Inmarsat response to Ofcom call for input

Spectrum above 6 GHz for future mobile communications

27 February 2015

Inmarsat is pleased to respond to Ofcom's call for input: "Spectrum above 6 GHz for future mobile communications".

Inmarsat has participated in the development of the ESOA response to Ofcom on this subject and Inmarsat fully supports that response. In this response we wish to highlight to Ofcom our particular concern with two of the frequency bands identified by Ofcom that result from the initial filtering. They are the bands 5925-8500 MHz and 25.25-29.5 GHz.

The band 5925-7075 MHz (part of the band 5925-8500 MHz identified by Ofcom) is allocated to the FSS for Earth-to-space links. This band is used by Inmarsat for the feeder uplinks of our global satellite network, and thus provides vital communication links for all Inmarsat users. Interference into these uplinks could cause significant interference to thousands of Inmarsat users, including users of safety related services.

This band is also used for the telecommand links to our satellites, which are vital for the control of our satellites, necessary to maintain the constant position keeping and operation of the satellite.

The ITU-R has recently completed relevant studies on the possible use by IMT systems in the band 5850-6425 MHz, as a part of the studies under WRC-15 agenda item 1.1 (see "draft new Report ITU-R [FSS-IMT C-BAND UPLINK]"[1]). This study considered IMT systems proposed to be limited to indoor deployment but found that even with that limitation, very stringent power limits are required to avoid harmful interference to FSS satellites[2]. The necessary power limits are such that the band could not usefully be used for IMT systems. Although the adjacent band 6425-7075 MHz was not studied in that Report, the same characteristics of FSS systems apply and thus the same conclusions would apply. Hence the band 5925-7075 MHz can already be ruled out on the basis of recently completed and relevant technical studies.

The band 27.5-29.5 GHz (part of the band 25.25-29.5 GHz identified by Ofcom) is also allocated to the FSS for Earth-to-space links. This band is used by Inmarsat's new Global Xpress system, which is a network comprised of geostationary satellites, providing mobile broadband services to users throughout the world, particular in hard to reach locations such as on ships and in aircraft. The first two Global Xpress satellites have been successfully launched, a third is due to be launched later this

[1] ITU-R document 5/123.
[2] The recommended EIRP limit on IMT base stations is 10-15 dBm.

year, and a fourth is under construction. Inmarsat's investment in the system is around US$ 1.2 billion.

The band 27.5-29.5 GHz is used for feeder uplinks and part of this band is used for uplinks from user terminals. The user terminals are mobile, deployed on ships, aircraft and land vehicles, which may operate from almost any location in the world.

A clear and stable global regulatory environment for this band has been vital to enable the development of the Global Xpress system. The same clear and stable global regulatory environment will continue to be required for the foreseeable future, and particularly in the coming months as the Global Xpress network and user terminals are deployed around the world. Inmarsat requires authorisation to operate Global Xpress terminals from almost every country, and placing this band within the scope of a new WRC-19 agenda item could seriously undermine the regulatory stability and certainty that exists today and could prevent or delay the authorisation of our new services. This proposal could have a serious impact on our business.

Many other satellite operators are also investing billions of dollars and deploying new satellite systems in these bands, like Inmarsat, relying on the clear and stable international regulatory environment. Inmarsat is confident that any sharing studies in this band will show that sharing is not feasible with IMT, but simply having this band included in the scope of a new agenda item will undermine the regulatory certainty for this band, at a time when it is needed most.

For the reasons outlined above, it is vital that the bands 5925-7075 MHz and 27.5-29.5 GHz are dropped from the initial list of bands identified by Ofcom.

Inmarsat thanks Ofcom for the opportunity to comment and asks that Ofcom takes seriously the proposal to remove the two bands 5925-7075 MHz and 27.5-29.5 GHz from the initial list.