



September 20, 2011

Shri Sudhir Gupta
Pr. Advisor (MS)
Telecom Regulatory Authority of India
Mahanagar Doorsanchar Bhawan
Jawaharlal Nehru Marg (Old Minto Road)
New Delhi 110 002 India

Dear Shri Gupta:

The Satellite Industry Association (SIA) thanks the Telecom Regulatory Authority of India (TRAI) for the opportunity to comment on the Consultation Paper **"IMT-Advanced Mobile Wireless Broadband Services."**

SIA is a U.S.-based trade association providing worldwide representation of the leading satellite operators, service providers, manufacturers, launch services providers, and ground equipment suppliers.¹ SIA is the unified voice of the U.S. satellite industry on policy, regulatory, and legislative issues affecting the satellite business. SIA members are actively engaged in providing communications services to India. As a result, SIA has a strong interest in any possible policy changes that would affect the availability of spectrum for satellite services in India.

SIA would like to offer the following comments with respect to band 3.4 - 3.6 GHz band included for consideration in the above referenced consultation paper:

- 1) Section 2.22 on page 36 of the TRAI consultation paper states:

¹ SIA is a U.S.-based trade association providing worldwide representation of the leading satellite operators, service providers, manufacturers, launch services providers, and ground equipment suppliers. Since its creation fifteen years ago, SIA has become the unified voice of the U.S. satellite industry on policy, regulatory, and legislative issues affecting the satellite business. SIA Executive Members include: Artel, Inc.; The Boeing Company; The DIRECTV Group; DBSD North America, Inc.; EchoStar Satellite Services L.L.C.; Harris CapRock Communications; Hughes Network Systems, LLC; Integral Systems, Inc.; Intelsat, Ltd.; Iridium Communications Inc.; LightSquared; Lockheed Martin Corporation.; Loral Space & Communications, Inc.; Northrop Grumman Corporation; Rockwell Collins Government Systems; SES WORLD SKIES; and TerreStar Networks, Inc. SIA Associate Members include: Arqiva Satellite and Media; ATK Inc.; Cisco; Cobham SATCOM Land Systems; Comtech EF Data Corp.; DRS Technologies, Inc.; Eutelsat, Inc.; GE Satellite; Globecom Systems, Inc.; Glowlink Communications Technology, Inc.; iDirect Government Technologies; Inmarsat, Inc.; Marshall Communications Corporation.; Orbital Sciences Corporation; Panasonic Avionics Corporation; Segovia, Inc.; Spacecom, Ltd.; Spacenet Inc.; Stratos Global Corporation; TeleCommunication Systems, Inc.; Telesat Canada; Trace Systems, Inc.; UltiSat, Inc., and ViaSat, Inc. Additional information about SIA can be found at <http://www.sia.org>.

“In respect of spectrum in 3.4-3.6 GHz band, in its recommendation on “Allocation and Pricing of 2.3-2.4 GHz, 2.5-2.69 GHz, 3.3-3.6 GHz” dated 11th July, 2008, the Authority decided not to make any recommendation for 3.4-3.6 GHz unless DoT assess the compatibility of satellite based services with the terrestrial BWA services and a detailed analysis is done in a transparent and time bound manner to ascertain the feasibility of mitigation of the interference problems reported by some of the stakeholders including Department of Space, considering the fact that there was no clarity on the use of this band in the country.”

The consultation paper and other available documentation provide no indication that DoT has yet done such an analysis. Due to the widespread use of the C-band in India – both “extended” C-band (3.4 – 3.7 GHz) and “standard” C-band (3.7 – 4.2 GHz) – and in view of the concerns and lack of clarity cited in Section 2.22 quoted above, it could be expected that the necessary protection zones for C-band would be very extensive, leaving only small areas where the band 3.4 – 3.6 GHz could be assigned to IMT-Advanced.

- 2) International analyses have been performed, for example ITU Working Parties 5A and 4A Studies on compatibility of broadband wireless access (BWA) systems and fixed-satellite service (FSS) networks in the 3 400–4 200 MHz band (ITU-R Report S.2199).

Both of these reports outline the studies that have been conducted on the technical implications of co-existence of BWA/IMT systems and the “fixed satellite services” -- FSS. These reports agree that when BWA/IMT stations and FSS earth stations are deployed in a ubiquitous manner, co-frequency operation is not feasible. It is notable that FSS C-band receive stations are already deployed throughout India, as they are used for a variety of services, but notably for reception of television signals by cable TV operators throughout the country.

- 3) For many countries in Asia located in areas with high rain rates the C-band is often the only means of reliable communication. It should not be jeopardized by potential spectrum interference. C-band satellites tend to have region-wide coverage areas (including India but also including many other markets in this hemisphere).
- 4) International studies have shown that the use of the 3.4 – 3.6 GHz band for IMT-Advanced could cause interference into FSS applications even using the standard C-band.

- 5) The use of the band 3.4 - 3.6 GHz in India for IMT-Advanced would therefore preclude use of the C-band for satellite services in all regions where IMT-Advanced services are operated in that band. In turn, this would jeopardize the financial basis for all future investments by making investment in C-band satellites less attractive due to loss of potential business over India. This will jeopardize availability of C-band services in India and throughout Asia.
- 6) The investment in C-band satellites represents billions of dollars by the satellite industry, with correspondingly large investments in transmission and receiving facilities by the providers and distributors of TV programming throughout the Asia-Pacific region - including Indian broadcasters and Indian cable companies.

In view of the above reasons, SIA is deeply concerned regarding the inclusion of the band 3.4 - 3.6 GHz in the present TRAI consultation on frequency spectrum for IMT-Advanced services. This band is not suitable for use by IMT-Advanced or other broadband wireless systems, as it is in wide use for other important services. We urge TRAI not to further consider use of these frequencies for IMT-Advanced since such use may jeopardize essential C-band communication services across India (and in neighboring countries as well).

SIA would like to thank the TRAI again for the opportunity to comment on this Consultation Paper and for its continuing openness to dialogue with industry sectors affected by spectrum policies. I can be reached via telephone at +1 202-503-1561 or e-mail at pcooper@sia.org should you or your staff wish to discuss these comments personally.

Very Best Regards,



Patricia Cooper
President, SIA