



INTERNATIONAL CIVIL AVIATION ORGANIZATION

First Meeting of APIRG Infrastructure and Information Management Sub Group (IIM/SG/1)
(Nairobi, Kenya, 27-30 June 2017)

4.3 Aeronautical Communication Navigation Surveillance and Spectrum Infrastructure and Systems

4.3.7 *Aeronautical Communication requirements in support to CNS, ATM, AIM & MET services provision*

AFI aeronautical spectrum requirements

(Presented by Secretariat)

SUMMARY

This paper presents the Aeronautical Spectrum requirements in support to CNS, ATM, AIM & MET services provision.

Action by the meeting is at paragraph 3:

REFERENCE(S):

- Doc 9750, Global Air Navigation Plan
- ICAO Position and the outcome of ITU WRC-12
- ICAO Draft Position for WRC-19
- ICAO Doc 9718 Volume 1 &2
- Doc 7474, Air Navigation Plan – Africa – Indian Ocean Region
- ICAO SP AFI RAN 2008, Report (Doc 9930)
- APIRG Extraordinary Report
- APIRG/19 and APIRG/20 Reports
- IIM E Report
- APCC Meeting Report

This working paper related to the Strategic Objectives **A: Safety; B: Air Navigation Capacity and Efficiency**

Related ICAO ASBU Performance Improvement Areas and Block0 Modules: PIA1 (*B0-FICE*); PIA2 (*B0-DATM, B0-AMET*); PIA3 (*B0-FRTO, B0-NOPS, B0-ASEP, B0-OPFL, B0-SNET*); PIA4 (*B0-TBO*).



1. INTRODUCTION

- 1.1 The effective use of aeronautical radio frequency spectrum is dependent on the expert technical planning of the frequency assignments used by the various services and systems. This process will require coordination between the civil aviation and telecommunications authorities and their respective operational units.
- 1.2 Efficient use of aeronautical frequency spectrum is critical to supporting air traffic service (ATS) operations, to enable ATS personnel and flight crews in making effective decisions to achieve safe, orderly and efficient flow of air traffic in all phase of flight.
- 1.3 APIRGs 19, 20, CNS/SG/5 and CNS/SG/6 and the IIM Sub-Group meetings reviewed the status of aeronautical frequency spectrum coordination action in the framework of AFI Frequency Management Group (AFI/FMG) and the VSAT C band protection.

2. DISCUSSION

- 2.1 The safety of air operation is dependent on the availability of reliable communication and navigation services. Current and future communication, navigation and surveillance/air traffic management (CNS/ATM) provisions are highly dependent upon sufficient availability of radio frequency spectrum that can support the high integrity and availability requirements associated with aeronautical safety systems, and demand special conditions to avoid harmful interference to these systems.
- 2.2 The Aeronautical Spectrum requirements in support to CNS, ATM, AIM and MET are defined by the Handbook on radio Frequency Spectrum requirements for Civil Aviation (Doc. 9718 Vol. 1), the forthcoming relevant document under development by the ICAO Communication Panel and the provision of the AFI Air Navigation Plan (AFI/RAN Abuja 1997).
- 2.3 In support to the safety aspects related to the use of radio frequency spectrum by aviation, **Article 4.10** of the Radio regulations states that “ ITU Member States recognize that the safety aspect of radio navigation and other safety services require special measures to ensure their freedom from harmful interference”. In particular, compatibility of aeronautical safety services with co-band or adjacent band aeronautical non-safety service or non-aeronautical services must be considered with extreme care in order to preserve the integrity of the aeronautical safety services.
- 2.4 The ICAO Position for the ITU WRC-19 was initially developed in 2016 with the assistance of the Frequency Spectrum Management Panel (FSMP) and was reviewed by the Air Navigation Commission at the fourth meeting of its 203rd Session on 24 November 2016. Following the review by the Commission, it was submitted to ICAO Contracting States and relevant international organizations for comment. After a further review of the ICAO Position in the light of the comments received by the Commission on 9 May 2017, the ICAO Position was reviewed and approved by the ICAO Council on 19 June 2017.



2.5 ICAO Position for the ITU WRC-19 as approved by the Council, at the eight meeting of its 211th Session, held on 19 June 2017, is in Attachment of this working paper.

2.6 States and international organizations are requested to make use of the ICAO Position, to the maximum extent possible, in their preparatory activities for the WRC-19 at national level, in the activities of the regional telecommunication organization (ATU) and in the relevant meeting of the ITU.

2.7 APIRG 20 concluded that in accordance with Resolution 154 (Rev WRC-15), Administrations/Organizations take the appropriate measures in order to ensure the protection of the satellite C-band operated by the AFI VSAT networks:

- a) Registration of the aeronautical VSAT frequencies in the States register held by the national authorities of regulation of telecommunication and;
- b) Follow-up with the concerned authorities in the States to further register the frequencies in the ITU Master International Frequency Register (MIFRVSAT C band protection).

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) Take note of the information presented in this working paper, recalling the spectrum requirement to support the provision of CNS, ATM AIM and MET;
- b) Identify additional requirements to be considered by the APIRG IIM Sub/Group ;
- c) Agree on further planning and implementation actions to be conducted.

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