



OFCOM CALL FOR INPUT: SPECTRUM REVIEW, 31 JANUARY 2012

RESPONSE OF BRITISH SKY BROADCASTING GROUP PLC

1. This submission constitutes the response of British Sky Broadcasting Group plc ("**Sky**") to Ofcom's call for input on a review of the management of the spectrum currently used for point to point fixed links and other services that share this spectrum, dated 31 January 2012 (the "**Call for Input**").
2. Although Sky uses spectrum in a variety of the frequency bands under review in the Call for Input, Sky has limited its response to the following area which it feels are the most important:
 - (a) Satellite services; and
 - (b) Programme making and special events.

SATELLITE SERVICES

3. Sky operates permanent earth stations (**PESs**) which uplink Sky's broadcast streams to geo-stationary satellites which operate in the 13 GHz and 18 GHz bands of spectrum.
4. Satellite operators are relatively inflexible in regard to spectrum use for PES. The average life expectancy of a geo-stationary satellite is 15-20 years, during which time satellite operators have no ability to switch between different frequency ranges.
5. As broadcast technology has evolved (e.g. from analogue to digital; from standard to high definition), satellite operators have seen a continuous increase in demand for spectrum in frequencies where geo-stationary satellite operate. Improvements in compression technology have meant that demand for bandwidth has so far remained broadly in line with supply.
6. Increasing demand for spectrum in these bands has the potential to increase the risk of interference between services. Sky has certain experience of this in the 13 GHz band where it has put in place physical barriers which protect against interference from users in this band in the locality. Sky is confident that these mitigation measures would protect against interference resulting from increased use of spectrum in the 13 GHz bands.
7. In the future, developments in broadcast technology may result in an increased need for spectrum in the 18 GHz band (e.g. 4K resolution television, which will require four-times the bandwidth of today's HD TV) and it cannot be guaranteed that improvements in compression technology will run in parallel with increased needs for bandwidth. It is, therefore, important that Ofcom ensures this spectrum is used as efficiently as possible by, for example, ensuring that interference is mitigated using techniques such as those that have been used successfully in the 13 GHz band.



PROGRAMME MAKING AND SPECIAL EVENTS (PMSE)

8. Sky uses wireless cameras, microphones and video links for the purpose of supporting Sky's outside broadcast of live sporting events. Historically, Sky has utilised spectrum in the 2-3 GHz bands for these purposes. Congestion in these bands, caused by increased need for spectrum for PMSE use, will be further exacerbated by the reduction of available spectrum following the auction of the 2.6 MHz band for mobile broadband.
9. Congestion in the 2-3 GHz band has had a direct effect on Sky which recently had its application for a PMSE licence to cover outside broadcast of F1 fixtures turned down due to the lack of availability of spectrum. For this reason, Sky has already started to use equipment that operates in higher spectrum bands, specifically 6.8-7.5 GHz.
10. Sky anticipates that as the need for spectrum in the 2-3 GHz band increases, bands 5-7 GHz will also become increasingly congested. Ofcom should, therefore, ensure that sufficient spectrum in these bands remains available for PMSE use.

Sky

1 May 2012