



ICAO

INTERNATIONAL CIVIL AVIATION ORGANIZATION

**Twenty Fifth Meeting of the Africa-Indian Ocean Planning and Implementation Regional Group
(APIRG/25)**

Kigali Rwanda, 7-11 November 2022

Agenda Item 3: Implementation of air navigation goals, targets and indicators, including the priorities set in the regional air navigation plan

3.6 Other Air Navigation Initiatives

Title: ITU WRC-23 Preparation in South Africa

(Presented by South Africa)

SUMMARY	
<p>This paper provides an update on the South Africa preparation for ITU WRC-23. AFI states needs to align its technology strategic plans with that of ICAO to ensure global harmonization; and participates in the ICAO FSMP-WG, ITU-WRC, ITU-WP and both National (South Africa National Preparatory Working Group (NPWG)) and Regional (SADC and ATU) meetings/conferences that discuss the radio frequency spectrum related matters. This will ensure that it remains aligned at all times in matters related radio frequency spectrum.</p>	
<p>Action by the Meeting as in Par 3.</p>	
<i>Strategic Objectives</i>	<ul style="list-style-type: none"> • Safety • Air Navigation Capacity and Efficiency

1 INTRODUCTION

- 1.1 South Africa participate in the preparation of the ITU-R WRC-23, which includes the discussions of ITU-WRC 23 Agenda Items (i.e., International Meetings (ICAO & ITU), Regional Meetings (ATU & SADC) and National Meetings (NPWG). In these meetings, South Africa is able to review the studies, working papers, information papers, etc. and provide inputs during the discussion of the ITU-WRC-23 Agenda Items (AI).
- 1.2 The State is directly involved in Chapter 2: Aeronautical and Maritime Agenda Items of the ITU- R WRC-23, and in some of these agenda items, take lead as Rapporteur for National and Regional meetings.
- 1.3 The following are Chapter 2: Aeronautical and Maritime Agenda Items that South Africa (ATNS) is taking a lead:
 - 1.3.1 **Agenda Item 1.6:** Regulatory provisions to facilitate radio communications for sub-orbital vehicles;
 - The agenda invite to study spectrum needs for communications between stations on board sub-orbital vehicles and terrestrial/space stations providing functions such as, interalia, voice/data communications, navigation, surveillance and telemetry, tracking, and control (TT&C).

- 1.3.2 **Agenda Item 1.7:** New aeronautical mobile-satellite (R) service (AMS(R)S) allocation in accordance with Resolution COM6/6 (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 AM(R)S, the ARNS, and in adjacent frequency bands. – To define the relevant technical characteristics and to study compatibility between potential new AMS(R)S systems that operate within the frequency band 117.975-137 MHz in the Earth-to-space and space-to-Earth directions and existing primary services in band and in adjacent frequency bands, while ensuring protection of systems using existing primary services in those frequency bands and not constraining planned usage of those systems.
- 1.3.3 **Agenda Item 1.8:** To consider, on the basis of ITU-R studies in accordance with Resolution COM6/7 (WRC-19), appropriate regulatory actions, with a view to reviewing and, if necessary, revising Resolution 155 (Rev.WRC-19) and No. 5.484B to accommodate the use of fixed-satellite service (FSS) networks by control and non-payload communications of unmanned aircraft systems: - to continue and complete in time for WRC-23 relevant studies of the technical, operational and regulatory aspects, based on the frequency bands (10.95 – 11.2 GHz (space-to-Earth), 11.45 – 11.7 GHz (space-to-Earth), 11.7 – 12.2 GHz (space-to-Earth) in Region 2, 12.2 – 12.5 GHz (space-to-Earth) in Region 3, 12.5 – 12.75 GHz (space-to-Earth) in Regions 1 and 3 and 19.7 – 20.2 GHz (space-to-Earth), and in the frequency bands 14 – 14.47 GHz (Earth-to-space) and 29.5 – 30.0 GHz (Earth-to-space), in relation to the implementation of Resolution 155 (Rev.WRC-19), taking into account the progress obtained by ICAO in the completion of SARPs on the use of FSS for the UAS CNPC links.
- 1.3.4 **Agenda Item 1.9:** Review Appendix 27 of the Radio Regulations and consider appropriate regulatory actions and updates based on ITU-R studies, in order to accommodate digital technologies for commercial aviation safety-of-life applications in existing HF bands allocated to the aeronautical mobile (route) service and ensure coexistence of current HF systems alongside modernized HF systems, in accordance with Resolution COM6/8 (WRC-19); - To identify any necessary modifications to Appendix 27 for the aeronautical mobile (route) service between 2 850 and 22 000 kHz and to identify any necessary transition arrangements for the introduction of new digital aeronautical wideband HF systems and any consequential changes to Appendix 27.
- 1.3.5 **Agenda Item 1.10.:** Conduct studies on spectrum needs, coexistence with radio communication services and regulatory measures for possible new allocations for the aeronautical mobile service for the use of non-safety aeronautical mobile applications, in accordance with Resolution COM6/9 (WRC-19); - To do studies on spectrum needs for new non-safety aeronautical mobile applications for air to-air, ground-to-air and air-to-ground communications of aircraft systems, sharing and compatibility studies in the frequency band 22 – 22.21 GHz, already allocated on a primary basis to the mobile, except aeronautical mobile, service, in order to evaluate the possible revision or deletion of the “except aeronautical mobile” restriction while ensuring the protection of primary services in the considered frequency bands and, as appropriate, in adjacent frequency bands.
- 1.3.6 **Agenda Item 1.11:** (Non-Aviation but relevant) - Consider possible regulatory actions to support the modernization of the Global Maritime Distress and Safety System and the implementation of e-navigation, in accordance with Resolution 361 (Rev.WRC-19); - To conduct studies taking into consideration the activities of International Maritime Organization (IMO) and other relevant international organizations, in order to determine spectrum needs and regulatory actions to support Global Maritime Distress and Safety System (GMDSS) modernization and the implementation of e-navigation, including the introduction of additional satellite systems into the GMDSS.
- 1.4 Apart from Chapter 2: Aeronautical and Maritime Agenda Items listed above, South Africa follows the other Agenda Items that are under different Chapters (such as Chapter 1 – Fixed, Mobile and Broadcasting Issues; Chapter 3 – Science Issues; Chapter 4 – Satellite Issues; Chapter 5 – General Issues) that may have impact in the Aviation related systems.

2. DISCUSSION

- 2.1. South Africa to continue participating in all the ITU-R WPs studies on the ITU-R WRC-23 Agenda Items; and provide inputs in all the international, regional, and national preparatory meetings where all the agenda items are discussed.
- 2.2. As part of the preparation for ITU-R WRC-23, most of Chapter 2: Aeronautical and Maritime Agenda Items studies are still ongoing; and South Africa is still to agree on its position relating to these agenda items which will be concluded before March 2023.
- 2.3. South Africa will always ensure alignment with ICAO preliminary position on agenda items relating to Aeronautical Issues and radio frequency spectrum.

3 ACTION BY THE MEETING

- 3.1. The meeting is invited to:
 - 3.1.1 Take note of South Africa preparation for WRC-23; encourage AFI states participation; and share challenges encountered and recommendations.