Please find below the UK Space Agency response to consultation on Variation of 28 GHz Broadband Fixed Wireless Access Licences

Background

The UKSA are pleased to be given the opportunity to comment on the 28GHz Broadband license issue. The 27.5-29.5 GHz (Ka) band has in recent years become an extremely important satellite uplink band paired with 18GHz downlink allocation.

We should perhaps briefly recall why the spectrum is used in this way as it is governed by physics rather than economics. Satellite systems are and will always be limited atmospheric propagation impairments. These are principally gaseous absorption and precipitation fading. These impairments preclude the use of higher frequencies with current technology. The 18/28GHz pairing deliberately places satellite links into atmospheric windows either side of the water absorption line. This is important as satellite links must pass through the whole atmosphere whereas terrestrial links do not. Further to this, the degree of spectrum re-use that can be achieved depends on the directivity of the antenna and physical laws relate this directivity to the antenna size and the wavelength. This creates a sweet spot for high density fixed satellite systems in the 10-30GHz region. It therefore makes more sense for terrestrial services to move to higher frequencies to permit satellite services to expand and for this reason we believe priority should be given to satellite services when planning the use of the 28GHz band.

Evidence of satellite use of the 28 GHz band

Satellite services are now moving into the 18/28 GHz bands, principally due to increasing demand and congestion in the lower bands. This band will be extremely important in the provision of high definition television and satellite broadband to remote regions, not just within the UK but also for services to developing countries from the UK.

All the major satellite operators have either already started or are planning providing services in Ka band, to the extent there is now intense competition for orbital slots at Ka band. These are large financial investments far in excess of the amount raised through the 28GHz auctions. UK industry builds and insures satellites and provides high value services. The downstream satellite industry is expected to expand fourfold by 2030 and the Ka band spectrum will play a large part in that expansion and access needs to be assured.

Conversely, the 28 GHz to BFWA in 2000 and 2008 has not to date resulted in significant usage by the terrestrial services that could not have been accommodated elsewhere.

Future use of the 28GHz band

Fixed use and satellite use are both import to the UK economy and as Ofcom will be aware, to enable equitable sharing, in 2005 European administrations agreed to segment this band between the fixed service and fixed satellite service. This makes it practical to deploy uncoordinated FSS earth stations with a high density of terminals.

Continued use of these bands for fixed links may be compatible with satellite use, but BFWA use has the potential to constrain the development satellite use in the UK. The current band plan which is difficult to change because of the way the spectrum was auctioned is not compatible with the ECC decision. As these licenses are due to expire there is now an opportunity to rectify this situation and ensure that satellite use of this spectrum in the UK is not unduly constrained by fixed service use.

Response to Consultation Questions

Q1 Do you agree that Ofcom should grant Urban Wimax's and Cable & Wireless's requests to vary their licences as soon as practicable?

While we understand the terrestrial operator concerns, we believe satellite use has a larger potential to make efficient use of the spectrum and a large contribution to the UK economy and to economic growth. We consider that indefinite extension of the licenses to not be appropriate. Space is a global business and the UK can not act alone in determining the use of the 28GHz band. All the indicators at the moment point towards the highest socio-economic return coming from future use by the FSS. An indefinite extension would make it difficult to re-farm this spectrum in the future. We are particularly concerned that any change of use rights may result in further constraints on the FSS that will hamper or prevent growth in the sector and request that these mechanisms are not applied in this spectrum

Q2 Do you agree with our proposal to align the technical conditions of the licences with those awarded in 2008 in these and adjacent spectrum bands?

As the 2008 licenses were for 15 years and presumably this can not be changed, it would make sense to bring all licenses to a common standard with a common termination date in 2023. However, a clear plan for the future use of the band should be prepared as soon as possible.

Q3 Do you agree with Ofcom's proposals to set an AIP fee level in context with the review of fees within bands used for fixed links?

We agree that a re-auction is not appropriate and this appears to be a consistent approach.

Q4 Do you agree that Ofcom should offer this variation to other BFWA licence holders?

No comment