Cover sheet for response to an Ofcom consultation

BASIC DETAILS

Consultation title: **Recognised Spectrum Access ("RSA") for Receive Only Earth Stations in the Bands 1690 – 1710 MHz, 3600 – 4200 MHz and 7750 – 7850 MHz**

To (Ofcom contact): None

Name of respondent: Shaun Day

Representing (self or organisation/s): BBC

Address (if not received by email):

CONFIDENTIALITY

Please tick below what part of your response you consider is confidential, giving your reasons why

Nothing	X	Name/contact details/job title	
Whole response		Organisation	
Part of the response		If there is no separate annex, which parts?	

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Name Shaun Day Signed (if hard copy)

BBC Response to Ofcom Consultation: Recognised Spectrum Access ("RSA") for Receive Only Earth Stations in the Bands 1690 – 1710 MHz, 3600 – 4200 MHz and 7750 – 7850 MHz

Introduction:

The BBC welcomes the opportunity to respond to Ofcom's consultation document.

The BBC's primary objective is to ensure that its operation of receive-only earth stations (by BBC Monitoring primarily) receives appropriate protection from interference from services utilising the same spectrum given its 'co-primary' status under international agreements.

Ideally, Ofcom would already formally recognise the existence of these operations and license services in accordance with their co-primary status. In that case, a simple registration scheme - where Ofcom is made formally aware of the location and operational parameters of receive-only earth stations – would allow Ofcom to treat such stations as it does other users. The BBC would like to explore further with Ofcom what "level of comfort" could be provided by a registration scheme (this is not made clear in 4.68 or in the wider consultation document). If adequate protection can be achieved this way, might a registration scheme provide a simpler, cheaper and speedier resolution?

Nonetheless, the BBC has also offered constructive observations and responses to Ofcom's consultation questions below in acknowledgement that if the RSA process is the only means by which BBC Monitoring's facilities can achieve suitable protection from interference, then the BBC needs to ensure RSAs will be effective and provide the best demonstrable use of public funds.

Background

BBC Monitoring has been receiving C-band signals at Caversham and Crowsley Park for more than 20 years. Ofcom - and its predecessor, the Radiocommunications Agency- has been familiar with the BBC's operation at these sites for many years. Ofcom spectrum monitoring equipment is co-located alongside BBC equipment at both Caversham and Crowsley Park.

The BBC has been concerned about increasing interference for receive-only earth stations operating in these bands for some time. BBC World Service involvement in the UK WRC-07 preparation highlighted our concerns over increased interference to our international operations which use C-band both in the UK and globally. These concerns, as they relate specifically to our BBC Monitoring operations, were further detailed last year in the BBC response to Ofcom's consultation on the Freedom4 licence variation application where we noted that: "*the variation requested will cause further problems and jeopardise BBC Monitoring's ability to fulfil its public service duties, on behalf of its Government clients*."

Both BBC Monitoring operations utilise spectrum between 3600 – 4200 MHz under the ITU Radio Regulations Fixed-Satellite allocation and therefore in ITU Region 1 have co-primary status with any operation under the Fixed allocation in the same spectrum. However, because UK and EU law require any service "unlikely to involve any undue interference with wireless telegraphy" to be exempt from licensing, operations like BBC Monitoring have been provided with no formal recognition or mechanism to enable the co-ordination required under the ITU Radio Regulations where co-primary services share spectrum.

Since the UK licensing of FWA in this spectrum in the 1990s (extended in 2009 to mobile use), BBC Monitoring has seen significant and harmful increases in levels of interference. Indeed, this consultation predicts that this situation will get worse (4.16: "*the probability that receive-only earth station sites could have their interference environment compromised will increase with the time taken to introduce the grant of RSA").*

The BBC notes that the service which licence-exempt satellite operations could/can expect from the Radiocommunications Agency/Ofcom was explored in the third report of the Commons Select Committee on Trade and Industry on radio spectrum management and in Parliamentary debate prior to the 2003 Communications Bill.

The BBC also notes that in his "Independent Audit of Spectrum Holdings" published in December 2005, Professor Martin Cave recommended that "*Ofcom should consider the use of RSA for receive-only satellite earth stations in the 3.6-4.2 GHz band, along other options for improving the management of this band."*

The BBC Monitoring sites are the only receive-only earth stations in 3600 – 4200 MHz owned and operated by the BBC. However, the BBC also has a significant interest in other receive-only earth stations operating in this spectrum in the UK. These are the ones owned and operated by Babcock which are an integral part of the World Service Satellite Media Distribution System used for the global distribution of our programme output. The BBC understands that Babcock will also be responding to this consultation with respect to these operations, but wishes to note that any additional costs incurred by Babcock in order to provide greater security against interference are likely to be passed on to the World Service.

BBC Response to Ofcom questions

Question 1: Do you agree with the list of proposed RSA parameters for assessing interference and for setting fees for receive-only earth stations? Are sufficient parameters defined for a grant of RSA? If you disagree, please give your reasons and suggest alternatives.

The BBC agrees with the list of proposed RSA parameters for assessing interference with one exception: the proposed interference level of -159dBW/MHz. This is based on the proposed noise temperature of 93 Kelvin on a 9 metre dish. As noted in the consultation document (A6.10) these parameters are not worst-case values but mean values and "*some receive-only earth stations may have a lower noise temperature than that used in our initial analysis. A sensitivity analysis shows that the impact area for a receiver noise temperature of 60K is 2577km2."* The BBC believes that a baseline figure of 60 Kelvin is more appropriate than the 93 Kelvin proposed. The 60 Kelvin value would be more in-line with the sensitive reception equipment and the larger dishes used by BBC Monitoring.

Given the passive nature of BBC Monitoring operations and the requirement for our facilities to have the ability to access satellite broadcasts across the whole 600MHz range between 3600 and 4200 MHz, any RSA requirement with respect to this frequency band will be of that order.

The BBC asks Ofcom to confirm whether the following is a correct understanding of Ofcom's proposal with respect to the proposed protection afforded by RSA in the 3600 – 4200 MHz band (4.2, 4.7):

- there is no co-ordination zone associated with these receive-only earth stations
- the level of interference from a new transmitter application is calculated at the receiver of the earth station
- any application for a new transmitter which exceeds the maximum acceptable interference level at the earth station (SQB) will be refused
- any application for a new transmitter which does not exceed the maximum acceptable interference level at the earth station (SQB) will be granted
- the cumulative effect of multiple new transmitters on interference levels at the receiver is not taken into account

Question 2: Do you agree with the proposals for introducing fees for RSA for receive-only earth stations in the bands concerned on the basis of parity with existing PES fees (with a minimum fee of £500) and that the full fees be implemented from the date of grant of RSA? If you disagree, please give your reasons and suggest alternatives.

The BBC considers that receive-only earth station operations require the same protection as that currently afforded to the existing licensed services in the band given their co-primary status. However, the BBC does not agree that complete parity with existing PES fees for existing stations which transmit in the 5900-6700 MHz range and receive in the 3600 - 4200 MHz range is reasonable or appropriate. Receive-only earth stations do not make the same use of spectrum as PES and are unlikely to generate any interference as they do not produce high power electro-magnetic emissions.

Further to this, receive-only earth station operations have no control over the satellite emissions they are required to receive, or any control over operational changes that occur due to substitution of frequency or satellite by satellite operators. This means the prime objective and benefit of any fees based on AIP - i.e. to incentivise the most efficient use of spectrum - can never be realised.

The BBC agrees that there is significant risk (4.16) in any delay addressing the lack of “formal recognition” of receive-only earth stations and also accepts that any mechanism affording them protection from interference will also reduce opportunity for other users of the spectrum. The BBC therefore proposes that RSA fees for receive-only earth station operations should -only be referenced to the existing PES fees only if a downward adjustment is made to recognise the absence of any generated interference and acknowledge that there is no possibility to improve the efficiency of spectrum use.

The BBC requires full protection of its operations from the outset. If this is provided alongside full fees being payable from the date of any RSA grant, then the BBC would prefer this option to one where fees and protection were phased in.

Moreover, the BBC is concerned that undue delay in implementing RSAs will leave BBC Monitoring operations increasingly vulnerable to rises in the noise floor before any measurements are possible. The BBC requests that Ofcom establish the actual measured baseline interference levels as soon as possible (see response to Question 5).

Question 3: Do you agree that grants of RSA in the bands should normally be on a rolling annual basis, with a 5-year revocation period?

The BBC agrees with the granting of a rolling term with no fixed end date and notes that the proposed 5 years notice to revoke or modify a grant of RSA would be the minimum necessary for our operations. If modification of a grant of RSA were to lead to a significant deterioration of reception, it would not be acceptable to have less than 5 years notice as BBC Monitoring may find it necessary to relocate reception facilities.

Question 4: Do you agree that grants of RSA in the bands should be tradable and that grants of RSA and WT licences should be inter-convertible? If so, do you agree with our proposal to model the process for trading and conversion on that for RSA for radio astronomy?

The BBC does not consider that the tradability of RSA or the potential to convert it into a WT licence is relevant to the way receive-only earth station operations use the spectrum. None of the four options identified in 3.11 made available by the tradability of RSA is applicable to receive-only earth station operations because of the passive nature of spectrum use and there would also be no operational reason to convert the RSA to WT licence.

Question 5: Do you agree with our proposed procedure for considering applications for the grant of RSA to receive-only earth stations. If you disagree, please give your reasons and suggest alternatives?

The BBC believes that relying solely on Ofcom databases is insufficient. Given the limited number of applicable sites, it is important to establish actual measured baseline interference levels at receive-only sites and use this data in addition to any predicted interference assessment made using the Ofcom database which records known fixed services.

Question 6: Do you agree that RSA for receive-only earth stations could provide greater security against interference and help promote optimal use of the 1690 - 1710, 3600 - 4200 and 7750 - 7850 MHz bands? If not, please explain why and describe any alternative mechanism that you consider to be necessary.

The BBC agrees that RSA for receive-only earth stations could provide greater security against interference but notes that, until an RSA is granted, applications can be made and granted for licensed uses in 3600 - 4200 MHz which would further increase the interference to BBC Monitoring operations.

The BBC disputes, however, whether RSA will help to promote optimal use of the spectrum. As stated previously, this is because the measures designed to encourage efficiency (AIP, tradability, the possibility of conversion to a licence) cannot incentivise a change to its passive use of frequencies across the range 3600 - 4200 MHz and make the use of spectrum more efficient.

However, the BBC would like to explore further with Ofcom exactly what “level of comfort” could be provided by a registration scheme, since this is not made clear in 4.68 or in the wider consultation document. If adequate protection can be achieved this way, might a registration scheme provide a simpler, cheaper and speedier resolution?

The BBC seeks the most proportionate and efficient degree of protection for BBC Monitoring operations and one which makes the best demonstrable use of public funds. In common with Ofcom, the BBC is tasked by UK Government to ensure our spectrum use is efficient. The BBC is concerned that because RSA as a mechanism is more geared towards allowing the trading of spectrum than ensuring protection for services which have little or no flexibility in terms of spectrum use, there is a danger that the associated costs will grow and it will become difficult for our public sector use to share spectrum with more commercial operations.

The BBC further notes that the users of receive-only earth stations in the UK are typically publically-funded organisations with either a public service or research-based function. The application of a mechanism more suited to operations where a market-led approach can incentivise more efficient use may in these cases impose an unsuitable and unwieldy regulatory burden and result in unnecessary transfer of public funds between UK Government funded organizations.