



INTERNATIONAL CIVIL AVIATION ORGANIZATION
WESTERN AND CENTRAL AFRICA OFFICE
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Twenty Second Meeting of the AFI Satellite Network Management Committee
(SNMC/22)
(Lomé, Togo, 15-19 December 2014)

Agenda Item 6:- Preparation of ITU WRC-15 and ATU related meetings

Resolution 154 (COM6/24) - WRC-12 and challenges for the safe operation of AFISNET in the 3 400-4 200 C-band

(Presented by the secretariat)

SUMMARY

The purpose of this paper is to remind the meeting with a summary of the Finals Acts of ITU World Radiocommunication Conference (**ITU WRC**) held in Geneva from 23 January to 17 February 2012, in particular those related to the protection of the down link Fixed Satellite Service (**FSS**) C-Band operated by AFI satellite based networks (AFISNET, CAFSAT, NAFISAT, SADC2).

The paper also summarizes the actions undertaken by ICAO in conjunction with the AFI Frequency Management Rapporteur and focusses on the forthcoming actions to be undertaken in the framework of the preparation of ITU WRC 15

Reference:

- Report on ACP Working Group F Meetings
- Finals Acts of ITU WRC-12
- ITU Recommendation 724-WRC-07
- ITU Resolution 154 (COM6/24)-WRC 12
- Report on APIRG/18 Meeting
- Report on APIRG/19 Meeting
- Report on ITU CPM WP 4C

Action by the meeting see paragraph 3

1. Introduction

1.1 The operation of aeronautical VSAT on FSS C-band has been encountering more and more threat from new candidate to the usage of this spectrum in particular the International Mobile Telecommunication (**IMT, WIMAX**) identified as potential cause of harmful interferences to the satellite downlink and therefore to the provision of the backbone supporting CNS components within the AFI region. The conclusions of ITU-R studies on the colocation between broadband mobile devices and FSS earth stations are attached at **Appendix A**.

1.2 This threat was earlier identified and during the ITU World Radiocommunication Conference held in Geneva on 2007, lobbying between AFI States and AFI Air Navigation Service providers (Cameroun, Nigeria, Ghana, ASECNA, GCAA, NAMA...) and satellite manufacturers (Intelsat, Inmarsat..) under ICAO auspices allowed through **Recommendation 724 WRC 07 Use by civil aviation of frequency allocations on a primary basis to the fixed-satellite service**, to prevent allocation on a primary basis of this band to IMTs.

1.3 **Recommendation 724 WRC 07** attached at **Appendix B**, calls upon administrations, in particular in developing countries and in countries with remote and rural areas to recognize the importance of VSAT operations to the modernization of civil aviation telecommunications systems, encourages the implementation of VSAT systems that could support both aeronautical and other communication requirements, as well as, to the maximum extent possible and as necessary, the expedition of the authorization process to enable aeronautical communications using VSAT technology. However some States agreed with footnotes on the usage of this band by IMT and deployment has started in some AFI countries and during further implementation of Aeronautical VSATs stations, some ANSPs have been encountering risk of harmful interferences.

2. Discussion

2.1 In the framework of its mandate the AFI Frequency Management Group (AFI/FMG) brought to the agenda of ACP WGF 25th meeting (Dakar, Senegal, 10-14 October 2011) the issue of the protection of the C-Band.

2.2 Coordinated amongst stakeholders (ICAO, ITU, ATU, AFI/FMG, Satellite Communication Providers, Airspace Users...) before and during the Conference led After debate the adoption of Resolution COM6/24-WRC 12, currently renamed Resolution 154-WRC 12.

2.3 This resolution attached at **Appendix C** resolves to invite ITU-R to provide after studies, for next WRC-15 a set of “**possible technical and regulatory measures in some countries in Region 1 to support the existing and future FSS earth stations in the 3 400-4 200 MHz band used for satellite communications related to safe operation of aircraft and reliable distribution of meteorological information**” and invites States and ICAO and WMO to participate in these studies.

2.4 This important result implies that the aeronautical VSAT operators in the AFI Region in particular SNMC Members should actively participate through their national Authority of Regulation of Telecommunication in the preparatory activities of WRC-15. By providing the status of deployment of VSATs operating in the FSS C-Band in support to aeronautical services, they will contribute to the study called upon by Resolution 154.

2.5 To successfully address this critical issue, the AFI region needs to build a solid cooperation with other AFI FSS users operating in the same 3400-4200MHZ C-Band and with Aeronautical VSAT operators in the neighbouring Regions (MID, SAM, EUR, APAC...). During this conference, ASECNA, GCAA, Cote d’Ivoire, Senegal as SNMC core members provided useful support to the initiative and this should be recognized and encouraged.

2.6 The difficulties encountered by the Secretariat and the AFI/FMG Rapporteur to have feedback for the endorsement of the draft Resolution was reported to AFI/FMG it was agreed that AFI/FMG member should nominate a focal point to address VSAT spectrum issues.

2.7 The experience gained during this conference shows that an earlier and good preparation for the forthcoming Conference must be taken through dialogue with stakeholders such as CAAs, National Authorities of Regulation of Telecommunication and ANSPs.

2.8 Since then the work is being pursued at ICAO level in coordination with all stake holders:

- 2.8.1 Inclusion of this issue in the ICAO position for WRC-15 Agenda Item 9.1.5
- 2.8.2 Consideration by ICAO 12th Air Navigation Conference
- 2.8.3 Consideration by the ICAO 38th Assembly
- 2.8.4 Consideration by APIRG through the AFI Frequency Management Group (AFI/FMG) strategy
- 2.8.5 Participation of ICAO to the ITU CPM Working Party 4C which come out with a draft revised Resolution 154 to be presented to next CPM meeting (**Appendix C**).

2.9 The next steps will be to share the draft CPM document with the AFI Stakeholders in particular with ATU and the Sub regional Telecommunication Regulators (WATRA) ICAO Regional Offices WACAF and ESAF will continue the necessary coordination actions with the other neighbouring ICAO regions (MID, SAM, EUR, and APAC) to populate and share The Draft Resolution 154-WRC 12 Revised that addresses the issues of safe operation of satellite based VSAT networks supporting Aeronautical Fixed Services between these regions.

3. Action by the meeting

The meeting is invited to:

- a) Take note of the information given above
- b) Encourage SNMC States/Organizations to populate WRC-12 outcome on issues related to the provision of spectrum for civil aviation;
- c) Actively participate in the studies called upon by Resolution COM6/24-WRC 12 through the activities of AFI/FMG, ACP WG F meetings and ATU regional meetings;
- d) Strengthen their collaboration with their National Authority of Regulation of Telecommunication in order to submit and support the position of ICAO for the future WRC-15
