



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

ICAO FREQUENCY FINDER APPLICATION

(Working paper presented by the Secretariat)

SUMMARY	
This information paper presents information of the new ICAO tool called <i>Frequency Finder</i> to assist in facilitating frequency assignment planning by States and the Regional Offices	
ICAO Strategic objectives:	<i>A - Safety</i> <i>B - Air navigation capacity and efficiency</i>

1 Introduction

1 1 The Frequency Finder is an ICAO application to assist in facilitating frequency assignment planning by States and the Regional 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, 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.

1 4 Frequency Finder is using the ICAO Global Database of frequency assignments. This database is placed on a server n ICAO HQ and can be accessed with a modern internet browser at

<http://gis.icao.int/ff1/ff1.php>. This database is to be migrated to the ICAO secure website at <https://gis.icao.int/ff3/ff1.php>. The Global Database is a (simple) concatenation of the separate ICAO Regional COM lists. These Regional COM lists have been reformatted in the uniform format required for Frequency Finder. The Global Database is available for use by the ICAO Regional Offices which have exclusive direct access through the FileMaker Pro Network. To fulfill their obligation to coordinate and register new or modified frequency assignments, only the Regional Offices have the privilege of updating the Global Database. States can access the Global Database for browsing and downloading.

2 Frequency Finder current status

2.1 Frequency Finder is available in a full version and a runtime version. The full version requires FileMaker Pro 13 or FileMaker Pro 13 Advanced to be installed on your local computer. The runtime version can run from your computer without the need for installing FileMaker Pro Advanced. The runtime version does not allow you to modify Frequency Finder and cannot export data in the format of Adobe PDF files. In addition, some synchronization processes which have been implemented for exclusive use by the ICAO Regional Offices do not work in the runtime version. Apart from these constraints, the functionality of the runtime version is (very) similar to that of the full version. The full version is for the ICAO Regional Officer and the runtime version for the States. Frequency Finder requires the use of Google Earth. Google Earth is freely available from the website <http://www.google.com/earth/download/ge/agree.html>.

2.2 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. The frequency assignment planning criteria that are incorporated in Frequency Finder are based on radio equipment designed for 25 kHz as well as for 8.33 kHz channel spacing. When calculating potential interference between frequency assignments, Frequency Finder tests the compatibility between frequency assignments in a mixed environment where frequency assignments are implemented for stations that deploy either 25 kHz or 8.33 kHz channel spacing.

2.3 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.

2.4 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.

2.5 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.

3 Frequency Finder workshop

3.1 The Tenth Coordination Meeting of the RLA/06/901 (RCC/10 25-26 August 2016) project approved the realization of a Frequency Finder Workshop to be held tentatively in the month of March 2017. For this event the RCC/10 approved 11 fellowships (one fellowship per States member of the RLA/06/901 plus one).

4 Suggested Actions

4.1 The meeting is invited to take note of the information supplied and the new version of the Frequency Finder runtime version will be post in the following FSMP website: <http://www.icao.int/safety/FSMP/Documents/FrequencyFinder>.
