



# **RADIO SOCIETY OF GREAT BRITAIN**

## **SPECTRUM FRAMEWORK REVIEW**

**A consultation on Ofcom's views as to how the radio spectrum should be managed.**

**Formal response from the Radio Society of Great Britain.**

### 1. About the Radio Society of Great Britain

The Radio Society of Great Britain (RSGB) is the recognised national organisation that represents the interests of the UK's 60,000 licensed radio amateurs. The Society was formed in 1913 as the 'London Wireless Club' and became the Radio Society of Great Britain in 1923 and a company 'Limited by Guarantee' in 1926. The Society is recognised as one of the leading organisations in the world in the field of amateur radio.

### 2. What is Amateur Radio?

Amateur radio is a science based technical hobby enjoyed by over three million people world wide. Amateur radio is recognised by the International Telecommunication Union (ITU) as a service and is listed in the ITU Radio Regulations as the amateur service and the amateur-satellite service.

Amateur radio is a regulated hobby. World wide, to become a licensed radio amateur you have to undertake training, either in a formal surrounding or by self training and then take an examination.

In the UK the amateur radio examination, known as the Radio Communications Examination, is sponsored by Ofcom and administered on its behalf by the RSGB. Amateur radio has a tradition of scientific investigation and experimentation which continues to the present day and radio amateurs have been at the forefront of almost all technical innovations in the field of radio communications.

### 3. Amateur Radio – A major Spectrum Stakeholder

In the UK licensed radio amateurs have been granted access to the radio spectrum in bands from 135Khz to 250GHz. These allocations are on both a Primary and

Secondary basis. For use of this spectrum allocation radio amateurs pay a licence fee to the UK government.

#### 4. Spectrum Framework Review – Response

The RSGB welcomes the opportunity to respond to the Ofcom consultation on the future management of the radio spectrum. Although written with the commercial market (users) of the spectrum in mind the document does provide an evocative view of spectrum management in the future. Ofcom's view on spectrum management may be shared by some larger commercial users but the RSGB feel it is unlikely to have the wide spread support of the majority of radio spectrum users in the UK.

In preparing this response the RSGB has invited inputs from the UK's amateur radio community and has received 88 responses from amateur radio clubs, societies and individual radio amateurs. This number compares favourably with Ofcom's Spectrum Liberalisation consultation which attracted 35 responses (Ofcom press release dated 26 January 2005). The inputs received by the RSGB have been noted and incorporated into this document.

The form that this response will take is to answer the 18 question posed by Ofcom in the Spectrum Review document followed by a short summary pertaining to amateur radio.

*Q1: Are there any other major medium to long term spectrum management issues that this review should be considering? Are there any other significant technological or market developments that this review should be aware of when developing its thinking?*

**Response:** The RSGB finds it puzzling that Ofcom as the regulator should be asking this question. Ofcom in embarking on this consultation from the outset seeks approval of its views on how the spectrum should be managed in the future, yet apparently acknowledges that issues may not have been identified. To ask of spectrum stakeholders what significant new technology/innovation may be around the corner, and in veiled language put a price on it shows, that the authors of this review did very little research before writing the paper. Ofcom as the government's designated manager of the spectrum should be on message as to new technology and its worth to the exchequer.

*Q2: Do you believe it is useful to publish a compendium of issues? How frequently should it be published? What information should be included?*

**Response:** Spectrum stakeholders/users should always be aware of issues that affect their operation/business. They should be involved in planning from an early stage and any method of keeping stakeholders informed has to be of benefit to all. Previous annotated frequency tables have, amongst other things, given rise to the voluntary Band Plans adopted within the amateur radio community both in the UK and across Europe. The RSGB can see no problems in the provision of a comprehensive annotated frequency table.

*Q3: Are there any other issues of sufficient significance to merit in this document?*

**Response:** This portion of the consultation lays down the possible boundaries of spectrum management. Whilst the RSGB would welcome some changes in the way the radio spectrum is managed, particularly in the area of Primary and Secondary usage it could not support option 2; Management of the spectrum by technical parameters set by the regulator or option 3; Self management of the spectrum through the market according to rules laid down by the regulator. The RSGB must again make the observation that the authors of the consultation document show a total lack of insight into radio communication, the practical workings of using and managing of the spectrum. The radio spectrum is a valuable natural resource in providing communications in whatever form. The word 'valuable' in conjunction with the consultation seems to mean how much revenue it will generate. The release of military bands may have benefit for all users, including amateurs and is supported by the RSGB.

*Q4: Are there important lessons to be learnt from experience in other countries that is not addressed here?*

**Response:** This is an extremely well written and at the same time misleading question! The examples of countries where new spectrum management models have or are being considered do not take into account the small land mass that is the British Isles and our close proximity to mainland Europe. Of countries listed none have near neighbours or large population usage. It is a veritable 'Red Herring' to suggest that spectrum management in Australia can be compared to the UK. Further, the information given in Annex G has apparently been drawn from a document submitted for consideration at an ITU conference which was held in February 2004, a full report of which has not yet been published. We think it fair to observe that until a major European country actively considers adopting a similar model of spectrum management, the jury is still out.

*Q5: Do you agree with Ofcom's intent to maximise the use of trading and liberalisation?*

*And*

*Q6: Are there other areas, apart from those identified above, where trading and liberalisation should be restricted? Are there areas identified above where you believe the trading and liberalisation could be fully implemented?*

**Response:** The RSGB believes that the spectrum trading concept is hardly applicable to frequencies below the UHF level. We recognise the importance the UK Government may attach to the use of electronic communications in stimulating the UK economy and bringing about organisational change in public services. However, it should be recognised that wired networks are likely to continue to dominate electronic communications in the UK for the foreseeable future. In terms of capacity and potential development, a justification of this

view can be seen in the large installed base of fibre optic trunk and street level communications and the widening provision of DSL services.

It is also noted that radio services at the HF level are international, either in terms of the broadcast reach or harmonisation of frequency allocations. In this sense, it would appear that the spectrum trading concept will not be applicable. Also note that in terms of Amateur radio operation the Amateur Satellite Service is a separately designated service under ITU regulations and the frequency allocations for it are harmonised at the International level. As such they should have the same protection as the amateur HF bands and as such are not suited to spectrum trading.

Whatever the opening intentions for the spectrum trading concept, it is vital that not all should be determined on economic grounds and there should be a balance with public and cultural interests. Ofcom should also observe the legal obligation to protected radio services.

*Q7: Do you agree with Ofcom's approach to providing spectrum for licence-exempt use?*

*Q8: Is Ofcom's proposed methodology to estimate the amount of spectrum needed likely to deliver the right results?*

*Q9: What is the appropriate timing and frequency bands for making available any additional spectrum for licence-exempt use that might be needed?*

**Response:** The RSGB does not agree with the license-exempt concept and therefore cannot support the release of any frequencies, allocated to radio amateurs, for licence-exempt use. The Society's position is widely supported by the UK licensed radio amateur community.

*Q10: Do you agree with Ofcom's longer term proposals for market-based spectrum management methods?*

**Response:** The RSGB does not believe that market based spectrum management is possible with frequencies below 30MHz and above 30MHz it is only likely to be successful when applied to short range or low power devices in the GHz range. This part of the spectrum is not exempt from variances in propagation and there is already written evidence of low power, short range devices causing interference across national and international boundaries. The RSGB must make the observation that the very suggestion that the radio spectrum can be managed using market based spectrum management as a model, illustrates that the authors of the document have little understanding of the technical operation of radio communications particularly the science and behaviour of radio waves and radio propagation.

*Q11: Is the approach set out here, and again in Annex H, for developing technology-neutral spectrum usage rights appropriate? Are there alternatives?*

**Response:** The question could be reversed, what does Ofcom mean by technology-neutral? The electromagnetic spectrum is a natural resource, to enable this resource you use technology. Industry in general is still getting to

**grips with the term technology-neutral. Again the jury is out as to whether this is ‘market speak’ jargon or a recognised management concept.**

*Q12: Should Ofcom do more to resolve interference?*

**Response: One of the key roles of the regulator is to protect spectrum stakeholders from interference. The RSGB is concerned that Ofcom is absolving itself of its responsibility in this area by moving from a proactive position to a reactive position. The RSGB has seen and noted a dilution in both service and manpower since the inception of Ofcom in what was under the Radiocommunications Agency (RA), the Radio Investigation Service and is now known as the Enforcement and Interference Policy unit. Amateur radio is a non protected service and has a policy of self policing, which due to good training, discipline and radio housekeeping, has been very successful in preventing interference problems from amateur radio operation. A reactive approach is an unknown quantity and one must wonder if a market driven, self managed spectrum would not suffer from a lack of focussed attention on interference matters. Would bullying take place whereby a ‘large player’ causing interference to a smaller spectrum stakeholder pay only lip service to any enforcement action that may ensue?**

*Q13: To what extent should Ofcom intervene in promoting innovation?*

**Response: Ofcom should actively pursue a policy of supporting and promoting innovation. However, such a policy should acknowledge opportunities for all persons involved in developing and extending the use of the electromagnetic spectrum to contribute to innovation whether they be from industry, education or even private citizens.**

**It is a known and recorded fact that amateur radio and radio amateurs have been at the forefront of technical innovation in radio communications since the time of Marconi. The historic pronouncement “That’s one small step for man, a giant leap for mankind” was transmitted over a radio designed and built by a radio amateur. Recent innovations such as Packet Switching and Voice over IP (VoIP) have been developed by radio amateurs and are now being taken up by the industry in general. Such work should be encouraged by both the UK government and its appointed agents.**

*Q14: Do you agree with Ofcom’s proposed approach to harmonisation?*

*Q15: Can you foresee any problems with the proposed approach to harmonisation other than those listed above?*

**Response: The conventional approach to harmonisation would be preferred by most radio amateurs. The RSGB is concerned that a previous liberalisation of interference standards could be lowered even further, apparently to encourage technological developments that have not become commercially viable, in particular the use of power lines to transfer data. We would not wish to see any further degradation of interference standards.**

Q16: *Do you agree with Ofcom's proposal to continue with division by frequency as the primary method of dividing the spectrum?*

**Response: The RSGB supports this proposal.**

Q17: *Is Ofcom's approach of not intervening to mandate entitlements in time appropriate?*

**Response: If Ofcom's expectation, that entitlement in time will only apply to single band owners, is realised then the approach of not intervening to mandate entitlements would seem appropriate. The RSGB would expect intervention where a band has multiple users/owners.**

Q18: *Do you agree with the Regulatory Impact Assessment (RIA)?*

**Response: If one was being cynical, you could summarise from reading the Spectrum review document that it was Ofcom's intention to gain maximum revenue for the exchequer, and at the same time relinquish as much of the burden and cost of managing and administering the electromagnetic spectrum as possible. The RSGB takes a grown up approach to the issue and whilst broadly in agreement with some aspects of the Regulatory Impact Assessment is wholly against the concept of the deregulation of the Amateur Radio Service or the Amateur Satellite Service (as so defined in ITU Radio Regulations). The Society is of the view that if Ofcom wishes to simplify its regulatory burden it should apply some other strategy, market driven self management is not the answer.**

## 5. Summary

The Radio Society of Great Britain must make the observation that from an amateur radio perspective the Spectrum Framework Review document as published is a mixture of contradictory statements. In one area it talks of the need for continued harmonisation of the spectrum and licensing to meet international obligations. It further talks of the need to retain the training and examination element of the hobby, but it also states that it is the intention of Ofcom to consider the deregulation of amateur radio.

It is very apparent that the authors of the document do not know the difference between licensed amateur radio and citizens band radio (CB).

Also very visible is the author's lack of technical understanding of how the radio spectrum actual works in 'real time'.

Whilst the review document is designed to canvas the views of the large commercial interests, primarily the mobile telephone network providers and broadcasters, it must be remembered, the radio spectrum is a natural resource in the public domain, and there are many more stakeholders with an interest in its management and use.

The RSGB would like it noted that the UK's corps of licensed radio amateurs are a national resource and should be recognised as such.

Amateur radio has a key role to play in education. It is an amazing statistic, that there are more mobile telephones in the UK than head of population, but it is disappointing also to note that the vast majority of users do not know how the technology works!

Amateur radio has a key role to play in industry. The 'wireless' world we live in today is being held back because of the shortage of RF designers and engineers to develop and maintain emerging systems. This is particularly of concern in the mobile telephone industry where the introduction of 3G technology is being held back because of the shortages of skilled labour. These shortages will also affect the commissioning of the proposed, 21<sup>st</sup> Century Network (21CN).

Amateur radio is the traditional source of this skill base and the introduction of the new amateur radio examination structure has led to around 9000 newcomers entering the hobby in the last three years, over a third of whom are under the age of 21. There exists an acknowledged failure to encourage young people to migrate from education to science based careers. Several areas of scientific endeavour including as previously stated developments in communications are beginning to suffer from a lack of qualified engineers. The regulatory impact assessment E.3 (Annex E page 58/59) fails to address this shortcoming even when such a skill shortage is recognised in other parts of government. These shortcomings are already having an impact on the competitiveness that Ofcom is trying to create. A healthy and expanding amateur radio community contains a pool of skills able to contribute to addressing this area of risk.

Amateur radio is a science based technical hobby whose history is the very foundation of radio communications. The hobby should continue to be regulated and fully supported by the UK government and its appointed agent and communications regulator Ofcom. It should not be treated with 'a light touch'.

Peter Kirby  
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For and on behalf of;  
The Radio Society of Great Britain  
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