

**UNITED STATES OF AMERICA**  
**DRAFT PRELIMINARY VIEWS FOR WRC-15**

**Agenda Item 1.6.2** to consider possible additional primary allocations to the fixed-satellite service (FSS) (Earth-to-space) of 250 MHz in Region 2 and 300 MHz in Region 3 within the range 13-17 GHz and review the regulatory provisions on the current allocations to the fixed-satellite service within this range, taking into account the results of ITU-R studies, in accordance with Resolution **152 (WRC-12)**.

**ISSUE:** To address the imbalance in the amount of uplink and downlink spectrum allocated to the fixed-satellite service in Regions 2 and 3.

**BACKGROUND:** The existing unplanned FSS bands in this frequency range are extensively used for a myriad of applications. The very small aperture terminal (VSAT) services, video distribution, broadband networks, internet services, satellite news gathering, and backhaul links have triggered the rapid rise in the demand. Satellite traffic is typically symmetrical in a large variety of applications, i.e. similar amounts of Earth-to-space (uplink) and space-to-Earth (downlink) traffic are transmitted. However, in ITU Regions 2 and 3, there are asymmetrical Earth-to-space and space-to-Earth FSS allocations that are used for these services.

The 250 MHz spectrum asymmetry in Region 2 and 300 MHz in Region 3 translates to approximately 10 and 14 transponders for each respective Region, considering a transponder bandwidth of 36 MHz in both polarizations. Some satellite networks are designed with an additional uplink beam which has sufficient geographical isolation with the uplink beam within the intended service area, to compensate for the lack of spectrum. However, this does not solve the need for additional uplink spectrum over the intended service area, and leads to difficulties in using all of the available downlink spectrum over that area. The impact of this uplink frequency shortfall is further exacerbated due to other operational constraints and restrictions found within the Radio Regulations.

The satellites currently deployed have been registered in all of the available non-planned bands in Regions 2 and 3, both in the uplink and the downlink. Faced with the current congestion and spectrum asymmetry, it is difficult for satellite operators to effectively expand their communication services within this frequency range to meet the growing market demands.

In order to address this spectrum shortage and imbalance, WRC-12 adopted Agenda item 1.6.2 to consider additional primary allocations to the fixed-satellite service in the range 13-17 GHz and review regulatory provisions for existing FSS allocations, taking into account ITU-R studies in accordance with Resolution **152 (WRC-12)**. Resolution **152 (WRC-12)** invites the ITU-R to complete, for WRC-15, sharing and compatibility studies towards additional allocations to the fixed-satellite service in the Earth-to-space direction of 250 MHz in Region 2 and 300 MHz in Region 3 within the band 13-17 GHz, focusing on the frequency range that is contiguous (or near contiguous) to the existing fixed-satellite service allocations, while protecting existing primary services within these bands. This Resolution also calls for studies considering utilization of existing allocations to the FSS in the Earth-to-space direction through a review of regulatory provisions, except for Nos. **5.502** and **5.503** and Resolution **144 (Rev. WRC-07)**.

Within portions of the band 13-17 GHz are primary allocations to the fixed, mobile, radiolocation, Earth Exploration-Satellite (active), space research, and aeronautical radionavigation services. Moreover, consideration will be given to reducing constraints on use of the existing 14.5 – 14.8 GHz Fixed Satellite Service allocations, taking note of the limited planned use of the band in Region 3. In accordance with Resolution 152 (WRC-12), the ITU-R should conduct sharing studies to address the protection of existing in-band primary services and compatibility studies to address interference.

Working Party 4A already has under development a Preliminary Draft New Report **ITU-R S.[R2R3.FSS]** on an Assessment on use of spectrum in the 13-17 GHz band for the fixed-satellite service in Regions 2 and 3 (GSO), which establishes the issues and difficulties associated with this shortfall and provides a framework for further work on the associated analyses and sharing studies in support of this agenda item.

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**U.S. VIEW:** The United States supports sharing studies in support of actions by WRC-15 to add new primary fixed-satellite service allocations in the Earth-to-space direction of 250 MHz in Region 2 and 300 MHz in Region 3 within the bands 13-17 GHz, taking into account the sharing and compatibility studies with existing services in accordance with Resolution **152 (WRC-12)**. The United States also supports consideration by WRC-15 of a revision of regulatory provisions in order to allow for greater flexibility in utilizing existing allocations to the fixed-satellite service in the Earth-to-space direction, taking into account the sharing and compatibility studies with existing services in the 13-17 GHz band in accordance with Resolution **152 (WRC-12)**.

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