



International Civil Aviation Organization

Western and Central African Office

**Second Meeting of the AFI Frequency Management Group
(AFI/FMG/2)**

Dakar, Senegal, 18-19 April 2011

Agenda Item 4: Report on the Regional Workshop on Frequency Management and Development of Training Aid (Nairobi, Kenya, 14-16 December 2010)

(Presented by the Secretariat)

SUMMARY

This paper presents to the Second Meeting of AFI Frequency Management Group (AFI/FMG/2) the Report on the Regional Workshop on Frequency Management and Development of Training Aid, which took place in Nairobi, Kenya, from 14 to 16 December 2010, and requests the meeting to endorse its recommendations.

Action by the meeting is at Paragraph 3.

REFERENCES:

[1] Reports of the Sixteenth and Seventeenth Meetings of APIRG

ICAO Strategic Objectives: A (Safety) and C (Sustainable Development of Air Transport)

ICAO Global Plan Initiative: GPI-23 Aeronautical Spectrum.

1. INTRODUCTION

- 1.1 The Radio Frequency Spectrum is becoming an increasingly scarce resource as pressure for increased access from aeronautical as well as non-aeronautical users continued to mount. The provisions governing the use of aeronautical bands are contained in Appendix 27 of the IUT Radio Regulations and compiled in the ICAO Handbook on Policy Statement of Requirements for Aeronautical Radio Frequency Spectrum (Doc 9718).
- 1.2 The ICAO Special AFI RAN (2008) Recommendation 6/21 addresses Aeronautical Radio Frequency Spectrum issues and recommends, *inter alia*, that ICAO Headquarters support several meetings and one seminar in the AFI Region prior to World Radio Conference 2012 (WRC-2012). As a follow up, ICAO approved a Special Implementation Project to support a Regional Workshop on Frequency Management and Development of Training Aid, which took place in Nairobi, Kenya, from 14 to 16 December 2010.

1.3 The Workshop was attended by thirty-two (32) participants from fifteen (15) Contracting States: Angola, Cameroon, Cape Verde, The Gambia, Kenya, Malawi, Niger, Nigeria, Rwanda, Senegal, Somalia, South Africa, Uganda, Tanzania and Zimbabwe.

2. DISCUSSION

Objective of the Workshop

2.1 The main objective of the Workshop was to introduce and present the functionalities of the ICAO Web-based Frequency Management Software designed to support ICAO Regional Offices and States in the planning and management of frequency assignment

Agenda of the Workshop

2.2 The Agenda of the Workshop covered the following topics:

- Agenda Item 1: Frequency assignments
- Agenda Item 2: Frequency Assignment Planning Software for Communications Systems
- Agenda Item 3: Frequency Assignment Planning Software for Navigation Systems (COM List No2), including identification of DMEs within range along PBN routes
- Agenda Item 4: Harmonization of COM Tables
- Agenda Item 5: Updating of COM List No.3
- Agenda Item 6: Secondary surveillance radar (SSR) interrogator identifiers
- Agenda Item 7: ICAO position for ITU WRC-2012

Scope of the Workshop

2.3 The Workshop noted the action taken by ICAO Headquarters in order to address the lack of a Frequency Assignment Planning Software in Regional Offices.

2.4 It particularly noted that ICAO had started the development of a Programme for Frequency Assignment Planning and Database Management for Very High Frequency (VHF) Communications and Navigation systems in 2008. A previous version of the VHF Frequency Assignment Planning Software was presented to the First Regional Workshop (ICAO Special Implementation Project) on Frequency Management (Dakar, Senegal, 28-30 September 2009), which developed recommendations for further improvements.

2.5 The Workshop was briefed on the applicable Frequency Assignment Planning Criteria for Aeronautical Radio Communications and Navigation Systems. Emphasis was put on the following:

- General Methodology for Compatibility Analysis of Aeronautical Radio Systems;
- Aeronautical VHF Radio Air-Ground Radio Communications Systems operating in the Band 117.975 – 137.000 MHz; and
- Aeronautical VHF and UHF Radio Navigation Systems operating in the Band 108.000– 117.975 MHz and 960 – 1215 MHz (ILS, VOR, DME, GBAS and VDL Mode 4).

2.6 The ICAO Programme which is intended to provide a Global Frequency Assignment Plan based on the current ICAO Regional Air Navigation Plans (including COM Lists), based on a globally harmonized technical basis for calculating/analyzing compatibility, was presented to the workshop.

2.7 The presentation covered the frequency management modules which can be used for frequency assignment planning and frequency coordination related to VHF Communications Systems, operating in the Band 117.975 – 137.000 MHz as well as Navigational Aids frequencies limited to NDB, VOR, DME and ILS. These modules are based on the availability of a global frequency assignment updated database.

2.8 The operational functionalities included the following:

- Installation
- Using the programme
- VHF COM List
- Export/Printing COM List
- Information in database
- Introduce new or modified frequency assignment
- Adding a new frequency assignment or modifying an existing frequency assignment
- Search for a new frequency assignment
- Mapping of frequency assignments
- Test frequency/Calculation results
- Query.

2.9 All participants were walked through practical demonstrations and exercises, including exercises based on situations being experienced at their respective platforms.

Recommendations

2.10 The feedback received from participants and discussions held, during the Workshop lead to a number of recommendations aimed at improving the ICAO developed Frequency Management Software, by making it more consistent with AFI regional characteristics. These recommendations can be summarized as follows:

Recommendations to ICAO:

- 1) In order to ensure a reliable usage of the software globally and regionally, the COM List database should be reviewed and updated;
- 2) ICAO should update the database in coordination with States;
- 3) Non-AFI States should be removed from the AFI Regional COM Lists used by the software;
- 4) ICAO should develop a procedure (script) to facilitate the processing of States' requests through ICAO Regional Offices;
- 5) The administration process should prevent database modifications by States;
- 6) Provisions should be made to apply ICAO Annex 10 or regional planning criteria for combined air traffic services;
- 7) Software for assigning secondary surveillance radar (SSR) Interrogator Identifier (II) codes should be included; and
- 8) Software quick user guide should be expanded with a point by point procedure to carry out the different functions offered by the programme
- 9) FileMaker Pro network should be operational as early as possible for trial purposes with the Regional Offices.

- 10) Further coordination should be carried out through APIRG, CNS Sub-group and Frequency Management Group (AFI/FMG)
- 11) Current assignments in COM lists should be assessed country by country, using the software tool, and shortcomings identified, including basic data and interference
- 12) ICAO Regional Offices should closely coordinate frequency assignment planning between adjacent regions to prevent interference issues.

Recommendations to States:

- 13) States should review and forward COM Lists 1, 2 and 3 to ICAO Regional Offices;
- 14) States (participants) should pursue the evaluation of the software tool, and submit to ICAO any queries, comments and suggestions.

Benefits for participating States

2.11 The following achievements were reached through the Workshop:

- Participants were updated on general frequency assignment criteria, and familiarized with all the functionalities of the software tool developed by ICAO;
- Participants were equipped with an updated/workable version (16/12/2010) for immediate/operational use;
- Case studies were completed for Cameroon, Djibouti, Niger, Somalia and Rwanda, and advice provided to the concerned States to solve frequency planning and interference issues;
- Participants were briefed on ICAO position issues of critical interest to civil aviation to be discussed at ITU WRC-2012.

Conclusion

2.12 Large support was received from participating States; and ICAO was encouraged to finalize/maintain the frequency assignment software tool.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- 1) Note the report on the Regional Workshop on Frequency Management and Development of Training Aid (ICAO Special Implementation Project) which was held in Nairobi, Kenya, from 14 to 16 December 2010, as summarized in this working paper;
- 2) Endorse the recommendations formulated by the 2010 Regional Workshop on Frequency Management and Development of Training Aid, as contained in Paragraph 2.10 here above;
- 3) Request ICAO finalize/maintain the Frequency Assignment Planning Software Tool, and extend it to all relevant Communications, Navigation and Surveillance Systems;
- 4) Note that:
 - a. ICAO is in the process of implementing further improvements to the Frequency Assignment Planning Software Tool based on the recommendations formulated by the 2010 Regional Workshop on Frequency Management and Development of Training Aid; and
 - b. FileMaker Pro Network is now operational for on-line trial purposes of the Frequency Assignment Planning Software Tool with the Regional Offices.

5) Request States to:

- a. Review and update their COM Lists 1, 2 and 3, and send updated lists to their accredited ICAO Regional Offices;
- b. Provide their national Radio Regulators with updated lists of communications and navigation systems; and
- c. Pursue the evaluation of the software tool, and submit to ICAO any queries, comments and suggestions
