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India (Republic of)

PROPOSAL FOR PRELIMINARY VIEWS ON WRC-27 AGENDA ITEM 1.4

*AGENDA 1.4 to consider a possible new primary allocation to the fixed-satellite service (space-to-Earth) in the frequency band 17.3-17.7 GHz and a possible new primary allocation to the broadcasting-satellite service (space-to-Earth) in the frequency band 17.3-17.8 GHz in Region 3, while ensuring the protection of existing primary allocations in the same and adjacent frequency bands, and to consider equivalent power flux-density limits to be applied in Regions 1 and 3 to non-geostationary-satellite systems in the fixed-satellite service (space-to-Earth) in the frequency band 17.3-17.7 GHz, in accordance with Resolution **726 (WRC-23)**;*

Resolution **726 (WRC-23)** – *Possible new primary allocation to the fixed-satellite service (space-to-Earth) in the frequency band 17.3-17.7 GHz and possible new primary allocation to the broadcasting-satellite service (space-to-Earth) in the frequency band 17.3-17.8 GHz in Region 3, and consideration of equivalent power flux-density limits to be applied in Regions 1 and 3 to non-geostationary-satellite systems in the fixed-satellite service (space-to-Earth) in the frequency band 17.3-17.7 GHz*

Resolution **726 (WRC-23)** invites the ITU Radiocommunication Sector to conduct and complete in time for the 2027 world radiocommunication conference

1 studies on sharing and compatibility between the FSS (space-to-Earth), the BSS (space to-Earth) and the FSS (Earth-to-space) designated by No. 5.516 in order to consider a possible new primary allocation to the FSS (space-to-Earth) in the frequency band 17.3-17.7 GHz for Region 3 and to the BSS (space-to-Earth) in the frequency band 17.3-17.8 GHz for Region 3, while ensuring the protection of existing primary allocations in the same and adjacent frequency bands, and without adversely affecting the existing allocations to the FSS (Earth-to-space) designated by No. 5.516, including assignments to the BSS feeder links contained in Appendix 30A;

2 consideration of the applicability of Region 2 non-GSO FSS epfd limits (see noting e) pertaining to the frequency band 17.3-17.7 GHz to Regions 1 and 3, so as to ensure the protection of GSO networks,

Background

WRC-23 established agenda item 1.4 to consider a new primary allocation to the fixed-satellite service (space-to-Earth) in the frequency band 17.3-17.7 GHz, a new primary allocation to the broadcasting-satellite service (space-to-Earth) in the frequency band 17.3-17.8 GHz in Region 3 and

Contact: **Email:**

to consider equivalent power flux-density limits to be applied in Regions 1 and 3 to non-geostationary-satellite systems in the fixed-satellite service (space-to-Earth) in the frequency band 17.3-17.7 GHz, in accordance with Resolution **726 (WRC 23)**.

Resolution **726 (WRC-23)** calls for studies to assess a new primary allocation to the fixed-satellite service (FSS) and the broadcasting-satellite service (BSS) in the space-to-Earth direction in this frequency band in Region 3 to improve harmonization amongst Regions. A key aspect of these studies involves evaluating the applicability of Region 2 non-geostationary (non-GSO) FSS epfd↓ (space to Earth) limits to Region 3, and whether these provide adequate protection of GSO networks.

The 17.3-17.7 GHz band is already allocated to the FSS in the space-to-Earth direction in Regions 1 and 2 and the 17.3-17.8 GHz band is also allocated on a primary basis to the broadcasting-satellite service (BSS) in Region 2. A new allocation in Region 3 may progress the global harmonization in these frequency bands. Table below shows the current allocations in the RR and the mismatch in usable downlink bandwidth in the FSS in Region 3.

17.3-18.4 GHz

Allocation to services		
Region 1	**Region 2**	**Region 3**
17.3-17.7 FIXED-SATELLITE (Earth-to-space) 5.516 (space-to-Earth) 5.516A 5.516B Radiolocation 5.514	**17.3-17.7** FIXED-SATELLITE (Earth-to-space) 5.516 (space-to-Earth) 5.484A 5.515A 5.515B 5.517 BROADCASTING-SATELLITE Radiolocation 5.514 5.515	**17.3-17.7** FIXED-SATELLITE (Earth-to-space) 5.516 Radiolocation 5.514
17.7-18.1 FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.517A 5.517B (Earth-to-space) 5.516 MOBILE	**17.7-17.8** FIXED FIXED-SATELLITE (space-to-Earth) 5.517 5.517A 5.517B (Earth-to-space) 5.516 BROADCASTING-SATELLITE Mobile 5.515	**17.7-18.1** FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.517A 5.517B (Earth-to-space) 5.516 MOBILE
	17.8-18.1 FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.517A 5.517B (Earth-to-space) 5.516 MOBILE 5.519	

Allocation to services		
Region 1	**Region 2**	**Region 3**
18.1-18.4	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B 5.517A 5.517B (Earth-to-space) 5.520 INTER-SATELLITE 5.521A MOBILE 5.519 5.521	

Allocation to services		
Region 1	**Region 2**	**Region 3**
18.4-18.6	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B 5.517A 5.517B INTER-SATELLITE 5.521A MOBILE	
18.6-18.8 EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) 5.517A 5.522B MOBILE except aeronautical mobile Space research (passive) 5.522A 5.522C	**18.6-18.8** EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) 5.516B 5.517A 5.522B MOBILE except aeronautical mobile SPACE RESEARCH (passive) 5.522A	**18.6-18.8** EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) 5.517A 5.522B MOBILE except aeronautical mobile Space research (passive) 5.522A
18.8-19.3	FIXED FIXED-SATELLITE (space-to-Earth) 5.516B 5.517A 5.517B 5.523A INTER-SATELLITE 5.521A MOBILE	
19.3-19.7	FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 5.517A 5.523B 5.523C 5.523D 5.523E INTER-SATELLITE 5.521A 5.523DA MOBILE	
19.7-20.1 FIXED-SATELLITE (space-to-Earth) 5.484A 5.484B 5.516B 5.517B 5.527A INTER-SATELLITE 5.521A Mobile-satellite (space-to-Earth) 5.524	**19.7-20.1** FIXED-SATELLITE (space-to-Earth) 5.484A 5.484B 5.516B 5.517B 5.527A INTER-SATELLITE 5.521A MOBILE-SATELLITE (space-to-Earth) 5.524 5.525 5.526 5.527 5.528 5.529	**19.7-20.1** FIXED-SATELLITE (space-to-Earth) 5.484A 5.484B 5.516B 5.517B 5.527A INTER-SATELLITE 5.521A Mobile-satellite (space-to-Earth) 5.524
20.1-20.2	FIXED-SATELLITE (space-to-Earth) 5.484A 5.484B 5.516B 5.517B 5.527A INTER-SATELLITE 5.521A MOBILE-SATELLITE (space-to-Earth) 5.524 5.525 5.526 5.527 5.528	

20.2-21.2	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) Standard frequency and time signal-satellite (space-to-Earth) 5.524 5.529A

This band is also covered under ITU RR AP30A and is extensively being used by FSS for Broadband applications and UHDTV applications. There is an urgent need to address the asymmetry in this band allocations between the uplink and the downlink.

The key issue for consideration under this agenda item is the equivalent power flux-density limits to be applied in Regions 1 and 3 to non-geostationary-satellite systems in the fixed-satellite service (space-to-Earth) in the frequency band 17.3-17.7 GHz, in accordance with Resolution **726 (WRC 23) and t**he development of regulatory measures and sharing criteria to ensure the coexistence of new and existing services in the relevant frequency bands. Under WRC-23 Agenda Item 1.19 studies were conducted for the allocation of the same band to non-geostationary-satellite systems in Region 2, many of which can be used as the basis for this agenda item.

Preliminary India views

India supports this Agenda item to improve harmonization of satellite services amongst Regions to support the increased broadband needs in this Region. India also supports the applicability of Region 2 non-geostationary (non-GSO) FSS epfd↓ (space to Earth) limits to Region 3 and the corresponding aggregate EPFD limit in Res 76 (Rev.WRC-23), for providing adequate protection of GSO networks.