Inmarsat Counter Comments for the TRAI Consultation

Delivering Broadband Quickly: What do we need to do?

21 October 2014

Inmarsat has been a catalyst to the development plans of India and will continue to provide mission-critical services in the future, especially in delivering 'Broadband Quickly'.

In this submission to the TRAI, Inmarsat provides counter comments with regard to Consultation Paper no. 12/2014: "Delivering Broadband Quickly: What do we need to do?". Inmarsat wishes in particular to respond to some of the comments already provided by the GSMA.

On the proposed usage of the frequency band 3400-4200 MHz for IMT, Inmarsat feels that there is no feasibility of use of any part of 3400-4200 MHz for terrestrial mobile broadband in India given the extensive use of C-band. In this context, we wish to highlight that the current and planned new Inmarsat land earth stations in India operate in the lower part of this band which is the band most commonly targeted for mobile broadband. These earth stations are the gateway stations which support Inmarsat broadband services such as "BGAN" and also Inmarsat's maritime safety services. Consequently, if this band were to be considered in India for mobile broadband, Inmarsat would be particularly concerned about interference to our land earth stations.

Inmarsat also wishes to express concern with the GSMA proposal to consider the band 1427-1525 MHz for IMT through WRC-15 agenda item 1.1. The upper part of that range, 1518-1525 MHz, is allocated to the MSS globally and is sometimes referred to as "extended L-band", intended to supplement the MSS downlink band at 1525-1559 MHz. The band 1518-1525 MHz is currently used by Inmarsat through the "Alphasat" satellite. Inmarsat terminals receiving in this band are in use in Europe, Africa and the Middle East. While this band is not currently used by Inmarsat in the Asia Pacific region, it is likely that this band will be brought into use for MSS in the near future. As this is a receive band for MSS user terminals, they would be vulnerable to interference from terrestrial IMT systems. Studies conducted by the ITU Joint Task Group JTG 4-5-6-7 showed the need for separation distances between IMT systems and MSS user terminals of 1 to 546 km in normal propagation conditions, and from 105 to 830 km in anomalous propagation conditions. The range of results reflect different assumptions for IMT systems, different propagation assumptions, and the impact of different MSS terminals types (aeronautical, maritime and land). From these results, it is clear that sharing of this band by MSS and terrestrial IMT is not feasible.

The comments from the GSMA suggest that the band 1427-1525 MHz is supported by regional groups CITEL and CEPT, and is "under review in APAC". While there are two CITEL countries which

have suggested identification of 1427-1525 MHz for terrestrial IMT, some other CITEL countries have opposed this band or proposed alternative bands which do not overlap with the MSS band 1518-1525 MHz. Similarly, in the APT region, we are aware of only one country which has supported study of 1518-1525 MHz, while other countries have opposed. There is no preliminary view supporting the band 1518-1525 MHz for terrestrial IMT in either APT or CITEL.

In the CEPT, there is a preliminary position to oppose the identification of 1518-1525 MHz for terrestrial IMT. CEPT also has a preliminary position to support identification of the adjacent band 1492-1518 MHz for terrestrial IMT. In this regard, CEPT is also studying the necessary constraints to ensure no interference from terrestrial IMT systems to MSS operations above 1518 MHz.

Hence, contrary to the suggestions made by GSMA, considering the current status of the various regional groups, there is virtually zero possibility of the band 1518-1525 MHz being identified for IMT at WRC-15.

Inmarsat has noted document 5D/370, dated 3 July 2013, submitted by the administration of India to the ITU-R Working Party 5D. We are pleased to see that in this document, India does not identify the band 1518-1525 MHz as a suitable band for study for terrestrial IMT. However India identifies the band 1429-1518 MHz as being a suitable band for study for terrestrial IMT. In this regard, we wish to highlight the need for technical limitations on IMT operations in the band 1429-1518 MHz so as to avoid interference to MSS operations in the adjacent band 1518-1559 MHz. The band 1429-1518 MHz should not be identified for terrestrial IMT before the necessary technical limitations are determined.

Inmarsat thanks the TRAI for the opportunity to comment on this important consultation. Any queries may be addressed to: Mr Paul Deedman, Manager Spectrum Regulation, paul.deedman@inmarsat.com.