ORGANIZACION DE LOS ESTADOS AMERICANOS
ORGANIZATION OF AMERICAN STATES

Comisión Interamericana de Telecomunicaciones
Inter-American Telecommunication Commission

30 MEETING OF PERMANENT CONSULTATIVE COMMITTEE II: RADIOCOMMUNICATIONS
November 27 to December 1, 2017
Barranquilla, Colombia

OEA/Ser.L/ XVII.4.2.30
CCP.II-RADIO-30/doc.4356-9-1-9/17
28 November 2017
Original: English

Formatted: English (U.S.)

PRELIMINARY VIEW ON WRC-19 AGENDA ITEM 9.1, ISSUE 9.1.9

(Items on the Agenda: 3.1 (SGT3))

(Document submitted by the Coordinator)

SGT-3 – Satellite services

Coordinator: Brandon MITCHELL – USA

Alternate Coordinator: Juan MASCIOTRA – ARG; Chantal BEAUMIER - CAN

Rapporteur Agenda Item: Jennifer MANNER – USA

Alternate Rapporteur Agenda Item: Marc DUPUIS - CAN

CITEL, 1889 F ST. NW., WASHINGTON, D.C. 20006, U.S.A.
TEL: +1 202 370 4713 FAX: +1 202 458 6854 e-mail: citel@oas.org
Web page: http://www.citel.oas.org

Source document: 4406/17

Agenda Item 9.1, Issue 9.1.9 *Studies relating to spectrum needs and possible allocation of the frequency band 51.4-52.4 GHz to the fixed-satellite service (Earth-to-space), in accordance with Resolution **162 (WRC-15)***

BACKGROUND: Resolution **162 (WRC-15)** states that "satellite systems are increasingly being used to deliver broadband services and can help enable universal broadband access...and that technological developments such as spot-beam technologies and frequency reuse are used by the fixed satellite service in spectrum above 30 GHz to increase the efficient use of spectrum." Next generation high throughput satellites (HTS) GSO and non-GSO satellite networks both plan to utilize these technologies to deliver high-capacity broadband services.

Currently, 1 GHz of existing FSS uplink allocation at 42.5-43.5 GHz ~~is~~ may not be practicable for broadband FSS networks to use assuming they operate downlinks in the immediately adjacent space-to-Earth FSS frequency allocation below 42.5 GHz. Such adjacent band use ~~is~~ may not be viable due to prohibitive cost and technical obstacles. This leaves an imbalance of spectrum available for broadband applications between downlink and uplink FSS spectrum in the 50/40 GHz frequency ranges with 5 GHz of spectrum currently allocated to FSS in the space-to-Earth direction, but only 4 GHz of usable spectrum allocated to FSS in the Earth-to-space direction. It is noted that some FSS GSO operators ~~there is a trend~~ are seeking feeder ~~links~~ uplink spectrum to support large broadband applications and may be ~~towards~~ moving away from traditional ~~having a~~ symmetrical ~~amount of spectrum in the~~ uplink and the downlink allocations~~, as there is an increasing need for more uplink spectrum~~. ~~Regardless of whether or not the 42.5-43.5 GHz band is useable for FSS, the~~ For this reason, an argument can be made that there is still a need for additional FSS uplink allocation in the frequency band 51.4-52.4 GHz~~, given this trend towards asymmetry~~.

Access to an adequate amount of uplink and downlink spectrum would facilitate the opportunity for next generation FSS networks to provide broadband communication services and connectivity to users worldwide. To address the issue, WRC-15 established WRC-19 Agenda Item 9.1, Issue 9.1.9 to study the spectrum needs and possible allocation of the frequency band 51.4-52.4 GHz to the fixed-satellite service (Earth-to-space), in accordance with Resolution **162** (**WRC-15)**. *Resolves to invite ITU-R* 1 of Resolution **162 (WRC-15)** states: "to conduct, and complete in time for WRC-19, studies considering additional spectrum needs for development of the fixed-satellite service, taking into account the frequency bands currently allocated to the fixed-satellite service, the technical conditions of their use, and the possibility of optimizing the use of these frequency bands with a view to increasing spectrum efficiency." It should be also noted *resolves to invite ITU-R* 2 of Resolution **162 (WRC-15)** states: "subject to justification resulting from studies conducted under *resolves to invite ITU-R* 1, sharing and compatibility studies with existing services, on a primary and secondary basis, including in adjacent bands as appropriate, to determine the suitability, including protection of fixed and mobile services, of new primary allocations to the FSS in the frequency band 51.4-52.4 GHz (Earth-to-space) limited to FSS feeder links for geostationary orbit use, and the possible associated regulatory actions." Studies related to *resolves* 2 of Resolution **162 (WRC-15)** should take into account the FSS GSO spectrum needs as appropriate. It is important to note that since WRC-19 AI 9.1.9 is seeking an allocation limited to GSO feeder links, there will still be an imbalance of spectrum available for non-GSO satellite networks.

Thus, the review of the spectrum needs for the FSS under *Resolves to invite ITU-R* 1 of Resolution **162 (WRC-15)** should consider all aspects of FSS operations. Next generation GSO and non-GSO FSS satellite networks can leverage innovative new satellite and earth station technologies to provide a wide range of advanced communications services for residential, commercial, institutional, and large-scale

professional users worldwide. These satellite networks plan to provide data rates from 100 bps to greater than 1 Gbps on a single channel, while achieving highly efficient use of the spectrum and orbit resources. Adequate balanced uplink and downlink spectrum for GSO and non-GSO FSS networks utilizing these state-of-the art technologies will be crucial to enable provision of much needed broadband services and other communications services via satellite simultaneously to all users, regardless of location.

PRELIMINARY VIEW:

USA, CAN

The United States and Canada supports the study of all aspects of spectrum needs for the development of the fixed-satellite service under *Resolves 1* of Resolution **162**. The United States and Canada further supports the study, as appropriate, of a possible primary allocation to the FSS of the frequency band 51.4-52.4 GHz (Earth-to-space), limited to GSO FSS feeder links, under the terms of Resolution **162 (WRC-15)** to ensure compatibility with existing services, including adjacent bands as appropriate. Such studies should determine the suitability, including protection of fixed and mobile services, of a new primary allocation to the FSS in the frequency band 51.4-52.4 GHz (Earth-to-space), limited to FSS feeder links for geostationary orbit use, and the possible associated regulatory actions based on the results of these studies.