

UNITED STATES OF AMERICA
PROPOSAL FOR THE WORK OF THE CONFERENCE

Agenda Item 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, taking into account Resolution 806 (WRC-07)*

Background Information: The 460-470 MHz band is allocated on a primary basis to the fixed and mobile services. The meteorological-satellite service currently has a secondary allocation in this band. Within this band, the Argos Data Collection System (ADCS) is used to monitor over 21,000 individual platforms around the globe for 1,900 operators in 118 countries. Critical applications of the ADCS include atmospheric & ocean monitoring/research, tropical cyclone forecasting, fishery management, oil spill tracking, fishing vessel tracking, search & rescue modeling (at sea), anti-piracy alerting, import/export & hazardous materials tracking, endangered species studies, migration mapping, and wildlife tracking and management.

RF Central Station Alarm (CSA) systems operate on the same frequency as the ADCS downlink. Due to the potential for interference to the CSA systems, the operator turned off the ADCS on the NOAA-19 satellite. To provide additional protection to existing services in the band, the next generation of ADCS transmitters will implement a direct sequence spread spectrum in the satellite downlink to reduce the power flux density (pfd) in the 460-470 MHz band to flux < -152 dBW/m²/4kHz.

To protect the recent significant investment and expansion of the ADCS systems, this proposal advocates studying sharing between the existing meteorological-satellite (space-to-Earth) service and incumbent services in the 460-470 MHz band with a view to upgrading the meteorological-satellite service to primary and potentially adopting a pfd limit on the meteorological-satellite (space-to-Earth) service to protect the incumbent services. A co-primary allocation status would protect the ADCS from any new services entering the band.

Proposal:

MOD USA/10/1

RESOLUTION 806 (WRC-15)

Agenda for the 2019 World Radiocommunication Conference

The World Radiocommunication Conference (Geneva, 2015),

ADD USA/10/2

X.X to review the allocations to the meteorological-satellite service in the 460-470 MHz band with a view to upgrade the secondary meteorological-satellite service allocation to primary status while protecting the existing primary fixed and mobile services in the band.

Reasons: To allow meteorological-satellite service to operate on a co-primary status with fixed and mobile.

ADD USA/10/3

RESOLUTION AAA (WRC-15)

Primary Allocation to the Meteorological Satellite Service in the 460 – 470 MHz Band

The World Radiocommunication Conference (Geneva, 2015),

considering

- a) that the Argos Data Collection System (ADCS) is used to monitor over 21,000 individual platforms around the globe for 1,900 operators in 118 countries;
- b) that the use of ADCS can provide spectrum efficiency by interrogating collection platforms prior to their transmission;
- c) that ADCS may be authorized to operate on a secondary basis with respect to the fixed and mobile services,

recognizing

- a) that technology has been developed to provide more efficient use of the spectrum;
- b) that a digital spread spectrum scheme will be used to increase mitigation of potential interference to incumbents in the band;
- c) that the satellite-to-platform down-link at 465.9875 MHz significantly improves platform and system performance, including data latency and battery life;
- d) that due to the significant investment and expansion of ADCS, future conflicts or interference issues must be avoided;

- e) that the 460-470 MHz band is allocated to the fixed and mobile services on a primary basis in all Regions;
- f) that No. 5.286AA identifies the frequency band 460-470 MHz for the use by administrations wishing to implement International Mobile Telecommunications (IMT);
- g) that at least one administration has adopted national regulatory provisions providing a pfd limit at the Earth's surface of $-152 \text{ dBW/m}^2/4 \text{ kHz}$ for protecting the fixed and mobile services in the band,

resolves

- 1 that taking into account the results of ITU-R studies, WRC-19 consider upgrading the current secondary allocation of the meteorological-satellite service (space-to-Earth) to primary in the 460-470 MHz frequency band without placing any additional constraints on systems in the existing primary fixed and mobile services in the band and a pfd limit that shall not exceed $-152 \text{ dBW/m}^2/4\text{kHz}$ at the Earth's surface;
- 2 that the meteorological-satellite service (space-to-Earth) ground receivers (Data Collection Platforms) shall not claim protection from stations in the fixed and mobile services,

resolves to invite the ITU-R

- 1 to conduct in time for WRC-19, sharing studies between the meteorological-satellite service (space-to-Earth) and the fixed and mobile services allocated on a primary basis in the band 460-470 MHz;
- 2 to complete the studies, taking into account the present use of the allocated band;
- 3 to determine the appropriate power flux density limit to be placed on the meteorological-satellite service (space-to-Earth) to protect the existing services in the band that shall not exceed $-152 \text{ dBW/m}^2/4\text{kHz}$ at the Earth's surface,

invites administrations

to participate actively in the studies and provide the technical and operational characteristics of the systems involved by submitting contributions to the ITU-R,

instructs the Secretary General

to bring this resolution to the attention of the Space Frequency Coordination Group (SFCG) and other international and regional organizations concerned.

Reasons: A resolution will support the ITU-R studies needed under the relevant WRC-19 agenda item.

ATTACHMENT

PROPOSAL FOR ADDITIONAL AGENDA ITEM STUDYING THE ALLOCATION OF THE METEOROLOGICAL-SATELLITE SERVICE IN THE 460-470 MHZ BAND

Subject: Proposed Future WRC Agenda Item for WRC-2019 studying meteorological-satellite service in the 460-470 MHz band

Origin: United States of America

Proposal: To review the services in the 460-470 MHz band with a view to upgrading the meteorological satellite service to primary status.

Background/reason:

The 460-470 MHz band is allocated on a primary basis to the fixed and mobile services. The meteorological-satellite service currently has a secondary allocation in this band. Within this band, Argos Data Collection System (ADCS) equipment on meteorological-satellites is used to monitor over 21,000 individual data collection platforms around the globe for 1,900 operators in 118 countries. Critical ADCS supported applications include atmospheric & ocean monitoring/research, tropical cyclone forecasting, fishery management, oil spill tracking, fishing vessel tracking, search & rescue modeling (at sea), anti-piracy alerting, import/export & hazardous materials tracking, endangered species studies, migration mapping, and wildlife tracking and management.

Radiocommunication services concerned: Meteorological Satellite Service, Fixed Service, Mobile Service, Earth Exploration Satellite Service

Indication of possible difficulties: None foreseen

Previous/ongoing studies on the issue: None to date

<i>Studies to be carried out by:</i> SG7	<i>with the participation of:</i>
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ITU-R Study Groups concerned: SG5

ITU resource implications, including financial implications (refer to CV126): **Minimal**

<i>Common regional proposal:</i> Yes/No	<i>Multicountry proposal:</i> Yes/No
<i>Number of countries:</i>	

Remarks