International Civil Aviation Organization

SEVENTH MEETING OF SPECTRUM REVIEW WORKING GROUP (SRWG/7)

Bangkok, Thailand, 15-17 February 2023

Agenda Item 4: Update on Frequency Finder

LATEST UPDATES ON FREQUENCY FINDER TOOL

(Presented by the Secretariat)

SUMMARY

This paper presents the latest work, enhancements and functionalities brought to the Frequency Finder tool to assist ICAO Regional Offices and States to manage and coordinate aeronautical frequency assignments and SSR Mode S II/SI codes.

Action by the meeting is in paragraph 4.

1. INTRODUCTION

1.1 Frequency Finder (FF) is a program for managing, assessing compatibility and presenting frequency assignments for aeronautical communication and navigation systems as well as for the coordination of SSR Mode S Interrogator Identifier (II)/ Surveillance Identifier (SI) codes. ICAO developed the program to offer a tool to assist ICAO Regional Offices and States to manage and coordinate aeronautical frequency assignments.

2. CURRENT WORK ON FREQUENCY FINDER AND FUTURE ENHANCEMENTS

2.1 The Frequency Finder program currently combines the database management functions for updating the ICAO COM Lists 2 and 3 as well as the SSR list for SSR Mode S II/SI codes.

2.2. THE VHF NAVIGATION (NAV) MODULE

2.2.1 The work on the NAV module was completed using the frequency assignment planning criteria as per the Handbook on Radio Frequency Spectrum Requirements for Civil Aviation, Volume II - Frequency assignment planning criteria for aeronautical radio communication and navigation systems (Doc 9718, Vol II), which was approved by the Secretary-General in 2021. Further revisions to Doc 9718, Vol II were published in early 2022. Subsequently, the revised planning criteria contained in the revision for compatibility assessment of frequency assignments to VHF COM systems and NAV systems (ILS, VOR, DME and GBAS/VDB) have been incorporated in the new release of the Frequency Finder tool.

2.2.2 Doc 9718 Vol II Second Edition – 2022, was adopted as the planning principle for aeronautical facilities and services operating in the aeronautical frequency bands of 108-117.975 MHz, 960- 1215 MHz and 117.975- 137 MHz in APAC through Conclusion APANPIRG/33/10 refers. As a result, Frequency Finder has to be modified to accommodate the changes in the allotments.

2.2.3 The ICAO APAC Office has migrated all data of Frequency List 2 from Frequency Manager to Frequency Finder, and the day-to-day coordination on new assignments for Frequency List 2 is being performed using Frequency Finder.

2.3 A STANDALONE VERSION OF FREQUENCY FINDER TOOL FOR THE SSR MODULE

2.3.1 The distribution of the runtime version to States has been provided in separate files, one for VHF-COM together with the NAV frequencies and one for SSR module since in States it may not always be the same person that is looking after SSR codes and looking after frequencies. For the remainder, the functions on the Start screen are the same as in earlier versions.

2.3.2 The ICAO APAC Office did join the test of the new runtime version of Frequency Finder, using the standalone SSR module.

2.4 FACILITATION OF THE INTERROGATOR CODE (IC) ALLOCATION IN ALL ICAO REGIONS.

2.4.1 More and more Mode S radars are deployed worldwide. The number of available II codes is not sufficient to accommodate this increasing number of Mode S radars. Therefore, the use of SI code becomes necessary in some regions (already used in ICAO EUR and ICAO MID Regions, coming in ICAO APAC Region).

2.4.2 Additional guidance on the allocation of II codes and SI codes to Mode S radars depending on the capability of the Mode S radar and Mode S transponders were therefore proposed for amendment to the Aeronautical Surveillance Manual (Doc 9924) - ASWG TSG WP 16-15R3 refers. As a result of the discussions, a WP related to SSR II-SI code planning will be presented at the ASWG/17 meeting. These proposed amendments are very relevant to the further implementation of the compatibility criteria in Frequency Finder.

2.5 Other updates were undertaken in Frequency Finder since SRWG/6, which are more of a nature of ongoing improvements and improvement of user-friendliness usage of the tool.

3. THE LAUNCH OF THE WEBCOURSE

3.1 The first webcourse, Aeronautical Spectrum Use with Special Focus on VHF (ASU), was launched in September 2022 by ICAO. ICAO APAC CNS has shared this information to the participants of SRWG/6 to advertise this resource among States.

3.2 This course aims to provide the fundamentals of frequency and spectrum management, focusing mainly on Very High Frequency (VHF) used by aeronautical communications systems, as well as a description of the specific terms used in frequency management in civil aviation including a brief discussion about aeronautical communications and navigation systems.

4. ACTION BY THE MEETING

4.1 The meeting is invited to:

a) note the information contained in this paper;
b) make extensive usage of the Frequency finder tool for frequency coordination;
c) provide feedback on Frequency Finder tool usage, suggestions, bugs and recommendations; and
d) discuss any relevant matter as appropriate.

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