

**United States of America**  
**Preliminary Views on WRC-07**

**AGENDA ITEM: 1.2** – To consider allocations and regulatory issues related to the Earth Exploration Satellite (passive) Service, space research (passive) service, and the meteorological satellite service in accordance with Resolutions 746 (WRC-03) and 742 (WRC-03).

**ISSUE:**

This Preliminary View only addresses the 18 GHz aspects of Resolution 746 (WRC-03). For this case, the issue is the feasibility of sharing between meteorological satellites operating in the space-to-Earth direction and the fixed service and fixed satellite service in the space-to-Earth direction in the band 18.0-18.4 GHz. (Resolution 746)

**BACKGROUND**

Resolution 746 indicates that a space-to-Earth meteorological allocation exists in the band 18.1-18.3 GHz, but that this allocation is not wide enough to support the data rates viewed as necessary by the Metsat service. The Metsat service wishes to use geostationary satellites to provide this service.

The band 18.0-18.4 GHz is allocated to the FSS in the space-to-Earth direction and in the Earth-to-space direction. The Earth-to-space allocations are limited to use by BSS feederlinks with the 18-18.1 GHz segment being part of the Appendix 30A BSS feederlink Plan for Regions 1 and 3, and the 18.1-18.4 GHz segment being non-planned. In the 18-18.4 GHz band GSO satellites, including Metsats in the band 18.1-18.3 GHz band, are subject to coordination under No. 9.7 (and coordination threshold of  $\Delta T/T = 6\%$ ).

Article 21 pfd limits for GSO FSS in the band 18.0-18.4 GHz range from  $-105$  dB  $W/m^2$ . MHz) to  $-115$  dB ( $W/m^2$ . MHz)) depending on angle of arrival. GSO FSS systems are either operating or being designed to operate up to these levels. Further, GSO FSS

systems in these bands operate with small orbital spacing, e.g., 2°. In Region 2, the 18.3-19.3 GHz band was identified by WRC-03 [No. 5.516B] for deployment of High Density FSS (HDFSS) earth stations, and thus plans for use of the 18.3-18.4 GHz band by high power satellites operating with ubiquitously deployed small Earth stations are well advanced.

BSS feeder links systems generally use a relatively small number of large feeder link earth stations, which may facilitate the sharing situation for the terrestrial paths (FSS earth station interfering into MetSat receiving earth stations).

ITU-R WP-7B has the lead in preparing CPM text for this agenda item and WP-4A has identified a Rapporteur to participate in its work.

#### **U.S. VIEW:**

1. The FSS is planning and designing geostationary satellite systems for use of the band 18.3-18.4 GHz, including FSS systems currently under construction in the US, under the technical and regulatory constraints presently found in the Radio Regulations. The United States has implemented HDFSS in the 18.3-18.8 GHz bands, through allowing blanket licensing of FSS earth stations. In addition, to facilitate ubiquitous deployment of small earth stations, the United States has removed terrestrial allocations in this band. Considering this, any extension of the MetSat allocation into the 18.3-18.4 GHz band cannot impose any additional constraints on the FSS.
2. While the ITU-R is continuing to study this issue, the sharing conditions that result as a consequence of the protection requirement for the MetSat service, that were communicated to ITU-R WP 4A, would impose unacceptable constraints on the FSS.
3. If it is not possible to meet the Metsat data transmission bandwidth requirements in the already established 18.1-18.3 GHz Metsat allocation, consideration should be given to extending the allocation to 18.0-18.3

GHz due to the difficulty of sharing between HDFSS GSO FSS systems and Metsats in 18.3-18.4 GHz.