BBC response to Ofcom's *Initial Consultation: Review of spectrum fees for fixed links and satellite services*

30 July 2015

Overview

1. The BBC welcomes the opportunity to respond to Ofcom's *Initial Consultation: Fees review for fixed link and satellite services* published on 21 May 2015. Accordingly, we set out an initial response below along with further detail where most relevant. We look forward to further engagement as Ofcom's proposals are developed.

2. The BBC is committed to efficient use of spectrum as well as providing value for money for licence fee payers. These responsibilities apply both to programme making and distribution functions which ultimately deliver services enjoyed by 97% of UK adults each week.[1]

3. The BBC uses fixed and satellite services for programme making and distribution, holding Wireless Telegraphy Act licences as well as contracts with commercial providers of services that use spectrum.

4. Nationally, the BBC's direct-to-home (DTH) satellite distribution enables the provision of important coverage to populations out of reach of the terrestrial transmitter network. This helps ensure universal coverage so all households, across all parts of the UK, can access BBC services on at least one platform.

5. In addition to uplinks for DTH satellites, fixed and satellite links also comprise a vital part of the BBC's distribution network providing DTT, DAB and analogue radio signals to transmitters. In many cases, fixed and satellite links are in place where alternative means (such as fibre) are not viable alternatives.

6. Satellite News Gathering (SNG) is widely used by the BBC to gather content for BBC programmes. This includes live audio and video reports as well as reporters filing stories from remote locations for later transmissions.

7. Globally the BBC's international platforms are reliant on distribution via C-band satellite. These services contribute to the BBC's global audience of 283 million

[1] 97% of UK adults use BBC TV, radio or online each week. Source: BBC Annual Reports & Accounts 2014/15

people around the world who access the BBC's services across different platforms including radio.[2] This global reach provides important value to the UK.

8. Satellite systems require internationally harmonised spectrum to enable services to be reliable, free from interference and globally available. BBC Monitoring, for example, relies on its network of receive-only earth stations (ROES) both within the UK and at its international offices. These earth stations receive signals between 3.4 and 4.2 GHz, which is used by satellites from many different countries. This international dimension of satellite transmissions restricts our ability to adapt satellite services in response to pricing mechanisms.

9. The BBC's distribution activities balance the requirement to provide a universal service with the cost of distribution. Any significant increase in spectrum fees where we are unable to respond to pricing incentives (e.g. by adopting a lower cost alternative distribution method) would therefore be problematic.

10. The BBC has previously set out its positions towards spectrum pricing and in particular the very serious concerns we would have if administered incentive pricing (AIP) were charged for spectrum used by digital terrestrial television (DTT).[3]

11. This response does not repeat these points but sets out general concerns about the effectiveness of the fees algorithms in Plum's report *Support of Ofcom's review of fees for fixed links and permanent earth stations* ('the Plum report') to incentivise efficient use of spectrum. These concerns include:
    - The ability of licence holders to respond to pricing incentives when investment cycles for satellite and ROES systems can be 20 years or more
    - The international dimension of satellite operations which mean spectrum cannot usually be substituted by moving to alternative bands.

[2] Source: BBC Annual Reports & Accounts 2014/15

[3] http://stakeholders.ofcom.org.uk/binaries/consultations/aip13/responses/BBC.pdf

Answers to questions in Ofcom's initial consultation document

Question 1 Do you agree with Plum's view of the potential higher value alternative mobile use of the 3.6-3.8 GHz bands over the next seven to ten years?

13. The evidence presented by Plum does not fully support the potential higher value alternative mobile use over a seven to ten year timescale.

14. Ofcom's *Mobile Data Strategy* suggests 3.6 to 3.8 GHz band might be used on a shared basis for mobile broadband with incumbent users. This would be in addition to spectrum between 3.4 to 3.6 GHz which Ofcom expects will be used by mobile operators to provide additional capacity for mobile networks in high demand areas, rather than for wide area national coverage.[4]

15. Current data demand forecasts show wide differences between demand estimates and how demand will be met. Ofcom's *Digital Communication Review Discussion Document* states 'overall levels of traffic could grow by around 45 times between 2014 and 2030' but states that this might be met by the forthcoming auctions of 2.3 GHz, 3.4 GHz and 700 MHz as well as improvements in spectrum efficiency.[5] It is not clear from the evidence presented that an additional 200 MHz of spectrum between 3.6 and 3.8 GHz will be in demand during the next seven to ten years to meet additional capacity needs.

16. Forthcoming auctions also mean the incremental value of additional spectrum for mobile broadband above 3.6 MHz could be reduced as the scarcity value of spectrum for mobile use is also reduced. It therefore seems premature to assume this higher value use within these timescales.

Question 2 Do you agree with Plum's analysis of current and future demand for spectrum for fixed links? Please give your reasoning.

[4] http://stakeholders.ofcom.org.uk/binaries/consultations/2.3-3.4-ghz-auction-design/statement/statement.pdf

[5] http://stakeholders.ofcom.org.uk/binaries/consultations/dcr_discussion/summary/digital-comms-review.pdf

17. Ofcom may wish to clarify the demand picture set out for 1.4 GHz fixed links and how this translates into the proposed price rise for licences in this band. On one hand the Plum report notes the number of links licensed is decreasing 'in the majority of frequency bands' and concludes demand 'is static' for 1.4 GHz fixed links. It goes on to state however that excess demand could 'continue to be an issue in bands below 20 GHz'. The latter conclusion is (indirectly) reflected in the proposed price rise for fixed links licences in 1.4 GHz. This is despite the report concluding that to set AIP, mobile broadband is not a likely alternative use of 1.4 GHz in the next five to seven years.

Question 3 Do you agree with Plum's analysis of current and future demand of spectrum for PES and TES? Please give your reasoning.

18. Findings in the report commissioned by the mobile sector, *Study on spectrum uses, trends and demands in the range 3400-4200MHz (C-band),* cited by Plum as evidence of current and future demand are disputed by the satellite sector, both in CEPT and in ITU-R.

19. Of particular relevance is the persistence of C-band for broadcast distribution. The characteristics of C-band make it a cost effective way to transmit higher bandwidth content.[6] Almost all of the BBC's use of C-band is for broadcast contribution and distribution purposes. World Service channels for Africa, Europe and the Americas are uplinked on C-band from within the UK. The BBC encourages Ofcom to consider additional evidence about current and future demand for spectrum for PES and TES as well as to consider how this links to the international dimension of global broadcasting.

20. Ofcom might also further consider the demand implications for PES and TES licences where sharing has already been introduced and/or release planned. The Plum report implies that satellite systems displaced from 3.6 to 3.8 GHz as a result of further sharing with mobile services 'may be accommodated by increased use of 3.8-4.2 GHz band and at higher frequency ranges.' This is

[6] http://www.nsr.com/news-resources/the-bottom-line/fear-not-for-c-band/

uncertain and may not be possible for many users. Where equipment can receive across the whole band additional terrestrial transmissions can overload the receiver. This can essentially make the whole band unusable without costly equipment investment and could, in some cases, result in a loss of services.

21. We also urge Ofcom to consider that many users of satellite services have no choice regarding the frequencies in use. ROES, for example, must receive on the frequencies on which non-UK broadcasters choose to transmit. For this reason, it is impossible for BBC Monitoring ROES to use 3.8 to 4.2 GHz as a substitute for the 3.6 to 3.8 GHz band. In other cases sharing has been to the detriment of incumbent services and this is also likely to have complex implications for demand.

Question 9 Do you have any comments on Plum's suggestion to add a location factor?

22. In some cases, a location factor and the option to discount fees in areas of low spectrum demand, could provide a price incentive for operators to locate uses to areas of the country where demand is lower (see Q14 in the case of satellites).

23. In the case of the BBC's fixed links use this would not be the result of adding a location factor to the fee algorithm. This is because some fixed links are an essential part of the distribution network in cases where there is no reasonable alternative to feed programming to a particular transmitter.

Question 13 What are your views on the proposed revisions to the PES algorithm and the TES ratio? In particular, do you agree we should use the relative denial areas to reflect the difference in opportunity cost between PES, TES and fixed links? Do you have any other suggestions for improvement?

24. The Plum report notes that RSA fees should be based on their relative denial area and that as a result of this 'fee levels for PES, TES and RSA may be higher than that needed to simply reflect the change in the value of spectrum.' The BBC would be concerned about any move to raise fees for RSA, especially if increased fees did not result in any improvement in the operating environment for ROES.

As already noted, the operation of BBC C-band ROES have already been impacted through geographic sharing with mobile broadband.

Question 14 Do you agree that the benefits of implementing geographic pricing are sufficiently high to warrant us considering this further? Should we look at both where mobile is, and is not, an alternative use? Do you have ideas on how this could be implemented?

25. Broadly we believe that the benefits of implementing geographic pricing are sufficiently high to warrant further consideration. We believe that discounting fees in areas of low spectrum demand could provide a price incentive if implemented with certain conditions so satellite licence/RSA holders could respond. Implementation of such a pricing factor would, however, need to fulfil a number of criteria for the costs of moving an earth station to be successfully justified.

26. Relocating some of the BBC earth station sites could represent a significant investment with annual licence fee costs added to that. The life cycle of large C-band antennas for example is estimated to be 20-25 years - although some antennas installed in late 1980s and early 1990s are still in use.

27. Assurances about access to usable spectrum (e.g. free from harmful interference) over the investment period would therefore be needed. Certainty about fee levels over the timescales in which the investment would be recouped would also be critical. It would not be possible to build a business case on current fee levels only for these to rise significantly within a matter of years.

28. We note one of Ofcom's AIP principles is to use the 'relevant timeframe' to assess future spectrum demand – that relevant timeframe being the 'typical economic lifetime of existing users' radio equipment'. The timescales of five to seven years being assessed for mobile broadband in 3.6 to 3.8 GHz are however much shorter than the typical lifecycle of a satellite or earth station.

Question 15 Do you have any comments to make on any issues related to next steps and implementation?

29. There are a number of additional issues Ofcom may want to consider as work on this project continues.

30. In paragraph 6.32 Ofcom briefly discusses the role of pricing to help support greater sharing. The BBC welcomes spectrum sharing opportunities, but urges caution for proposals that might restrict the operation of incumbent services.

31. BBC Monitoring ROES sites for example are already significantly affected by the use of C-band sharing with mobile broadband. The relative signals strengths of these two technologies can make band sharing difficult without expensive changes to operations and/or additional mitigation strategies. An increase in interference in yet more of this band as the consultation suggests could make the whole band unusable at a given location due to overloads in the receive equipment. Access to other services will almost certainly be lost. This is on top of a reduction of the BBC's ability to receive signals in C-band as a result of the planned release of 3.4 to 3.6 GHz in the UK.

32. The BBC also needs to be agile in its use of TES spectrum and that agility will often have a satellite element. Popular programming such as Springwatch or Scottish Golf tournaments take place in locations where alternative fixed methods of transmission would not be appropriate. This means additional sharing with incumbent satellite services will require detailed consideration around the practical considerations and the ability of stakeholders to respond to pricing incentives.

33. In developing proposals for pricing incentives Ofcom should also be aware that the BBC, like other broadcasters and organisations, has contracts with providers for services such as programme distribution that use radio spectrum as well as other distribution methods. A service provider's response to pricing incentives will at least in part be determined by the nature of these contracts and the length of time they are in place. Responses may also be affected by the size of the service provider. Ofcom may therefore want to closely consider the role such contracts, and the incentives and ability of different players of different sizes to respond.

34. Use of the term 'higher value' (e.g. in question one) as it relates to Ofcom's AIP calculations could be clarified to demonstrate the extent of value under consideration in this work. For example, by noting that it primarily refers to opportunity cost derived from auction receipts and not social value generated by spectrum use. DCMS's UK Spectrum Strategy *Delivering the best value from spectrum for the UK* published March 2014 notes Government's aim to obtain the best economic *and social value* from spectrum (our emphasis). We expect DCMS will soon publish work looking at the social value generated from spectrum use and would expect these important elements of value to also be considered in Ofcom's decision making whenever possible.

35. DCMS's UK Spectrum Strategy also notes that UK policy needs to take into account UK interests in spectrum outside the UK and specifically uses the BBC World Service as an example. Plum's underlying assumptions however are based on spectrum use within the UK. In contrast, Ofcom's parallel, but related, publication *Strategic Review of satellite and space science spectrum* specifically takes into account the UK's interests in spectrum outside the UK.

ENDS.