

UK Defence Spectrum - A Consultation on: An Implementation Plan for Reform Arqiva response

About Arqiva

Arqiva is technology- and service-neutral and operates at the heart of the broadcast and mobile communications industry. We are at the forefront of network solutions and services in an increasingly digital world. The company provides much of the infrastructure behind television, radio and wireless communications in the UK and has a growing presence in Ireland, mainland Europe and the USA.

For broadcasters, media companies and corporate enterprises Arqiva has end-to-end capability ranging from outside broadcasts, satellite newsgathering, studios, playout, satellite distribution and terrestrial transmission, the latter including digital switch over and mobile TV development. In addition we are a licensed operator of two of the UK's six Digital Terrestrial Television (DTT) Multiplexes and a founder member of Freeview.

In the communications sector the company supports cellular, wireless broadband, video, voice and data solutions for the mobile phone, public safety, public sector, public space and transport markets.

Arqiva has its headquarters in Hampshire, with other major UK offices in Warwick, London, Buckinghamshire and Yorkshire. It now has 10 international satellite teleports, over 70 other manned locations, and around 9000 shared radio sites throughout the UK and Ireland including masts, towers and rooftops from under 30 to over 300 metres tall.

One of Arqiva's key assets is its Spectrum Planning Group.

Arqiva has purchased spectrum in two Ofcom auctions, has band managed (i.e. sub-leased spectrum to third parties) for the first of those purchases and is evaluating the options to do so for the latest purchase. Furthermore, through our involvement with the two DTT licensed multiplexes we have exploited our technical expertise to enhance the efficiency of this spectrum increasing the number of video streams that can be delivered via a multiplex.

The company is owned by a consortium of long-term investors led by Macquarie Communications Infrastructure Group and has three operating divisions: Terrestrial Broadcast, Satellite & Media Solutions and Wireless Access.

Major customers include the BBC, ITV, Channel 4, Five, BSkyB, Classic FM, the five UK mobile operators, the Metropolitan Police and the RNLI.

Introduction

Arqiva strongly supports the MOD determining current and planned use of its spectrum holdings; taking steps to improve the efficiency of that use; and making available un- and under-used spectrum to the market. We welcome this consultation as recognition of the considerable progress already made.

Arqiva would encourage both the appointing of one or more commercial band managers to exploit underused spectrum bands (unused bands should be sold outright) and the establishment of an organisation to enable timely planning, financing, management and control of spectrum for military use, which would then interface with the Third Party band manager(s) appointed.

However there remains a considerable lack of hard information on which either any potential band manager or potential end users of spectrum could assess the opportunities. If market interest in candidate spectrum for release is to be maximised, information on key characteristics of such bands (principally the amount of spectrum which might be released, where and when) needs to be made available to the market as soon as possible, even if some information is preliminary out of necessity, rather than waiting until all information on a candidate band could be made available in a verified form.

Answers to questions

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 the spectrum it uses?

Yes.

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

Arqiva believes that audit of spectrum bands which appear to offer the greatest commercial potential should be prioritised, as this would maximise value to the MOD; key indicators for which would be civil uses to which that spectrum is put (or planned to be put) in other major countries and equipment standardisations for those bands. The latter suggests that 400.15-430 MHz (suitable for TETRA) and 2310 - 2450 MHz (suitable for IMT) should be early candidates for audit and release to the market.

Arqiva would strongly suggest that the audit of bands be extended beyond the "Cave bands".

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

Yes, given the extensive range of spectrum bands in question and limitations on Ofcom's resources, it is sensible to phase in RSA, focussing on the bands likely to generate most value. But Spectrum Usage Rights (SURs) also need to be determined in a phased manner matching applications for RSA.

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

In principle, yes. However while Arqiva strongly supports making spectrum use as technology- and service-neutral as practical, in reality no spectrum use could ever be completely unrestricted and in setting the initial technical conditions in grants of RSA Ofcom must have regard to:

1. the most likely uses (for most bands, driven by equipment standardisation);
2. users of adjacent spectrum.

As an early candidate band for release, Ofcom has already proposed SURs for 406.1 - 430 MHz and Arqiva (and we understand others) have expressed some concerns to Ofcom that they have proposed Power Flux Density (PFD) limits which do not reflect the most likely use of this spectrum (which is TETRA) and may not provide the protection required.

While Arqiva supports Ofcom's stated objective of including a minimum of technical conditions in grants of RSA, this should be the minimum compatible with existing and anticipated use of the spectrum band and neighbouring spectrum (where SURs may not always be the most appropriate means of expressing the technical conditions).

The potential for adjacent users to be seriously impacted by use of MOD spectrum would be increased if any Third Party band manager appointed did not have sufficient spectrum planning skills in addition to its commercial skills to be able to anticipate problems.

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

As stated above, priority of release should be accorded to the spectrum bands with the greatest appeal to the market, for example 400.15-430 MHz and 2310 - 2450 MHz.

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

Yes, this represents a suitable starting point, although the timetable and resources underpinning it should be flexible enough to have some ability to adapt to changing assessments of likely market demand for particular spectrum bands.

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?

Yes.

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?

Yes. Arqiva agrees that the MOD should appoint one or more Third Party commercial band managers (although where the MOD makes little or no use of a spectrum band, we believe that that band should be sold outright).

However the key identified top level question which needs answering before any company could determine whether the considerable resources required (where Arqiva has direct experience of the time consuming nature of band management, the complex PFD modelling and assignment management required and the ongoing legal issues and costs over legally trading spectrum) in acting as a band manager could be justified is: How should a Third Party operate?

Some issues that would need to be addressed:

- Is there scope for risk-sharing with the MOD?
- Will the band manager have sufficient information about MOD use to be able to determine the quality of the “white space”?
- How realistic would any migration plan be?
- What flexibility would the band manager have to set prices for commercial use?
- What is the potential for clawback (pre-emption) of spectrum by the MOD from its band manager to address wartime or other national security concerns?
- What monitoring responsibilities (if any) would the MOD expect a band manager to have and which party would be responsible for enforcement (with potentially considerable resources implications)?
- How long would the contract period be?
- What is the anticipated direct relationship between the band manager and Ofcom?

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?

We believe that the most suitable approaches have been identified.

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 section 6, or additional options, not identified?

Arqiva believes that the first and third options should be pursued. That is, spectrum which the MOD makes little or no use of should be offered to the market outright (whether sold by MOD or by Ofcom, there would seem no justification for ongoing MOD management of such spectrum).

Such spectrum may be part of a current MOD-managed band (e.g. where a sub-band is unused, or an unused sub-band could be created by moving MOD uses within the band). If the MOD makes little use of a band, perhaps limited to a few specific locations with little of the UK “sterilised”, such spectrum should be sold outright.

Arqiva's purchase (from Ofcom) of 412 - 414/422 - 424 MHz, where commercial use fits around ongoing MOD use, is an example.

However for spectrum bands where there will continue to be considerable continuing MOD use, then the third option should be pursued i.e. the MOD should continue to manage that spectrum, performing defence-related management, and commercial band manager(s) would be appointed to manage and exploit the spectrum not required by the MOD (which may be a geographic and/or temporal absence of defence-related demand).

Question 11. Which issues relating to section 6 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?

All of the issues should be considered. However a fundamental issue affecting consideration of what a commercial band manager might do, and who might perform that role, is whether that band manager's role would encompass managing the defence use of MOD-managed spectrum in addition to commercial use. This would be a daunting task potentially requiring access to vast amounts of information with the highest security.

Few companies have the necessary combination of commercial acumen (ideally with proven exploitation of spectrum); spectrum planning skills; and long-term shareholders; to be serious candidates to be a band manager. This list would be limited further unless the role were divided into at least two: defence management and commercial, with meaningful liaison between the two sides.

If the commercial band management role were separated from defence use, then there would be the option of appointing multiple band managers for commercial exploitation of different sectors, albeit from within a fairly small list of candidates (the skills that both industry and MOD will require a band manager to have are not commonplace and are most likely to be found in companies already engaged in providing commercial wireless communications services).

If multiple band managers were appointed, each would have to manage sufficient spectrum to ensure that transaction costs weren't prohibitive and to ensure that the MOD could make meaningful comparisons between the performance of its band managers.

Arqiva would strongly suggest, irrespective of how many band managers were appointed, that each were contracted for an absolute minimum of 10 years as there is likely to be considerable resource implications and both the MOD and the market would value a degree of stability in supply of spectrum. We note that Ofcom proposes that the band manager it intends to appoint with special responsibilities for making available spectrum for PMSE use will be granted an indefinite licence.

Question 12. Is the scope of decisions required against each of the four questions at paragraph 6.3, as indicated in section 6, sufficient and, if not, how and why it should be extended?

Arqiva believes that the scope of the four key questions is sufficient.