
PLENARY MEETING

**Addendum 6 to
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Member States of the Inter-American Telecommunication Commission (CITEL)

PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda item 10

{Temporary information note to be deleted before the submission via CPI of this document to the WRC-19 Secretariat: In accordance with Resolution 804 (Rev. WRC-12), Administrations are invited to use the template provided in Annex 2 to that Resolution (TIES-protected) when proposing agenda items for WRCs. This template may be filled out for each of the proposed WRC agenda item and annexed to this document.}

10 to recommend to the Council items for inclusion in the agenda for the next WRC, and to give its views on the preliminary agenda for the subsequent conference and on possible agenda items for future conferences, in accordance with Article 7 of the Convention.

BACKGROUND:

The studies carried out under Agenda Item 1.17 of WRC-2000 that led to the adoption of RR Footnote No. 5.522B were not framed to review all types of non-geostationary systems of the fixed satellite service that could operate in the frequency band 18.6-18.8 GHz.

These studies were limited to systems in the fixed-satellite service in high elliptical orbit and low earth orbit. In addition, at that time, a single non-geostationary satellite system was scheduled to operate in that frequency band with an orbit whose apogee was greater than 20,000 km.

Today, given the increased global demand for broadband services by low earth orbit and medium earth orbit systems and the progress seen in space-related technologies in recent years, it is deemed necessary to revisit the studies carried out almost 20 years ago in the frequency band 18.6-18.8 GHz, so as to contemplate orbits with apogees equal to or less than 20,000 km. The evidently growing demand for services using the frequency bands 27.5-30 GHz (Earth-space) and 17.7-20.2 GHz (space-Earth) for non-geostationary systems is illustrated by such examples such as the medium Earth orbit O3b constellation, which successfully operates worldwide in parts of these

bands, as well as other systems recently launched or in the process of being operational in the near future.

Consequently, it is appropriate to facilitate accessing by non-geostationary low Earth orbit and medium Earth orbit systems to spectrum in the space-to-Earth direction in the band 18.6-18.8 GHz, thereby enabling their contiguous use in the range 17.7-20.2 GHz, for which it is essential to consider coexistence with other services that could potentially be affected.

OBJECTIVE:

We propose studying and developing the technical and regulatory conditions under which non-geostationary satellites with an orbit whose apogee is equal to or less than 20,000 km can operate without causing unacceptable interferences to the stations of other services having primary attributions in the frequency band 18.6-18.8 GHz.

ADD IAP/6410A24A6/1

DRAFT NEW RESOLUTION [IAP/10(F)-2023] (CMR-19)

Agenda for the 2023 World Radiocommunication Conference

The World Radiocommunication Conference (Sharm-El-Sheikh, 2019),

...

1. study the technical and regulatory provisions for non-geostationary systems in the fixed satellite service operating in the frequency band 18.6-18.8 GHz with an orbit whose apogee is less than 20,000 km, in accordance with Resolution [IAP/10(F)/NGSO-FSS] (**CMR -19**)

Reasons: To modify the Agenda for WRC-23.

ADD IAP/6410A24A6/2

DRAFT NEW RESOLUTION [IAP/10(F)/NGSO-FSS](CMR-19)

Study of the technical and regulatory provisions for non-geostationary systems in the fixed-satellite service operating in the frequency band 18.6-18.8 GHz with an orbit whose apogee is less than 20,000 km

The World Radiocommunication Conference (Sharm-El-Sheikh, 2019),

considering

- a) that in Region 2, the frequency band 18.3-19.3 GHz is one of those identified in Footnote No. **5.516B** of the Radio Regulations for use by high density applications of the Fixed Satellite Service in the space-Earth direction;
- b) that several non-geostationary satellite systems of the Fixed Satellite Service are deployed with orbits whose apogees are less than 20,000 km and operate in bands adjacent to the frequency segment 18.6-18.8 GHz;
- c) that, in accordance with Article 22, non-geostationary systems shall not cause unacceptable interference to the geostationary satellite networks of the Fixed Satellite Service and the Broadcasting Satellite Service, operating in accordance with the provisions of the RR and, unless otherwise stated in the Regulations, they should not claim protection against them;
- d) that the 18.6-18.8 GHz band is also allocated on a primary basis to the Earth Exploration Satellite Service (passive) and the Space Research Service (passive), given that Article 21, Table 21-4 establishes a maximum power flux-density limit for systems in the fixed-satellite service in order to make coexistence viable. The studies that showed the need to establish the above limit were based on a non-geostationary system of the fixed satellite service with an orbit whose apogee was greater than 20,000 km;

observing

that, at present, there are numerous geostationary satellite networks in the fixed-satellite service operating in the frequency band 18.6-18.8 GHz in accordance with the provisions of the RR,

recognizing

- a) that the frequency band 18.6-18.8 GHz is allocated worldwide to Fixed, Mobile, Fixed by Satellite (space-to-Earth), Earth-Satellite Exploration (passive) and, in Region 2, to the Space Research Service (passive);
- b) that the emissions of the Fixed Service and the Fixed Satellite Service in the band 18.6-18.8 GHz are limited to the figures given in **No. 21.5A** and **21.16.2**, respectively, pursuant to Footnote **No. 5.522A**;
- c) that emissions from the Mobile Service in the band 18.6-18.8 GHz are limited to the figures given in **No. 21.5**;
- d) that the limits referred to in paragraphs b) and c) above apply to the Fixed Service, the Mobile Service and the Fixed Satellite Service stations operating at an apogee of 20,000 km, which should remain unchanged to protect the current and future Earth Exploration Satellite Service (passive) and the Space Research Service (passive) in the frequency band 18.6-18.8 GHz;
- e) that in the frequency band 18.6-18.8 GHz, the networks of the geostationary and non-geostationary systems of the Fixed Satellite Service operate in accordance with the provisions of **No. 5.522B**;
- f) that **No. 21.16** establishes the power flux density limits applicable to the Fixed-Satellite Service systems to protect the Fixed and Mobile Services allocated in the frequency band 18.6-18.8 GHz;
- h) that **No. 21.17** does not apply to the frequency band 18.6-18.8 GHz,

resolves to invite the ITU-R

1. to conduct compatibility studies between non-geostationary systems of the Fixed Satellite Service (space-to-Earth) operating with an apogee of less than or equal to 20,000 km and the Earth Exploration Satellite Services (passive) and Space Research Services (passive) in the frequency band 18.6-18.8 GHz;
2. to study the possibility of applying the equivalent power flux-density (epfd) limits specified in Table **22-1B** to the frequency segment 18.6-18.8 GHz to ensure that non-geostationary systems in the fixed-satellite service (space-to-Earth) do not cause unacceptable interference to networks of geostationary systems in the fixed-satellite service when operating in the frequency band 18.6-18.8 GHz;
3. to develop technical and regulatory provisions for non-geostationary stations operating in the Fixed Satellite Service (space-to-Earth) with an apogee less than or equal to 20,000 km in the frequency band 18.6-18.8 GHz, while ensuring the power flux-density limits of Article **21**, Table **21-4**, intended to protect the Fixed Service and Mobile Service in that frequency band;

resolves further

1. that compliance with the equivalent power flux-density limits in Table **22-1B** should ensure protection of geostationary system networks in the fixed-satellite service operating in the frequency band 18.6-18.8 GHz from any unacceptable interference;
2. that the technical and regulatory provisions to be developed must guarantee that, in the band 18.6-18.8 GHz, there will be no change to the limits referred to in **No. 21.5**, **21.5A** and **21.16.2**, applicable to the Fixed Service and the Mobile Service, and to the stations of the geostationary and non-geostationary satellite systems operating in the Fixed Satellite Service with an orbit whose apogee is greater than 20,000 km,

invites the 2023 World Radiocommunication Conference

to consider the findings of the proposed studies and to take the pertinent actions,

invites the administrations

to participate actively in the studies and to help provide the technical and operational features of the systems involved by submitting their contributions to the ITU-R.

Reasons: