



**PLENARY MEETING**

**Addendum 7 to  
Document 6055-E  
4 October 2023  
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## **African Common Proposals**

### **PROPOSALS FOR THE WORK OF THE CONFERENCE**

#### **Agenda item 1.7**

1.7 to consider a new aeronautical mobile-satellite (R) service allocation in accordance with Resolution **428 (WRC 19)** for both the Earth-to-space and space-to-Earth directions of aeronautical VHF communications in all or part of the frequency band 117.975-137 MHz, while preventing any undue constraints on existing VHF systems operating in the aeronautical mobile (R) service, in the aeronautical radionavigation service, and in adjacent frequency bands;

#### **Introduction**

This agenda item deals with a possible new allocation to the AMS(R)S within the frequency band 117.975-137 MHz, to relay standard VHF communications operating under the AM(R)S, and to complement terrestrial infrastructures over oceanic and remote areas. To address this agenda item, ITU-R has undertaken studies, pursuant to Resolution **428 (WRC-19)**, on a possible new aeronautical mobile-satellite (Route) service (AMS(R)S) allocation to accommodate the relay of VHF communications. These studies identified the systems operating under an allocation either in-band or adjacent band and sharing and compatibility studies were carried out to determine the operating conditions for systems intended to operate under a new AMS(R)S allocation. Consequently, the African common proposals (AfCP) for agenda item 1.7 is concluded as shown below:

1. Support **Method B1**, with the following conditions:
  - a) Ensuring protection of the AM(R)S in the frequency band 117.975-137 MHz and the AM(OR)S in the frequency band 132-137 MHz, noting that the characteristics of the AM(OR)S are not available. Nevertheless, AM(OR)S systems are understood to operate on channels within national assignments of the AM(R)S.
  - b) In-band coexistence between AMS(R)S with AM(R)S and AM(OR)S need to be ensured through applying the coordination under RR No. **9.11A**, in addition to ICAO's conventional frequency planning exercise to ensure compatibility between ground and satellite facilities.

- c) Adjacent band coexistence between AMS(R)S and ARNS below 117.975 MHz need to be ensured through ICAO's frequency planning and coordination work.
- d) The protection of adjacent band services operating above 137 MHz from AMS(R)S space stations unwanted emissions falling above 137 MHz is ensured through an additional limit of satellite pfd of  $-166.6 \text{ dB(W/(m}^2 \cdot 14 \text{ kHz))}$  at the Earth's surface on the level of unwanted emissions in the adjacent band 137-138 MHz for AMS(R)S emissions from systems operating in 117.975-137 MHz. This limit should ensure compliance against the protection criteria of SRS, SOS, MSS and MetSat. It would be also possible to require the application of this limit to AMS(R)S emissions only within the band 136-137 MHz, as emissions in the band 117.975-136 MHz shall meet the RR Appendix 3 limits.
3. Consider that under RR No. **9.14**, existing frequency assignments for terrestrial stations operating in the frequency range 117.975 – 137 MHz need to be added in the MIFR, to ensure that the transmitting space station of a satellite network will coordinate with them in case the threshold value was exceeded.

**Procedural and regulatory considerations are as follows:**

## ARTICLE 5

### Frequency allocations

#### Section IV – Table of Frequency Allocations (See No. 2.1)

**MOD AFCP/6055A7/1**

75.2-137.175 MHz

Allocation to services				
Region 1		Region 2	Region 3	
117.975-137	AERONAUTICAL MOBILE (R)			
	AERONAUTICAL MOBILE-SATELLITE (R) <a href="#">ADD 5.A17</a> <a href="#">ADD 5.B17</a>			
	5.111	5.200	5.201	5.202

#### Reasons:

**ADD AFCP/6055A7/2**

**5.A17** The use of the frequency band 117.975-137 MHz by the aeronautical mobile-satellite (R) service is subject to coordination under No. **9.11A**. This use is also limited to non-geostationary-satellite systems and internationally standardized aeronautical systems. (WRC-23)

**Reasons:** To ensure coexistence amongst AMS(R)S systems, as well as, between AMS(R)S systems with respect to AM(R)S and AM(OR)S in the frequency band 117.975-137 MHz. To ensure that the new AMS(R)S allocation is used only by non-geostationary-satellite systems and internationally standardized aeronautical systems.

**ADD AFCP/6055A7/3**

**5.B17** In the frequency band 117.975-137 MHz, space stations operating in the aeronautical mobile-satellite (R) service should ensure that the power flux-density of their unwanted emissions in the adjacent band 137-138 MHz does not exceed  $-166.6$  dB(W/(m<sup>2</sup> · 14 kHz)) at the Earth's surface. (WRC-23)

**Reasons:** To ensure the protection of the incumbent services in the adjacent band 137-138 MHz, noting that unwanted emission in the spurious domain for AMS(R)S apply to emissions below 136.9375 MHz.

#### APPENDIX 5 (REV.WRC-19~~23~~)

#### Identification of administrations with which coordination is to be effected or agreement sought under the provisions of Article 9

ANNEX 1 (REV.WRC-19)

**1 Coordination thresholds for sharing between MSS (space-to-Earth) and terrestrial services in the same frequency bands and between non-GSO MSS feeder links (space-to-Earth) and terrestrial services in the same frequency bands and between RDSS (space-to-Earth) and terrestrial services in the same frequency bands** (WRC-12)

**MOD AFCP/6055A7/4**

**1.1 Below 1 GHz\***

1.1.1 In the bands 137-138 MHz and 400.15-401 MHz, coordination of a space station of the MSS (space-to-Earth) with respect to terrestrial services (except aeronautical mobile (OR) service networks operated by the administrations listed in Nos. **5.204** and **5.206** as of 1 November 1996) is required only if the pfd produced by this space station exceeds  $-125 \text{ dB(W/(m}^2 \cdot 4 \text{ kHz))}$  at the Earth's surface.

1.1.2 In the band 137-138 MHz, coordination of a space station of the MSS (space-to-Earth) with respect to the aeronautical mobile (OR) service is required only if the pfd produced by this space station at the Earth's surface exceeds:

- $-125 \text{ dB(W/(m}^2 \cdot 4 \text{ kHz))}$  for networks for which complete Appendix **3\*\*** coordination information has been received by the Bureau prior to 1 November 1996;
- $-140 \text{ dB(W/(m}^2 \cdot 4 \text{ kHz))}$  for networks for which complete Appendix **4/S4/3\*\*** coordination information has been received by the Bureau after 1 November 1996 for the administrations referred to in § 1.1.1 above.

1.1.3 In the band 137-138 MHz, coordination is also required for a space station on a replacement satellite of a MSS network for which complete Appendix **3\*\*** coordination information has been received by the Bureau prior to 1 November 1996 and the pfd exceeds  $-125 \text{ dB(W/(m}^2 \cdot 4 \text{ kHz))}$  at the Earth's surface for the administrations referred to in § 1.1.1 above.

1.1.4 In the band 117.975-137 MHz, coordination of a space station of the aeronautical mobile-satellite (R) service (space-to-Earth) with respect to the aeronautical mobile (R) service and the aeronautical mobile (OR) service is required only if the pfd produced by the space station exceeds  $-148 \text{ dB(W/(m}^2 \cdot 4 \text{ kHz))}$  at the Earth's surface and within [TBD km] from a country's border.

Note: Element from this provision could be used to develop a potential new footnote.

**Reasons:** Modification needed to specify the coordination threshold to be used for the identification of coordination requirements with respect to terrestrial services in the band 117.075-137 MHz as per RR No. **9.27**. There is a pfd limit in Annex 1 of RR Appendix **5** that applies to MSS systems to ensure coexistence with AM(OR)S in the adjacent bands, which may be applicable to AMS(R)S allocation as well.

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\* These provisions apply only to the MSS.

\*\* *Note by the Secretariat:* Edition of 1990, revised in 1994.

**SUP AFCP/6055A7/5**

**RESOLUTION 428 (WRC-19)**

**Studies on a possible new allocation to the aeronautical mobile-satellite (R) service within the frequency band 117.975-137 MHz in order to support aeronautical VHF communications in the Earth-to-space and space-to-Earth directions**