



ICAO

*International Civil Aviation Organization*

**NINTH MEETING OF SPECTRUM REVIEW  
WORKING GROUP (SRWG/9)**

*Bangkok, Thailand, 7-9 May 2025*

**Agenda Item 12:** Review of action items and Point of Contact (PoC) of States on frequency affairs

**REVIEW TERMS OF REFERENCE OF SRWG AND ACTION ITEMS**

(Presented by Secretariat)

**SUMMARY**

This paper presents the development and achievements made in APAC Region since SRWG establishment, and the ToR with Action List for review by this meeting.

**1. INTRODUCTION**

1.1 CNS SG/17 meeting held in May 2013 in Bangkok discussed the issue of proposed deployment of 8.33 kHz channel spacing in the band 117.975-137 MHz in the APAC Region (WP/24 by India). The meeting agreed to a proposal to establish a small working group to investigate the need for an increase in available VHF COM channels, and on the basis of the results of the analysis, to make a recommendation for further consideration by the Sub-group. Accordingly, the meeting developed the following Decision:

**Decision 17/6 – Establishment of Spectrum Review Working Group on 8.33 kHz channel spacing**

*That, ICAO Regional Office is requested to issue a letter to the States/Administrations concerned for nomination of spectrum management expert members of the spectrum review working group to study the requirement of 8.33 kHz channel spacing.*

1.2 APANPIRG/24 meeting held in June 2013, noted above decision and the establishment of a small working group to investigate the need for an increase in available VHF COM channels and, on the basis of the outcome, to develop recommendations for further consideration by the CNS SG.

1.3 As a follow-up to this decision, a letter AP-CNS0009/14 dated 20 January 2014 was issued. Australia, China, Hong Kong China, India, Japan, New Zealand, Singapore and Thailand were requested to nominate qualified **Subject Matter Experts (SMEs)** to participate in the study.

1.4 The main outcomes of the SRWG/3 and follow-up work to be conducted were reviewed by CNS SG/20 held on 11-15 July 2016 through WP14, and were further noted by APANPIRG/27 held from 5 to 8 September 2016 under its agenda item 3.4. It was reminded that the Conclusion APANPIRG/26/47 adopted in 2015 invites States to submit and update their operational needs in terms of VHF frequencies (international and national) on a yearly basis to the ICAO Regional Office.

1.5 The CNS SG/18 meeting held in Beijing, China, from 21 to 25 July 2014, reviewed the outcome of SRWG/1 and the terms of reference drafted by the SRWG/1 meeting, and adopted the

following **Decision 18/19 - Adoption of the Terms of Reference of SRWG.**

1.6 SRWG/4 meeting in 2020 further reviewed the ToR, which was adopted by CNS SG/24 by **Decision CNS SG/24/9 (SRWG/4/4)**. The keynote for this revision was to conduct a simulation on VHF COM frequency assignment and expand its scope of work to cover Navigation systems with a focus on GBAS implementation.

1.7 This paper shares the latest ToR and action items for meeting review.

## **2. DISCUSSION**

2.1 Last year, the SRWG/8 meeting further reviewed the ToR of SRWG. However, no changes were made. The Terms of Reference of SRWG adopted by CNS SG/24 are provided in **Appendix A** of this paper for further review by this meeting.

2.9 Each year, the SRWG Meeting compiles action items resulting from the meeting along with a review of past action items. The latest action items list reviewed by the SRWG/8 meeting is provided in **Appendix B** of this paper for review and further updates by the Meeting.

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

3.1 The meeting is invited to:

- a) review the ToR of SRWG provided in **Appendix A**;
- b) review and update the Action List provided in **Appendix B**; and
- c) discuss any relevant matters as appropriate.

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**REVISED TERMS OF REFERENCE OF  
ASIA AND PACIFIC  
SPECTRUM REVIEW WORKING GROUP (APAC SRWG)**

Consists of objectives and deliverables as follows:

**The Objectives of the APAC SRWG are to:**

- (a) conduct regular spectrum capacity and requirements assessment for the APAC Region to accommodate current operational requirements and future implementation of aeronautical communication and navigation system as stipulated in the Global Air Navigation Plan (GANP);
- (b) develops an approach, supported by new tools and criteria being introduced at ICAO global level, to enhanced possibilities of frequency assignments for communication (VHF air-ground communication) and navigation system (ILS, VOR, DME and GBAS/VDB);
- (c) develop and review a high-level implementation plan and guidance material(s) for States/Administrations in the APAC region to implement the frequency assignments in a coordinated manner with ANSP, CAA and national frequency Authorities to satisfy future operational needs or the introduction of new technologies, with emphasis on communication and navigation systems, till 2030; and
- (d) be based on the above, develops recommendation(s) to address the future operational needs and current limitations.

**Deliverables to meet the Objectives:**

- (a) Progress report to APANPIRG CNS Sub-Group addressing progress on the deliverables;
- (b) Requirement/Capacity Assessments as necessary;
- (c) High-level frequency assignment plan and Guidance Material(s) for communication (VHF air-ground communication) and navigation systems (ILS, VOR, DME and GBAS/VDB) until 2030; and
- (d) Recommendation(s) on solutions to current limitation and future operational needs.

**Timeframe for Deliverables:**

The timeframe for the review of the deliverables by APANPIRG CNS Sub-Group are as follows:

- Deliverable (a) – from 2020 onward;
- Deliverable (b) – from 2020 onwards;
- Deliverable (c) – first guidance material in 2022; and
- Deliverable (d) – from 2020 onwards (recurring deliverable(s)/based on the outcome of (b) and (c))

**Meeting:**

The APAC SRWG shall convene annually with at least one face-to-face meeting per year, which is supplemented by teleconference meetings (e.g. WebEx) as appropriate.

**Membership:**

All APAC member States/Administrations providing ANS in the Asia and Pacific Regions. APAC members should nominate Subject Matter Experts from Civil Aviation Authorities, ANSPs, and other organizations preferably experts involved in aeronautical frequency and/or spectrum management to participate in the Working Group.

The Working Group would also invite representatives of International Organizations recognized by the ICAO Council as representing important civil aviation interests, to participate in its work in a consultative capacity.

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Updated SRWG Action List

Reference	Who	What	Due date	Status	Completed on	Result	Comment
A 4-5	All	States to provide ICAO Regional Office with information of all facilities that are in operation to improve the currency of Frequency lists	<del>30-Mar-24</del>	<del>Open</del> On-going		In progress	
A 4-7	All, Robert Witzen	Create ad hoc group to draft Table of Content first, then develop the regional guidance material on aeronautical frequency spectrum management in a shared way by States.	<del>31/03/2023</del> CNS SG/27	Close		CAAC volunteered to share a draft and lead the adhoc group. Decided to be contined in SRWG/5.  CNS SG/27 adopted the Conclusion CNS SG/27/05 (SRWG/7/1) - Asia Pacific Regional Aeronautical Radio Frequency Management Guidance Material Edition 1.0.	<del>1. follow up VTC on 3 July.</del> <del>2. Ad hoc drafting group meeting with CAAC on 10 July</del> Draft Conclusion SRWG/7/1 endorsed in SRWG/7
A4-8	Robert Witzen, All	to run new VHF COM simulations	End-2023	Close		To be conducted with required raw data submission from States/Administration	
A5-2	ICAO	to host a regional WRC-23 preparatory meeting upon coordination with ICAO HQ after lifting of travel restriction.	<del>31/12/2022</del> 13-14 Feb 23	<del>Open</del> Closed			
A5-3	ICAO	to resolve firewall query of Australia for FF installation and use.		Closed			Already replied during report
A5-4	ICAO	to inform ICAO HQ to consider the feasibility incorporating terrain data into future version of Frequency Finder	SRWG/7	<del>Open</del> Closed			
A5-5	ICAO, India, Thailand, China, Japan, Mr. Robert Witzen	ad-hoc group led by India to further explore the issue of 50 kHz channel spacing in the frequency band 108-117.975 MHz for ILS (LOC)/VOR operations and provide the inputs to SRWG/6. To coordinate with Japan to participate in ad-hoc group.	<del>31/03/2022</del> SRWG/7	<del>Open</del> Closed			Completed with the paperfrom India.

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Reference	Who	What	Due date	Status	Completed on	Result	Comment
A5-6	ICAO	to take appropriate follow up action to improve the awareness on the potential of emerging technologies and the necessity to consider the development of software tool like Frequency Finder to support the frequency assignment planning at regional office in future.	<del>SRWG/7</del>	<del>Open</del> On-going			Currently a new technology implemented in FF is using GBAS/VDB Ongoing stuiess in NSP and FSMP are on LDACS in the DMEband
A5-10	ICAO	to conduct a <b>in-person</b> workshop <b>for Frequency Finder</b> after new release of FF along with online course proposed by ICAO-HQ for new release of FF is available	<del>SRWG/7</del> <b>Tentatively October 2023</b>	Close		The Workshop on Frequency Finder (FF) was held at the ICAO Asia and Pacific (APAC) Regional Office from 9 to 13 October 2023 in Bangkok, Thailand.	<del>Has a Workshop been planned? A workshop F2F is necessary as part of the User Acceptance Test.</del>
A6-1	ICAO, SRWG	Recommended to undertake an analysis on VHF COM simulation in 3 - 5 years from now (2025-2028) to assess the severity of the congestion	2025-2028	Open			
A6-2	ICAO	Review the registered frequencies from the simulation conducted in 2016 in the Frequency Finder, and remove those temporary frequencies in the Frequency Finder in previous simulation service	SRWG/7	<del>Open</del> Closed			
A6-3	ICAO	Establish an ad-hoc group (in offline mode through email list) to review the VHF COM Frequency Allotment Plan for APAC in terms of effective use of frequencies in the region, including the review of non-safety critical frequency use. <b>(superceded by A7-1)</b>	SRWG/7	<b>Closed</b> (superceded by A7-1)			
A6-4	ICAO	Publish questionnaire for APAC states for possible introduction of 50 kHz channel spacing in the APAC region via State Letter from ICAO APAC Regional Office (follow up of A5-5)	SRWG/7	<del>Open</del> Closed			
A6-5	ICAO	Probable augmentation of the Frequency Finder tool to incorporate indication to States to coordinate or not to coordinate	SRWG/7	Open			

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Reference	Who	What	Due date	Status	Completed on	Result	Comment
A6-6	China, ICAO	To summarize the revised planning principle/criteria in the format used in WP04 of SRWG/1	SRWG/7	<b>Closed</b> (Incorporated into Guidance Material)			
A6-7	ICAO	State Letter on updated Guidance Material to invite APAC States for review and comments (Follow up of A4-7) <b>(Superceded by A7-2)</b>	SRWG/7	<del>Open</del> <b>Closed</b>			
<del>A6-9</del> <b>A6-8</b>	ICAO	<del>Administrations of Member States in APAC region would take proactive measures (necessary follow up actions) in line with FSMP at national and regional level, to support CAAs work with National telecommunication regulators to prevent and monitor any impact of 5G to Radio Altimeters (avoid the future safety issues on radio altimeter due to 5G implementation).</del>	<del>SRWG/7</del>	<del>Open</del> <b>On-going</b>			HQ SL: Ref.: SP 74/1-21/22, 25 March 2021, Subject: Potential safety concerns regarding interference to radio altimeters
<del>A6-3</del> <b>A7-1</b>	China as Rapporteur and Mr Robert Witzen as Advisor with participation from volunteering States/Administration, ICAO	Ad-hoc Expert group led by China to address issues identified in current frequency allotment plan. Tasks of this group: - Study the allotment plan; - Analyze the real use of allotment registered in FF; - Understand the current situation; - Identify existing issues and rooms for improvement; - Develop suggestions in both technical and administrative perspectives; - Explore the potential in reallocating sub-bands/pools; - Produce a survey on the usage of TIBA in the Region; and - Review content of Guidance Material <del>(as discussed in WP08)</del>	SRWG/8	On-going		SRWG/8: WP/16 – Progress on VHF COM Frequency Allotment Plan for APAC Region Ad-hoc group will be kept to discuss any relevant issue related to the VHF COM allotment plan	

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Reference	Who	What	Due date	Status	Completed on	Result	Comment
A7-2	ICAO	After circulating to APAC States for review of Guidance Material, ad-hoc group to review virtually the material	CNS SG/27	Close		A State Letter Ref.: T 8/8.9 – AP035/23 (CNS) was circulated on 22 February 2023 to invite States/Administrations to review the Asia Pacific Regional Aeronautical Radio Frequency Management Guidance Material Edition 1.0. Only 3 replies were received without substantial comments. The Secretariat coordinated with Chair of SRWG and it was agreed there is no need for another online meeting of SRWG/7 participants to run through the Guidance Material 1.0 again. The Asia Pacific Regional Aeronautical Radio Frequency Management Guidance Material will be updated further if any comments/observations are received from Member States.	
A7-3	Indonesia as Rapporteur with participation from volunteering States/Administration, ICAO	Ad-hoc group rapporteur by Indonesia to share the experience in this Region on handling HF resource utilization and provide recommendations, produce a survey on the usage of HF in the Region, review eANP Vol II relevant tables, review outcomes from former ICAO meetings, and suggestions to Agenda Item 1.9 in WRC-23 if deemed necessary.	SRWG/8	On-going		SRWG/8: WP/15 - Utilization of HF Bands in APAC Ad-hoc group will be kept to discuss any relevant issue related to HF	



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Reference	Who	What	Due date	Status	Completed on	Result	Comment
A8-1	ICAO, States/Administrations	The States/Administrations that intend to use or is using VHF frequencies for Satellite-based VHF experimental systems during the period of time that the relevant SARPs and planning criteria are being developed and before operational deployment, should inform ICAO of their use. ICAO shall inform all States in APAC through frequency spectrum POC to ensure that all States are aware and monitor for any possible interference it may cause to VHF terrestrial systems. States/Administrations should also inform ICAO of any interference due to VHF Satellite-based experimental systems. And, in the event of interference, the correction action should be taken as soon as practicable.	SRWG/9	Open			
A8-2	ICAO, States/Administrations	The Secretariat will notify the ANB CNSS about the updates of the regional VHF COM Allotment Plan to ensure the Frequency Finder tool incorporates the latest revisions. Member States/Administrations are requested to review and update the frequencies uploaded in the Frequency Finder (FF), ensuring the database remains current.	SRWG/9	Open			
A8-3	ICAO, HF Ad-hoc group with Indonesia as Rapporteur	The ad-hoc group refines the survey on the Utilization of HF Spectrum Frequency bands in the Operation of Aeronautical Communications and the New Table with HF Frequency Assignments in the APAC Region, ensuring that they are clear and comprehensive enough to collect information effectively from States and facilitate their responses. The Secretariat disseminate the revised survey and updated table through a State Letter once the revisions have been finalized.	SRWG/9	Open			
A8-4	States/Administrations	The States/Administrations register all aeronautical frequencies for NDB and AOC on oil rigs with ICAO APAC Office, share the best practices in States/Administrations to regional forum, e.g. SRWG, and nominate experts to support and participate in the Seminar for the frequency use for oil rigs.	SRWG/9	Open			

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Reference	Who	What	Due date	Status	Completed on	Result	Comment
A8-5	SRWG	Recognizing that certain refinements are required for new paragraphs concerning HF, TIBA, backup frequency, and GBAS, the meeting agreed to adopted this revision as Edition 1.1 with clear presentation for the proposed amendments to differentiate the status of text as original, agreed, to be determined (TBD). The SRWG will discuss and review the pertinent paragraphs in future meetings.	SRWG/9	Open			