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**Agenda Item 3:** VHF Com Simulation for 2030**VHF COM SIMULATION FOR 2030**

(Presented by the Secretariat)

**SUMMARY**

This paper presents the latest development in simulating the VHF COM requirements for APAC in 2030.

**1. INTRODUCTION**

1.1 The most important function of SRWG expert working group was to study the issue of the requirement of 8.33 kHz channel spacing, and it could be considered as completed by 2016 after SRWG/3. The simulation activities of the SRWG/3 in 2015 determined that implementation of 8.33 kHz channel spacing would not be necessary until at least 2025.

1.2 The results of this simulation have been recorded in the Frequency List 3 (Frequency Finder) with the remark “Only for SRWG Simulation”. Currently 219 frequency assignments are registered in COM list 3 for SRWG simulation only. These frequency assignments have not yet been brought into operational use and can be used to meet future requirements e.g., until 2030

1.3 In order to maintain 5 years as buffer to transition to the 8.33 KHz spacing scheme for VHF Com in APAC, a new round of simulation is deemed necessary with the target year of 2030.

**2. DISCUSSION**

2.1 CNS SG/24, held from 30 November to 4 December 2020 in VTC mode, adopted the following Decision/Conclusion drafted by SRWG/4:

**Decision CNS SG/24/6(SRWG/4/1) - Frequency requirements for VHF-COM systems and ILS, VOR, DME and GBAS/VDB facilities.**

*That, the SRWG is tasked to develop a rolling frequency assignment plan for VHF-COM and ILS, VOR, DME and GBAS/VDB facilities to meet the operational requirements until [2030], subject to a regular review and updating by the SRWG.*

**Conclusion CNS SG/24/7(SRWG/4/2) – Simulation of VHF COM Frequency requirements for next 10 years.**

*To conduct a new round of simulation for VHF COM frequency assignment based on new operational requirements of States to 2030 as necessary.*

2.2 Accordingly, the Fifth Meeting of Spectrum Review Working Group (SRWG/5) prepared the format for *Submission of Frequency Requirements for the Period 2021 – 2030*, which was circulated to member States through State Letter with Subject: *Simulation of VHF COM Frequency requirements for next 10 years* and Ref.: T 8/8.6 – AP058/21(CNS) on 09 April 2021. The State Letter is provided in **Appendix A** to this paper.

2.3 The CNS SG/25 meeting noted that only **seven** Member States/Administrations have responded the State Letter, and the CNS SG Chair shared the concern that low responses to the State Letter may create an obstacle for the meaningful simulation of VHF COM Frequency requirements for next 10 years for APAC region and there may be a delay in formulating regional requirements on this matter. The SG meeting urged delegates to take necessary action to respond to the State Letter as early as possible. Up to date, the ICAO APAC Office has received submission from **eight** States/Administration, namely China, Hong Kong China, India, Japan, Republic of Korea, Singapore, Thailand and USA.

2.4 The current Frequency List 3 can be accessed with the ICAO program Frequency Finder. States are requested to check if all frequency assignments that are in use are also registered in the Frequency List 3. Only frequency assignments that are in the Frequency List 3 can be considered to be protected from harmful interference during future frequency assignment planning activities. The simulation is initiating a rolling frequency assignment planning practice from now on. An up-to-date and complete Frequency List 3 is the basis of a successful simulation. The Frequency Finder installation status in APAC is provided in **Appendix B** to this paper.

2.5 Preliminary analysis on the States' submission revealed the challenge of uncertainty to determine the medium-term spectrum requirements for VHF communication services, in particular the specific location for using the frequency. The ICAO Secretariat is undertaking further analysis with concerned States by using Frequency Finder to determine whether these requirements can be assigned with a frequency within the available 25 kHz channels.

### **3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) provide required information for simulation by using **Appendix A**;
- c) review and update **Appendix B** and provide up-to-date information for Frequency List 3 by using Frequency Finder; and
- d) discuss any relevant matter as appropriate.

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**Ref.:** T 8/8.6 – AP058/21(CNS)

09 April 2021

**Subject:** Simulation of VHF COM Frequency requirements for next 10 years

**Action Required:** Reply by **15 July 2021**

Sir/Madam,

I wish to inform you that the Twenty Fourth Meeting of the Communications, Navigation and Surveillance Sub-group of APANPIRG (CNS SG/24) adopted the following Conclusion:

**Conclusion CNS SG/24/7 – Simulation of VHF COM Frequency requirements for next 10 years.**

*To conduct a new round of simulation for VHF COM frequency assignment based on new operational requirements of States to 2030 as necessary.*

Accordingly, the format for *Submission of Frequency Requirements for the Period 2021 – 2030* has been prepared by the Fifth Meeting of Spectrum Review Working Group (SRWG/5), which is provided as **Attachment** to this letter and to be used as a template for States/Administrations to submit required information to this Office. The primary purpose of this simulation is to determine if a congestion in the use of VHF COM frequencies can be foreseen that would require the implementation of 8.33 kHz channel spacing in the APAC Region.

The template for submission can also be accessed online at: <https://www.icao.int/APAC/Meetings/Pages/2020-SRWG5.aspx>. The information and data received will be used for analysis purpose only. You may send back the completed template through e-mail: [apac@icao.int](mailto:apac@icao.int), with a copy to [yluo@icao.int](mailto:yluo@icao.int). I would be grateful if you could have the template completed as early as possible, **preferably not later than 15 July 2021**.

Yours sincerely,

Manjit Singh  
Acting Regional Director

**Enclosure:**

Submission of Frequency Requirements for the Period 2021 – 2030

## SUBMISSION OF FREQUENCY REQUIREMENTS FOR THE PERIOD 2021 – 2030

### 1. INTRODUCTION

1.1 In order to maintain 5 years as buffer to transition to the 8.33 KHz spacing scheme for VHF Com in APAC Region, a new round of simulation is deemed necessary with the target year of 2030. The primary purpose of this simulation is to determine if a congestion in the use of frequencies can be foreseen that would require the implementation of 8.33 kHz channel spacing in any parts of the APAC Region.

1.2 With the view to determine the medium-term spectrum requirements for VHF communication services, States are invited to submit these requirements to the Asia and Pacific Regional Office (RO) by **15 July 2021**. On the basis of these requirement, the RO will undertake an analysis that is aimed at determining whether these requirements can be assigned a frequency within the available 25 kHz channels.

### 2. SUBMISSION

2.1 The RO accepts submission described respectively in paragraph 2.2, 2.3 or 2.4.

#### 2.2 Using Frequency Finder

2.2.1 Preferably, States should use the “Submission” function in Frequency Finder tool to submit new, modified or deleted frequency assignments.

2.2.2 In this case, States can introduce the requirements in the local version of Frequency Finder and generate with the button “Export Submissions” an Excel file that can be submitted to the RO.

2.2.3 States are able to download the Frequency Finder tool from Frequency Spectrum Management Panel (FSMP) webpage at: <https://www.icao.int/safety/FSMP/Pages/Documents.aspx>, and the RO will provide assistance for any difficulties in installation and use of this ICAO tool.

#### 2.3 Use embedded Microsoft Excel file

2.3.1 Alternatively, States can use the embedded Excel file in this Attachment and enter the foreseen new frequency requirements for the period 2021 – 2030. Further instructions for filling out this Microsoft Excel file are in the Appendix.

#### 2.4 Precise details not available.

2.4.1 When precise details are not available for future frequency requirements, States can submit such requirements in any format in their response to this State Letter.

2.4.2 *Example 1:* For a new airport, States can submit the (approximate) coordinates and specify the need for:

- x TWR frequencies
- x Aerodrome surface frequencies
- x APP-U frequencies
- x APP-L frequencies
- x ACC-U frequencies

- x ACC-L frequencies
- x VOLMET frequencies
- x ATIS frequencies
- x VDL frequencies

or a selection of these.

2.4.3            *Example 2:* A need has been identified to implement TWR frequencies with a DOC of 10 NM/4000 ft at unspecified locations throughout the country.

2.4.4            For these cases outlined in *Example 1* and *Example 2*, when performing the analysis and converting such requirements in a frequency assignment plan or spectrum capacity assessment, the relevant State can be consulted.

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VHF.COM\_SIMULATI  
ON2021.xlsx

MOD	Frequency	Country full	Location	CoordLat	NS	CoordLong	WE	DOC	ER	Cat	Remarks
N	118.050	Thailand	Bangkok	62D60'60"	N	018D60'60"	E	ACC-U C-200/450		NAT	

**Explanation:**

MOD: N is for a new record

Frequency: Insert frequency is known, leave empty if no frequency is known

Country full: Insert Country name, preferably as per the ICAO Directory

Location: Insert Location name if known. Else, leave empty

CoordLat: Latitude

NS: North/South

CoordLong: Longitude

WE: West or East

DOC: Service type<sup>①</sup>, followed by C (circular) and DOC Range NM/Height ft.

Cat: Nat (National) or ICAO

Remarks: Any remark pertinent to the required frequency

① For service type and DOC see DOC.9718, Volume II, Table 2-6 (Table of Uniform Designated Operational Coverage

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**FREQUENCY FINDER INSTALLATION STATUS IN APAC**

No.	States/ Administrations	FF Installed?	FF version	Organization name	Contact	Remark
1	Australia	Yes	FF2020.06R	AsA	<a href="mailto:Spencer.Robinson@AirservicesAustralia.com">Spencer.Robinson@AirservicesAustralia.com</a>	
2	China	Yes	FF2020.04R	CAAC	<a href="mailto:zhangjia@caac.gov.cn">zhangjia@caac.gov.cn</a>	
3	India	Yes	FF2020.04R	AAI	Freq Mgmt, CHQ <a href="mailto:afsmenschq@AAI.AERO">afsmenschq@AAI.AERO</a>	
4	Indonesia	Yes	FF2020.04R	DGCA-INS	Abdul Aziz <a href="mailto:azizsabdu@gmail.com">azizsabdu@gmail.com</a>	
5	Malaysia	Yes	FF2020.04R	CAAM	Syahroni Bin Chek Rus <a href="mailto:syahroni@caam.gov.my">syahroni@caam.gov.my</a>	
6	Thailand	Yes	FF2020.04R	CAAT	Mr. Chavalit Ithiapa <a href="mailto:chavalit.i@caat.or.th">chavalit.i@caat.or.th</a>	