International Civil Aviation Organization SAM/IG/19-WP/09
South American Regional Office 15/05/17
Nineteenth Workshop/Meeting of the SAM Implementation Group (SAM/IG/19) - Regional Project RLA/06/901
Lima, Peru, 22 to 26 May 2017

Agenda Item 4: Assessment of operational requirements to determine the implementation of improvements in communications, navigation and surveillance (CNS) capabilities for operations in route and terminal area

IMPLEMENTATION OF THE ICAO FREQUENCY FINDER APPLICATION

(Working paper presented by the Secretariat)

SUMMARY

This working paper presents information about the activities developed in the SAM Region for the implementation of ICAO *Frequency Finder* application to assist in facilitating frequency assignment planning by States and the Regional Offices.

ICAO Strategic objectives:	*A - Safety* *B - Air navigation capacity and efficiency*

1 Introduction

1 1 The Frequency Finder is an ICAO application to assist in facilitating frequency assignment planning by States and the Regional ICAO Offices. This application will substitute the current Regional data base application made in ACCESS for COM LIST 1, 2 and 3 used in the CAR/SAM Region.

1 2 Frequency Finder is constructed in a modular manner and, in its final format will include modules the support the following main functions:

a) Frequency planning for VHF air/ground voice and data link systems (VHF COM list).
b) Frequency planning for VHF/UHF navigation aids (ILS, VOR, DME, and GBAS) (VHF NAV list).
c) Frequency planning for NDB (NDB list).
d) Frequency planning for HF air/ground voice and data communications (HF list).
e) Planning of SSR Interrogator Identifier codes (SSR list).

1 3 In addition, Frequency Finder will include (provisional) modules to support RNAV assessments, prediction of propagation losses, information on airway route structure and FIR sectors etc. An initial version of the module to support assessment of RNAV based on DME-DME navigation is included and currently subject to testing and improvements, with the active participation of ICAO Regional Offices.

2 Analysis

2 1 The current version of Frequency Finder includes the completed module to support frequency assignment planning for VHF air/ground communication systems (VHF COM list 3) operating in the frequency band 117 975 – 137 MHz.

2 2 The module for VHF/UHF Navaids (VHF NAV list) planning is also included in Frequency Finder and is currently subject to a final assessment. This module tests compatibility of ILS and VOR frequency assignments against the criteria currently used in various ICAO Regions, with the exception of the EUR Region Several modifications to this module are expected to be introduced before this module is completed.

2 3 The module that supports the coordination of SSR Mode S Interrogator Identifier codes (SSR list) is available and will be completed in Frequency Finder, including the creation of a Global list of SSR Mode S II Codes, in the near future. Currently, this module enables the calculation of compatible Mode S II Codes.

2 4 Completion and introduction of the modules for HF frequency assignment planning (HF list) as well as for NDB frequency assignment planning (NDB list) is expected by the end of 2017.

2.5 In order to support the SAM States in the frequency selection a workshop was held in Lima Peru from 6 to 10 March 2017 on the Use of the New ICAO Frequency Finder Tool. The workshop was focused on the frequency planning issues, the efficient use of the aeronautical frequency spectrum , the review of the SAM aeronautical frequency allotment plan and the implementation of the Frequency Finder as the new ICAO aeronautical radio frequency management tool for Very High Frequency (VHF) Communications (COM) frequency assignments (COM List 3).

2.6 The workshop counted with the participation of 23 delegates from 10 States of SAM Region (Argentina, Bolivia, Brazil, Chile, Ecuador, Panama, Paraguay, Peru, Uruguay and Venezuela). During the workshop the participants acquired the expertise to manage the tool and initially procced to update the COM LIST 3 of each of the participant States. The agenda of the workshop is presented as **Appendix A** of this working paper.

2.7 Since 13 March 2017, the ICAO FF programme is the tool for the management and selection of frequencies (initially on VHF COM). In this respect States shall nominate a focal point for the management of the FF and coordination with the CNS Officer of the SAM Regional Office for the introduction of changes in the VHF COM data base (COM 3 List). The focal point should be a professional from the communication area of your Administration with experience in the management of aeronautical frequencies. The 16th March 2017 the ICAO SAM Regional Office sent the LT2/4.42 – SA106 letter asking the SAM States to send the update COM LIST 3 and to nominate of focal point for the Frequency Finder no later than 15th May 2017, **Appendix B** presents the current list of focal points.

2.8 For those States not present at the workshop (Colombia, French Guiana, Guyana and Suriname) an introduction training activity on the use the FF programme was delivered on 10 April 2017 via teleconference. In this introductory training via WEB participated French Guiana, Guyana and Suriname.

2.9 At present we have received updated information of COM LIST 3 from Argentina, Ecuador, French Guiana, Peru, Suriname, Uruguay and Venezuela. It is important that all States send updating information in order to avoid interference for co-channel and adjacent frequency.

3 Suggested Actions

3.1 The meeting is invited to:

a) Take note of the information supplied; and

b) analyze the activities carried out with respect to the Frequency Finder described in section 2 and complete/update Appendix B to this working paper.

APPENDIX A

SAM WORKSHOP ON THE USE OF THE NEW ICAO FREQUENCY FINDER TOOL

(Lima, Peru, from 6 to 10 March 2017)

AGENDA

1. Introduction

2. Aeronautical Frequency Planning

- World Radiocommunication Conference (WRC) Process
- Explaining the Planning Criteria
- Current SAM Frequency Allotment Plan

3. Frequency Finder (FF) Tool

- Frequency Finder Tool Requirements
- FF Basic Function
- FF Installation

4. Frequency Finder (FF) Tool Exercises

- Performing Basic Exercises (scenarios prepared)
- Updating the States Frequencies in the Global Database
- Download and Review the Assignment in the Global Database

5. FF Deployment and Implementation Plan

- CAR/SAM Digital Regional Air Navigation Plan (e-ANP)
- SAM States Implementation Plan and assignments
- Frequency Coordination/Interregional Issues

APPENDIX B

NATIONAL FOCAL POINTS/PUNTOS FOCALES NACIONALES
FREQUENCY FINDER

STATE/ ESTADO	ADMINISTRATION/ ADMINISTRACIÓN	NAME/ NOMBRE	POST/ CARGO	TELEPHONE/ TELEFONO	E-MAIL
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BRASIL	DECEA Subdepartamento Técnico – Divisão de Coordenação Técnica Rio de Janeiro - Brasil	Vahé Antoine Yaghdjian	Ing. Telecomunicaciones	Tel:(21) 2101 – 6487 / (21) 99955 – 3305	vahevay@decea.gov.br vahe.antoine@gmail.com
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GUYANA					
GUYANA FR./ FRENCH GUIANA					
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