



International Civil Aviation Organization

FIRST MEETING OF SPECTRUM REVIEW WORKING GROUP (SRWG/1)

Bangkok, Thailand 26 – 27 June 2014

Agenda item 5: Improvement of VHF frequency assignment procedure

ITU MIFR AND ICAO GLOBAL DATABASE

(Presented by Secretariat)

SUMMARY

This paper presents a status on the relation between ICAO frequency global database and ITU MIFR.

1. INTRODUCTION

1.1 ICAO plays a role of coordination for frequency assignments in the HF, LF/MF and VHF bands, which are allocated to the aeronautical mobile (R) and aeronautical radionavigation services through regional spectrum management database, while ITU maintains the Master International Frequency Register (MIFR); a worldwide database containing assignments for all radiocommunication services including aeronautical ones.

2. DISCUSSION

2.1 As stated in the attached Information Paper reviewed by ICAO ACP WG30, the comparison of the two databases showed that only a small part of assignments in the ICAO's database is recorded in the MIFR. It also showed that the ICAO database is more accurate and up-to-date than the MIFR.

2.2 During the ICAO ACP WG-30 meeting, a demonstration was provided of a prototype comparison tool which allows administrations to compare information contained in the MIFR with that contained in the ICAO data base, and generate any required ITU Notices. The meeting agreed that the technical tool developed to compare the two data bases was useful, however there was still considerable concern regarding the institutional issues such as ensuring that the ICAO data base remains the "master" when performing aeronautical frequency coordination.

2.3 ICAO regional Offices coordinate frequency assignments only with aeronautical authorities or national entities authorized by national aeronautical authorities.

2.4 In most countries the aeronautical authorities are authorized by the Telecommunication Administrations/national frequency planners to coordinate frequency assignments with ICAO before the approval process with the national radio management authority takes place. Any internal coordination within a given country is a domestic issue.

2.5 While the ICAO global database can provide a reference as it is more accurate and up-to-date and constitute as such a “master”, official registration with ITU and update of aeronautical frequencies in the MIFR are matters of national radio management authorities. The update would be made on the basis of the ICAO records, which would be made in turn available to the ITU administrations. But this process stays beyond the remit of ICAO.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information contained in this paper.



INFORMATION PAPER

Attachment to SRWG/1 - IP/4

AERONAUTICAL COMMUNICATIONS PANEL (ACP)

30th MEETING OF WORKING GROUP F

Pattaya, 13 – 19 March 2014

Agenda Item 10: Other Business

STATUS OF ALIGNMENT OF ICAO AND ITU DATABASES

(Presented by *ITU*)

SUMMARY

This paper provides a progress report on joint ICAO/ITU activities related to the alignment of frequency assignments recorded in the ICAO Database and the ITU Master international Frequency Register (MIFR)

ACTION

The meeting is invited to note the content of this paper and provide any related comments and proposals

1. INTRODUCTION

1.1 Starting from 2011 the ICAO and ITU secretariat entered into a phase of close cooperation. This allowed to identify that both organizations maintain worldwide databases of aeronautical frequencies and that the contents of these two databases are significantly different.

1.2 The ICAO maintains database of frequency assignments in the HF, LF/MF and VHF bands, which are allocated to the aeronautical mobile (R) and aeronautical radionavigation services. The ITU maintains the Master International Frequency Register (MIFR). This is a worldwide database containing assignments for all radiocommunication services including aeronautical ones.

1.3 Comparison of the two databases showed that only a small part of assignments in the ICAO's database is recorded in the MIFR. It also showed that the ICAO database is more accurate and up-to-date than the MIFR. Therefore, the alignment of terrestrial aeronautical assignments recorded in the Master Register with the ICAO frequency database was found necessary.

1.4 The ITU BR reported the issue to WRC-12. The Conference confirmed that recording of the ICAO assignments in the MIFR would be beneficial to the ITU. WRC-12 decided that the Bureau should urge administrations to notify aeronautical assignments to the MIFR. After the WRC-12, BR started consultations with the ICAO to develop a mechanism for a transfer of ICAO data to the MIFR.

1.5 At its 27th meeting in September 2012, WG F considered regulatory, administrative and technical issues related to this project (documents WP9 and WP10). The meeting decided that the aeronautical frequencies in the MIFR will be updated by ITU administrations. The update will be made on the basis of the ICAO data, which would be made available to the ITU administrations.

2. STATUS OF THE DEVELOPMENTS

2.1 The main issues of the project, their possible solutions and the current status of the developments are listed in items 2.2 – 2.4 below.

2.2 **Issue 1:** the format, structure and parameters in ICAO database and in the MIFR are different. Some data, that are mandatory for the MIFR are absent in the ICAO database. To resolve this problem, a conversion algorithm is needed to convert the ICAO data into the ITU format and generate missing data.

To the date, the conversion algorithm has been completed. Few remaining issues are given in item 3.2. This algorithm has been implemented in the ICAO program FrequencyFinder and ITU software TerRaNotices. The both tools allow generating T12 and T13 notices based on the ICAO data. T12 and T13 notices are used for notification of aeronautical frequencies for recording in the MIFR.

2.3 **Issue 2:** aeronautical frequencies are often managed by national aviation authorities, who are not permitted to update the MIFR. In its turn, many ITU telecommunication administrations have no access to the ICAO database. To resolve this difficulty, it is necessary to make national extracts from ICAO database available for ITU administrations.

To the date, the ICAO granted access to its database for the ITU. In its turn, the ITU allowed the ICAO to access the MIFR database. ITU intends to place the ICAO data on a secure ITU web service. There will be no possibility to consult the data directly. The ICAO data could be read only through ITU software TerRaNotices, which will have a link to this web service. Administrations will be permitted to work only with the data related to its country.

The ICAO is rapidly advancing in the developing web-based application for consulting its aeronautical frequency data. This would enable the ITU to download the up-to-date ICAO information at the ITU web service on a regular basis. ITU administrations can use this data through TerRaNotices, which has a link to this ITU web service.

2.4 **Issue 3:** ITU administrations may have difficulties to compare the MIFR and ICAO information in order to identify modifications, suppressions and additions to be made in the MIFR. To resolve this difficulty it is necessary to develop a tool for comparison of assignments recorded in the MIFR and ICAO databases.

To the date, a prototype of the Comparison tool has been completed and is ready for demonstration at this WG F meeting. The tool allows identification of the assignments present in ICAO and absent in the MIFR, i.e. candidates for ADD notices, and the assignments present in the both databases with different parameters, i.e. candidates for MOD notices. The Notice Generation tool and the Comparison are linked in TerRaNotices. This provides a possibility to generate notices based on results of the comparison.

3. FUTURE DEVELOPMENTS

3.1 There are some remaining issues that require further work. On the ITU side, the Comparison tool should be improved to identify the assignments that are absent in the ICAO database and present in the MIFR, i.e. candidates for suppressions from the MIFR. The ITU should also prepare a Circular Letter to administrations explaining the procedure for updating the MIFR based on ICAO data and the tools available.

3.2 In its turn, the ICAO should complete the web-based tool with the ICAO database. The use of the data would be significantly facilitated for the ITU if an XML format with a UTF-8 encoding is used in the web-based tool. This would allow to easily accessing vhf_com and polygons information.

The content of the database may need to be reviewed to remove duplicates, to displace the assignments outside vhf-com bands and to correct erroneous coordinates. In addition, rules for generating Class of Emission for the digital data link communication systems (VDL Mode 2 and VDL Mode 4) should be developed.

4. **ACTION BY THE MEETING**

4.1 The ACP WG-F is invited to:

- Note the information used within the document
- Provide any related comments and proposals