

Agenda Item 1.6 - Brief Summary

by

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AI 1.6

to consider the **development of a regulatory framework for non-GSO FSS satellite systems** that may operate in the frequency bands 37.5-39.5 GHz (space-to-Earth), 39.5-42.5 GHz (space-to-Earth), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space), in accordance with Resolution **159 (WRC-15)**;

Resolution **159 (WRC-15)** – **Studies of technical, operational issues and regulatory provisions** for non-geostationary fixed-satellite services satellite systems in the frequency bands 37.5-39.5 GHz (space-to-Earth), 39.5-42.5 GHz (space-to-Earth), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space).

WRC-15 established agenda item 1.6 for WRC-19 because:

- Advances in antenna and terminal technology have enabled the **development of the 50/40 GHz frequency bands for both GSO FSS/BSS and non-GSO FSS**
- Currently **no regulatory provisions for sharing between non-GSO systems and GSO networks in the 50/40 GHz frequency bands**
- **No existing mechanisms in the RR establishing coordination procedures applicable to non-GSO systems operating within the FSS allocations in frequency bands in the 37.5 to 51.4 GHz range**

Studies concluded that:

Protection of GSO networks is possible based on an assessment of aggregate interference from multiple non-GSO systems, with different configurations and orbits.

ITU-R studies were unable to conclude on the appropriate efd limits to protect GSO FSS and BSS networks from the operation of non-GSO FSS systems, due to the number of possible configurations and the complexity of the non-GSO FSS systems

WRC-19 AI 1.6 also considered the protection of the Earth exploration-satellite service (EESS) (passive) and radio astronomy services in adjacent bands

Methods to satisfy the agenda item

There are two issues within WRC-19 agenda item 1.6

Issue 1: Developing a regulatory framework for non-GSO FSS satellite systems to protect GSO systems

There are two methods to address issue 1

Method A: Add footnotes to RR Article **5** & add provisions to RR Article **22** and establish a consultation group to coordinate aggregate interference in order to protect GSO satellite networks.

Method B: Carry forward the studies to ensure the protection of GSO satellite networks under WRC-19 agenda item 1.6 to a **new WRC-23 agenda item**

Issue 2: Modify Resolution **750 (Rev.WRC-15)** for the protection of EESS (passive) in the band 50.2-50.4 GHz

Regulatory and procedural considerations

For Method A of Issue1:

- *Modify RR Article 22 (Control of interference to GSO from N-GSO),*
- *Four options to new footnote RR No. 5.A16*
- *Incorporate by reference new ITU-R Recommendation,*
- *Add a new footnote RR No. 5.B16,*
- *Modify Resolution 750 (Rev.WRC-15) to protect EESS (passive)*

ADD

Draft New RESOLUTION [A16] (WRC-19)

Protection of geostationary FSS, BSS and MSS) networks from unacceptable interference from non-GSO FSS systems in the 37.5-39.5 GHz, 39.5-42.5 GHz, 47.2-50.2 GHz, and 50.4-51.4 GHz frequency bands

ANNEX 1 TO draft new RESOLUTION [A16] (WRC-19)

List of geostationary networks characteristics and format of the result of the aggregate calculation to be provided to BR for publication for information

MOD

RESOLUTION 750 (REV.WRC-1519)

Compatibility between the Earth exploration-satellite service (passive) and relevant active services

Regulatory and procedural considerations

For Method B of Issue 1:

- Carry forward the studies and have a new WRC-23 agenda item towards the development of epfd limits.

MOD

RESOLUTION 159 (REV.WRC-19)

Studies of technical, operational issues and regulatory provisions for non-geostationary fixed-satellite services satellite systems in the frequency bands 37.5-39.5 GHz (space-to-Earth), 39.5-42.5 GHz (space-to-Earth), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space)

Issue 2: EESS (passive)

MOD

RESOLUTION 750 (REV.WRC-19)

Compatibility between the Earth exploration-satellite service (passive) and relevant active services

Thank You

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