



**RADIOCOMMUNICATIONS  
AGENCY**

**Consultation Document  
"Spectrum Pricing:  
Year Five"**

**Summary of Responses**

**May 2002**

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## **Section 1: Overview Introduction**

1.1. The Wireless Telegraphy Act 1998 came into force in the UK and the Channel Islands and Isle of Man in the summer of 1998. The Act enabled the Secretary of State for Trade and Industry to set fees for licences issued under Section 1 of the Wireless Telegraphy Act 1949 to take radio spectrum management and economic factors into account. It was announced spectrum pricing would initially be implemented in annual stage from 1998s:

1.2. Each successive year the Radiocommunication Agency has issued a consultation document seeking views from those affected by the proposed fee changes. Since 1998 the Agency has gradually increased the scope of spectrum pricing principles to a greater number of licence products reducing fees where there is less congestion, where spectrally efficient equipment is used or where there is dynamic sharing of spectrum. Fees have increased in areas of spectrum congestion, these increases have been phased in over a number of years to allow business time to adjust. The Agency has also rationalised and simplified a number of licence classes.

1.3. Proposals for this years changes were detailed in the consultation document "Spectrum Pricing: Year Five", which was published in January 2002 with comments on the proposals sought by 12 April 2002. This summary addresses the responses and seeks to answer some of the issues raised.

1.3. The consultation document was circulated to RA's customers, Trade Associations and Public Organisations, posted on the Radiocommunications Agency website and at other meetings. A total of 11 written responses have been received see list attached, (where requested, comments received in confidence have not been individually identified in this document).

## **Section 2: Responses and issues arising**

### ***Continuation of the evolution of a spectrum pricing***

Under the conditions of the Wireless Telegraphy Act 1998 Section 2 the Secretary of State has considered the comments made above on the proposals.

2.1. When the concept of charging for spectrum on the basis of its economic value and spectrum management was first discussed, the proposals were widely recognised by most respondents to be a logical and fair means of increasing the efficient use of the radio spectrum, the responses continue to confirm this point. The proposals contained in the latest consultation document takes the initial proposals further by the following proposals and comments have been received as follows;

The Minister has approved the summary of responses and changes as follows (note five responses were received in confidence and are not identified):

### ***Fixed Links***

2.2. It was proposed to complete the plan to increase fees in congested areas. In uncongested areas fees were also to fall from their 2001 level to the final level proposed in September 1998. The higher charges will be for mature (ie less efficient) equipment in congested areas.

2.3. *BT responded supporting the proposed deregulation of the 58 GHz band and licence exemption for fixed links that comply with relevant standards. One other comment received was to spot an inconsistency in the published table for links in non-congested areas, which has since been corrected and re-issued and the Radiocommunications Agency will implement the proposed changes set out in the January 2002 consultation for Fixed Links. The question of higher fees for links requiring very high availability will be further discussed with industry before any decisions are taken to implement such a change.*

### **Scanning Telemetry**

2.4. It was proposed to charge for the spectrum used by the electricity and gas industries on the same basis as that used for the water industry and for Private Business Radio (PBR), which is based on whether spectrum is allocated on a national or individual basis.

2.5. *The Joint Radio Company stated they are pleased with the constructive and flexible approach adopted in the move to charging the electricity and gas industries on the same basis as the water industry. However JRC disagreed with the proposal to offer different tariff structures for utility and non-utility users. There is no mechanism to licence their scanning telemetry schemes if they were to opt out of the unified industry arrangements. As each electricity company operates on a regional basis, they are unlikely to require a national channel the option of paying the fee for each channel used at a base station should be open to all users. CSS Spectrum management Services Ltd supported the RA proposals on behalf of the Water industry.*

2.6. *It is agreed that the fee for each channel used at a base station should be available to those operators not subject to national channel arrangements.*

### **Satellite Earth Stations**

2.7. Permanent Earth Stations - Spectrum pricing principles using an agreed algorithm were introduced in July 2001 for Permanent Earth Stations (PES's). The Agency now proposed to introduce a minimum fee of £175 per site.

2.7.1. *BT stated they agree with the proposals for permanent earth stations. The proposals outlined in the January consultation document will be introduced in July.*

2.8. Transportable Earth Stations (TES's) - The Agency also introduced spectrum pricing principles using the agreed algorithm for PES's with suitable modifiers in October 2001. The Agency proposed to introduce three categories of TES licence with a fixed licence fee per terminal for each category calculated using three set levels for operational maximum power and widest bandwidth.

2.8.1. *Again BT responded agreeing with the proposals for Transportable Earth Stations but wished to clarify two points. The first point they required clarifying is an indication of the point at which the operational Maximum power is specified, this is needed to calculate the fee. The second point raised is whether Transportable Earth Stations may be licensed for short term use (e.g. one month at a pro rata rate to the appropriate annual fee)*

2.8.2 *It is confirmed that the point at which the operational maximum power is specified will be the antenna flange. Additionally it is confirmed that Transportable Earth Station licences may be issued for a period of less than one year and subject to a 1/12<sup>th</sup> pro rata fee based on the applicable annual fee.*

2.9 Very Small Aperture Terminals – The Agency proposed to introduce a new licensing product to facilitate a lighter touch regime for networks using interactive satellite earth station terminals using the bands 14 – 14.25 GHz & 29.5 –30 GHz bands. This involves using an algorithm based on required access bandwidth and antenna flange power and a minimum fee set by a minimum number of terminals (50). The licence product will be called the “Network Licence”.

2.9.1. *BT again responded agreeing to the proposed network licence but again requested clarification on two points. The first point was they noted the proposal to set the minimum number of terminals at 50 and assume that it is acceptable to implement a network of less than 50, but to pay the minimum fee. The second point raised was whether existing VSAT networks which meet the criteria for the proposed Network licence will migrate to the new licensing and fee arrangements.*

2.9.2. *It is confirmed that the Agency will licence networks with less than 50 terminals subject to the minimum fee. Additionally that existing VSAT networks will migrate to the new network licence subject to operating in the 14 – 14.25 GHz, 14.25 – 14.5 GHz & 29.5 –30 GHz bands .*

### **Public Telecommunications, including Common Base Stations and Fixed Wireless Access**

2.10. For Fixed Wireless Access licences it was proposed to continue with the current fee structure.

2.11. *One response was received relating to Fixed Wireless Access. A particular issue raised was the fee level and modifiers for those Public Fixed Wireless Access (PFWA) networks subject to spectrum pricing.*

2.11.1. *The award process for the 3.4 GHz PFWA frequencies is now expected to take place later in the year and to yield important information on the market value of PFWA spectrum. The view therefore is that PFWA licence fees for 2002 should be held at the same level as the 2001 fees. Once the 3.4 GHz award process has been completed the Agency will then be in a better position to review the PFWA fee structure.*

2.12. For public data networks it was proposed to continue the progression towards implementing the full charge in 2002/2003 to reflect the market value.

2.13. *Two responses were received concerning public data networks. The first of these welcomed the existing modifier of 0.8, in respect of spectrum usage constraints caused by co-ordination requirements. They felt that an additional modifier of 0.7 should be applicable for fragmentation as this had been applied to digital public TETRA services.*

2.13.1 *However, it is considered that the circumstances are not of the same order of magnitude, which would warrant an additional modifier.*

2.13.2. *The second response concerning public data networks suggested that small/start up/developing companies with an annual income of £25M or less should receive a 50% discount, with a sliding scale of discount reducing proportionally up to an income of £50M.*

2.13.3. *It is considered inappropriate, with regard to the criteria of the 1998 Act, for licence fees to be set which reflected one individual operator's profitability and it should be noted that the current fees have been phased in over a period of a number of years to lessen the impact to operators.*

2.14. For cellular/PCN radiotelephony no further changes to fees were proposed.

2.15. *A response was received raising concerns over possible future co-ordination difficulties between an incoming TETRA 900 MHz service and an incumbent operator in adjacent spectrum.*

2.15.1. *It is agreed that in principle a modifier may be appropriate, when the TETRA service is implemented, to reflect the degree of co-ordination required. Proposed fee levels for 2002/3 will remain the same. However, analysis will be made by the Agency to determine whether a modifier is appropriate for consideration for the 2003/4 fees and, if so, the level to set.*

2.16. For Common Base Stations it was proposed to re-define Northern Ireland and the Isle of Man as non-congested, additionally re-define Low Band as non-congested for the whole of the UK. Finally it was proposed to give a 30% discount for Mid and High band channels shared with Private Mobile Radio.

2.16.1. *The FCS Mobile Radio Council expressed concerns over the impact on a small number of Common Base Station operators licensed in areas designated as being heavily congested, who have seen an increase in fees.*

2.16.2. *Fees for these operators have increased twofold over the past four years. However, this is consistent with the underlying principles established in the Smith –NERA economic study that is the bedrock of the Agency's policy on administrative spectrum pricing.*

2.16.3. *It should be noted that the Agency has proposed a number of incentives in this year's fees that will benefit the CBS community, e.g. fee reduction for shared channels, designated of one CBS band as non congested. Further proposals on the areas designated as heavily congested, congested and non-congested will be developed with the CBS community for inclusion in the next consultation on spectrum pricing.*

### **Private Business Radio**

2.17. Private Mobile Radio Road Construction Licence - the Agency proposed to continue the 3<sup>rd</sup> and final step to increase the fees for this licence class to reflect its national shared coverage.

2.18. *No comments were received on this proposed increase, and the Radiocommunications Agency will implement the final increase as set out in the January 2002 consultation document.*

2.19. The Agency also proposed that a new Private Business Radio UK General Licence be introduced which will eventually replace the PMR (Standard) UK General Licence over a five year period. The new licence will have a flat fee of £60 valid for three years before renewal.

2.20. *Three responses were received on this proposal. The Joint Radio Company welcomed the Agency's positive approach to the use PMR and would like such licences classes extended to the self-management organisations. It is noted that a very similar response was received from the JRC following the issuing of the UK General Consultation in the Autumn of 2001. It is recognised that there are a number of licensees in a similar situation to the JRC and the Agency will continuing to consider whether the proposals outlined in the consultation document are appropriate to their and the JRC's needs. As the proposed PBR UK General licence represents a 'light regulatory touch' it is considered that it may not sit comfortably with the JRC's situation where its licensees have access to a higher quality of frequency assignment.*

2.21. *It should be noted that the low, spectrum priced, fee which is to be applied to the PBR UK General licence results from the large number of licensees who operate on the 15 UK General channels.*

2.22. *The Radiocommunications Agency will monitor closely the impact of the introduction of the PBR UK General licence in order to gain a clearer understanding of the pattern of migration to it. This will in turn inform the next phase of the UK General project, which will include further discussions with, amongst others, the JRC.*

2.23. *The second response from Motorola welcomed a simpler approach to licensing and believe this would yield benefits. Motorola raised a general concern that fee rates will soon be a significant proportion of equipment costs.*

2.24. *Motorola's comments on the proposals for a new PBR UK General licence is noted. Importantly, for the PBR UK General licence, the £60 fee is for a period of three years licence validity and therefore represents an outlay of £20 per year. This means a reduced fee and simplified structure. The Agency will continue to protect the proposed PBR UK General licence from unlicensed use. Further, the licensing process will ensure accurate recording of usage in order to facilitate the Radiocommunications Agency Band Re-alignment and other strategic plans.*

2.25. *The third response from the FCS generally welcomed the proposals. However they were concerned that the new three year licence fee was so low that it undermined the value of the spectrum, gave no confidence that the frequencies will be policed and present an opportunity for the frequencies to be made licence exempt.*

2.26. *The introduction of the new PBR UK General licence is intended to resolve long-standing anomalies that exist within the PMR (Standard) UK General licence. This provides an opportunity to expand the spectrum available to licensees and therefore offer a more flexible licence. In addition, the Agency intends to offer a less regulatory regime in keeping with recent Spectrum Pricing practices. The licence fee set for the new PBR UK General licence is consistent with Spectrum Pricing.*

2.27. *There is no intention to deregulate the UK General facility. Although simplified, the Agency is aware that any new PBR UK General licence will still permit radio equipment to be operated at power levels higher than those permitted under any PBR licence exempt service. For this reason, the need to restrict usage to business users and in view of the imminent Band Re-Alignment process, there is a clear need to retain some control of UK General frequencies. Therefore, a licence exempt UK General service is not being considered by the Agency.*

2.28. *As a licensed service, the Agency will, as with other licences, ensure protection from unlicensed use. However the UK General licence is a back-to-back service with base stations not permitted and accordingly, it will be for licensees to opt for more robust licences such as PBR On-Site and/or Wide Area should they deem it desirable*

2.29. *The Agency finally proposed to introduce a new licence class to encourage the use of specific data-only channels using PBR spectrum. The new licence product named Private Business Radio IR 2008 Data will allow licensed time slots giving effectively exclusive use of shared spectrum. At present the fee will be £25 per time slot per channel.*

2.30. *Three responses were received on this proposal. Motorola made the general point that they believe that the need for individual licensing will significantly diminish as new technology has the capability to mitigate against much of the interference. The comments on the impact of new technology is noted and the introduction of this new licence product reflects market demand and improvements in technology.*

2.31. *The Radiocommunications Agency will monitor the progress of IR2008 licences and if successful and with industry backing will propose within Europe an IR2008 technical specification. IR2008 equipment will initially be licensed on Low and Mid Band. However, if IR2008 proves successful the Agency will consider additional spectrum, perhaps in different bands on a demonstrable need.*

2.32. *Auriga Communications Ltd welcomed the introduction of IR2008 and regarded it as a significant improvement over MPT 1379. However, the proposed limits on the number of time slots permitted caused some concern as they believe larger fleets may require more time slots and also that clarification of channel use would be helpful.*

2.33. *It is agreed a more flexible approach to the number of time slots permitted should be adopted. The Base Tx and Mobile Tx frequencies will be allocated independently with a normal maximum allocation of 4 slots per base station site (3 base station sites @ 4 slots per site equals 12 slots). However, the Radiocommunications Agency will consider requests for more than 4 slots on a case by case basis. The Base and Mobile Slots may be licensed in any combination either within a channel or across a number of channels. If at a later date a customer applies to extend the slot allocation on a particular frequency, the Radiocommunications Agency will licence if available. If additional slots are not available on the desired channel, then slots on alternative channels will be offered. If IR2008 channels become congested, the Radiocommunications Agency will consider opening up other channels to IR2008 use.*

2.34. *CSS Spectrum Management Services Ltd raised concerns over the time scales for the cessation of licensing on MPT 1379 equipment following the introduction of IR2008 and that the proposed time scales are assumed to be based on the premise that system and sharing process will work without problems.*

2.35. *The Radiocommunications Agency will monitor the progress of IR2008 licences to determine the final licensing and closure date for MPT1379 systems. It is expected that the minimum time to cease licensing MPT1379 systems will be July 2003, dependent on the success of IR2008. The closure date of MPT1379 systems will then be 5 years from the ceased licensing date of MPT 1379.*

### **Programme making**

2.36. It was proposed to introduce a carnet system, which would replace the existing system of Request Channels known as “Season Tickets”. It was proposed that a fixed charge be levied for each assignment and that this would ensure customers cost are always predictable. The Agency proposed to replace the request channels with a “Multi use” channel subject maximum number of uses.

2.37. *No comments were received on the sector, and the Radiocommunications Agency will implement the proposed changes set out in the January 2002 consultation for season tickets.*

### **Maritime**

2.38. It was proposed to introduce a new licence product the Commercial (5-Year) Ship Radio Licence for vessels under the SOLAS convention and subject to compulsory annual survey.

2.39. *No comments were received on the sector, and the Radiocommunications Agency will implement the proposed changes set out in the January 2002 consultation for this new licence product.*

### **Independent Review of Spectrum**

2.40. The “Review of Radio Spectrum Management” by Professor Martin Cave was published in March 2002. The changes proposed for implementation in July 2002 are made without prejudice to the recommendations of the review and the Government will be considering its response to the Cave Review shortly as advised on the website [www.radio.gov.uk](http://www.radio.gov.uk).

## ***Replies to Respondents***

2.41. Where respondents have raised particular issues, they received formal responses from the Agency over and above this published response.

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**LIST OF RESPONDENTS**

COMPANY	COMMENTS RECEIVED ON SECTOR
BT	Fixed Links and Satellite Earth Stations
FCS Mobile Radio Council	Private Business Radio and Common Base Stations
Motorola Ltd	Private Business Radio
Joint Radio Company Limited	Scanning Telemetry and Private Business Radio
CSS Spectrum Management Services Ltd	Scanning Telemetry and Private Business Radio
Auriga Communications Ltd	Private Business Radio

5 RESPONDENTS WISHED THEIR COMMENTS TO BE TREATED "IN CONFIDENCE" AND ARE NOT IDENTIFIED IN THE BODY TEXT OR LISTED ABOVE.