



**SPECTRUM PRICING:  
THIRD STAGE  
UPDATE AND  
CONSULTATION**

The way forward and outline  
for further consultation  
December 2000

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# SPECTRUM PRICING: THIRD STAGE UPDATE AND CONSULTATION

## Chapter 1: GENERAL PURPOSE OF THIS DOCUMENT

1.1 This third stage update and consultation document aims to outline the Radiocommunications Agency's (RA) latest proposals for implementation of administrative spectrum pricing through regulation under the powers of the Wireless Telegraphy Act 1998. It outlines changes proposed to become effective from July 2001 and beyond.

1.2 The outline of how the RA proposes to move forward is contained in Chapter 3 A recap on the reasoning and methodology for applying spectrum pricing is set out in Chapter 4 More specific details for some sectors are contained in four appended documents attached and separately published on our **website** [www.radio.gov.uk](http://www.radio.gov.uk). Hard copies of any appendix document may be obtained from the RA library at the address below.

1.3 Any general comments on this consultation process should be sent to the address shown below by 9 February 2001:

Licensing Policy Unit  
Radiocommunications Agency  
Wyndham House  
189 Marsh Wall  
London E14 9SX  
Email: [spectrumpricing@ra.gsi.gov.uk](mailto:spectrumpricing@ra.gsi.gov.uk)

1.4 Specific comments on the details for each sector are invited as set out in the accompanying documents.

1.5 Generally, the RA reserves the right to make all comments publicly available including on the RA's website except where respondents indicate their input, or parts of it, is confidential. Respondents who do not wish to make their comments public are requested to separate any confidential material into a clearly marked annex. Unconditional permission for publication will be assumed unless the author openly states otherwise and any copyright attached to responses will be assumed to have been relinquished unless it is expressly reserved.

1.6 It would be helpful if lengthy written documents could be supplied on disk or by e mail (preferably Word 97) . Copies of this document and accompanying documents can be obtained by contacting the Information and Library Service of the Radiocommunications Agency, Wyndham House, 189 Marsh Wall, London, E14 9SX, or on the Agency's website at **[www.radio.gov.uk](http://www.radio.gov.uk)**

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## Chapter 2: SUMMARY OF THE PROPOSALS FOR JULY 2001

2.1 This document sets out proposals for pricing for the following sectors:

- *Fixed Terrestrial Links, Private Point to Multipoint, Scanning Telemetry (see Chapter 3 paras 3.1 to 3.5 and Appendix 3)*
- *Programme Making and Special Events (see Chapter 3 paras 3.7 to 3.14 and Appendix 1)*
- *Public Telecommunication Services (see Chapter 3 para 3.18 and Appendix 2)*
- *UK General Private Business Radio (see Chapter 3 paras 3.21 to 3.22)*

2.2 The document also provides and update on work being done on the following sectors

- *Satellite Earth Stations (see Chapter 3 para 3.6 and Appendix 4)*
- *Radars & Temporary Aeronautical Licences (see Chapter 3 paras 3.15 and 3.17)*
- *Broadcasting (see Chapter 3 para 3.23)*

### *Making the most of the Radio Spectrum*

2.3 These changes are part of an ongoing programme to introduce spectrum pricing principles to all sectors of radio use. In the Autumn pre-budget Report, the Government drew attention to spectrum management and the need to make the most use of the radio spectrum (See Annex A). It announced the Government will commission an independent review to advise on spectrum management principles. The changes proposed in this consultation document are made without prejudice to the review.

2.4 The proposals also continue the phased implementation of price increases for some sectors over a number of years including Public Mobile Operator, including the Isle of Man and Channel Islands, Private Road Construction, Fixed Point to Point links and Fixed Wireless Access licences.

2.5 Chapter 4 of this consultation document recaps on previous work, consultation exercises and general background to applying pricing principles. The RA is also continuing to work with the relevant industry and user working groups to help and develop the proposals to tackle the issues around spectrum pricing for each relevant sector.

### *Next Steps*

2.6 For any proposals that will be covered in Regulations intended for commencement in July 2001, the RA intends to publish a further update on the website by the end of **February 2001**.

*Statutory Consultation*

2.7 In accordance with the provisions of the Wireless Telegraphy Act 1998 the RA will publish Gazette notices, detailing the substance of the proposed regulations in the London, Edinburgh and Belfast Gazettes, and equivalent publications in the Channel Islands and Isle of Man. For the July 2001 Regulations, this is likely to be by March or April 2001. This allows for a period of representation of 28 days from the date of publication of the Gazette notices. It is also intended to place copies of these notices on the Agency website.

*Regulatory Impact Assessment (RIA)*

2.8 An initial RIA accompanies this consultation document, based on previous RIA's, specific points about the regulatory impact of proposals outlined here would be welcomed. Copies of the RIA's issued so far are available from the Information and Library Service of the Radiocommunications Agency, Wyndham House, 189 Marsh Wall, London, E14 9SX, or on the Agency's website at **www.radio.gov.uk**.

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## Chapter 3: PROPOSALS FOR EACH SECTOR OR CLASS

3.0 The following paragraphs outline how it is proposed to take forward pricing proposals in each class or sector. Appendices attached to this document detail the specific proposals for implementation in July 2001.

### *Satellite & Fixed Links, Point to Multipoint and Scanning Telemetry (see Appendix 3)*

#### *Private point to Multipoint*

3.1 Smith Nera (who undertook the preparatory economic work explained in Chapter 4) have confirmed that in principle all fixed links spectrum should be subject to spectrum pricing to reflect the high demand for infrastructure networks. The Radiocommunications Agency (RA) intends to extend spectrum pricing to cover CCTV at 31 GHz, and it is proposed as a first step to harmonise fees with those for point to point links in this band (see Appendix 3). There will be further discussion with industry on the post 2001 fee structure.

#### *Scanning Telemetry*

3.2 In view of the close similarity of spectrum use, the RA plans to charge for the spectrum used by these systems on the same basis as that used for Private Business Radio. Scanning Telemetry is currently either allocated on a national channel basis, or on an individual assignment basis, and it is therefore suggested that the same fee mechanisms introduced in 1999 for the Private Business Radio would be extended to apply to Scanning Telemetry services as appropriate. It is proposed to discuss with individual licensees how the changes will be implemented.

#### *Fixed links*

3.3 The July 1999 Fees Regulations introduced administrative pricing within the Fixed Links business sector for all terrestrial point-to-point fixed links. The fees represented the first step in a four-year cycle and it is proposed to implement the third step in the year 2001. This will mean an increase in licence fees for links in congested areas, and a reduction in fees for links in uncongested areas from their 2000 level. Fees for this third year are set out in detail in the attached Appendix 3. In summary, the variations in fees range between £25 and £300 per link, with the higher increases applying to mature equipment in congested regions. The changes follow the phased programme set out in the Sept 1998 second stage consultation document.

3.4 No changes are proposed in the year 2001 regulations in respect of the frequency bands and regions considered to be congested. The impact of administrative pricing on the general availability of fixed links spectrum will continue to be monitored to identify emerging trends and changes in the pattern of congestion, with any lessons being considered for implementation in 2002 and subsequent years. There will also be continuing detailed consultation through the fixed links consultation committee framework in respect of further refinements to the fixed link pricing concepts; for instance by replacing the current restrictions on link length and parallel links by fee incentives to encourage the appropriate use of frequency bands, and possibly including in the algorithm a parameter to reflect planned availability.

3.5 It is not proposed to alter the standard £50 fee for each un-coordinated link in the 58 GHz band.

## *Satellite Links*

### *Permanent Earth Stations (see Appendix 4)*

3.6 After discussion of the possible options with industry representatives at open-forum meetings of a specially formed sub-group of the Satellite Consultative Committee, the RA plans the introduction of spectrum pricing arrangements for permanent earth stations with fee changes phased over a three year period, starting in the year 2001. The proposals set out in Appendix 4 have been tailored to reflect the factors that affect spectrum usage within the Fixed Satellite service for the Permanent Earth station licence category. The extension of the pricing principles to other licence products within the sector will be further discussed within the adhoc group with a view to similar phased introduction from the year 2002 onwards. The group will also review the need for new licence categories within the sector, and identify the modifiers required.

### *Programme Making and Special Event Licences (Appendix 1)*

3.7 The Third Stage 1999 document set out a way forward and an outline for further consultation for various sectors. Appendix 2 of the document specifically referred to the Programme Making and Special Events Sector. This set out the current position and availability of spectrum for Programme Making and Special Events (PMSE) and, how this is expected to develop over the next few years.

3.8 Changes in spectrum use are considered likely over the coming years. In 1999 Smith Nera were commissioned to study in depth, spectrum demand for the PMSE sector over the next ten years. It was identified that for the PMSE sector it is likely that there will be an increase in demand in certain areas of the spectrum. The results also included a report on the feasibility of introducing economic value-based pricing for a number of licensing sectors including PMSE

3.9 As described in the 1999 consultation, over the next few years forthcoming changes to the current PMSE spectrum will mean some bands will become less usable. However there will be new allocations in certain areas.

3.10 The current fee structure has been in place since 1997 and, due to the introduction of spectrum pricing in others sectors of the Agency it is considered appropriate to review the present fee structure for the PMSE sector.

### *Previous Consultations*

3.11 When the consultation document was produced and published, In total 19 responses were received (annex 1). The responses covered all areas of the sector, including freelance sound recordists, production companies and large broadcasters.

3.12 Two main areas of concern expressed were that the impact of spectrum pricing could lead to increases to the fee structure and changes to spectrum supply.

**a:** There was some confusion amongst respondents about the role of Spectrum Tariff Units (STU's) and the impact on fees. There was general concern that increases in licence fees would mean a rise in the number of unlicensed operators. There was general agreement that many

would risk operating unlicensed and be prepared to take the chance of being caught rather than pay higher fees.

**b:** There was also general concern about the losses spectrum in the 2500MHz band 11/12GHz band. Additional bands are under consideration but the timescales for implementation and the cost implications for migration of services are important factors to be recognised. It was felt that this will require careful management in order not to unduly restrict existing services.

3.13 Following consideration of these comments and feedback, the Agency has decided therefore that there should be a further consultation with the industry during Autumn 2000, with a view to proposing a new fee structure for implementation in July 2001. That consultation is part of this package

3.14 Appendix 1 of this document sets out proposals for change and invites views and comments on them. Other possible changes are also under consideration and draft proposals on these will be published at a later date.

### ***Maritime and Aeronautical***

#### *Radars*

3.15 Currently radars are licensed under the Aeronautical Navigational Aids and Maritime Radio (Navigational Aid and Radar) classes. There is some question over whether the licence fee for Aeronautical Radar licences is a true reflection of what this part of the radio spectrum is worth. The Agency is starting to review the use of radar in conjunction with other bodies (eg the CAA, MCA) and it is likely that the Independent Spectrum review mentioned above will take account of this work. Further consultation will be made when the results of this review become clearer.

#### *Temporary Aeronautical licences*

3.16 The Agency will investigate the possibility of introducing incentive based pricing to some classes of temporary aeronautical licences. At present there is some concern about the number of applications for temporary ground station licences that are being submitted at short notice. Consideration will be given as to whether a tiered fee regime based upon the amount of notice given when making an application could be used to avoid this.

3.17 Detailed proposals on these two licences classes will be published in a separate appendix to be issued later this year.

### ***Public Telecommunication Services (Appendix 2)***

3.18 Appendix 2 of this document sets out proposals for the continuing phased implementation of spectrum pricing to this sector, it also sets out proposals for cellular telephone services in the Channel Islands and Isle of Man and the Remote Meter Reading licence class.

#### *Fixed Wireless Access*

3.19 The Agency consulted in September 1999 on proposals for Spectrum Pricing for Fixed Wireless Access. The methodology was detailed in the consultation document 'Spectrum Pricing: Implementing the Third Stage and Beyond'. Current charges are given in Table 1. These commenced in July 2000:

TABLE 1 Fixed Wireless Access

£ for each 1 MHz slot each year from issue of licence

<b>Frequency Band (GHz)</b>	<b>On issue #</b>	<b>Y1</b>	<b>Y2</b>	<b>Y3</b>	<b>Y4</b>	<b>Y5 and beyond</b>
3.4-3.5‡	6750	13500	20250	27000	40500	54000
3.6-4.2*	4218	8436	12654	16872	25308	33744
3.6-4.2**	1113	2226	3339	4452	6678	8904
10-11‡	3375	6750	10125	13500	20250	27000

# already implemented.

\* where co-ordination is required with satellite earth stations.

\*\* where co-ordination is required with satellite earth stations and fixed links.

‡ Public consultation on the re-allocation of these bands commenced on 25 October 2000. Details may be obtained from the Public Fixed Wireless Access pages of the RA's website [www.radio.gov.uk](http://www.radio.gov.uk).

Further proposals may be made in 2001 for spectrum pricing for Fixed Wireless Access (including the 2GHz and 2.4GHz bands) depending on the outcome of economic studies and the award of spectrum for Fixed Wireless Access.

### ***Private Business Radio***

3.20 Spectrum pricing for the sector was introduced on a rolling basis from 1998, almost all classes of licences in this sector are now subject to spectrum pricing. The RA have also restructured and simplified licences classes to aid customer understanding. Generally fees for most users have decreased, apart from heavily congested areas in the London area. Last year the RA also introduced 3 yearly licences to reduce the regulatory burden on businesses. It is too early to measure the full effects of spectrum pricing: however there is some anecdotal evidence that spectrum has been returned. As part of the wider study of the effects of spectrum pricing we hope to gain an greater understanding of how radio use has been affected in this sector .

### ***UK General***

3.21 This covers users of UK General simplex channels, typically without base stations for use anywhere in the UK. The Agency proposes to introduce a flat-rate fee for access to a number of pre-assigned frequencies which will be set aside for the service for all users to share.

3.22 As outlined in last years consultation document the Agency will continue to increase the fee for Private Mobile Radio Road Construction Licence over a number of years. The proposed fee for 2001 will be £1,500.

### ***Broadcasting***

3.23 The Government has commissioned an independent review of spectrum management to advise on the principles which should govern spectrum management and what more needs to be done to ensure that all users, including non-commercial users, are focussed on using their spectrum in the most efficient way possible. Broadcasters, like other major users of spectrum, must use spectrum efficiently, and there should be effective mechanisms to ensure this, which might include regulation or spectrum pricing. The Government has therefore decided that spectrum used by broadcasters should be valued. However, the extent to which payment is required for use of this spectrum will need to take account of the particular circumstances of broadcasting, These include

the substantial payments already made under the Broadcasting Acts by commercial broadcasters; the level of public service obligations undertaken by the broadcasters; and the forthcoming switchover to digital broadcasting. The Government will take due account of these circumstances and the outcome of the independent review when considering, as part of its work on switchover, the application of spectrum pricing to broadcasting. It will not implement any new approach to spectrum pricing for broadcasters in the meantime, and would then consider doing so only in the light of full consultation with the industry.

### ***Amateur and Citizens' Band***

3.24 The Agency is proposing to issue free Amateur and Citizens' Band radio licences to anyone who is aged 75 or over at the time of application or renewal. This change will be made in early 2001 and reflects the Agency's continuing commitment to supporting recreational use of radio.

### ***Government Sector***

3.25 In most cases, Spectrum Pricing is already being applied to Government use of Radio (e.g. Military, Emergency Services) in parallel with the first sectors described above. The general principle has been to apply the same mobile STU in a similar way to its application to civil mobile sectors. This is still being negotiated with a few remaining Departments but new fees have started to be collected from the military and some other significant users of exclusive band services. However, by far the majority of Government Departments do not have access to exclusive spectrum bands, and they are being charged the same class licence fees as everyone else (e.g. for PBR Wide Area licences).

### ***Longer term Pricing issues***

3.26 In our previous consultation documents we have indicated our intention to review the longer term aims and principles underpinning spectrum management. The independent spectrum review recently announced by Government (see para 2.3), has yet to have its terms of reference agreed, but it is likely that its remit will cover the longer term use of spectrum pricing, beyond that proposed for 2001. We will implement longer term reviews of pricing in the light of any recommendations emerging from the Review

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## CHAPTER 4: RECAP AND BACKGROUND TO SPECTRUM PRICING

### *The importance of radio spectrum and its management*

4.1 The radio spectrum is a finite resource of considerable and fast-growing economic importance. It has been estimated that, in 1995-96, spectrum-based industries directly accounted for 0.5% of UK gross domestic product and generated £12-15bn consumer and competitiveness benefits<sup>1</sup>. More recent work has now increased this value to at least £17 billion consumer and producer surplus. The recent Commission Green Paper on spectrum policy<sup>2</sup> emphasised the strategic economic importance of spectrum to the EU as a whole.

4.2 Failure to make the best possible use of the spectrum resource can impose substantial costs, including loss of international competitiveness. These could amount to billions of £s. Effective management of the spectrum resource is therefore of great importance in building the knowledge driven economy.

### *The challenge for spectrum management in the 21<sup>st</sup> century*

4.3 Although national circumstances differ, administrations worldwide face broadly similar spectrum management challenges. Demand for frequencies is increasing, especially in bands suitable for mobile communications. At the same time, technical and market developments, such as convergence, are accelerating in unpredictable ways and new types of service are constantly requiring access to spectrum. The challenge for spectrum managers in the 21<sup>st</sup> century is how to satisfy demand for spectrum that is simultaneously growing quantitatively and changing qualitatively. Unless that challenge can be met, there is a real danger that spectrum congestion and shortages will hold back growth and slow down innovation.

4.4 Spectrum managers have generally relied solely on regulation to manage spectrum and licence fees have tended to be set no higher than necessary to recover administrative costs. This worked reasonably well while spectrum was plentiful, technology relatively stable and demand could be met on a 'first come-first served' basis. But, as demand has grown and change has accelerated, the Agency has to make increasingly difficult spectrum management decisions at the allocation and assignment levels. Some or all of the following harmful consequences could result.

- Spectrum management decisions are imposed by administrations on the basis of incomplete information about future trends.
- Slow administrative procedures for changing spectrum allocations and assignments retard technical progress and innovation.
- Users have little incentive to give up unused or under-utilised spectrum or to invest in more spectrum-efficient technology or services. This creates a self-perpetuating circle of shortage and hoarding. If licence fees do not reflect the economic value of the spectrum, users have an incentive to retain surplus spectrum in case they need it later, which exacerbates the shortage. Hoarding can in principle be prevented by regulation but, in practice, this is difficult.
- Spectrum is not assigned to the highest value user or use and investment decisions are distorted leading to misallocation of resources. For example, a telecommunications operator may decide to retain high capacity radio fixed links in its trunk networks instead of installing cable. This

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<sup>1</sup> "Economic Impact of the Radio Spectrum in the UK", by National Economic Research Associates and Smith System Engineering Ltd, published by the Radiocommunications Agency, May 1997.

<sup>2</sup> COM(1998)596 final, published by the Commission on 9 December 1998.

may be cost-effective from the operator's point of view but may not represent the most beneficial use of the spectrum for the economy as a whole.

4.5 It has become apparent that, in some cases, regulation, despite its advantages, is no longer sufficient by itself and needs to be augmented.

#### *New spectrum management tools were needed*

4.6 The UK, like several other administrations, is therefore making increasing use of market-based spectrum management tools, such as spectrum pricing. These work through the market and apply market-players' private information to help achieve the optimal outcome in terms of spectrum distribution and are capable of responding dynamically to changing circumstances. However, it is important, to emphasise that market forces are being used as a complement to regulation, not a complete substitute. It would not be desirable to allow market forces total freedom. Regulation will continue to play a central role in managing radio spectrum in order to:

- give effect to harmonisation and frequency co-ordination within the ITU, CEPT and EU frameworks;
- deal with interference and unlicensed use;
- ensure effective competition and maintain diversity, including access to spectrum by small businesses;
- guarantee access to spectrum to meet the operational needs of essential public and safety-of-life services.

4.7 Regulation and market-based tools are being combined in the UK in a pragmatic manner. Different radio services have different characteristics and may require different approaches. Thus a combination of administrative pricing and regulation is being used to manage spectrum for most mobile radio and point-to-point fixed links, Third Generation mobile telecommunications spectrum has been auctioned while regulation alone will continue to be sufficient for some other licence classes.

#### ***The introduction of Spectrum pricing in the UK***

4.8 Spectrum pricing may be defined as charging fees for access to spectrum that reflects its value. The Wireless Telegraphy Act 1998, which entered into force in June 1998, substituted spectrum pricing for cost recovery as the basis for setting radio spectrum licence fees in the UK.

4.9 This approach is in line with standard economic theory that the distribution of a scarce resource, such as spectrum, will be optimised in terms of economic welfare if it is priced at its marginal value, thereby ensuring that it is assigned to those who can achieve most benefit from its use. If it is priced below this level, those who generate less benefit have little incentive to relinquish it in favour of those who can add more value; and businesses, consumers and jobs suffer. It is also likely that fees charged to recover costs will discriminate unfairly against small business users as the cost of administering a licence is unrelated to the amount or value of the spectrum occupied.

4.10 In accordance with article 11.2 of the EU Licensing Directive<sup>3</sup>, it is a cardinal principle in the UK that spectrum pricing should be used to achieve spectrum management objectives, not to

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<sup>3</sup> Directive 97/13/EC. Article 11.2 states, "Member States may, where scarce resources are to be used, allow their national regulatory authorities to impose charges which reflect the need to ensure the optimal use of these resources. Those charges shall be non-discriminatory and take into particular account the need to foster the development of innovative services and competition."

maximise licence revenue. Since other EU member states are also subject to article 11.2, the transposition of this provision into UK law and its mode of application may be of wider interest.

*The Act introduced two forms of spectrum pricing:*

4.11 ‘*administrative pricing*’, in which fees are set by regulation on the basis of spectrum management criteria.  
*and auctions*, in which fees are set directly by the market.

4.12 The legislation was preceded by widespread public consultation, including a consultative document<sup>4</sup>, White Paper<sup>5</sup> and a study of the application of spectrum pricing<sup>6</sup>. This consultation demonstrated widespread support for spectrum pricing in principle and helped construct consensus for reform. There has since been further extensive consultation on detailed implementation<sup>7</sup>.

*Administrative pricing*

4.13 Administrative pricing involves the spectrum manager in setting the level of licence fees as a surrogate for market forces. Most licence fees are set by administrative pricing rather than auctions. Administrative pricing may include such variants as:

- Incentive pricing, where an attempt is made to set prices to promote particular aspects of efficient use;
- Regulatory pricing (cost based pricing), where fees are set unrelated to market considerations, for example, to recover spectrum management costs.

4.14 The 1998 Act requires the Secretary of State, in setting spectrum licence fees, to have regard in particular to various spectrum management factors. These are:

the balance between spectrum availability and current and expected future demand; and  
the desirability of promoting:

- efficient spectrum use and management;
- economic benefits;
- development of innovative services; and
- competition.

4.15 The legislation therefore ensures that spectrum pricing cannot be used as a form of taxation. Indeed, the Act ended the statutory requirement for licence fee regulations to be approved by the Treasury. Under proposals for administrative pricing in the UK, although some users with exclusive national channels or assignments in parts of the country affected by congestion will pay higher fees, tens of thousands of smaller business users will pay no more than previously or will benefit from fee reductions. Even where fees are increased, they will be no higher than necessary for spectrum management purposes.

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<sup>4</sup> “The Future Management of the Radio Spectrum”, Radiocommunications Agency, March 1994.

<sup>5</sup> “Spectrum Management: into the 21<sup>st</sup> Century”, HMSO, June 1996 (Cm 3252).

<sup>6</sup> “Study into the Use of Spectrum Pricing”, by National Economic Research Associates and Smith System Engineering Ltd, published by the Radiocommunications Agency, June 1996.

<sup>7</sup> See “Implementing Spectrum Pricing”, May 1997, and “Spectrum Pricing: Implementing the Second Stage”, September 1998 and “Spectrum pricing; Implementing the Third Stage and Beyond”, September 1999 published by the Radiocommunications Agency.

4.16 It also follows that spectrum pricing is being applied in a focused way. Spectrum pricing is not an appropriate tool in all circumstances. For example, the use of spectrum pricing is not normally indicated where spectrum is not congested or technical standards and parameters, such as bandwidth and frequency, are mandated by international regulation and users cannot respond to price signals by adopting alternative technology.

### *Auctions*

4.17 Compared to the alternative of comparative selection, auctions offer important advantages of:

*economic efficiency.* A well-designed auction ensures that licences are awarded to operators that value them most and can generate greatest economic benefit;  
*fairness.* Selection by administrative criteria is more subjective and less transparent;  
*being less unfavourable to new market entrants.* Comparative selection tends to favour incumbents with established track records.

4.18 However, auctions are not suitable in all circumstances. For example, they would be impracticable for high volume-low value licences for private business radio used by taxis or individual fixed links. The Government has made clear that auctions will be used selectively in the UK for new national or regional services where there are more applicants than can be accommodated in the spectrum available. Existing operators will not be required to enter a spectrum auction for the right to continue their existing services within existing allocations. Nor will broadcasters who have won their broadcasting franchises in an auction under the broadcasting legislation be required to enter a spectrum auction.

### ***Phased implementation of administrative pricing***

4.19 The new spectrum pricing regime is being implemented in stages, each generally being phased in over 4 years so that users have an opportunity to adjust.

4.20 The first stage of administrative pricing, which began in July 1998, tackled the worst distortions of the previous cost-based regime by increasing fees for mobile telecommunications networks and reducing them for thousands of users of on-site private business radio.

4.21 The second stage, which began in July 1999, extended spectrum pricing principles to other mobile radio and point-to-point fixed links. Fees for national telecommunications networks will continue to increase but smaller private business radio users will continue to benefit from fee reductions outside congested areas. Full details of proposals for this stage were set out in the September 1998 Consultative Document, which have generally been followed in the July 1999 Licence Charges Regulations.

4.22 The third stage, started in July 2000, extended spectrum pricing to the whole of the Private Business Radio sector (apart from the UK General licence class), fees for national telecommunications networks increased but smaller users of shared spectrum continued to benefit from fee reductions, Common Base Stations, Point to Point Fixed Links and simplified licences classes in the Maritime and Aeronautical sectors. The Agency also introduced 3 year licences for the first time as a deregulatory measure. Full details of proposals for this stage were set out in the September 1999 Consultative Document, which have generally been followed in the July 2000 Licence Charges Regulations. This consultation document sets out proposals for implementation in July 2001

### ***Development of the Spectrum Tariff Units***

4.23 As a means of deriving equitable fees, Spectrum Tariff Units were evolved for the mobile bands. Details of the derivation of these units (STU) were set out in the May 1997 and September 1998 Consultative Documents on Implementing Spectrum Pricing. Each aims to give a value for spectrum as a raw material from which individual product values can then be calculated. The initial values have been conservatively calculated, and it is proposed to re-evaluate them after initial completion of spectrum pricing implementation.

### ***Licence Exemption/Deregulated Services***

4.24 Under the Wireless Telegraphy Act 1949 installation and use of radio equipment is only permitted under a licence or licence exemption. Any other use would be illegal and subject to enforcement action. Licence exemption is provided by Regulations (Statutory Instrument).

4.25 Licence exemption Regulations cite categories of equipment and state conditions which apply in order for the exemption to be effective such as frequency of operation, power, other general technical parameters, and non-interference to other authorised services. These conditions are much lighter and more general than those applying to licensed use of equipment. The majority of exemptions apply to equipment used in the domestic area and examples of factors involved in determining whether or not equipment should be licence exempt are:

- the frequency allocated to the equipment
- power of transmission
- use to which equipment is put
- compliance of equipment with national or international standards
- the need for the equipment to be protected from interference from other authorised users.

4.26 Examples of equipment which are currently licence exempt are short range devices, PMR 446, mobile (terrestrial and satellite) phone terminals. As part of the effort to enhance harmonisation of regulatory practices in Europe, many of these equipments are also licence exempt in CEPT.

4.27 By the nature of exemption, the Agency does not have any record of how, when or where, exempt equipment is used. As there is no direct contact between Agency and users of these kinds of equipment, it would be difficult and impracticable to apply spectrum pricing to exempt services.

### ***Regulatory Impact Assessments (RIA)***

4.28 The Agency has published detailed Regulatory Impact Assessments for the first, second and third waves of administrative pricing and a new initial RIA accompanies this consultation document. These documents analyse the business sectors affected and the costs and benefits of the new policy with particular reference to small businesses. The proposals for implementation in July 2001 will introduce a lighter licensing regime and result in lower fees for small businesses. There will be price increases for some sectors, but these are mainly for large national/regional companies using high value spectrum. The potential economic benefits from the greater spectrum efficiency spectrum pricing should promote would far exceed the costs to business of the additional licence revenue.

### *Spectrum pricing for the public sector*

4.29 It has been a consistent feature of UK policy that the public sector, including the armed forces and emergency services, should be charged for spectrum on a comparable basis to the private sector. The public sector is a major user of spectrum. For example, the armed forces occupy more than 30% of the spectrum between 9 kHz and 30 GHz. It is seen as important that the public sector should also have incentives to use spectrum more efficiently and this has been a key factor in securing general acceptance of spectrum pricing. There is currently a commitment by the Ministry of Defence to return 2 x 5MHz of spectrum although not of all of this has been identified.

4.30 Comparability is being achieved through the application of administrative pricing principles to public sector users, including the armed forces. The details of how public sector spectrum will be valued are under negotiation with the other Departments concerned but the principle is established as an essential component of the new regime.

Radiocommunications Agency  
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