

UK Defence Spectrum Management

A Consultation on:
An Implementation Plan for Reform

Joint response from the Radio Society of Great Britain, UK Microwave Group, Amsat-UK and BATC.

September 5th 2008



Introduction

This response is a joint one to the above MoD consultation document from the Radio Society of Great Britain (RSGB, www.rsgb.org.uk) and its national affiliates who have microwave spectrum interests - Amsat-UK (www.uk.amsat.org), UK Microwave Group (UKuG, www.microwavers.org), and the British Amateur Television Club (BATC, www.batc.org.uk).

RSGB is recognised as one of the leading organisations in the world in the field of amateur radio. It collaborates with its fellow national societies via the International Amateur Radio Union (IARU) through IARU Region-1 (www.iaru-r1.org).

Amateur radio is a science-based technical hobby that contributes to education, innovation, skills and emergency communications. It is enjoyed by over three million people worldwide. From a statutory point of view it is fully 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.

As noted in the consultation document the Amateur Services successfully share spectrum with Public Bodies including MoD, CAA and MCA. We are keen that this relationship continues and the investments and innovations by the 60,000+ licensees are safeguarded.

RSGB has previously participated in the HM Treasury sponsored Independent Spectrum Audit process (aka the 'Cave Audit') and the Ofcom Public Sector Framework Review that preceded this consultation, and is also formulating a response to the parallel consultation by Ofcom on Aeronautical and Maritime spectrum pricing.

We would be pleased to provide any additional information on request or participate in any future discussions, both with MoD, Ofcom and any other stakeholder who has an interest.

Permission is granted for a copy of this response to be placed in the public domain

RSGB, Amsat-Uk, UKuG & BATC, September 2008

Consultation Questions & Answers

The answers below are based on the consultation document, plus Industry Day Forum slides and other discussions. We note that a significant number of amateur bands from HF to millimetre wave are secondary status and managed by MoD but we confine ourselves in this response to those which have been prioritised by MoD as a result of the Cave Audit, Administered Incentive Pricing (AIP) charges etc.

Section-4 – Spectrum Management

Question 1. *Do you agree that the MOD has identified the options and factors that MOD should consider before deciding whether or not to extend the audit of its spectrum use?*

Yes. In general we agree that further audits should provide best value to MoD. We note that laborious effort and fine detail is needed to not only validate basic assignments, but to measure/establish and maintain a full set of technical parameters in the database. This needs to be balanced against their potential market value and AIP costs/savings. For lower priority bands not in the current phases it may be preferable to employ a lower level of detail, for a more affordable approach that would at least ensure that legacy is retired from the current databases.

Question 2. *Do you have any views on the priority with which MOD should audit its spectrum use?*

No strong preference on the current audit phases as the process is a relatively short timescale.

Question 3. *Do you agree with the phased approach to applying for RSA that the MOD is proposing?*

Yes this seems to be a prudent approach, particularly as Ofcom are likely to propose the use of Spectrum Usage Rights(SURs) which are a far-from-proven concept with little support outside of Ofcom. This is an area where more time and detail are needed as the current concept of SURs is based purely on modelled and not verified interference thresholds – rather than easier to verify parameters such as ERPs and spectrum masks

Section-5 – Spectrum Sharing, Release and Acquisition

Our inspection of the Consultation document with respect to the amateur bands gives the following:-

Band, MHz	Amateur Allocation	Audit Phase	RSA Application	Sharing/Release
3400-3600	3400-3475	1A – Completed	By Mar-2009	By Mar-2009
8500-10500	10000-10500	2 – by Aug-2008	By Mar-2010	By Mar-2010
5300-5850	5650-5850	3B – by Mar-2009	By Mar-2011	By Mar-2011
2310-2450	2310-2450	3A – by Nov-2008	By Mar-2012	By Mar-2012
430-450	430-440	3A – by Nov-2008	>2012	>2012
1215-1350	1215-1325	3A – by Nov-2008	tbd	tbd

References: Audit Phase - Fig-2/Annex A.2 ; RSA - Table-2/p24 ; Release/sharing - Table-7/p51

This has already given rise to significant concerns in the wider amateur community such as a recent No.10 Downing St petition <http://www.number10.gov.uk/Page16474> with respect to 430-440MHz

Question 4. *Do you agree with the MOD's plans for releasing and sharing the spectrum it uses?*

Release should not endanger the civil/voluntary sectors that are a source of considerable societal value, self-training, emergency communications and innovation, or impinge on internationally agreed allocations.

Question 5. *Do you agree with MOD's priorities for releasing and sharing spectrum?
and*

Question 6. *Do you agree with MOD's outline timetable for initial spectrum releases?*

It is understandable that MoD wishes to prioritise and release certain bands where AIP costs are high but this does not mean we agree with it, especially as we have doubts regarding the basis of those AIP rates which do not seem to be discounted for lack of commercial demand, the current secondary sharers (ie the bands are not empty) such as ourselves, or the devaluing presence of ISM.

Our more detailed responses below consider short (2008/9) medium (2009/10) and long terms (>2010) in line with our previous summary table and consultation document Paragraphs 5.65-5.80

3400MHz 'by Mar 2009'

We would query the haste being applied to the 3400 band given that the Mobile Service is not permitted by WRC-07 to be Primary until 17-Nov-2010, but recognise that the European Commission decision 2008/411/EC on Electronic Communication Services needs to be implemented by the end of Nov-2008.

Of the options listed by MoD in Para 5.71, we prefer Option-4. In doing so, we are prepared to consider greater sharing in 3410-3475, in return for significantly enhanced access to the retained 3400-3410 segment. This is consistent with our previous stance to Ofcom on WRC-07 AI-1.4, spectrum requirements for global harmonised Amateur and Amateur Satellite service allocations and European allocation footnote EU17¹. This request would facilitate the new MoD RSA, be highly compatible with NATO use, and would facilitate the introduction of a new global 24/7 amateur satellite capability for disaster recovery and emergency communications. We look forward to more detailed discussions with MoD and Ofcom in this regard and their support for our position in international fora.

10GHz 'by Mar 2010'

The UK amateur allocations at 10GHz have already been significantly eroded by auctions of 10125-10225 and 10475+ sub-bands. Further releases/auctions would put at risk one of the most popular amateur microwave bands within which are valuable UK and international DX, propagation beacon, TV repeater and satellite interests such as Amsat-DL Phase-3E and the DLR/Amsat-DL Mars mission. Given the paltry value obtained in the last 10GHz auction, we believe that the AIP rate overstates market value/demand and prioritised release is unwarranted.

Longer term

430-440MHz is heavily utilised by amateurs (approx 200 FM Voice Repeaters and new digital voice/data nodes, plus additional simplex gateways, beacons, digital Amateur TV experiments, satellites etc). These successfully share and interleave with MoD assignments as well as an increasing and unwelcome amount of exempt ISM equipment (433/434MHz SRDs) which in some respects is a poisoned pill for amateurs or any other occupant.

2310MHz also has a significant user/investment base from the Microwave-DX and Amateur TV communities. This is the allocation where much of our digital Amateur Television development work is undertaken. We would be greatly concerned if the successful status quo which includes sharing with MoD, PMSE etc were to be harmed. However we ourselves would be interested if 2390-2400 could be made available to the Amateur Satellite service for low-signal flux downlinks as their reception would be free of the harmful interference now being encountered from WiFi etc in 2400-2450 to which the service is currently restricted.

Question 7. *Do you agree that MOD has correctly and fully identified the factors and options that should be considered before deciding to release and acquire spectrum in the market?*

It is important that the Impact Assessments referred to 5.55 fully account for existing users both inside and adjacent to any band under consideration who may be disadvantaged by changes to sharing, release or band-management.

¹ **EU17:** In the sub-bands 3400-3410MHz, 5660-5670MHz, 10.36-10.37GHz and 10.45-10.46GHz the amateur service operates on a secondary basis. In making assignments to other services, CEPT administrations are requested wherever possible to maintain these sub-bands in such a way as to facilitate the reception of amateur emissions with minimal power flux densities.

Question 8. *Do you agree that MOD has correctly and fully identified the factors and options that should be considered before deciding the best means with which to interact with the market?*

MoD refers to a pilot trial in Para-5.62. More information is needed in the public domain regarding this as we cannot judge how representative a single trial might be.

Question 9. *Can you identify any different approaches for the MOD to manage the spectrum it uses and engage with the market to deliver better value for money for defence and the taxpayer?*

No comment

Section-6 – Managing MoD’s Spectrum in the Market

Question 10. *Which options (from paragraph 6.7) should be considered, or discounted, and if so why; either in respect of options already identified in this section, or additional options, not identified?*

Capability and Security considerations leave MoD best placed to judge its own requirements so we do not see that Option-1 is at all viable, particularly given Ofcom’s own public response to this question.

In the past the Amateur Services have successfully engaged with MoD but we have significant concerns regarding a new internal commercial arm being formed (Option-2). We note that the consultation document and Industry day presentation clearly imply that Option-3 has been considered most closely and that this is our own marginal preference, provided that an appropriate well-defined remit is put in place for the Band Manager; and that safeguards and arbitration procedures (eg by Ofcom) are also put in place in conjunction with the measures outlined in Para 6.13.

Question 11. *Which issues relating to this section, should be considered when evaluating options, and if so why; either in respect of issues already identified in that section, or additional issues, not identified?*

The definition for Third Party operation also needs to protect public/civil/voluntary service interests in addition to purely commercial interests. Where licence or arbitration issues may arise, we support the role of Ofcom as per para-6.13 to provide strong safeguards to the regime.

Given that other public sector bodies will eventually be under a similar regime and share some common bands together, we would welcome maximum coordination and stability. Therefore we would prefer there to be a single Third Party serving one or more public bodies (Para-6.18, Option-2)

Question 12. *Is the scope of decisions required against each of the four questions at paragraph 6.3, as indicated in this section, sufficient and, if not, how and why it should be extended?*

There are a considerable number of factors listed in the subsequent paragraphs, but there are a few areas that seem to be neglected:-

- We would welcome additional detail, on how prospective band managers will be selected and assessed against this scope.
- If a single long-term band manager is in prospect for the overall public sector, a potentially powerful entity, then factors in 6.19/6.20 will require considerable attention and perhaps should be extended to ongoing audit mechanisms and/or parliamentary-level scrutiny.
- It is also not clear from the four questions what flexibility is left for future changes in spectrum management, sudden new defence needs, or loss of MoD capacity (and Band Manager income) due to, say, further unhelpful EU Decisions (as alluded to by the regulatory risks in Para 6.15)