletters ‘Airwaves’ (for maritime licensees) and ‘PBR News’.

Our output also included licensing procedures manuals (explaining the procedures we follow when issuing certain types of licence) and a wide variety of research reports.

A full list of Agency publications can be found on our website at www.radio.gov.uk/publication/pub-index.htm
Our index of publications, RA 0, is also available.

Most Agency publications are available free of charge on our website or by contacting:

Information and Library Service
Radiocommunications Agency
Wyndham House
189 Marsh Wall
London E14 9SX

Tel: 020 7211 0502/0505

Fax: 020 7211 0507

Email: library@ra.gsi.gov.uk

Agency Enquiry Point

Our Enquiry Point (tel: 020 7211 0211) is staffed during office hours by a team of experienced Enquiry Officers, who will either answer enquiries themselves or transfer them to appropriate Agency staff. If you have a tone-dialling telephone, you can use our 24-hour Voice Manager system (on the same telephone number) to order our most popular publications; these will be posted to you on the next working day.

Abbreviations

2G	Second-generation mobile telephony
3G	Third-generation mobile telephony
3GPP	3rd Generation Partnership Project
AM	Amplitude modulation
BBC	British Broadcasting Corporation
BFWA	Broadband Fixed Wireless Access
BRAN	Broadband Radio Access Networks – an ETSI project producing interoperability standards for BFWA
BSI	British Standards Institution
C band	Frequency band between about 4 and 6 GHz
CAA	Civil Aviation Authority
CASE	Co-operative Awards in Science and Engineering
Cave Review	The Independent Review of Radio Spectrum Management 2002, by Professor Martin Cave
CB	Citizens' Band
CENELEC	European Committee for Electrotechnical Standardization
CEPT	European Conference of Postal and Telecommunications Administrations
CISPR	International Special Committee on Radio Interference
CMU	Change Management Unit – a Business Unit of the Agency
CPG	CEPT's Conference Preparatory Group for ITU conferences
CSR	Coastal Station Radio
CSR TE	Coastal Station Radio Training Establishment
CTO	Commonwealth Telecommunications Organisation
DECT	Digital European Cordless Telecommunication system – a standard for cordless personal telephony developed by ETSI
DTI	Department of Trade and Industry
DTT	Digital terrestrial television
EC	European Commission
ECC	Electronic Communications Committee – a committee of CEPT
ECC PT I	Project Team I of the ECC
ECP	European Common Proposal for an ITU conference
EFQM	European Foundation for Quality Management
EMC	Electromagnetic compatibility
ERU	Engineering and Research Unit – a Business Unit of the Agency
ESV	Earth Station on board a Vessel
ETSI	European Telecommunications Standards Institute
EU	European Union
FM	Frequency modulation
FM22	A project team (covering monitoring issues) of CEPT's Frequency Management Working Group
FOI	Freedom of Information Act

FWA	Fixed wireless access
GMDSS	Global Maritime Distress and Safety System
GNSS	Global Navigation Satellite Systems
GPRS	General Packet Radio Service
GPS	Global Positioning System
GSM-R	Global System for Mobile Communications (GSM) for rail networks
HF	High frequency (3 to 30 MHz)
ICNIRP	International Commission on Non-Ionizing Radiation Protection
IEE	Institution of Electrical Engineers (UK)
IEEE	Institute of Electrical and Electronics Engineers (US)
IMT-2000	International Mobile Telecommunications 2000 – the ITU set of standards for 3G systems
IR2008	a channel access procedure for data on PBR
ITC	Independent Television Commission
ITU	International Telecommunication Union
ITU-D	ITU Telecommunication Development Sector
ITU-R	ITU Radiocommunication Sector
ITU-T	ITU Telecommunication Standardization Sector
JFMG	Joint Frequency Management Group
Ku band	Frequency band between about 11 and 14 GHz
L band	Frequency band around 1.5 GHz
LF	Low frequency (30 to 300 kHz)
MASTS	Mobile Assignment Technical System
MCA	Maritime and Coastguard Agency
MF	Medium frequency (300 kHz to 3 MHz)
MIMO	Multiple input multiple output
MMSI	Maritime Mobile Service Identity
NATS	National Air Traffic Systems
Ofcom	Office of Communications
Of tel	Office of Telecommunications
PAMR	Public Access Mobile Radio
PBR	Private business radio
PMSE	Programme Making and Special Events
PRINCE2	Projects in Controlled Environments
R&TTE Directive	Radio and Telecommunication Terminal Equipment Directive
RA	Radiocommunications Agency
REAG	Racial Equality Advisory Group
RIPA	Regulation of Investigatory Powers Act
RMDF	Remote monitoring and direction-finding
RRAC	Radio Research Advisory Committee

RSA	Recognised spectrum access
RSC	Radio Spectrum Committee – a committee of the EC
RSI	Radio Spectrum International
RSPG	Radio Spectrum Policy Group – a committee of the EC
RTCG	Radio Technology Compatibility Group
RULES	Radiocommunications Unified Licensing Executive System
SAR	Search and rescue
SES	Spectrum Efficiency Scheme
SMAG	Spectrum Management Advisory Group
SMIS	Strategy Management Information System
SOSA	Single Owner, Shared Access
SQM	Spectrum Quality Management
TAPS	TETRA Advanced Packet Service
TC-ERM	Technical Committee on EMC and Radio Spectrum Matters – an ETSI committee
TETRA	Terrestrial trunked radio
TMU	Terrestrial Monitoring Unit – a team within the Agency
TUPE	Transfer of Undertakings (Protection of Employment) Regulations 1981
Turnbull Report	'Internal Control: Guidance for directors on the Combined Code' – a report by the Internal Control Working Party (chaired by Nigel Turnbull) of the Institute of Chartered Accountants in England & Wales
UHF	Ultra high frequency (300 MHz to 3 GHz)
UKAS	United Kingdom Accreditation Service
UMS	Unattended monitoring systems
UWB	Ultra wide band
VHF	Very high frequency (30 to 300 MHz)
VSAT	Very Small Aperture Terminal – a radio licence class replaced by the Network licence
WLAN	Wireless local area network
WPIC	Working Party 1C (Spectrum Monitoring) of ITU-R's Study Group 1 (Spectrum Management)
WRC-03	World Radiocommunication Conference taking place in June and July 2003
xDSL	A collective term for all types of digital subscriber lines, such as asymmetric (ADSL)

Foreword to the Accounts

History and background

The Radiocommunications Agency is responsible for most non-military radio spectrum matters in the UK. It was established as an Executive Agency of the Department of Trade and Industry (DTI) in April 1990. The Agency's objectives are discussed in the preceding pages of the Annual Report. The Agency is funded through the Department of Trade and Industry Request for Resources 1: Increasing UK Competitiveness.

HM Treasury's Accounts Direction dated 19 February 2003, under the provisions of Section 7(2) of the Government Resources and Accounts Act 2000, requires the Agency to comply with the accounting principles and disclosure requirements of the Resource and Accounting Manual that is in force for the financial year 2002-03. These accounts comply with the Accounts Direction.

Results and appropriations

The surplus for the year amounted to £69.4m (2001-02: £57.7m [restated]). Details of the amount surrendered to the DTI and other movements on the General Fund are shown in Note 12.

There were no completed auctions of spectrum licences during the year, although the remaining broadband licences were offered again between October 2001 and October 2002. There is therefore no new provision for deferred income (see Notes 16 and 17 for more information).

The Agency achieved its key financial target for the year as stated in Note 3. Performance against other measures is listed on page 26 of the Annual Report.

Review of activities

The activities of the Agency and development of its business are reviewed in the Annual Report.

The Communications Bill, currently before Parliament, provides for the transfer of the Agency's functions to Ofcom, the new communications regulator; and subject to passage of the Bill, the Agency will become part of Ofcom at the end of 2003. The Agency has worked closely, initially with the other four merging regulators until the Ofcom Board was appointed, and then with the Ofcom implementation teams, to ensure that there will be a smooth and seamless transition at that date.

In the light of the growing demands on spectrum use, and the opportunities presented by the proposed new regulatory framework and greater use of market-based tools, the Chancellor of the Exchequer and the Secretary of State for Trade and Industry commissioned an independent review of the principles that should govern spectrum management to ensure efficient use of spectrum. The review was carried out during 2001-02 under the leadership of Professor Martin Cave, and the resulting report was published on 6 March 2002. The Government's response, published on 15 October 2002, accepted virtually all of the recommendations made, and work has commenced to implement them.

The Trade and Industry Committee also initiated a review of spectrum management during 2002. Its report, published in December 2002, largely supported the general direction of spectrum management policy, but was critical of the proposal for recognised spectrum access, introduced in the Communications Bill, and made a number of detailed observations. The Government response, published on 14 March 2003, took note of the Committee's conclusions but upheld the proposal on RSA.

The joint venture company, Radio Spectrum International Consulting Limited (RSI), traded profitably in its business of providing the resources required to meet the Agency's IT needs. RSI also continued its efforts to build on the Agency's internal connections by providing consultancy services to overseas administrations. See Note 8 for details. The Agency's share of RSI's dividend for the year ended 31 December 2002 was £417,900.

There are no other special factors that affect these accounts.

Fixed assets

The changes in fixed assets are detailed in Note 7 to the accounts.

The Agency continues to invest heavily in IT to improve its services to customers, and to contribute to the Government's e-commerce targets. There has also been substantial investment in new equipment to monitor spectrum use.

Future developments

Office of Communications (Ofcom)

The White Paper, 'A New Future for Communications', proposed a single new regulatory body and single regulatory framework for the communications sector, which will be realised in the Office of Communications.

Ofcom will replace five existing regulatory bodies, including the Radiocommunications Agency. The other bodies are the Broadcasting Standards Commission, the Office of Telecommunications, the Independent Television Commission and the Radio Authority.

Ofcom was formally set up in July 2002 by paving legislation, the Office of Communications Act 2002. The current Communications Bill will provide the statutory authority for the transfer of the functions of the five regulators to Ofcom. The Bill is expected to receive Royal Assent in July 2003 and, as a result, the Radiocommunications Agency is likely to transfer into Ofcom at the end of 2003. Ofcom will become fully operational on the transfer of the regulators' functions.

It is expected that the Agency's assets and liabilities, together with its functions, will be transferred fully to Ofcom, and the accounts for 2002-03 are therefore produced on a going concern basis.

The Agency's management continues to be committed to modernising business processes in order to improve efficiency and customer service, in line with the objectives of the Modernising Government initiative. The Agency's proposals are, however, now taken forward in consultation with Ofcom to ensure that its views are taken into account.

Pensions

Past and present employees are covered by the provisions of the Principal Civil Service Pension Scheme (PCSPS), which are described in Note 1(m) of the Accounts. Pension benefits are provided through the Civil Service pension arrangements. From 1 October 2002, civil servants may be in one of three statutory-based 'final salary' defined benefit schemes (classic, premium and classic plus), and these are outlined in Note 4.

Management Board

The Chief Executive is the Accounting Officer responsible for the day-to-day running of the Agency. She is assisted by the Agency's Management Board, which comprises the Chief Executive and Directors responsible for each Executive:

David Hendon <i>(transferred to DTI on 8 April 2002)</i>	Chief Executive
Rolande Anderson <i>(transferred from DTI on 15 July 2002)</i>	Chief Executive
Mike Goddard <i>(acting Chief Executive from 8 April to 14 July 2002)</i>	Director – International & Spectrum Policy
Hazel Canter	Director – Spectrum Services
Barry Maxwell	Director – Customer Services
Chris de Grouchy <i>(transferred to DEFRA on 27 October 2002)</i>	Director – Corporate Services & Facilities
David Smith <i>(transferred from DTI on 2 December 2002)</i>	Director – Corporate Services & Facilities

The Chief Executive and Directors are appointed in accordance with the terms of the Civil Service Management Code. Information on their remuneration is given in Note 4.

Steering Board

Chairman:

Mr Mark Gibson
Director General
Business Group, DTI

Members:

Ms Jane Tozer
Managing Director
JET Consulting

Mr Alan Wright
Director
Finance and Resource Management, DTI

Mr Rob Meakin
Consultant
Marconi Group

Mr Bill Denny
Consultant
Quantel

Mr David Edmonds
Director General
Office of Telecommunications (OfTel)

Mr David Hendon
Director
Communications and Information Industries Division, DTI
(until 7 April 2002 – Chief Executive, Radiocommunications Agency)

Mr Mike Goddard
Radiocommunications Agency
(acting Chief Executive from 8 April to 14 July 2002)

Mr William McIntyre CB
Director
Communications and Information Industries Division, DTI
(resigned 5 April 2002)

Ms Rolande Anderson
Radiocommunications Agency
(Chief Executive from 15 July 2002)

Dr Phillipa Lloyd
Director
Resource Management, DTI
(resigned 5 April 2002)

Members of the Steering Board who are not civil servants are offered fees of £4,000 per annum, and reimbursement of reasonable travelling expenses. Members who are civil servants do not receive these fees.

Supplier payment policy

The Agency aims to pay valid invoices within 30 days of receipt or as agreed with suppliers. In 2002-03, this was achieved for 100% of invoices. No payments were made under the Late Payment of Commercial Debt (Interest) Act 1998.

Disabled persons

The Agency's policy is to promote equal opportunity for all, regardless of disability. Wherever possible, every effort will be made to ensure that staff stay in their current post should they become disabled as an employee in the Agency; alternatively, wherever possible they will be provided with an alternative post that uses their expertise. The Agency was accredited with the Disability Two Ticks Symbol in June 2001 and has been applying the principles of this commitment. We were re-accredited in 2002.

Equal opportunities and diversity

The Agency is committed to the principle of equality of opportunity, and respects the diverse society that it operates in. Being fair to people and recognising that they have different skills and attributes to contribute is at the heart of that commitment. The aim is to ensure that all employees and job applicants are treated equally, regardless of their gender, marital status, race, colour, ethnic or national origin, nationality, sexuality, disability, age, religion, employment status or trade union activities.

The Chief Executive has continued to support a programme of action to implement and reinforce our equal opportunities and diversity policy, as described in the Annual Report. Our policy is in line with the DTI policy and builds on statutory obligations of employers under the Sex Discrimination Act 1975, the Race Relations Act 1976 and the Disability Discrimination Act 1995. We are also continuing to work with other Ofcom regulators to share best practices.

Employee involvement

The Agency encourages teamwork and communication between staff at all levels in the organisation. Business and other issues that may be of interest or concern are brought to the attention of staff at various levels in a variety of ways.

There is ongoing dialogue, both formal and informal, with trade union representatives.

The Agency is committed to training and developing its staff as an integral part of achieving business success, as exemplified by its re-accreditation to the new Investors in People standard in May 2002. Details of current development programmes are given in the Annual Report.

Auditors

These accounts have been audited by the Comptroller and Auditor General.



Rolande Anderson
Chief Executive
9 July 2003

Statement of Chief Executive's Responsibilities

Under Section 7(2) of the Government Resources and Accounts Act 2000, the Treasury has directed the Radiocommunications Agency to prepare a statement of accounts for each financial year. The accounts are produced on an accruals basis and must give a true and fair view of the Agency's state of affairs at the year end, and of its income and expenditure, recognised gains and losses and cash flows for the financial year.

In preparing the accounts, the Agency is required to comply with the Resource Accounting Manual issued by the Treasury, and in particular to:

- ┌ observe the relevant accounting and disclosure requirements, and apply suitable accounting policies on a consistent basis;
- ┌ make judgements and estimates on a reasonable basis;
- ┌ state whether applicable accounting standards have been followed, and disclose and explain any material departures in the financial statements; and
- ┌ prepare the financial statements on a going concern basis, unless it is inappropriate to presume that the Agency will continue in operation.

The Accounting Officer for the Department of Trade and Industry has appointed the Chief Executive of the Radiocommunications Agency as the Accounting Officer for the Agency. Her relevant responsibilities as Accounting Officer, including responsibility for the propriety and regularity of the public finances and for the keeping of proper records, are set out in the Accounting Officers' Memorandum, issued by the Treasury and published in Government Accounting.

Statement on Internal Control

- 1 This statement is given in respect of the accounts for the Radiocommunications Agency. As Accounting Officer for the Agency, I have responsibility for maintaining a sound system of internal control that supports the achievement of Agency policies, aims and objectives which incorporate any set by Department of Trade and Industry Ministers, while safeguarding the public funds and Agency assets for which I am personally responsible in accordance with the responsibilities assigned to me in Government Accounting.
 - 2 The system of internal control is designed to manage rather than eliminate the risk of failure to achieve policies, aims and objectives; it can only provide reasonable and not absolute assurance of effectiveness.
 - 3 The system of internal control is based on an ongoing process designed to identify the principal risks to the achievement of departmental policies, aims and objectives, to evaluate the nature and extent of those risks, and to manage them efficiently, effectively and economically. This process has been in place during the year ended 31 March 2003 and up to the date of approval of the Annual Report and Accounts, and accords with Treasury guidance.
 - 4 As Accounting Officer, I also have responsibility for reviewing the effectiveness of the system of internal control. The Agency has established processes that include:
 - [a Management Board (comprising the senior members of the Agency) which meets fortnightly to consider the plans and strategic direction of the Agency;
 - [a Steering Board (comprising the Chief Executive, senior members of DTI and four external independent members) which meets quarterly and is responsible for monitoring the Agency's efficiency and effectiveness;
 - [reports from the Chairman of the Agency Audit Committee (external independent member) to the Chief Executive concerning internal control;
 - [regular reports by Internal Audit, to standards defined in the Government Internal Audit Manual, on the adequacy and effectiveness of the Agency's system of internal control, together with recommendations for improvement and a separate annual assurance from the Head of Internal Audit;
 - [the establishment of key performance and risk indicators;
 - [the establishment and maintenance of an Agency-wide risk register;
 - [quarterly reports of reviews undertaken by the Agency Finance Services section across all Agency Executives and with each Director, which identify issues to be resolved concerning the management of resources, risk, performance against budget and performance against published targets at all levels, and Risk Reviews;
 - [a regular review of risks at all levels within Executives, to maintain an up-to-date record of risks facing the Agency on a quarterly basis;
 - [regular reports from Directors on the steps that they are taking to manage risks in their areas of the Agency;
 - [a matrix of the Agency's Internal Controls, produced, maintained and reviewed by the Audit Committee;
 - [an annual review meeting with the Head of Internal Audit and the Chairman of the Audit Committee;
 - [an Internal Control Checklist, requiring Directors to confirm the internal controls in place – this was completed in January to highlight any areas that needed work, and was confirmed as complete at the end of March 2003; and
 - [a programme of training, designed to ensure that risk awareness is cascaded to all appropriate levels within the organisation – this was drawn up and implemented during the financial year 2002-03, and was achieved for 89% of Business Units and 97% of staff.
- My review of the effectiveness of the internal control system is informed by:
- [the work of the internal auditors during the period in question;
 - [the Executive Directors within the Agency, who are responsible for the development and maintenance of the internal control framework;
 - [comments made by the external auditors in their management letter and other reports; and
 - [reviews by the Audit Committee.



Rolande Anderson
Chief Executive
9 July 2003

The Certificate and Report of the Comptroller and Auditor General to the House of Commons

I certify that I have audited the financial statements on pages 60 to 71 under the Government Resources and Accounts Act 2000. These financial statements have been prepared under the historical cost convention as modified by the revaluation of certain fixed assets and the accounting policies set out on pages 63 and 64.

Respective responsibilities of the Agency, the Chief Executive and the Auditor

As described on page 56, the Agency and Chief Executive are responsible for the preparation of the financial statements in accordance with the Government Resources and Accounts Act 2000 and Treasury directions made thereunder; and for ensuring the regularity of financial transactions. The Agency and Chief Executive are also responsible for the preparation of the other contents of the Annual Report. My responsibilities, as independent auditor, are established by statute and guided by the Auditing Practices Board and the auditing profession's ethical guidance.

I report my opinion as to whether the financial statements give a true and fair view and are properly prepared in accordance with the Government Resources and Accounts Act 2000 and Treasury directions made thereunder; and whether in all material respects the expenditure and income have been applied to the purposes intended by Parliament and the financial transactions conform to the authorities that govern them. I also report if, in my opinion, the Foreword is not consistent with the financial statements, if the Agency has not kept proper accounting records, or if I have not received all the information and explanations I require for my audit.

I read the other information contained in the Annual Report and consider whether it is consistent with the audited financial statements. I consider the implications for my certificate if I become aware of any apparent misstatements or material inconsistencies with the financial statements.

I review whether the statement on page 57 reflects the Agency's compliance with Treasury's guidance, Corporate Governance: statement on internal control, I report if it does not meet the requirements specified by Treasury, or if the statement is misleading or inconsistent with other information I am aware of from my audit of the financial statements.

Basis of audit opinion

I conducted my audit in accordance with United Kingdom Auditing Standards issued by the Auditing Practices Board. An audit includes examination, on a test basis, of evidence relevant to the amounts, disclosures and regularity of financial transactions included in the financial statements. It also includes an assessment of the significant estimates and judgements made by the Agency and Chief Executive in the preparation of the financial statements, and of whether the accounting policies are appropriate to the Agency's circumstances, consistently applied and adequately disclosed.

I planned and performed my audit so as to obtain all the information and explanations that I considered necessary in order to provide me with sufficient evidence to give reasonable assurance that the financial statements are free from material misstatement, whether caused by error or by fraud or other irregularity, and that, in all material respects, the expenditure and income have been applied to the purposes intended by Parliament and the financial transactions conform to the authorities that govern them. In forming my opinion I have also evaluated the overall adequacy of the presentation of information in the financial statements.

Opinion

In my opinion:

- the financial statements give a true and fair view of the state of affairs of the Radiocommunications Agency at 31 March 2003 and of the surplus, total recognised gains and losses and cash flows for the year then ended, and have been properly prepared in accordance with the Government Resources and Accounts Act 2000 and directions made thereunder by Treasury; and

in all material respects, the expenditure and income have been applied to the purposes intended by Parliament and the financial transactions conform to the authorities that govern them.

I have no observations to make on these financial statements.

The maintenance and integrity of the Radiocommunications Agency's website is the responsibility of the Accounting Officer; the work carried out by the auditors does not involve consideration of these matters and accordingly the auditors accept no responsibility for any changes that may have occurred to the financial statements since they were initially presented on the website.

John Bourn
Comptroller and Auditor General
10 July 2003

National Audit Office
157-197 Buckingham Palace Road
London
SW1W 9SP

Accounts and Financial Information

2003

2002

Income and Expenditure Account

for the year ended 31 March 2003

	Notes	£'000	£'000
			<i>Restated</i>
Operating income	2	138,128	123,906
Staff costs	4	(22,608)	(21,070)
Depreciation	7	(8,271)	(6,442)
Other operating charges		(40,589)	(39,370)
Operating surplus	5	66,660	57,024
Loss on disposal of fixed assets		(32)	(89)
Surplus before investment income and capital charge		66,628	56,935
Investment income	8	418	280
Capital charge	6	2,321	518
Surplus for the financial year	12	69,367	57,733

Statement of Total Recognised Gains and Losses

for the year ended 31 March 2003

	Notes	£'000	£'000
Surplus for the financial year		69,367	57,733
Unrealised surplus on revaluation of fixed assets		23	406
Total gains and losses relating to the year		69,390	58,139
<i>Note on Prior Period Adjustment</i>			
Total gains and losses relating to the year as above		69,390	
Prior period adjustment (as explained in Note 21)		(42,316)	
Total gains and losses recognised since the last annual report		27,074	

2003

2002

Balance Sheet

as at 31 March 2003

	Notes	£'000	£'000
Fixed assets			
Tangible assets	7	33,158	34,976
Investment	8	1	1
		33,159	34,977
Current assets			
Debtors	9	8,013	9,384
Cash at bank		10	1
		8,023	9,385
Current liabilities			
Creditors	10	(48,564)	(44,283)
Net current assets		(40,541)	(34,898)
Total assets less current liabilities		(7,382)	79
Provisions for liabilities and charges	11	(860)	(867)
Deferred income	17	(43,223)	(45,464)
		(51,465)	(46,252)
Taxpayers' equity			
General fund	12	(52,909)	(48,420)
Revaluation reserve	13	1,444	2,168
		(51,465)	(46,252)



Rolande Anderson
Chief Executive
9 July 2003

Accounts and Financial Information

		2003	2002
Cash Flow Statement			
for the year ended 31 March 2003	Notes	£'000	£'000
Operating activities			
Net cash inflow from operating activities		79,816	72,432
Capital expenditure			
Purchase of fixed assets		(7,339)	(9,901)
Sale of fixed assets		23	32
Return on investments			
Investment income		418	280
Net cash outflow from investing activities		(6,898)	(9,589)
Net cash inflow before financing		72,918	62,843
Financing			
Net contribution to the Department of Trade and Industry resource account for 2002-03, RfR I, which is audited and published separately		(72,909)	(62,871)
Change in cash and cash equivalents		9	(28)

Notes to Cash Flow Statement

1. Reconciliation of operating surplus to net cash inflow from operating activities

Operating surplus	66,660	57,024
Depreciation	8,271	6,442
Diminution in value of fixed assets	854	0
Auditors' remuneration	28	25
DTI overheads apportioned	599	707
Decrease/(Increase) in debtors	1,371	(3,411)
Decrease in auction deposits	0	0
Increase in creditors	4,281	14,415
(Decrease)/Increase in provisions	(7)	(107)
(Decrease)/Increase in deferred income	(2,241)	(2,663)
Net cash inflow from operating activities	79,816	72,432

DTI overhead apportionment represents the cost of the services provided by DTI Central Directorates and their agents that are not paid for in cash by the Agency.

2. Analysis of balance of cash as shown in the balance sheet

	31 Mar 03	Cashflow	1 Apr 02
Balance at Paymaster General	10	9	1

Notes to the Accounts

I. Accounting policies

(a) The financial statements have been prepared in accordance with the Resource Accounting Manual issued by HM Treasury. The particular accounting policies adopted by the Agency are described below. They have been applied consistently in dealing with items considered material in relation to the accounts.

(b) Accounting convention

The accounts have been prepared under the historic cost convention, modified to account for the revaluation of fixed assets at their value to the business by reference to their current cost.

(c) Income recognition

(i) Licence income

Licence fees arise from the issue or renewal of licences under the Wireless Telegraphy Acts.

Fees are accounted for as follows:

Fees retained by the Agency:

Income from major licence fees is recognised over the life of the licence.

Otherwise Income is recognised in the year of issue or renewal.

This is a change from the previous income recognition policy in which all licence fee income was accounted for in the year of issue or renewal. This affects the accounts as outlined in Note 21.

Fees surrendered to the Consolidated Fund:

A proportion of the fee representing the Agency's costs associated with managing the licensed spectrum is credited to Deferred Income, and is released to the Income and Expenditure Account over the period to match associated costs.

(ii) Government departments

Amounts paid or payable by Government departments for the use of radio spectrum are accounted for in the same way as licence income.

(iii) Other income

Income from other services is recognised on invoicing.

(d) Fixed assets and depreciation

Depreciation is provided on a straight-line method to write off the cost or valuation, less any residual value, of each asset evenly over its anticipated useful life as follows:

Asset	Life in years
Buildings	3 to 50
Information systems	2 to 7
Plant and machinery	5 to 25
Satellite monitoring equipment	7 to 30
Vehicles	2 to 10
Furniture and office equipment	5 to 10

All assets, except for assets under construction, which are recorded at cost, and computer software, which are reviewed annually against replacement costs, are revalued monthly by reference to a series of indices published by the Office for National Statistics.

A sample of all assets is regularly checked and the book value of each asset is compared with an estimate of its current replacement cost. Where the difference is significant, the asset valuation is adjusted to reflect the estimate of its current replacement cost.

(e) Research and development

Research and development expenditure is written off as incurred.

(f) Consumable stores

The Agency has no significant stocks. Expenditure on consumable items such as fuel oil, stationery and small items held as spares or for repairs is written off as incurred.

(g) VAT

Most of the Agency's supplies are outside the scope of VAT. Input tax is not normally recoverable on inputs relating to such supplies. However, under Treasury directions, certain contracted-out services are eligible for recovery of VAT, and the Agency recovers this quarterly in arrears. The remaining irrecoverable VAT is charged to the Income and Expenditure Account in the year in which it is incurred, except that which is capitalised as part of asset values.

(h) Cash

The Agency has an account with the Paymaster General for the purpose of banking money received. The balance is regularly remitted to DTI. The Agency does not retain any of the cash it receives. Payments to staff and suppliers are made from DTI's bank account.

(i) Early Retirement Scheme

DTI operates an Early Retirement Scheme which gives retirement benefits to certain qualifying employees, including those at its Supply-Financed Agencies. These benefits conform to the rules of the Principal Civil Service Pension Scheme (PCSPS). The Agency bears all the costs of these benefits until the normal retirement age of the employees retired under the Early Retirement Scheme and has made provision for them. The Agency also operates its own Early Retirement Scheme on very similar terms to the DTI scheme. Provision has been made for these additional costs.

(j) Insurance

The Agency self-insures from its own resources against minor losses. Major losses are covered by DTI. Third party motor vehicle insurance is purchased commercially.

(k) Operating leases

Rentals due under operating leases are charged over the lease term on a straight-line basis or on the basis of actual rentals payable where this fairly reflects usage.

(l) Investment

The Agency holds an investment in a joint venture company.

- (i) The investment is recorded at cost.
- (ii) Dividends from the company are recognised as income when they are declared.
- (iii) The accounts are not consolidated as the company is outside the DTI boundary, as defined in the Resource Accounting Manual.

(m) Pensions

Past and present employees are covered by the provisions of the PCSPS, which are described at Note 4 below. The defined benefit elements of the schemes are unfunded and are non-contributory except in respect of dependents' benefits. The Agency recognises the expected cost of these elements on a systematic and rational basis over the period during which it benefits from employees' services by payment to the PCSPS of amounts calculated on an accruing basis. Liability for future benefits is a charge on the PCSPS. In respect of the defined contribution elements of the schemes, the Agency recognises the contributions payable for the year.

(n) Prior year comparatives

Prior year figures are restated where necessary for comparative purposes. The prior year figures have been adjusted in accordance with the change of accounting policy. The effects of the change are outlined in Note 21.

(o) Going concern

Subject to the passage of the Communications Bill, the functions of the Radiocommunications Agency will be transferred to the new communications regulator, Ofcom, at the end of 2003. The expectation is that the Agency's assets and liabilities will be transferred in full to Ofcom at the same date. This development does not affect the accounts for 2002-03, which are prepared on a going concern basis.

2. Operating income

The Agency has only one class of business and all income arises in the United Kingdom.

The analysis below is given to satisfy the disclosure requirements of HM Treasury Fees and Charges Guide.

The Guide applies only to other income.

	Income	Full cost	Surplus/ (Deficit)	Income	Full cost	Surplus/ (Deficit)
	2003	2003	2003	2002	2002	2002
	£'000	£'000	£'000	£'000	£'000	£'000
Issue of WT Act licences	106,520			93,459		
Deferred income. See Note 17	2,241			2,663		
Other Government departments	26,208			25,164		
	134,969	64,949	70,020	121,286	62,606	58,680
Other income	3,159	3,812	(653)	2,620	3,567	(947)
Total	138,128	68,761	69,367	123,906	66,173	57,733

Other income arises from investigation of domestic interference complaints, recovery of costs, the joint venture company and other minor sources.

3. Performance against key financial target

The Agency's key financial target is to cover its costs and this was achieved even after the Agency's change in income policy.

4. Staff costs

	2003	2002
	£'000	£'000
All staff		
Wages and salaries	18,153	16,581
Social security costs	1,315	1,294
Other pension costs	2,347	2,226
Temporary Agency staff and casual appointments	793	969
	22,608	21,070

The average monthly number of employees during the year was:

	No.	No.
Management	52	51
Technical/Scientific	255	250
Administrative	273	272
	580	573

Pensions

The PCSPS is an unfunded, multi-employer defined benefit scheme, but the Agency is unable to identify its share of the underlying assets and liabilities. A full actuarial valuation was carried out at 31 March 1999. Details can be found in the resource accounts of the Cabinet Office: Civil Superannuation (www.civilservice-pensions.gov.uk).

For 2002-03, employers' contributions of £2,347k were payable to the PCSPS (2001-02 £2,226k) at one of four rates in the range 12% to 18.5% of pensionable pay, based on salary bands. Rates will remain the same for the next two years, subject to revaluation of the salary bands. Employer contributions are to be reviewed every four years following a full scheme valuation by the Government Actuary. The contribution rates reflect benefits as they are accrued, not when the costs are actually incurred, and reflect past experience of the scheme.

Employees joining after 1 October 2002 could opt to open a partnership pension account, a stakeholder pension with an employer contribution. Employers' contributions of £1k were paid to one or more of a panel of four appointed stakeholder pension providers. Employer contributions are age-related and range from 3% to 12.5% of pensionable pay. Employers also match employee contributions up to 3% of pensionable pay. In addition, employer contributions of £0.1k, 0.8 per cent of pensionable pay, were payable to the PCSPS to cover the cost of the future provision of lump-sum benefits on death in service and ill-health retirement of these employees.

Contributions due to the partnership pension providers at the balance sheet date were £1k. Contributions prepaid at that date were £0.

Management Board

The salary and pension entitlements of the Management Board are as follows:

	R Anderson	M Goddard	B A Maxwell
	Chief Executive	Director	Director
Age at 31 March 2003	Disclosure withheld	Disclosure withheld	Disclosure withheld
	£'000	£'000	£'000
Salary at 31 March 2003	85-90	85-90	70-75
Real increase in pension at age 60	0-2.5	0-2.5	0-2.5
Total accrued pension at age 60 at 31 March 2003	25-30	35-40	30-35
	H F Canter	D Smith	CGL de Grouchy
	Director	Director	Director
Age at 31 March 2003	Disclosure withheld	Disclosure withheld	Disclosure withheld
	£'000	£'000	£'000
Salary at 31 March 2003	65-70	20-25	35-40
Real increase in pension at age 60	0-2.5	0-2.5	0-2.5
Total accrued pension at age 60 at 31 March 2003	20-25	25-30	15-20

'Salary' includes gross salary; performance pay or bonuses; overtime; reserved rights to London Weighting or London Allowances; recruitment and retention allowances; private office allowances and any other allowance to the extent that it is subject to UK taxation. In the cases of Chris de Grouchy and David Smith this has been indicated on a pro rata basis up to/from their respective leaving/joining dates.

Pension Schemes

Pension benefits are provided through the Civil Service pension arrangements. From 1 October 2002, civil servants may be in one of three statutory-based 'final salary' defined benefit schemes (classic, premium and classic plus). New entrants after 1 October 2002 may choose between membership of premium or joining a good quality 'money purchase' stakeholder based arrangement with a significant employer contribution (partnership pension account).

(a) Classic Scheme

Benefits accrue at the rate of $\frac{1}{60}$ th of pensionable salary for each year of service. In addition, a lump sum equivalent to three years' pension is payable on retirement. Members pay contributions of 1.5% of pensionable earnings. On death, pensions are payable to the surviving spouse at a rate of half the member's pension. On death in service, the scheme pays a lump sum benefit of twice pensionable pay and also provides a service enhancement on computing the spouse's pension. The enhancement depends on length of service and cannot exceed 10 years. Medical retirement is possible in the event of serious ill health. In this case, pensions are brought into payment immediately without actuarial reduction and with service enhanced as for widow(er) pensions.

(b) Premium Scheme

Benefits accrue at the rate of $\frac{1}{60}$ th of final pensionable earnings for each year of service. Unlike classic, there is no automatic lump sum, but members may commute some of their pension to provide a lump sum up to a maximum of $\frac{3}{80}$ ths of final pensionable earnings for each year of service or 2.25 times pension if greater (the commutation rate is £12 of lump sum for each £1 of pension given up). For the purposes of pension disclosure the tables assume maximum commutation. Members pay contributions of 3.5% of pensionable earnings. On death, pensions are payable to the surviving spouse or eligible partner at a rate of $\frac{3}{8}$ ths the member's pension (before any commutation). On death in service, the scheme pays a lump-sum benefit of three times pensionable earnings and also provides a service enhancement on computing the spouse's pension. The enhancement depends on length of service and cannot exceed 10 years. Medical retirement is possible in the event of serious ill health. In this case, pensions are brought into payment immediately without actuarial reduction. Where the member's ill health is such that it permanently prevents them undertaking any gainful employment, service is enhanced to what they would have accrued at age 60.

(c) Classic Plus Scheme

This is essentially a variation of premium, but with benefits in respect of service before 1 October 2002 calculated broadly as per classic.

Pensions payable under classic, premium and classic plus are increased in line with the Retail Price Index.

(d) Partnership Pension Account

This is a stakeholder-type arrangement where the employer pays a basic contribution of between 3% and 12.5% (depending on the age of the member) into a stakeholder pension product. The employee does not have to contribute but where they do make contributions, these will be matched by the employer up to a limit of 3% (in addition to the employer's basic contribution). Employers also contribute a further 0.8% of pensionable salary to cover the cost of risk benefit cover (death in service and ill health retirement). The member may retire at any time between the ages of 50 and 75 and use the accumulated fund to purchase a pension. The member may choose to take up 25% of the fund as a lump sum.

(e) Benefits in kind

There were no benefits in kind in the year in question.

Early Retirement

Five members of staff (2001-02: two members) retired early from the Agency. The estimated cost of future payments for employees who have retired early in terms of DTI's and the Agency's Early Retirement Schemes have been provided for in the Income and Expenditure Account. See Note 11.

5. Operating surplus

	2003	2002
	£'000	£'000
Operating surplus is stated after charging:		
Research and development	2,739	3,403
Auditors' remuneration	28	25
Diminution in value of fixed assets. See Note 7	854	0
Rentals under operating leases:		
Hire of plant and machinery	233	133
Other operating leases	2,014	2,019

6. Capital charge

The capital charge is calculated according to the Treasury formula (currently based on a rate of 6% of capital employed).

7. Tangible fixed assets

	Land and Buildings	Information Systems	Plant and Machinery	Satellite Monitoring	Vehicles	Furniture and Office Equipment	Totals
	£'000	£'000	£'000	£'000	£'000	£'000	£'000
Cost or valuation:							
At 1 April 2002	7,991	24,051	20,481	2,362	2,344	3,050	60,279
Additions	192	3,386	3,222	0	539	0	7,339
Surplus/(deficit) on revaluation							
	(94)	(846)	257	28	(15)	83	(587)*
Disposals	0	0	(4)	0	(272)	0	(276)
At 31 March 2003	8,089	26,591	23,956	2,390	2,596	3,133	66,755
Depreciation:							
At 1 April 2002	(1,337)	(9,793)	(9,486)	(2,313)	(907)	(1,467)	(25,303)
Charged in year	(763)	(5,030)	(1,830)	(19)	(311)	(318)	(8,271)
Backlog depreciation	(53)	0	(125)	(28)	6	(44)	(244)
Disposals	0	0	4	0	217	0	221
At 31 March 2003	(2,153)	(14,823)	(11,437)	(2,360)	(995)	(1,829)	(33,597)
Net book value:							
At 31 March 2003	5,936	11,768	12,519	30	1,601	1,304	33,158
At 31 March 2002	6,654	14,258	10,995	49	1,437	1,583	34,976

Freehold land and buildings were initially revalued at 30 June 1999, by Messrs England and Company, Chartered Surveyors, on the basis of existing use value, in accordance with the Statement of Asset Valuation Practice and the Royal Institution of Chartered Surveyors Guidance Notes. An interim revaluation as at 30 June 2002 was undertaken on the same basis, which is reflected in the above figures.

A leasehold building was initially revalued at 30 June 1999 by Messrs Bache Treharne, Surveyors, on the basis of existing use value, in accordance with the Statement of Asset Valuation Practice and the Royal Institution of Chartered Surveyors Guidance Notes. An interim revaluation as at 30 June 2002 was undertaken by Dovebid-Bache on the same basis, which is reflected in the above figures. This resulted in a revised net book value of £200,799 (2001 £161,000).

The difference between the deficit on revaluation and the related backlog depreciation on Information Systems and Vehicles represents a diminution of value which is considered to be permanent, and the difference £854,279 (2002 £nil) has been charged to the Income and Expenditure Account. This situation arose because some assets in the same category have increased or decreased in value during the revaluation process. The figures shown above are netted off. See Note 5.

8. Investments

The Agency entered into a joint venture agreement with CMG UK Ltd on 8 June 1998. The agreement has an initial term of seven years, with the objectives of supplying IT services to the Agency and developing an international spectrum management consultancy through a joint venture company. Radio Spectrum International Consulting Ltd (RSI) was incorporated with an issued share capital of 1,000 ordinary shares of £1 each, of which 30% were issued to the Agency, who appointed two directors, and 70% to CMG, who appointed four directors.

RSI produced accounts for the year ended 31 December 2002. These showed net assets of £1,000 (2001 £1,000) after provision for a dividend. The Agency's share of the dividend was £417,900 (2001 £280,500).

9. Debtors

	2003	2002
	£'000	£'000
Trade debtors*	3,072	3,702
HM Customs & Excise (VAT)	1,892	2,124
Staff debtors	186	220
Prepayments. Amounts falling due:		
Within one year	2,786	3,047
After more than one year	77	291
	8,013	9,384

* The figure for trade debtors is shown net of provision for bad debts of £269k (2001-02 £371k).

10. Creditors

	2003	2002
	£'000	£'000
Amounts falling due within one year:		
Payments received on account	44,887	42,452
Trade creditors	2,401	757
Taxation and social security	114	114
Accruals	1,162	960
	48,564	44,283

11. Provisions for liabilities and charges

	Early retirement	Relocation	Total
	£'000	£'000	£'000
At 1 April 2002	699	168	867
Provided in the year	338	0	338
Provision not required written back	0	(79)	(79)
Utilised in year	(203)	(63)	(266)
At 31 March 2003	834	26	860
Amounts falling due within:			
One year	247	26	273
Two to five years	581	0	581
More than five years	6	0	6

The Relocation provision relates to staff costs associated with the Agency's move to London Docklands in August 1999.

12. General fund

	2003	2002
	£'000	£'000
At 31 March 2002 as previously published	(6,104)	
Prior period adjustment. See Note 21	(42,316)	
At 1 April	(48,420)	(43,581)
Surplus on Income and Expenditure Account	69,367	57,733
Cash surplus surrendered and accounted for in Department of Trade and Industry Resource Account, RfR 1	(72,909)	(62,871)
Non-cash expenditure	(1,694)	215
Transfer from revaluation reserve	747	84
At 31 March	(52,909)	(48,420)

13. Revaluation reserve

	2003	2002
	£'000	£'000
At 1 April	2,168	1,846
Surplus on revaluation	273	575
Backlog depreciation	(250)	(169)
Transfer to general fund (realised on disposal)	(747)	(84)
At 31 March	1,444	2,168

The surplus on revaluation represents the increase in the gross current replacement cost of fixed assets.

14. Commitments under operating leases

	Land and Buildings	Other	Land and Buildings	Other
	2003	2003	2002	2002
	£'000	£'000	£'000	£'000
Rentals due within the next year under operating leases were as follows:				
Expiring within:				
One year	0	0	0	0
Two to five years	1,874	8	29	8
More than five years	140	0	1,990	0
	2,014	8	2,019	8

15. Capital commitments

	2003	2002
	£'000	£'000
Contracted	2,881	5,453

16. Proceeds of licences issued by competition

There have been no new auctions during the past two financial years. In the past the following auctions have been held:

Third Generation Mobile Services:	5 licences, valid until 31 December 2021
Broadband Fixed Wireless Access:	16 licences, valid until 31 December 2015

17. Deferred income

	2003	2002
	£'000	£'000
At 1 April	45,464	0
Transfer from proceeds of licences issued by competition	0	48,127
Less: Income credited to Income and Expenditure Account	(2,241)	(2,663)
At 31 March	43,223	45,464
Amounts falling due within:		
One year	2,826	2,744
Two to five years	12,336	10,179
More than five years	28,061	32,541

The accounting policy note on income explains the basis of accounting for licences issued by competition. See Note 1(c)(i).

18. Related party transactions

The Radiocommunications Agency is an executive agency of DTI.

DTI is regarded as a related party with which the Agency had various material transactions during the year.

None of the board members, key managerial staff or other related parties undertook any material transactions with the Radiocommunications Agency during the year.

In addition the Agency had various material transactions with other Government departments, namely the Ministry of Defence, the Particle Physics and Astronomy Research Council, the Home Office and the Foreign & Commonwealth Office. See Note 2 for details of income received from these other Government departments.

The Agency also had transactions with its joint venture company. See Note 8.

	2003	2002
	£'000	£'000
Purchases of IT services from the company	19,481	19,432
Charges for costs of staff and accommodation	543	554
Balances at 31 March		
IT services included in creditors	1,597	21

19. Contingent liabilities

The Agency has five cases to declare this year (nil in 2001-02). The Ombudsman is considering whether there is a case to undertake formal investigation of a complaint from a company that did not receive a licence applied for. If the Ombudsman concludes that an investigation is warranted, and if that investigation then goes in favour of the complainant, this may result in a claim for compensation from the company in respect of the expenditure incurred on the licence application. It is not possible to make a realistic estimate of the value of such a claim. There are also three staff-related claims that are being

investigated by the Employment Tribunal. None of these cases is sufficiently advanced for the outcome to be known, and all are being rigorously defended by the Agency. In addition the Agency is committed to consider requests, under the Spectrum Efficiency Scheme, from programme-makers whose access to parts of the 3.4 GHz band is adversely affected following the auction in June 2003. It is not possible to make an accurate assessment of the amounts involved but the expenditure could be in excess of £500k. There will be a contingency of £10k, plus an additional sum to cover possible penalties, to meet National Insurance and tax liabilities for a number of representative appointments to Agency Advisory Boards or Committees.

20. Financial instruments

FRS13, Derivatives and Other Financial Instruments, requires disclosure of the role that financial instruments have had during the period in creating or changing the risks an entity faces in undertaking its activities.

Due to the nature of its activities, the Agency is not exposed to the degree of financial risk faced by business entities. Moreover, financial instruments play a much more limited role in creating or changing risk than would be typical of the listed companies to which FRS13 mainly applies. Generally, financial assets and liabilities are generated by day-to-day operational activities and are not held to change the risks facing the Agency in undertaking its activities.

The Agency has no long-term financial assets or liabilities for which disclosure is required under FRS13.

The Agency has taken advantage of the exemption in FRS13 not to give disclosures in respect of short-term debtors and creditors.

There is no material difference between the book value and the fair value of the Agency's cash.

Liquidity, interest rate and foreign currency risk

The Agency has no borrowings and relies primarily on licence fee income for its cash requirements, and is therefore not exposed to significant liquidity risks.

Cash balances were held at the Office of the Paymaster General. The Agency therefore had no significant interest rate risk.

The Agency has no exposure with regards to exchange rate risk.

21. Change in accounting policy

The income recognition policy has been changed. See Note 1. Whereas previously licence income was recognised in the year of issue or renewal, income is now recognised over the life of the licence. The change has been adopted because it gives a fairer presentation of the financial position of the Agency.

The effect of the change of income recognition policy on the current year

The net impact of the changes below has resulted in a prior year adjustment of £42,316k which is the difference between the original and re-stated General Fund Balances as at 31 March 2002.

Income and Expenditure Account for the year ended 31 March 2003

	Before policy change £'000	Restated £'000
Operating income	140,621	138,128 *
Operating surplus	69,153	66,660
Surplus before investment income and capital charge	<u>69,121</u>	<u>66,628</u>
Capital charge	<u>(318)</u>	<u>(2,321)</u>
Surplus for the financial year	<u>73,863</u>	<u>69,367</u>

Balance Sheet as at 31 March 2003

Creditors	(3,754)	(48,564) *
Net current assets	4,269	(40,541)
Total assets less current liabilities	37,428	(7,382)
Total net assets	<u>(6,655)</u>	<u>(51,465)</u>
General fund	<u>(8,099)</u>	<u>(52,909)</u>
Taxpayers' equity	<u>(6,655)</u>	<u>(51,465)</u>

* The difference in creditors is higher than than the difference in operating income because there is a carry forward balance of £42.3m included in the restated creditors figure.

The effect of the change of income recognition policy on year ended 31 March 2002 as published

Income and Expenditure Account for the year ended 31 March 2002	As published 2002	Restated
	£'000	£'000
Operating income	137,793	123,906 **
Operating surplus	70,911	57,024
Surplus before investment income and capital charge	70,822	56,935
Surplus for the financial year	71,620	57,733

Balance Sheet
as at 31 March 2002

Creditors	(1,967)	(44,283)
Net current assets	7,418	(34,898)
Total assets less current liabilities	42,395	79
Total net assets	(3,936)	(46,252)
General fund	(6,104)	(48,420)
Taxpayers' equity	(3,936)	(46,252)

**Restated operating figure includes £28,400k of income calculated prepaid opening balance for 1 April 2001.

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