



**INTERNATIONAL CIVIL AVIATION ORGANIZATION  
WESTERN AND CENTRAL AFRICA OFFICE**

**Third Meeting of the Central Atlantic FIR Satellite Network (CAFSAT)  
Management Committee (CNMC/3)  
(Dakar, Senegal, 15-16 July 2013)**

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**Agenda Item 4: interconnection and interoperability of CAFSAT with its neighboring networks (NAFISAT, REDDIG, MEVA)**

*Preparation of WRC-15: Undertaken Ongoing and Future Actions*

**(Presented by the secretariat)**

**SUMMARY**

The purpose of this paper is to provide the meeting with the actions undertaken in by CNMC members for the protection of the C Band operated by CAFSAT nodes

**Reference:**

- Reports on ACP WG/F Meetings
- Final acts of WRC-12
- ITU-R Studies 2109; 2199 on C Band sharing

**Related ICAO Strategic Objectives: A: Safety; B: Air Navigation Capacity and Efficiency**

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**Related ASBU Bloc 0 Modules, Performance Improvement Areas and Applications:**

**B0-FRTO/PIA3-PBN En Route Trajectories;**

**B0-FICE/PIA2-AIDC,**

**B0-DATM/PIA2-AIM,**

**B0-TBO/PIA4-Datalink**

**B0-AMET/PIA2-MET**

**Action by the meeting see paragraph 3**

**1. Introduction**

1.1 The last CNMC meeting recognized that the preparation of WRC comprises various activities at national, sub / regional and international level and includes various stakeholders such as National Authorities of Regulation of Telecommunication, Civil Aviation Authorities (CAA), Air Navigation Service Providers (ANSPs), Airports Operators and Airlines, regional specialized associations.

1.2 The meeting also noted that key role of CNMC members in the preparation of WRC-15 will be to sensitize their respective CAAs to provide ATU, CITEL and CEPT through their regulators with the concerns of the aviation community what suppose that the position of ICAO is captured understood and shared with these stakeholders.

**2. Discussion**

**2.1 Overview on actions undertaken in preparation to WRC 15**

2.1.1 The 28<sup>th</sup> meeting of the Aeronautical communication Panel Working Group F (ACP WG/F/28) was held in Lima Peru from 11 to 22 March 2013.

This meeting reviewed the outcomes of the 12th Air Navigation Conference (AN-Conf/12) affecting spectrum work such as the finalization of the Spectrum Strategy in Chapter 8 of Radio Frequency Handbook (Doc9718) Vol. 1. The Official ICAO Spectrum Policy and Strategic Objectives contained in the Handbook on Radio Frequency Spectrum Requirements for Civil Aviation (Doc 9718) were also reviewed as well as the new draft Part II of the Handbook, in support of the Annex 10 Volume V update.

2.1.2 It may be reminded that the 12<sup>th</sup> Air Navigation conference formulated Recommendations 1/12; 1/13 and 1/14 addressing issues related to aeronautical frequency spectrum.

In particular **Recommendation 1/13- Potential use of fixed satellite service spectrum allocations to support the safe operation of remotely piloted aircraft systems** calls upon ICAO to support studies conducted by ITU-R to determine what ITU regulatory actions are required to enable use of frequency bands allocated to the Fixed Satellite Service (FSS) for remotely piloted aircraft system command and control (C2) links to ensure consistency with ICAO technical and regulatory requirements for a safety service and CAA, assisted by Air Navigation Service Providers (ANSPs), Airports Operators and Airlines to ensure the participation of civil aviation in the national coordination meetings convened by the Telecommunication Regulator.

**2.1.3 Recommendation 1/14 – Long-term very small aperture terminal spectrum availability and protection** intends to protect the C-Band operated by the Aeronautical VSAT Networks in accordance with Resolution 154 WRC-12.

Recommendation 1/14 reads as follows.

*That:*

- a) *ICAO and Member States not support additional international mobile telecommunications spectrum allocations in the fixed satellite service C-band spectrum at the expense of the current or future aeronautical very small aperture terminal networks;*
- b) *ICAO and Member States pursue this matter in the International Telecommunication Union Radio Communication Sector (ITU-R) and during the World Radiocommunication Conference (WRC-15), with a coordinated proposal to promote a solution where the international mobile telecommunications spectrum allocation does not compromise the availability of the aeronautical very small aperture terminal networks.*

## **2.2 Participation to the first preparatory meeting of the African Telecommunication Union (ATU)**

2.2.1 Based on these Recommendations and in accordance with the mandate and work programme of the APIRG AFI Frequency Management Group, the Secretariat coordinated the participation of AFI CAAs attendance to the first preparatory meeting of the African Telecommunication Union (ATU).

2.2.1 The ATU first meeting in preparation to ITU WRC 15 was held in Dakar Senegal, from 18 to 20 March 2013 with as main objectives:

- 1) Take stock of the WRC-12 preparation, the conference itself, its outcome implementation strategies and key lessons for the development of better strategies for future WRCs commencing with WRC-15;
- 2) Undertake an overview of the implementation status of WRC-12 outcomes with a view to devising implementation mitigation measures, where necessary;
- 3) Consider the ITU Work Plan for WRC-15 with a view to providing comments reflecting African views for the kind consideration of ITU;

- 4) Consider preliminary views on the WRC-15 Agenda Items, in order to commence formulation of preliminary African common positions where possible.

This meeting was followed by two workshops on Mobile telecommunication and Satellite whose aims were to present to the participants the potential contribution of these technologies to the African countries economic growth and the spectrum requirement challenges and stakes.

2.2.2 One Hundred Sixty Eight (**168**) participants from Thirty One (**31**) Member States, the ITU Radiocommunication (BR) and Telecommunication Development (TD) Bureaus, ECOWAS, EACO; Two (**02**) International Regional Telecommunications Organizations (CITEL and CEPT); Seven (**07**) Associate Members and Eleven (**11**) partner organizations attended the meeting.

2.2.3 Amongst these participating States, Six (**06**) States (Cameroon, **Cote d'Ivoire**, **Ghana**, Kenya, **Senegal**, Uganda) delegation included Civil Aviation experts. ASECNA as Rapporteur of the AFI Frequency Management Group (AFI/FMG) and ICAO WACAF attended these meetings.

2.2.4 This meeting was an opportunity to present ICAO views based on the aim and therefore ICAO position on the WRC-15 Agenda Items of **particular importance to civil aviation** (1.1; 1.5; 1.17 and 9.1.5) was presented in detail and ICAO specific views on the other various Agenda Items were recorded under each respective agenda items in particular agenda items 1.4; 1.6; 1.7; 1.10; 1.11; 1.12; 1.16; 4; 8; 9.1.1; 9.1.6 and 10.

2.2.5 The attention of the meeting was drawn on the necessity for a long-term VSAT spectrum availability and protection from interference to be guaranteed across the entire African continent and other parts of the world as recommended by the ICAO 12<sup>th</sup> Air Navigation Conference held in November 2012 in Montreal.

2.2.6 The presentation by ASECNA highlighted instance of interferences with FM broadcasting stations systems in some countries experienced in some of the adjacent VHF bands (108 to 116 MHz) and affecting both Air Traffic Controller /Pilot voice and data Communications and Aeronautical Radio Navigation Services including critical phase of flight (approach and landing phases) as well.

2.2.7 The C-Band operated by the aeronautical VSAT networks for both Ground/Ground and Air/Ground communication within and across the continent was reported to be interfered by IMT devices in some countries leading to aeronautical service short come. The meeting was reminded on the outcome of ITU studies reported in M.2109 and S.2199 that concluded on the incompatibility of sharing the 3 400 – 4 200 MHz and 4 500 – 4 800 MHz bands between FSS and IMT.

2.2.8 The meeting confirmed that there have been reports of such interferences between the FM sound broadcasting band (87.5 to 108 MHz) and the adjacent aviation band (108 to 136 MHz) in some countries, considered the threat on the C-Band and therefore recommended the following:

**That:**

- a) *Air Navigation Service Providers (ANSPs) such as ASECNA and Civil Aviation Authorities (CAAs) are encouraged to inform the Telecommunication Regulators as soon as such interferences occur for urgent and immediate actions;*
- b) *Countries that have experienced such interferences are urged to investigate and share the results with all Administrations through the ATU Secretariat, in order to share experience to facilitate timely intervention by other Administration;*
- c) *ATU members states reinforce their support to 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 by participating in the studies for possible technical and regulatory measures called upon by Resolution 154 (WRC-12).*

2.2.9 A side meeting was organized involving the CAA present at this meeting and satellite industry in order to harmonize views and prepare the next Conference. The idea of the establishment of an African Users of Satellite for Civil Aviation (AUSCA) as shared and receptively applauded.

This idea was explained in detail to the satellite symposium during which with two short presentations ICAO outlined the key role of satellite technology for the provision of aeronautical Communication Navigation and Surveillance services within and across the continent.

### **2.3 Contribution to the work of ITU Radiocommunication Study Groups (Working Party 4A)**

2.3.1 The issue related to the protection of the C-Band will be discussed under WRC 15 **Agenda**

#### **Item 9.1.5: *Fixed Satellite Service (FSS) systems used for aeronautical purposes***

ICAO in liaison with AFI/FMG Rapporteur has developed the contribution as attached in Appendix to this working Paper. This contribution needs to be introduced by ITU member state for consideration by the next session of the study Group on September 2013.

### **3 Action by the meeting**

The meeting is invited to:

- a) Take note of the information given above
  - b) Implement the Recommendations of ICAO 12<sup>th</sup> Air Navigation Conference pertaining to the protection of C Band
  - c) Encourage States/Organizations to participate in the preparatory activities for WRC-15;
  - d) Promote ICAO position for WRC-15 to conduct the Collaborative Decision Making (CDM) with the stakeholders involved in the usage of aeronautical spectrum;
  - e) Consider the above stakes and challenges on the FSS spectrum band when conducting the re-engineering exercise of CAFSAT
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## Appendix

### Regions ITU

