

International Civil Aviation Organization



ICAO

**Twenty Ninth Meeting of the Communications/
Navigation and Surveillance Sub-group (CNS SG/29)
of APANPIRG**

Bangkok, Thailand, 16-20 June 2025

Agenda Item 6: Aeronautical Mobile Communications Service and Aeronautical electromagnetic spectrum utilization

6.2 Review Report of the Ninth Meeting of the Spectrum Review Working Group (SRWG/9)

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

(Presented by Secretariat)

SUMMARY

This paper presents the relevant outcomes of the Ninth Meeting of the Spectrum Review Working Group (SRWG/9) for meeting review.

1. INTRODUCTION

1.1 The Ninth Meeting of the Spectrum Review Working Group (SRWG/9) of APANPIRG was held in the ICAO APAC Regional Office, Bangkok, Thailand, on 7 – 9 May 2025.

1.2 The Meeting was attended by 37 participants from 10 States/Administrations and 2 International Organizations. Various documents and resources of the SRWG/9 Meeting can be accessed by [this link](#).

1.3 This paper summarised relevant information and updates with a highlight on the outcomes of the SRWG/9 meeting to be reviewed by CNS SG/29 and APANPIRG/36.

2. DISCUSSION

Election of Chair

2.1 Nominated by China and seconded by India and Singapore, Mr. Arthur Kin Hei Lau, Electronics Engineer, Civil Aviation Department, Hong Kong, China, was elected as the Chair of the Spectrum Review Working Group (SRWG). Mr. Arthur Kin Hei Lau expressed his gratitude to all Member States who nominated or supported his nomination as the Chair of the SRWG. He shared the key achievements of SRWG in the last eight years and various challenges that the aviation spectrum is facing. He encouraged active discussion and cooperation to address various issues planned to be discussed during the Meeting. He also thanked Mr. Chainan Chaisompong for his contributions during his term as the chair of SRWG from 2020 to 2024, along with his efforts to advance spectrum-related activities in the Asia-Pacific region.

Review of Outcomes of Relevant Meetings - Secretariat (WP/02)

2.2 The paper summarized relevant information and updates with a highlight on the outcomes of SRWG/8, which was reviewed by CNS SG/28. It was stated that the CNS SG/28 Meeting adopted four (4) conclusions and two (2) decisions. In addition, based on the outcome of discussions on various agenda items, the CNS SG/28 Meeting developed **four (4)** Draft Conclusions and **one (1)** draft Decision for consideration by the APANPIRG/35, which were adopted by the APANPIRG/35 Meeting. The Meeting noted the Conclusions/Decisions adopted by the CNS SG/28 and the APANPIRG/35 and discussed the follow-up.

2.3 The Meeting was informed that Resolution **COM5/5** (WRC-23) mentioned in section 2.20 of WP/02 was changed by ITU to **RESOLUTION 676 (WRC-23)** “Prevention and mitigation of harmful interference to the radionavigation satellite service in the frequency bands 1 164-1 215 MHz and 1 559-1 610 MHz”. It was announced that ICAO is finalizing the ICAO position for WRC-27, which includes a recommended modification action related to this resolution under Agenda Item 4 of WRC-27. States were encouraged to monitor the progress of the work in the ITU closely, in order to ensure the continued availability of navigation capabilities.

Outcomes of WRC27 Workshop – Secretariat (WP/03)

2.4 The Workshop on ITU World Radiocommunication Conference 2027 (WRC-27 Workshop) was held in the ICAO Asia and Pacific Regional Office, Bangkok, Thailand, from 24 to 25 February 2025. The Workshop was organized in conjunction with the Twentieth Working Group Meeting of the Frequency Spectrum Management Panel (FSMP-WG/20), which was held from 27 February to 7 March 2025. The objective of the Workshop was to provide the background and information to States/Administrations in preparing their delegations for the WRC-27 and address other spectrum issues of vital importance to the international aviation community.

2.5 The Workshop focused on agenda items of major concerns for the aviation community and action plans to be implemented at the national levels, regional preparations for WRC-27, radio altimeter and 5G issues, the issue of GNSS interference, and current practices and new challenges in APAC.

2.6 Noting strong concerns from different participants on the progress of WRC-27 Agenda item 1.7 and its relevant ITU-R studies, the States/Administrations were urged to follow ICAO Assembly Resolution A41-7 to strongly support both the ICAO frequency spectrum strategy and position at WRCs. Specifically, the States/Administrations were encouraged to communicate with radio regulatory authorities to ensure, to the maximum extent possible, that the ICAO position was accounted for in the development of national positions. It was highly recommended that delegations to regional conferences, ITU study groups and WRC include experts from their civil aviation authorities and other civil aviation stakeholders who are fully prepared to represent aviation interests.

2.7 Concerns were raised about the potential interference from 5G to the radio altimeter. The Workshop was informed of the increasing number of incidents of observed GNSS interference globally and the implications for air navigation safety and security. Serious concerns regarding the impact of GNSS interference on the safety and security of air navigation systems were expressed by the participants of the Workshop and States/Administrations were encouraged to monitor the issues and take into account a comprehensive and well-coordinated approach to address this pressing issue.

2.8 The Workshop noted that, along with the progress of the studies, there might be some updates to the ICAO position. Therefore, participants requested that it would be better for the aviation community to organize an additional remote workshop/webinar in 2027 to understand such updates.

2.9 The Meeting acknowledged the significance of the preparatory Workshop for WRC27 and shared appreciation with the ICAO APAC Office. The Meeting advised States/Administrations to follow up on the changes made in the ICAO position over time and take appropriate action.

2.10 The Meeting was informed that Asia-Pacific Telecommunity (APT) will organize the 2nd Meeting of the APT Conference Preparatory Group for World Radiocommunication Conference 2027 (APG27-2) from **28 July to 1 August 2025** in Pattaya, Thailand. The APG27-2 will be organized by the APT as a physical meeting with remote participation. It was informed that APG27-2 is an important meeting for WRC-27 preparations. The APG27-2 Meeting will discuss the ICAO Position for WRC-27, which will be presented by ICAO HQ. It will also help to learn the Spectrum/WRC relevant issues, and to help network and promote understanding of aeronautical issues to National Spectrum Regulators within the APAC Region. More details of the Meeting can be accessed at this [link](#).

Follow-up actions for revised VHF COM Frequency Allotment Plan for APAC – Secretariat (WP/04)

2.11 The paper provided the actions taken by the ICAO Secretariat after approval of the *VHF COM Frequency Allotment Plan for the APAC Region* by APANPIRG/35. The Meeting noted that during the SRWG/8 Meeting, China presented the latest actions taken on the VHF COM Frequency Allotment Plan for the APAC Region, including the statistical analyses of the actual usage of frequencies in the APAC Region, and suggested simplifying the APAC Frequency Allotment Plan by **converging the various allotments of “sub-services” to the main service**, and proposed **the twelve frequencies which have not been allotted to any services**, be allotted to ACC services.

2.12 It was informed that the revised VHF COM Frequency Allotment Plan in the Table and the Chart for the APAC Region was included in the revised Asia/Pacific Regional Frequency Management Manual v1.1, adopted by the SRWG/8 through **Conclusion SRWG/8/6**. In addition, it was noted that **the new allotment of twelve (12) frequencies**, belonging to the International and National Aeronautical Mobile Services band, which was proposed to be allotted to ACC services in SRWG/7, was not included in any of the Asia-Pacific conference outcomes.

2.13 The SRWG/8 Meeting endorsed a draft Conclusion to simplify the VHF COM Frequency Allotment Plan and to clarify the function of these twelve frequencies for ACC service in the APAC Region. APANPIRG/35 meeting adopted the proposed draft **Conclusion APANPIRG/35/8** (*Conclusion CNS SG/28/06 (SRWG/8/2) – VHF COM Frequency Allotment Plan for APAC Region*, which was endorsed by CNS SG/28.

2.14 It was agreed that the Secretariat would notify the CNSS of the ANB about updates to the regional VHF COM Allotment Plan to ensure that the Frequency Finder (FF) tool reflects the latest revisions. To enhance the efficiency of frequency use in the APAC region, Member States and Administrations were requested to review and update the frequencies uploaded in the FF, ensuring the database remains current.

2.15 The ICAO Secretary informed that she coordinated with ICAO Headquarters to incorporate the revised allotment plan into the FF tool, which was updated in February 2025 and will be released with the latest version of Frequency Finder 2025.01. Furthermore, it was added that Volume II of the Handbook on Radio Frequency Spectrum Requirements for Civil Aviation (ICAO Doc 9718, Volume II) is in the process of being updated with the revised APAC VHF COM allotment plan and will be placed on the ICAO NET in due course. The update on the modules in Frequency Finder was introduced in WP/11 for further information.

2.16 The Meeting encouraged States/Administrations to provide contributions to the VHF COM Frequency Allotment Plan and raise their respective concerns over the frequency allotment.

2.17 Regarding the tentative dates for launching the new version of Frequency Finder, it was stated that the dates have not yet been finalized. However, it is expected to be launched in Q3 2025.

Proposal for frequency band reduction for AOC Service – China (WP/10)

2.18 China presented the actions taken to improve the utilization of the frequency band 117.975 - 137 MHz based on the statistical analysis of frequency assignments in the AOC band in the APAC Region. It was informed that in the past, SRWG/2 had discussed different measures to increase the efficiency of frequency management for the APAC Region, and the reduction of the band for AOC had been mentioned. The SRWG/2 Meeting agreed that a proposal could be circulated to the APAC States to reduce the band for AOC: A-Proposed new sub-band for ATS services in APAC 128.900 - 131.375 MHz; B-Existing assigned AOC frequencies in this sub-band are subject to coordination, if required, between the Member State and the ICAO regional office. However, the State letter AP087/15 (CNS) was published to survey the view of the proposal, and objections were received from several States. This work could not be sustained.

2.19 Another discussion about re-allotment of AOC band was raised during SRWG/7 by WP16, which shared the proposal for the reduction of 128.825-132.025 MHz to 129.700-130.875 MHz for AOC, 128.825-129.700 MHz can be re-allotted to VOLMET, ATIS and ACC-L, and 130.875-132.025 MHz can be re-allotted to ACC-U and FIS. In addition, the details of the VHF COM frequency utilization in the APAC region were provided in the Seminar on Frequency Use, held at the APAC Regional Office in Bangkok, Thailand, from 16 to 18 September 2024.

2.20 China shared statistics of AOC Assignments until July 2024 and 128.900 – 132.025 MHz (AOC) usage in the APAC Region. It was added that, compared to the number of frequency assignments for AOC in Europe, which in a smaller frequency band (131.400 – 131.975 MHz) accommodates 2919 frequency assignments, the frequency usage of the AOC band in the APAC Region is inefficient.

2.21 It was suggested that the use of the 128.900 - 129.675 MHz and 130.900 - 132.025 MHz bands (International and National services) be prioritized when adding or modifying frequency assignments for AOC service. It was suggested that the frequency bands of 129.700 - 130.875 MHz, without changing their allotment now, can be reserved for other services in the future, which may encounter congestion problems.

2.22 The Meeting discussed the suggestion of frequency band reduction of AOC and the proposal of China to add an item to the Action list. Several States shared their concern about the proposal. Some States shared the position to keep the 129.700 - 130.875 MHz allocation as it is currently done in respective States. Some States shared their preference to keep the AOC band as it is without any proposed changes. After detailed deliberation, it was agreed that it was not possible to reach an agreement on this matter within the limited time available.

2.23 It was agreed that the ad-hoc group formed in SRWG/7(15 – 17 February 2023) to review the VHF COM Frequency Allotment Plan for APAC in terms of effective use of frequencies in the region will discuss the proposal along with other potential ways for effective utilization of the VHF COM Frequency band, including the AOC band in APAC region. The ad-hoc group will share its report at the next SRWG meeting. **ACTION ITEM 9-1**

Survey Result of The Utilization of HF Spectrum Bands for Aeronautical Communication in the APAC Region - HF Ad-hoc Group (WP/05)

2.24 The HF ad-hoc group presented the results of the survey questionnaire on the utilization of HF spectrum bands for Aeronautical communication in the APAC Region conducted in 2024.

2.25 It was recalled that to follow up on **Action Item 7-3 from SRWG/7**, an ad-hoc group with Indonesia as a rapporteur was established in 2023 to conduct a review of the operational use of HF in the Asia-Pacific Region and the applicable international provisions. The ad-hoc group also proposed to combine the two databases in a single table called New Table HF APAC 2024, which could be used as a basis for further work on difficulties that are experienced when using frequencies from the aeronautical HF bands.

2.26 The ad-hoc group formulated the survey questions, and the ICAO Secretariat published the questionnaire to the APAC States through the ICAO APAC State Letter Ref.: T 8/8.1: AP094/24 (CNS) dated 6 August 2024. All responses received were shared with the HF ad-hoc group in December 2024 by the ICAO secretariat.

2.27 The ICAO APAC Regional Office received **fifteen** (15) responses from States/Administrations, including Afghanistan, Australia, China, Hong Kong China, Macao China, India, Indonesia, Japan, Nepal, New Zealand, Pakistan, Papua New Guinea, Philippines, Singapore, and Thailand.

2.28 Key analysis of responses was shared for the following key topics:

1. States/Administration implement the HF bands between 2 850 kHz and 22 000 kHz for aeronautical purposes
2. Registration to ITU MIFR
3. Issues in assigning the HF bands to the operational condition
4. HF allocation in accordance with the current Appendix 27 of the Radio Regulations version
5. Other issues related to Agenda Item 1.9 WRC-27

2.29 It was proposed that with reference to these updates and considering the discussions presented in Working Paper WP/15 of SWRG/8, it was noted that the HF allocations are currently reflected in Table CNS II-4 – HF Network Designators, as published in ICAO Doc. APAC ANP, Volume II, Part III (CNS)—last amended in January 2017—requires revision to ensure continued alignment with the current regulatory framework. A review of the allocations contained in the APAC ANP was also conducted by the ad-hoc group, and the results of this review are presented in the following Table.

Based on ICAO APAC ANP Vol. II			Based on ITU RR Appendix 27 (2024 version)
Frequency Channel (kHz)	Area Code	ITU allotment area	ITU allotment area
3 491	SEA-1A	SEA	MWARA: EA RDARA: 1E 4A 10C 13E
5 670	SEA-1B	EA (3)	MWARA: EA
11 285	SEA-1B	SEA	RDARA: 2A 3B 7
11 297	SEA-2	(3)	RDARA: 2 12F
13 306	SEA-2	NCA, (1) INO	MWARA: INO NAT

2.30 In addition, the ad-hoc group presented the following as conclusions.

- 1) Out of 29 States/Administrations, 15 responded; 14 confirmed HF usage, and one did not. **HF bands are used not only by ANSPs but also by airlines, SAR, and others**, referencing Appendix 27 of the ITU Radio Regulations. Some States also **use Appendix 26 allocations**, though this band is **not meant for safety-of-life services**.

ICAO guidance currently focuses on Appendix 27 only.

- 2) Responses revealed that **many Administrations have not registered HF allocations in the Master International Frequency Register (MIFR)**, risking international recognition and protection of the aviation spectrum. MIFR registration is emphasized in ICAO Doc 9718 as vital for protecting aviation interests in future spectrum discussions.
- 3) Operational issues highlighted include **severe frequency congestion** (e.g., 8879 kHz between Brisbane and Mumbai), **unassigned frequencies in designated allotment areas** (e.g., Indonesia), **and ongoing voice quality problems due to ionospheric interference**. Some States now limit HF use to domestic contexts without VHF.
- 4) After WRC-23, Appendix 27 was amended to update channel characteristics but not the allotment areas. Existing allocations in ICAO APAC ANP Vol. II (last updated 2017) now requires revision to reflect the latest ITU framework.
- 5) Looking ahead to WRC-27, **Agenda Item 1.9 proposes updates to Appendix 26** to support HF modernization. ICAO calls on States to safeguard aviation HF safety communications and avoid regulatory changes that might compromise Appendix 27 protections.
- 6) The ad hoc group recognizes the need for the inclusion of the allotment plan information presented in both WP/15 of SRWG/8 and this Working Paper, subject to approval by the Meeting, into the Asia/Pacific Regional Frequency Management Manual v1.1.

2.31 The Meeting noted the key recommendations and agreed on the following actions:

1. States/Administrations that have not registered HF allocations in the Master International Frequency Register (MIFR) should register themselves as a priority. **ACTION ITEM 9-2**
2. States/Administrations should update the HF Network Designators table in the ICAO APAC e-ANP Vol. II following the latest ITU framework (ITU Radio Regulations Appendix 27). **ACTION ITEM 9-3**
3. States/Administrations not responding to the survey provided in ICAO APAC State Letter Ref.: T 8/8.1: AP094/24 (CNS) should respond to the survey. **ACTION ITEM 9-4**
4. It was added that as per **Doc 9718 - Handbook on Radio Frequency Spectrum Requirements for Civil Aviation, Vol 1**, section 4.5 FREQUENCY COORDINATION AND REGISTRATION:
Therefore, States/Administrations should coordinate with the ITU through telecommunications regulatory authorities for such assignments.

4.5.4 Coordination and registration of frequency assignments in the HF bands (between 2 850 kHz and 22 000 kHz) is only taking place through the ITU. However, ICAO is considering developing, in parallel, a relevant ICAO list of HF frequency assignments.

5. For the proposal for the inclusion of the HF allotment plan information presented in both WP/15 of SRWG/8 and this WP/05 of SRWG/9 to into the Asia/Pacific Regional Frequency Management Manual v1.1, it was agreed the HF ad-hoc group will draft the

content and present it in the SRWG/10 meeting for further deliberation and review.

ACTION ITEM 9-5

2.32 The Meeting appreciated the ad-hoc group led by Indonesia for their outstanding contributions to HF utilization in the APAC region.

Proposal to Assign a Frequency for Rescue and Firefighting Communication in Emergencies at the Airport – Thailand (WP/09)

2.33 Thailand proposed the assignment of a frequency to be used for direct communication between the rescue and firefighting (RFF) service and the flight crew of an aircraft in emergency situations, aiming to enhance safety during emergencies.

2.34 It was stated that there is currently no information on the frequency to be used to support radio communication for RFF service at airports. To enhance emergency response, the improvement plan proposed direct communication between the RFF service and the flight crew, establishing a new ground emergency communication line separate from the 121.5 MHz emergency channel. Considering the nature of the service to provide a communication channel for ground emergency situations, Thailand informed that it is considering using the Frequency 121.6 MHz from the Aerodrome Surface (AS) allotment.

2.35 Thailand proposed that to optimize frequency usage, direct communication between the RFF service and the flight crew during emergencies on the ground should employ frequencies from the Aerodrome Surface allotment (121.55 – 121.9917 MHz) and suggested amending the Asia/Pacific Regional Frequency Management Manual v1.1.

2.36 The SRWG/9 Meeting was requested to adopt a Draft decision to amend the Asia/Pacific Regional Frequency Management Manual v1.1 by using frequency from the Aerodrome Surface allotment (121.55 – 121.9917 MHz) to support direct communication between the RFF service and the flight crew during emergencies on the ground.

2.37 The Meeting discussed the proposal and noted that some States/Administrations have allocated a unique frequency for RFF or similar applications. It was discussed that there is no need to assign a dedicated band to support direct communication between the RFF service and the flight crew during emergencies on the ground. It was proposed that the allotment of frequencies or associated bands for RFF services should be done at the national level by individual States/Administrations based on local requirements.

2.38 Thailand shared the rationale for advocacy for the allocation of the frequency band for RFF services and amended the proposed draft decision to:

To amend the Guidance Material by using frequency from ~~the Aerodrome Surface allotment (121.55 – 121.9917 MHz)~~ 117.975 – 136.875 MHz to support direct communication between the RFF service and the flight crew during emergencies on the ground

2.39 Associated changes for Chapter 3 Air-Ground Communication Frequency Management of the Asia/Pacific Regional Frequency Management Manual v1.1 were also proposed.

2.40 The Meeting deliberated on the possibilities of adding frequency band 117.975 – 136.875 MHz for RFF service in the Asia/Pacific Regional Frequency Management Manual v1.1 and agreed that the selection of frequency to be used for firefighting service communication is State's prerogative within the framework of their respective regulations, while taking into consideration ICAO

SARPs.

Review of HF-related information in CNS TABLES in e-ANP Vol II – Secretariat (WP/16)

2.41 The ICAO Secretariat summarized the need for review and update to the TABLE CNS II-4- HF NETWORK DESIGNATORS specified in ICAO APAC e-ANP Vol II by APAC States / Administrations. It reminded States/Administrations to review the data affecting their administration and provide feedback to ICAO on the data's accuracy in the requisite format to update the relevant CNS requirements in all volumes of e-ANP.

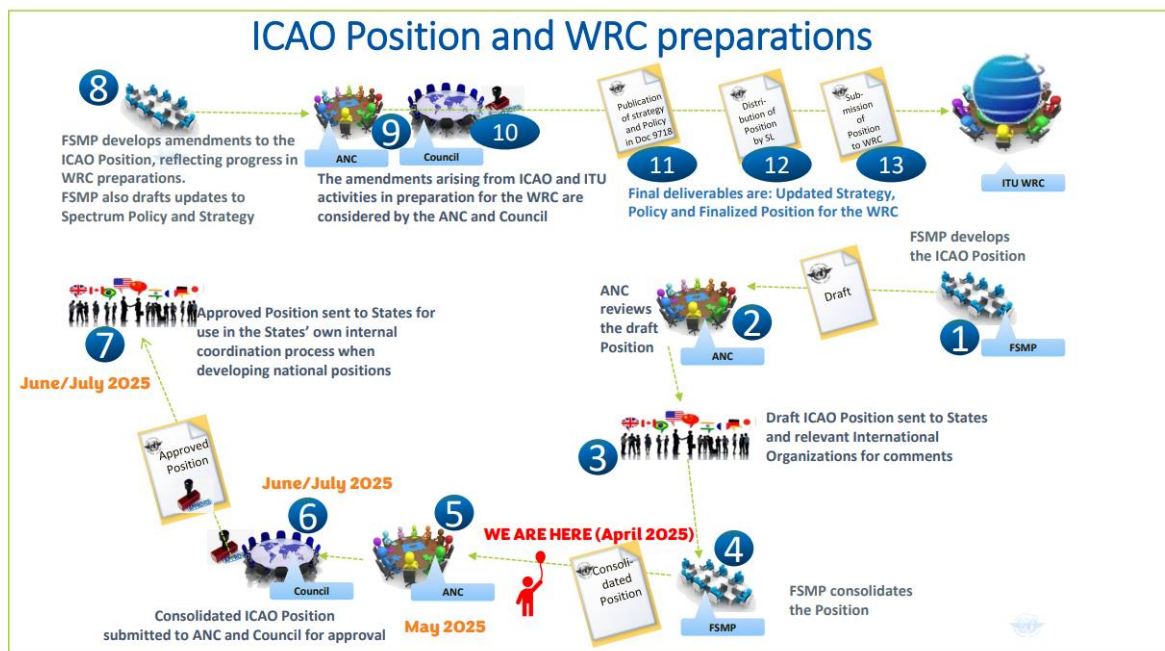
2.42 The Meeting was informed that the ICAO Secretariat has been presenting papers in various CNS contributory bodies' Meetings in the last 2 years to request States/Administrations to update the CNS tables mentioned in e-ANP Vol II, as most tables are outdated. However, no significant updates have been shared by the States/Administrations. Therefore, this year, the papers are being presented in various responsible contributory bodies to update relevant tables, and a draft conclusion is being proposed. Once adopted, States/Administrations will be committed to updating the required information in ICAO APAC e-ANP Vol II. After the CNS SG/29 Meeting, if all proposed draft conclusions are adopted by CNS SG/29, the ICAO Secretariat will issue a State Letter to all States/Administrations for necessary action.

2.43 The Meeting requested that the ICAO Secretariat demonstrate the PfA process to States. The ICAO Secretariat demonstrated the process and informed that all CNS tables in the Word file mentioned in ICAO APAC e-ANP Vol II are uploaded to the [ICAO APAC e-ANP Webpage](#) with instructions on how to file a PfA. It was added that while issuing the State Letter, after CNS SG/29, if CNS SG/29 adopts the draft conclusions, information about the PfA process will be shared in the letter.

2.44 With the aforementioned, the Meeting endorsed the **Draft Conclusion SRWG/09/01-** Update the TABLE CNS II-4- HF NETWORK DESIGNATORS in ICAO APAC e-ANP Vol II for CNS SG/29 adoption, which will be presented by WP/17 to this meeting.

Global Developments Related to Frequency Spectrum Management – Sec (SP/01)

2.45 The presentation prepared by ICAO HQ and presented by the ICAO Secretariat shared the global developments related to Frequency Spectrum Management. It was stated that the initial ICAO position for the International Telecommunication Union (ITU) World Radiocommunication Conference 2027 (WRC-27) was presented at the 227th Air Navigation Commission (ANC) (Oct 2024). It was then circulated to States/international organizations for their comments. It was stated that ANC will review the comments and update them in May 2025, after which it will be processed for Council approval in June/Jul 2025. The process of ICAO Position development and WRC preparations in detail was introduced as follows:



2.46 States and International Organizations were requested to consider the ICAO position as much as possible in their preparation activities for WRC-27 at the national level, in the activities of regional telecommunication organizations, and in the relevant meetings of the ITU. In addition to the first Workshop held at the APAC RO to promote the ICAO position and increase awareness of WRC-27 agenda items related to aviation, it was informed that the Frequency Spectrum Management Panel (FSMP) will organize a total of three more workshops in 2025/2026.

2.47 Agenda items for the World Radiocommunication Conference 2027 (WRC-27) that affect aeronautical safety services were introduced, including **Agenda Item 1.7: Study on IMT use in the frequency bands 4400-4800 MHz**, **Agenda Item 1.9: Update Appendix 26 in support of aeronautical mobile (OR) high-frequency modernization**, **Agenda Item 1.17: Space Weather Sensors**, **Agenda Item 1.19: Primary allocations to the EESS passive in the bands 4200-4400 MHz**, and **Agenda Item 9.1: Urgent action by study groups in preparation for the next WRC regarding beyond-line-of-sight C2-link for RPAS**.

2.48 It was added that Spectrum and CNS-related issues might be discussed at the technical commissions of the 42nd Assembly, which will be held from 23 September to 03 October 2025. The topics of discussion may include GNSS Interference, ITU WRC-27 agenda items, including potential interference concerns to radio altimeter/ WAIC, and Integrated Communications, Navigation and Surveillance & Spectrum (ICNSS).

2.49 The Meeting noted that digital transformation is occurring not only outside the World but also inside the aircraft. On 28 March 2025, the Council adopted Amendment 91 to A10V5 on new provisions related to wireless avionic intercommunications (WAIC), **which will become applicable on 27 November 2025**. It was recalled that WAIC is a wireless data link for communications between various safety-of-flight-related functions on board a single aircraft, typically replacing wiring for sensing and monitoring capabilities. The WAIC SARPs, while ensuring protection to radio altimeters, facilitate WAIC sharing the frequency band 4200-4400 MHz with the Radio Altimeter. Implementing WAIC is expected to provide benefits for aircraft operation, especially through the reduction of CO2 emissions due to the reduction of aircraft weight and associated fuel consumption from saved wiring runs.

2.50 The Meeting was informed that WRC-27 **Agenda Item 1.19: Primary allocations to the EESS passive in the bands 4200-4400** is an important agenda item. Although it is recognized that there are benefits for weather forecasting provided by sea surface temperature measurements through the EESS (passive), the **“passive” term should not be interpreted as a safe allocation** for sharing of 4200-4400 MHz. It is important to ensure that any changes to the operating conditions within this frequency band would not impose any technical, regulatory, or operational constraints on radio altimeters or WAIC.

Update on Frequency Finder (FF) – Secretariat (WP/11)

2.51 The paper presented the latest work, enhancements, and functionalities brought to the Frequency Finder tool to assist ICAO Regional Offices and States/Administrations in managing and coordinating aeronautical frequency assignments and SSR Mode S II/SI codes. The paper included updates on the amendment of the VHF COM Frequency Allotment Plan for APAC in the VHF-COM module, a new data protection mechanism brought to the VHF-COM/NAV module as well as the SSR module of the Frequency Finder (FF) tool, and further enhancements brought to the SSR module.

2.52 The Meeting noted that the modified version of the FF tool will be distributed to the Regional Offices upon the completion of the current testing phase. States/Administrations were encouraged to utilize the tool extensively, discuss any pertinent matters, and provide feedback on FF tool usage, suggestions, bugs, and recommendations.

2.53 The Meeting requested that the latest version of the FF tool be provided as soon as possible. It also asked ICAO to consider resolving the following issue or considering the following proposal for the upgradation of the tool:

- a. Currently, the date of entry of a frequency in FF is the latest date when a modification was made. If an additional column sharing information about the first-time allocation of frequency can be added, it would be beneficial.
- b. Downloading the updated global list takes a lot of time, and the screen is engaged with various processing windows while synchronizing the global database. The tool can be improved to minimize the time of synchronization.
- c. It has been observed that the bandwidth used by the system while using FF can be of the order of Gb. It was recommended that the tool be improved to save bandwidth utilization.
- d. The States should be able to submit a request to ICAO for a tested frequency using a button that generates an automated message to ICAO for requests submitted by States, and also, States get notification of successful submission of the request.
- e. In the same way, once ICAO verifies the request, ICAO should be able to share concurrence using the “Approve” button on FF. The response to the “Approve” button should be generated in the form of a letter with the ICAO logo, which mentions the details of the approved request. In addition, States should get an automated response for ICAO concurrence.
- f. ICAO should consider adding a tool for NDB frequency assignments in the FF tool.

2.54 It was agreed that the ICAO Secretariat will share the proposed modifications requested in the FF tool with ICAO HQ and share HQ responses with them in the next Meeting of the SRWG.

ACTION ITEM 9-6

Review of Frequency Lists – Secretariat (WP/12)

2.55 The ICAO Secretariat presented the status of Frequency Lists and the coordination of aeronautical frequency utilization for the region in 2024. It was reported that the ICAO Secretariat, in the past, duplicated its work on the VHF NAV module of Frequency Finder as well as on the Frequency Manager for new facility frequency planning upon request from the states. Recognizing the need to migrate the Frequency List 2 database from Frequency Manager to Frequency Finder, the ICAO APAC Office synchronized all registered assignments on Frequency List 2 in the Frequency Manager into Frequency Finder in 2022 and has been using Frequency Finder on frequency assignments for NAV systems.

2.56 It was recalled that during SRWG/7, the Secretariat proposed an interim solution to publish Frequency List 2 (36th edition) by Frequency Finder. The publication of Frequency List 1 (38th edition) and Frequency List 2 (37th edition) using Frequency Finder was done in 2024 by State Letter reference T 8/8.4 & T 8/8.5: AP070/24 (CNS) dated 28 May 2024.

2.57 The CNS SG/28 endorsed the Draft Conclusion CNS SG/28/07 (SRWG/8/4) – Transition from the regular publication of Frequency List 2 to the global database of frequencies included in the Frequency Finder, which was adopted by APANPIRG/35 by **Conclusion APANPIRG/35/9**. As discussed in SRWG/8, after adopting the Draft Conclusion CNS SG/28/07 (SRWG/8/4), the ICAO APAC Regional Office will stop the regular publication of Frequency List 2.

2.58 The Meeting noted that Frequency Manager is now used only for NDB assignments and the maintenance of Frequency List 1. As informed in the SRWG/8 Meeting, the computer for running Frequency Manager failed in January 2024. Even after recovery, the tool is intermittent, and it is getting difficult to utilize. There is a risk that the tool may be unavailable for use in the near future. In such cases, it would be challenging to allocate NDB frequency to the APAC States/Administrations.

2.59 Recently, the ICAO APAC Office published Frequency List 1 (39th edition) in 2025 by State Letter Ref.: T 8/8.4: AP056/25 (CNS) dated 24 April 2025. The Frequency List 1 (39th edition) can also be accessed on the [ICAO APAC e-Docs webpage](#). It was informed that in 2024, the ICAO APAC Regional Office coordinated over 500 Frequency registrations, including VHF COM frequencies (List 3), NAV frequencies (List 2), and NDB frequencies (List 1).

2.60 ICAO APAC Member States/Administrations were requested to coordinate with the Regional Office for any change in assignment or requirement for new frequencies prior to their use. The Meeting discussed the way to do NDB assignments and the maintenance of Frequency List 1(NDB) in case of failure of the Frequency Manager.

2.61 The Meeting deliberated on the issue of NDB frequency assignment in case of unavailability of the frequency manager tool and shared the need for a dedicated tool for this purpose, as NDB has been an essential facility, since GNSS RFI occurrences are affecting the APAC region. It was agreed that other regions may also consider keeping NDB facilities or their enhancement in the future. Therefore, a tool to manage NDB frequency allocation is essential.

2.62 It was agreed that the best way is the FF tool to incorporate the NDB frequency/ident assignment facility. The Meeting requested that ICAO HQ incorporate the NDB frequency/identity assignment facility in the current FF tool. The Meeting requested that the ICAO Secretariat share this message with ICAO HQ and update the Meeting on the response. **ACTION ITEM 9-7**

2.63 Meanwhile, it was also shared that if ICAO can help to get detailed NDB frequency assignment criteria, APAC States/Administrations may explore the alternate ways to do such assignments in the future. The ICAO Secretariat was requested to coordinate with ICAO HQ and

compile the resources that help understand NDB frequency/identity assignment criteria. **ACTION ITEM 9-8**

2.64 In response to Australia's request to provide an Excel file of the published frequency list 1, the ICAO Secretariat informed that the list was published using the frequency manager. The ICAO Secretariat checked the frequency manager and found that downloading an Excel sheet is not possible with the frequency manager tool.

Outcomes of the Seminar on Frequency Use– Secretariat (WP/06)

2.65 The paper presented the key outcomes of the Seminar on Frequency Use held in Bangkok, Thailand, from 16-18 September 2024. The primary objective of the Seminar was to address various challenges in aeronautical frequency management, with a focus on the unique issues faced by the APAC Region. The event aimed to facilitate the exchange of best practices and experiences, particularly in the Frequency used to support the harmonization of frequency assignment procedures in the region.

2.66 In the Seminar, participants were provided with an in-depth overview of the regulatory framework, Frequency assignment planning, management, frequency management software tools, frequency management challenges in APAC, and potential solutions, with insights shared from Europe. The Seminar concluded with the following key outcomes:

- i. Recognized the effort in the APAC Region from numerous studies to increase the use of frequency resources in the region, noting the fruitful outcomes from the SRWG;
- ii. Further studies are needed on HF allotment in the APAC Region, and more research on frequency assignment may be needed for NDB and the Asia Pacific Regional Frequency Management Manual to be revised.
- iii. Advance planning is required if APAC identifies the need to implement 8.33 kHz channel spacing for VHF COM.
- iv. Recommend to consider the need for frequency evaluation in APAC, similar to those conducted by EUROCONTROL, to improve the accuracy of frequency registration, identify errors to allow for a more effective use of frequency resources;
- v. Noted time-division multiplexing of radio frequency as a possible solution to resolve frequency congestion for NDBs;
- vi. Safety concern from potential interference to the radio altimeter, operating in the frequency band 4200-4400 MHz, from 5G;
- vii. Recognizing the impact on safety and efficiency to civil aviation from frequency interference on CNS infrastructure, in particular the impact on GNSS from spoofing and jamming, it was recommended that States in APAC (1) implement ICAO's recommendations/mitigation strategies and (2) monitor and report frequency interference encountered to appropriate Regional Working Group/Task Force for further consideration and action.
- viii. Recommend that States/Administration (1) review and indicate frequencies, under their current frequency assignment, being used for ACARS in the "Remark" column in ICAO COM List 3, and (2) request for new frequency assignment(s), allocated for datalink communication, intended for use for ACARS should be clearly indicated in their request to ICAO in the "Remark" section in the Frequency Finder.
- ix. Recommend that States/Administrations in the APAC region refer to the model used in Europe for the allocation and assignment of VDL Mode 2 for more efficient use of the frequency spectrum;

- x. Recommend the need to review the VHF COM Allotment Plan for APAC on a regular basis to increase the amount of spectrum available to support future growth in air traffic and enhancement of the frequency management software tool to support frequency assignment in APAC;
- xi. Recommend coordination with the ICAO APAC Regional Office for frequency assignments, as well as enhance inter-regional coordination to mitigate interference and ensure efficient frequency use; and
- xii. Recommend that States/Administrations in the APAC Region support the ICAO position on WRC-27 agenda items to ensure a favourable outcome for the aviation industry.

2.67 The Meeting appreciated ICAO for organizing the Seminar and shared the significance of the discussion held during the event last year. It was recommended that such events should be organized regularly to prepare Member States/Administrations with knowledge to understand frequency spectrum challenges and their resolutions.

Outcomes of Radio Navigation Symposium – Secretariat (WP/07)

2.68 ICAO Secretariat presented the key outcomes of the ICAO APAC Radio Navigation Symposium, which was held in New Delhi, India, from 07-09 April 2025. The theme of the Symposium was **GNSS RFI: Collectively Bridging Gaps and Shaping the Path Forward**. The Symposium aimed to provide a collaborative platform to exchange experiences and insights on GNSS RFI, analyze its impact and challenges, and facilitate in-depth discussion on mitigation measures and future development to build a resilient aviation system. The Symposium developed recommended actions to guide future efforts in managing GNSS RFI. It also addressed the USOAP Radio navigation flight inspection requirements and the latest developments.

2.69 Key presentations covered **Setting the Scene**: explored the global radio navigation developments, updates from the ICAO APAC Region, and GNSS vulnerabilities, **Addressing GNSS RFI**: panel discussion on the operational and safety impacts of RFI on GNSS-dependent systems, addressed the consequences of flight operation and air navigation service, and highlighted best practices, ongoing efforts, and recommended actions, **Mitigating GNSS Interference**: Current Measures and Gaps to Address, **Risks Beyond GNSS**: Lessons and Broader Threats to Satellite-Based Systems, **Expert panel** deliberated on Key Takeaways, Recommendations, and the Path Forward, as well as **Radio Navigation Flight inspection**.

2.70 The list of key recommendations discussed during the Symposium can be accessed by this [link](#). The final list of recommendations resulting from the Symposium, along with the safety bulletin, will be published by ICAO HQ in due course. The Symposium recommended organizing such sessions in the future and ensuring that all APAC member States/Administrations participate and contribute in such sessions so that comprehensive regional requirements can be formulated to address GNSS RFI issues in the region. The Secretariat requested continued collaboration and information sharing among States to support ongoing efforts in mitigating GNSS interference and enhancing regional aviation safety and resilience.

2.71 ICAO Secretariat shared the first draft of a list of recommendations, which is being prepared by ICAO HQ. It was informed that detailed recommendations have been formulated for all six areas explained in [SP30](#) during the Symposium. On request to share the proposed draft, it was stated that the document is being finalized by ICAO and cannot be shared at this stage. However, the finalized list will be shared by a State Letter in due course. It was added that the final list of recommendations is expected to be published by the end of May 2025.

2.72 ICAO Secretariat informed that with the introduction of GNSS-based operations in the 1990s, the APAC Region has been discussing various challenges and resolving measures for GNSS interference. Several APANPIRG conclusions have been adopted on this matter. It included APANPIRG Conclusion 8/43 - GNSS Frequency Based Interference (1997), APANPIRG Conclusion 9/32 - GNSS Frequency Protection (1998), APANPIRG Conclusion 22/28 - Protection of aviation utility of GNSS (2011), and APANPIRG Conclusion 27/36- Protection of GNSS signal against jamming (2016).

2.73 However, it was agreed that GNSS RFI has been an intense point of discussion in the last few years, and the proposed mitigation measures will take a long time to evolve and evaluate their efficacy. The close coordination of various stakeholders and actions from all parties, including but not limited to airlines, airport operators, ANSPs, CAA, aircraft manufacturers, avionics manufacturers, and other relevant stakeholders, is significant.

2.74 The Meeting agreed that, from the technical side, there are a lot of significant topics related to GNSS RFI that require more research to get a comprehensive understanding. For instance, the identification of GNSS RFI as a root cause of a particular occurrence is the key. Other instances, such as issues in satellite constellation and avionics issues, can pose the same effect, and it is not easy to isolate the real cause of the problems identified. In addition, how to correct GNSS RFI issues and associated legal implications is a significant point of discussion.

2.75 Australia informed that they are closely coordinating with their radio regulators to monitor GNSS RFI occurrences in Australia; however, no cases have been reported yet.

2.76 ICAO Secretariat informed that the Radio Navigation Symposium held in India from 7-9 April 2025 was not attended by some States, mainly because they have not received any incident reports for this. However, it should be noted that GNSS RFI is a global issue, and all States/Administrations are equally vulnerable to these incidents, as aviation is a global business. Therefore, it is essential to participate in such discussions and prepare in advance for upcoming challenges.

2.77 The Meeting discussed that ASEAN States may jointly discuss the mitigation measures and coordinate to formulate strategies to address GNSS RFI occurrences for cross-border operations. Until technical measures can effectively prevent GNSS RFI events, it was recommended to use procedural mitigations and alternate navigation references, e.g., DMEs to minimize operational disruptions.

Atmospheric Conditions Conducive Long-Range Interference – Australia (WP/08)

2.78 This paper presented several examples of Long-Range Interference occurrences experienced on operational VHF channels during extreme atmospheric conditions and the use of Frequency Finder to confirm assignment details.

2.79 The Meeting was informed that, as part of managing Aviation VHF RF spectrum use in Australia, Airservices Australia has a duty of care to maintain interference-free communications in this spectrum. Maintaining co-channel separation distances between VHF outlets is paramount.

2.80 The Meeting noted that in the week beginning 11 December 2023, interference to multiple frequencies at separate sites on the east coast of Australia for approximately 5 days was experienced. Airservices accesses a Tropo Index Prediction website for analysis of expected “VHF Ducting”. Examples of the frequencies tested using the Frequency Finder DB included 119.7 MHz Noumea La Tontouta - Mt Edith, 126.2 MHz for Noumea La Tontouta ATIS - Amberley APP, and

128.3 MHz Noumea La Tontouta (FIS-L) - Woronora (APP-I). Additionally, from the week beginning 18 February 2024, testing included 118.2 MHz Tarin Rock (ACC-U) - Summertown (APP-I).

2.81 The Meeting shared details of each incident. It was added that this issue is not restricted to activity across international borders, but that it can impact co-channel reuse in a country as large as Australia. For instance, the site of 118.2 MHz Summertown, which provides APP service for the Adelaide TCU, was being impacted by transmissions being made on the ACC-U service from the site Tarin Rock. As expected, with approach services being impacted at a critical phase of a flight, there was extra workload imposed on the ATC operators using this frequency.

2.82 The Meeting discussed the issue and observed that some other States/Administrations have faced the same issue in the past. It was added that during such occurrences, States can coordinate with neighbouring States using PoC information prepared and updated by the SRWG meeting every year. It was added that it is a seasonal issue, and the forecast can share an estimate of the period of the issue. Therefore, Australia is using alternative frequencies when such issues are observed.

2.83 The Meeting encouraged other States/Administrations to share their experience in SRWG meetings along with mitigation measures.

Revised Asia/Pacific Regional Frequency Management Manual – China (SP/03)

2.84 China presented the Asia/Pacific Regional Aeronautical Radio Frequency Management Guidance Material Edition 1.1, renamed Asia/Pacific Regional Frequency Management Manual, which was adopted by the **Conclusion SRWG/8/6**.

2.85 The amendments included a revision on the title of the document, VDL reduced channel spacing, backup frequencies, TIBA, and GBAS/VDB frequency assignment planning. The Meeting discussed and reviewed the pertinent paragraphs.

2.86 The Meeting noted that SRWG/8 Meeting formulated action item 8-5 which says that *Recognizing that certain refinements are required for new paragraphs concerning HF, TIBA, backup frequency, and GBAS, the Meeting agreed to adopt 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.* As China already presented the revision in this Meeting, it was suggested that this action item be closed.

2.87 Another action item was formulated to share further updates with the SRWG/10 meeting for other proposed changes highlighted in yellow in the IGD, which require more deliberation. **ACTION ITEM 9-9**

2.88 India suggested adding NDB frequency assignment criteria in the Asia/Pacific Regional Frequency Management Manual v1.1 if it is available in any ICAO documents. The Meeting noted that currently, there is no information on resources that can provide this information. However, the ICAO Secretariat will try to search for this information from other reference materials. **ACTION ITEM 9- 10**

The Use of Frequency Coupling for Direct Controller Pilot Communications in Hong Kong China – Hong Kong China (WP/15)

2.89 This paper examined the use of frequency coupling in Direct Controller-Pilot Communication (DCPC) and its role in enhancing efficiency, situational awareness, and communication reliability under Hong Kong's air traffic control (ATC) operations. It was informed that while frequency coupling provided significant benefits, it also induced technical and operational

challenges, including undetected simultaneous transmissions, system calibration complexities, intermodulation interference, and difficulties in fault finding. The corresponding mitigation strategies to optimize the frequency coupling in DCPC were shared. A balanced evaluation of its advantages and limitations was recommended to ensure effective implementation in ATC operations.

2.90 The Meeting noted the technical and operational limitations of frequency coupling and corresponding mitigation strategies.

Requirement of VHF for Flying Training Institutes – India (WP/20)

2.91 The paper presented information about the increasing demand for VHF spots for Flying Training Institutes (FTIs) in India. India informed that as of December 2024, 38 Flying Training Organizations (FTOs) were licensed by DGCA India to establish FTIS at 57 locations between 2020 and 2024, and many were in the process of getting DGCA approval. Due to the increasing number of FTOs, the requirement for air-ground VHF communication is increasing.

2.92 Required coverage for these FTOs varies from 5-50 NM as per the required training circuit. Based on the requirement, currently, VHF spots for these FTOs are being assigned in the VHF Sub band for AOC (i.e., 128.825-132.025 MHz). In view of the rising demand for VHF spots for Flying Training Operations, India proposed that there should be a dedicated group of frequencies within VHF Sub Band 128.825-132.025 MHz for this purpose.

2.93 The Meeting suggested that SRWG should focus on the core bands allocated to aviation. However, the allocation of sub-bands for national use can be done by States/Administrations at their discretion. Therefore, the proposal was not agreed upon at the Meeting.

Regular Audits of COM & NAV bands in Europe – Eurocontrol (SP/02)

2.94 The presentation introduced the latest audits and evaluation processes in Europe. Eurocontrol shared the Frequency Management process objectives and needs and referred to the SAFIRE Database and the ICAO Global database. It was informed that the global database has no data for the NAM region. He provided information about VHF COM footprint density in the World based on the database, along with Congestion / Density Maps. Eurocontrol informed that due to severe congestion issues, every 2–3 years, a Frequency Database Quality Evaluation is conducted for COM and NAV by Eurocontrol. It was added that various documents are referred to for auditing the database, including AIPs of States. He shared details of the Audit tool – MANIF AFM, and a short demonstration was conducted. It was added that each audit corrects or deletes hundreds of assignments, and the process is largely automated, keeping audit effort and cost low.

2.95 The Meeting noted that the Audit tool has a feature to correlate AIP data with the local database and find out which frequencies are not recorded at both places. In addition, there is a feature to check each record with its position on the map, which confirms if the facility is being used for what it was intended.

Need for VHF COM Simulation – India (WP/19)

2.96 India presented outcomes of the analysis of the frequency simulation for India, which arose from the decisions made during the WP/07 of SRWG/5. It was recalled that the simulation done in the past demonstrated that the frequency requirements for up to 2030 could be satisfied within the frequency band 117.975 - 137 MHz. During SRWG/6 (1 – 3 March 2022), in WP/14, a frequency simulation from 2021 to 2030 was done. It was proposed to undertake a similar simulation between 2025 and 2027 to assess the severity of the congestion.

2.97 India shared the present frequencies for different VHF-COM services allocated in India since 2021 and concluded that 300 (67.42%) of the total projected 445 VHF spots in 2021 have already been implemented from 2021 to February 2025. It was added that the availability of sufficient 25 kHz channels in the APAC Region for the next 5 years will avoid a mandatory implementation of channels with 8.33 kHz channel spacing in India. Implementation of radio equipment with 8.33 KHz spacing is costly for aircraft operators.

2.98 India shared statistics of VHF requirements projected in 2021-22 and actually implemented till Q1 2025, as well as their detailed analysis.

2.99 It was concluded that until about 2030, the requirements brought forward by India could be satisfied within the frequency band 117.975 – 137 MHz using equipment that is designed for 25 kHz frequency separation. The analysis, as presented, however, does not take into account an increase in the use of this band in countries adjacent to India. When the increase in adjacent countries is significant, the potential for satisfying all of the requirements from India is reduced. This is manifested in particular for aeronautical services with a large DOC that includes higher flight levels.

2.100 India shared that a new review of the spectrum requirements will take place around 3 years from now. It was suggested that such a review should take into consideration the actual number of new frequency assignments that would be placed into operation use at that time, as well as provide for a better opportunity to assess the spectrum requirements for a period of up to 2 years from that time. It was added that the analysis is valid under the assumptions or conditions under which it was performed. Changing these may give different results. Overall, it was expected that this may not necessarily significantly change the end results as presented.

2.101 The Meeting was suggested to undertake an updated spectrum capacity analysis for the APAC Region in 2028 to determine if 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.

2.102 The Meeting shared appreciation for India conducting a simulation and sharing detailed statistics. It was agreed that before deciding on the next round of simulation, it is imperative that the FF database is up to date with the entry of all frequencies being used by States. It is because an accurate database would support the precision of the prediction of APAC frequency needs after the simulation. Therefore, all States/Administrations were requested to access the FF tool and check for inconsistencies with their local database, if any, against the Aeronautical Information Publication (AIP). It was also advised that frequencies that are registered but not being used from the FF tool be removed. In addition, it was suggested that other details such as range, power transmission, etc., should be corrected.

ACTION ITEM 9- 11

2.103 The ICAO Secretariat was requested to coordinate with the FSMP secretary to find out the tentative timelines of space-based VHF SARPs publication, as it will affect the VHF allocation plan for APAC and, hence, the simulation. **ACTION ITEM 9- 12**

Brainstorming Session

2.104 During this session, the following agenda item was discussed.

- *Flimsy 1- Revised draft decision from WP09*
- *Criteria for resolving non-compatibility issues of frequencies in the global database COM3*

2.105 The discussion held for Flimsy 1 is recorded under WP/09 discussion.

2.106 The Meeting discussed the criteria that can be used to decide on assigning a frequency in case a non-compatibility message is received in the FF tool after the compatibility test, while the

same frequency is found suitable to use after verification using another tool used by States, which is more accurate in the States' view.

2.107 It was informed that the FF tool is more conservative than many other available tools. It was suggested that States can do a compatibility test using the FF tool, and in case of incompatible results, if States wish to use the frequency as their tool, found it suitable to use, they can do so after coordinating with concerned States and confirming that no interference is observed by other States. The name of the State due to which the FF tool suggested the proposed frequency as incompatible can be obtained from the compatibility result generated by the FF tool. If concerned States do not encounter any interference issues and have no objection to using the proposed frequency, the proposer can decide to continue using the frequency after internal consultation. It was added that ICAO should be advised about such coordination and their outcomes, with a request to upload the chosen frequency in the FF tool. In case of need, States can request ICAO support for cross-border coordination.

2.108 ICAO Secretariat informed that in case such a request is received, the ICAO will upload the requested frequency in the database with a note that “entry was done on the request of the State”

Review PoC of States – Secretariat (WP/13)

2.109 The paper presented the current status of PoCs of States on frequency-related affairs for review and update. The Meeting noted that the current practice of aeronautical frequency coordination performed by the ICAO Regional Office is implemented as communication between the ICAO regional officer and the Point of Contact (POC) in different States/Administrations. The up-to-date PoC list is a basic requirement for efficient and timely coordination. The Meeting reviewed and updated the PoC list, which is provided in **Appendix A**.

Review of ToR and Action Items – Secretariat (WP/14)

2.110 The Meeting reviewed the ToR of SRWG and action items. The Meeting observed that the current ToR of SRWG requires further amendments to include other tasks being taken care of by SRWG, such as working on interference issues, WRC coordination, etc. It was added that while modifying the ToR, coordination should be done with FSMP to ensure a proper record of the regional group's role in WRC matters. As the review required a thorough analysis of current work, it was suggested that the ICAO Secretary, with the chair, would revise the ToR and present the draft of the revised ToR in the SRWG/10 meeting for consideration. **ACTION ITEM 9- 13** Upon agreement by the Meeting, the revised ToR would be proposed as a Draft Decision to CNS SG for consideration. In addition, the action items were reviewed and updated.

CNS-Related ASBU in Asia/Pacific Seamless ANS Plan – Sec (WP/17)

2.111 ICAO Secretariat recalled the steps taken in past CNS SG meetings to provide inputs for Seamless ANS Plan v4.0, which was adopted by the Thirty-Fifth Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/35) held at the ICAO Asia and Pacific Regional Office in Bangkok, Thailand, from 25 to 27 November 2024 by Conclusion 35/1.

2.112 The Meeting was informed that recently, it was observed that the priorities of some CNS ASBUs finalized by CNS-related ASBUs review Ad-hoc Group for the next edition of the Seamless ANS Plan were not correctly reflected in the published Asia/Pacific Seamless ANS Plan Version 4.0. This discrepancy could be due to an inadvertent mistake when compiling feedback from all sources. It was also added that if a Priority 1 were assigned to the NAVS ASBU elements, it would require a consequential review and amendment to the following paragraphs in the Asia/Pacific Seamless ANS Plan Version 4.0.

2.113 To resolve this issue, after internal coordination within the ICAO Secretariat, it was decided that the responsible ICAO Secretariat would share the issues associated with proposed changes in the priorities of NAVS ASBUs with the responsible contributory bodies. These included GBAS-SBAS ITF and PBNICG. It was also decided that the ICAO secretariat will share this information with all contributory bodies under CNS for their information and necessary action, if any. Based on the outcomes of the discussion with relevant contributory bodies, the plan to correct the list of CNS-related ASBUs and other impacted ASBUs, if any, will be finalized and shared with the CNS SG/29 meeting planned to be held from 16-20 June 2025. The Meeting was requested to review CNS/other ASBUs in the Seamless ANS plan and share any discrepancies, if any.

Outcomes of Second APAC Ministerial Conference on Civil Aviation – Sec (WP/18)

2.114 The Second Asia Pacific Ministerial Conference on Civil Aviation was held from 11 - 12 September 2024 in New Delhi, India. In the Conference, the APAC Ministers reviewed commitments made under the Beijing Declaration and agreed to another set of commitments to high-priority aviation strategic objectives in the form of the Asia Pacific Ministerial Declaration on Civil Aviation (Delhi).

2.115 The Meeting noted that the Delhi Declaration generates the political will needed to support the organization's various objectives for an effective and efficient aviation system. The Declaration incorporated various critical aspects that required immediate attention from the APAC States. It included substantial commitments needed from the APAC States for effective implementation of ICAO global plans, implementation of aviation safety and air navigation services priority elements, and addition of resilience to health-related disruptions. Furthermore, it has highlighted commitments required for gender equality, resourcing for civil aviation, aviation environment protection, and ratification of international air law treaties.

2.116 The Meeting was invited to collaborate towards achieving the targets of the Delhi Declaration and to share the latest implementation status of commitments with the ICAO APAC Office for accurate progress tracking.

GNSS RFI discussion

2.117 The Meeting discussed the next step recommended for States to handle GNSS RFI issues. It was raised that last year, after the GNSS RFI reporting form was issued to Member States, a clear procedure and guidelines were not provided on how to report such issues, especially for cross-border incidents. It was recommended to form an ad-hoc group that studies the current situation of GNSS interference in the region NSS RFI, analyzes it and proposes a way forward.

2.118 The ICAO Secretariat informed that since last year, not a single incident report has been shared with the ICAO APAC Office. Therefore, there is not enough data for the group to start working on this. It was agreed that it is imperative to first collect some incident reports from APAC States/Administrations. It was suggested that States/Administrations share their incident report and its details in the SRWG/10 Meeting. Based on inputs from reports from States/Administrations, the need to form an ad-hoc group will be deliberated in the SRWG/10 Meeting. **ACTION ITEM 9- 14**

2.119 The ICAO Secretariat was recommended to coordinate with other ad-hoc groups formed in the region for GNSS RFI matters and understand their scope of work. It will help to avoid duplication of efforts. The ICAO Secretariat will share information at the SRWG/10 Meeting. **ACTION ITEM 9- 15**

Date for Next Meeting

2.120 The Meeting considered that the next SRWG meeting would be held for 3 days, tentatively planned for **4–6 February 2026**. Any States/Administrations interested in hosting the

Meeting may contact the ICAO APAC Office for hosting discussions at least 4 months before the Meeting. The exact dates and venue will be communicated to the member states in due course.

3. ACTION BY THE MEETING

3.1 The Meeting is invited to:

- a) note the information contained in this paper;
- b) review the outcomes of the meeting and follow up actions; and
- c) discuss any relevant matter as appropriate.

ICAO APAC POINT OF CONTACT ON FREQUENCY AFFAIRS

	STATE/NAME		TITLE/ORGANIZATION	TEL/ FAX	E-MAIL
1.	AFGHANISTAN				
2.	AUSTRALIA				
	1.	Mr. Matthew Kelly (Primary contact) (updated on 29/04/21)	Senior Engineering Specialist Airservices Australia Locked Bag 747 Eagle Farm QLD 4009 <u>AUSTRALIA</u>	Tel: +61 7 3866 3542	matthew.kelly@airservicesaustralia.com ;
	2.	Mr. Spencer Robinson (Associate contact) (updated on 5 Oct 22)	Engineering Specialist – Communications (Frequency Assigner) Airservices Australia Locked Bag 747, Eagle Farm QLD 4009 <u>AUSTRALIA</u>	Tel: +61 417 978 963 Fax:	SPECTRUM.MANAGER@AirservicesAustralia.com ;
	3.	Mr. Paul Dowsett (Associate contact) (updated on 20 Feb 22)	Senior Engineering Specialist Airservices Australia Locked bag 747, Eagle farm QLD 4009 <u>AUSTRALIA</u>	Tel: +61 425 480 025 Fax:	paul.dowsett@airservicesaustralia.com ;
3.	BANGLADESH				
4.	BHUTAN				
	4.	Mr. Karma Gayley (updated on 17 Feb 23)	CNS Officer Bhutan Civil Aviation Authority Paro International Airport <u>BHUTAN</u>	Tel: +97517833052 (Mobile)	kgayley@bcaa.gov.bt ;

CNS SG/29
Appendix A to WP/10

	STATE/NAME		TITLE/ORGANIZATION	TEL/ FAX	E-MAIL
	5.	Ms. Devi Maya Adhikari (updated on 17 Feb 23)	CNS Officer Department of Air Transport Paro International Airport <u>BHUTAN</u>	Tel: +97517771562 (Mobile)	dmadhikari@doat.gov.bt ;
5.	BRUNEI DARUSSALAM				
6.	CAMBODIA				
	6.	Ms. Heng Sovannrath (Main focal point) (updated on 03 June 2021)	Deputy Chief of CNS Bureau State Secretariat of Civil Aviation # Phnom Penh International Airport Russian Federation Blvd. <u>CAMBODIA</u>	Tel:+85578 961 616	sovannrathheng@gmail.com ;
	7.	Mr. Neang To (Associate focal point) (updated on 03 June 2021) ,	Chief of CNS Bureau State Secretariat of Civil Aviation # Phnom Penh International Airport Russian Federation Blvd. <u>CAMBODIA</u>	Tel:+855 12 820 811	neangto.ans@gmail.com ;
	8.	Mr. Heng Mengkong (Associate focal point) (updated on 03 June 2021)	Deputy Chief of CNS State Secretariat of Civil Aviation # Phnom Penh International Airport Russian Federation Blvd. <u>CAMBODIA</u>	Tel: +855 16 398 599	hengmengkong@gmail.com ;
7.	CHINA				

CNS SG/29
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	STATE/NAME		TITLE/ORGANIZATION	TEL/ FAX	E-MAIL
	9.	Mr. Zhang Jia	Deputy Assistant Division Chief Office of Radio Management Committee Civil Aviation Administration of China (CAAC) No. 155, Dongsì, Xidajie, Beijing 100710 <u>CHINA (PEOPLE'S REPUBLIC OF)</u>	Tel: +86 (10) 6409 2664 Fax: +86 (10) 6409 2644	zhangjia@caac.gov.cn ;
	10.	Ms. Liu Rui	Engineer Aviation Data Communication Corp. Floor 16, Bai Yan Building No. 238, Bei Si Huan Road, Haidian District Beijing 100191 <u>CHINA (PEOPLE'S REPUBLIC OF)</u>	Tel: +86 (10) 6409 2684 Fax: +86 (10) 6409 2644	liurui@adcc.com.cn ;
	11.	Mr. Wang Kanlin	Director Division of Compilation and Translation International Cooperation and Service Center, CAAC 51211, Building D Galaxy SOHO, No.2 Nanzhugan Hutong, Chaoyangmen Inner Street, Dongcheng District Beijing 100010 <u>CHINA (PEOPLE'S REPUBLIC OF)</u>	Tel: +86 (10)5829 7391 Fax: +86 (10)5829 7394	loplod@sina.com ;
8.	HONG KONG, CHINA				

CNS SG/29
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	STATE/NAME		TITLE/ORGANIZATION	TEL/ FAX	E-MAIL
	12.	Mr. Ho Chi Yun, Joseph (Main focal point) (updated on 03 Oct 2022)	Senior Electronics Engineer Civil Aviation Department Hong Kong China 1 Tung Fai Road Hong Kong International Airport, Lantau <u>HONG KONG, CHINA</u>	Tel: +852 2910 6555 Fax: +852 2845 7160	jcyho@cad.gov.hk ;
	13.	Mr. Lau Kin Hei, Arthur (Associate focal point 1) (updated on 03 Oct 2022)	Electronics Engineer Civil Aviation Department Hong Kong China 1 Tung Fai Road Hong Kong International Airport, Lantau <u>HONG KONG, CHINA</u>	Tel: +852 2910 6519 Fax: +852 2845 7160	akhlau@cad.gov.hk ;
	14.	Mr. Yan Ching Wah, Jarvis (Associate focal point 2) (updated on 03 Oct 2022)	Air Traffic Control Systems Specialist Civil Aviation Department Hong Kong China 1 Tung Fai Road Hong Kong International Airport, Lantau <u>HONG KONG, CHINA</u>	Tel: +852 2910 6571 Fax: +852 2845 7160	jcwyan@cad.gov.hk ;
9.	MACAU CHINA				
10.	COOK ISLANDS				
11.	DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA				
12.	FIJI				

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	15.	Mr Sakiusa D Vakacautadra (Main focal point) (updated on 7 March 2024)	Air Navigation Services - CNS Inspector Civil Aviation Authority of Fiji Nadi Airport <u>FIJI</u>	Tel: - Mob: +679 9988107	ansi.cns@caaf.org.fj ;
	16.	Mr William Reece (Associate focal point 1) (updated on 7 March 2024)	Manager Air Navigation Engineering Services Fiji Airports <u>FIJI</u>	Tel: Mob: +679 9906105	WilliamR@fijiairports.com.fj ;
	17.	Mr. Peter Young (Associate focal point 2) (updated on 7 March 2024)	Team Leader Projects Air Navigation Engineering Services Fiji Airports <u>FIJI</u>	Tel: Mob: +679 9983200	petery@fijiairports.com.fj ;
13.	FRANCE (FRENCH POLYNESIA)				
14.	FRANCE (NEW CALEDONIA)				
15.	INDIA				
	18.	Mr. Hemant M. Ramchandani (Main POC) (updated on 8 May 2025)	General Manager (CNS-Com) Airport Authority of India New Delhi - 110003 <u>INDIA</u>	Mob.: +91 85279 03456 Land Line/ Fax: +91 (11) 2462 0287	gmcnscom@aai.aero ; hemantr@aai.aero ;
	19.	Mr. Arvind Singh Yadav (Main POC)	Jt. General Manager (CNS) Airport Authority of India New Delhi – 110003 <u>INDIA</u>	Mob.: +91 95991 86558	asyadav@aai.aero ;

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	20.	Mr. Rahul Chaudhary (Associate POC)	Asst. General Manager (CNS) Airport Authority of India New Delhi – 110003 <u>INDIA</u>	Mob.: +91 98182 62461	afsmcnschq@aai.aero ;
	21.	Mr. Umesh Kumar (Associate POC)	Asst. General Manager (CNS) Airport Authority of India New Delhi – 110003 <u>INDIA</u>	Mob.: +91 99103 57799	afsmcnschq@aai.aero ;
16.	INDONESIA				
	22.	Mr. Abdul Aziz (Main focal point) (updated on 26 Oct 2022)	Inspector of Air Navigation Directorate General of Civil Aviation Medan Merdeka Barat No. 8 Jakarta <u>INDONESIA</u>	Mobile: +62 821 1322 2432	azizsabdul@gmail.com ; azizsbdul@kemenhub.go.id ;
	23.	Mr. Bimantoro (Associate focal point) (updated on 26 Oct 2022)	Inspector of Air Navigation Directorate General Civil Aviation Medan Merdeka Barat No. 8 Jakarta <u>INDONESIA</u>	Mobile: +62 859 4506 3999	bimantoro@kemenhub.go.id ; bimzink@gmail.com ;
17.	JAPAN				
	24.	Mr. Masashi Kotatsu (updated on 8 May 2025)	Chief of CNS Planning Office Japan Civil Aviation Bureau, MLIT 2-1-3 Kasumigaseki, Chiyoda-ku <u>JAPAN</u>	Tel: +81 (3) 5253 8111 Fax:	kotatsu-m46wv@mlit.go.jp ;
	25.	Mr. Katsuyuki Arakawa (updated on 16 Feb 2023)	Special Assistant to the Director of CNS Planning Office Japan Civil Aviation Bureau, MLIT 2-1-3 Kasumigaseki, Chiyoda-ku <u>JAPAN</u>	Tel: +81 (3) 5253 8111 Fax:	arakawa-k24fe@mlit.go.jp ;

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18.	KIRIBATI				
19.	LAO PDR				
	26.	Mr. Moukphamay THAMMVONGSA (Main focal point) (updated on 30 Sep 2022)	CNS Officer, Air Navigation Standards Division Department of Civil Aviation Wattay International Airport, P.O. Box 119 Vientiane <u>LAO PDR</u>	Tel: +856 (21) 513 163 Mobile: +856 (20) 9977 5994 Fax: +856 (21) 513 177	moukth@msn.com ;
	27.	Ms. Sengmany PHENG SOMPHAN (Associate focal point) (updated on 30 Sep 2022)	CNS Officer, Air Navigation Standards Division Department of Civil Aviation Wattay International Airport, P.O. Box 119 Vientiane <u>LAO PDR</u>	Tel: +856 (21) 513 163 Mobile: +856 (20) 222 444 74 Fax: +856 (21) 513 177	Sengmany.1@hotmail.com ;
	28.	Mr. Xaysavanh KIT TANOUVONG (Associate focal point) (updated on 30 Sep 2022)	Director, Technical Division Lao Air Navigation Service <u>LAO PDR</u>	Tel: - Mobile: +856 (20) 55696066 Fax: -	Xays.kitta@gmail.com ;
	29.	Mr. Kongla PHOMMAHANE (Associate focal point) (updated on 30 Sep 2022)	Officer, Technical Division Lao Air Navigation Service <u>LAO PDR</u>	Tel: - Mobile: +856 (20) 55978517 Fax: -	Phommahane.k@gmail.com ;
20.	MALAYSIA				

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	30.	Shairyzal Bin Mohamad @ Azizan (Main focal point) (updated on 10 May 2023)	Assistant Director Air Navigation Services and Aerodrome Division Civil Aviation Authority of Malaysia <u>MALAYSIA</u>	Tel: +60124677447 Fax:	Shairyzal.azizan@caam.gov.my;
	31.	Khairul Nazmi Bin Zainol Ariffin (Associate focal point) (updated on 10 May 2023)	Principal Assistant Director Air Navigation Services and Aerodrome Division Civil Aviation Authority of Malaysia <u>MALAYSIA</u>	Tel: +60125171507 Fax:	k.nazmi@caam.gov.my;
21.	MALDIVES				
22.	MARSHALL ISLANDS				
23.	MICRONESIA (FEDERATED STATES OF)				
24.	MONGOLIA				
25.	MYANMAR				
26.	NAURU				
27.	NEPAL				
	32.	Mr. Pravin Neupane (Main focal point) (updated on 20 Oct 2021)	Deputy Director Civil Aviation Authority of Nepal Babarmahal, Kathmandu <u>NEPAL</u>	Fax: +977 (01) 426 2516	hellopravin@hotmail.com ;

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	33.	Mr. Manohar Rajbhandari (Associate focal point) (updated on 20 Oct 2021)	Deputy Director Civil Aviation Authority of Nepal Babarmahal, Kathmandu <u>NEPAL</u>		Manohar.rajbhandari@gmail.com ;
	34.	Mrs. Reenu Mool (Associate focal point) (updated on 20 Oct 2021)	Deputy Director Civil Aviation Authority of Nepal Babarmahal, Kathmandu <u>NEPAL</u>		rmool@hotmail.com ;
28.	NEW ZEALAND				
29.	PAKISTAN				
	35.	Mr Shamsuddin Hakro (Main focal point) (updated on 11 May 2023)	Additional Director Com Ops Headquarters Pakistan Civil Aviation Authority Terminal-1 JIAP Karachi Pakistan Post Code 75200	Tel: +92 (21) 9907 2351 Fax: +92 (21) 9924 2187	adld.comops@caapakistan.com.pk ;
	36.	Mr Shahid Hussain (Associate focal point) (updated on 11 May 2023)	Senior Joint Director Com Ops Headquarters Pakistan Civil Aviation Authority Terminal-1 JIAP Karachi Pakistan Post Code 75200	Tel: +92 (21) 9907 2215 Fax: +92 (21) 9924 2187	shahid.hussain@caapakistan.com.p k ;
	37.	Engr. Muhammad Haider Nawaz Malik (Associate focal point) (updated on 28 Apr 2025)	Sr. Assistant Director Headquarters Pakistan Airports Authority Terminal-1 JIAP Karachi Pakistan Post Code 75200	Tele: +92 (21) 99072428 Fax: +92 (21) 99242187	haider.nawaz@paa.gov.pk ;

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	38.	Ms. Engr Kaniz Fatima (Associate focal point)	Senior Assistant Director CNS Headquarters Pakistan Civil Aviation Authority Terminal-1 JIAP Karachi Pakistan Post Code 75200	Tel: +92 (21) 9907 2213 Fax: +92 (21) 9924 2206	kaniz.fatima@caapakistan.com.pk ;
30.	PALAU				
31.	PAPUA NEW GUINEA				
	39.	Mr. Phil Irvine (Primary Contact) (updated on 10 Jan 2025)	Executive Manager Air Traffic Services NiuSky Pacific Limited Jacksons International Airport Port Moresby <u>PAPUA NEW GUINEA</u>	Tel: +675 7895 3027	p Irvine@niusky pacific.com.pg ;
	40.	Mr. Leonard Robert (Associate Contact) (updated on 10 Jan 2025)	Manager Training and Standards NiuSky Pacific Limited Jacksons International Airport Port Moresby <u>PAPUA NEW GUINEA</u>	Tel: +675 3121580	lrobert@niusky pacific.com.pg ;
	41.	Mr. Kalogo Gulaga (Associate Contact) (updated on 10 Jan 2025)	Acting Executive Manager Engineering NiuSky Pacific Limited Jacksons International Airport Port Moresby <u>PAPUA NEW GUINEA</u>	Tel: +675 7837 0158	kgulaga@niusky pacific.com.pg ;
32.	PHILIPPINES				

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42.	Mr. Charlemagne P. Gilo (Main focal point) FF version 2020-4 (updated on 18 May 2021)	Division Chief III Air Traffic Services Civil Aviation Authority of the Philippines MIA Road, Pasay City Manila 1300 <u>PHILIPPINES</u>	Tel: +63 (2) 7944 2216 Fax: +63 917 813 6075	ats_atd@caap.gov.ph ; charlemagne.gilo@gmail.com ;
43.	Ms. Amneris G. Gabriel (Associate focal point) (updated on 18 May 2021)	Department Manager III Air Traffic Services Civil Aviation Authority of the Philippines MIA Road, Pasay City Manila 1300 <u>PHILIPPINES</u>	Tel: +63 (2) 7944 2268 Fax:	vannieggabriel@gmail.com ; aicd@caap.gov.ph ;
44.	Mr. Joe Marie Anthony E. Eligio (Associate focal point) (updated on 18 May 2021)	Head ATS Procurement Training Air Traffic Management Officer V Civil Aviation Authority of the Philippines MIA Road, Pasay City Manila 1300 <u>PHILIPPINES</u>	Tel: Fax:	joemarie_eligio_atscaap@yahoo.com.ph ;
45.	Mr. Norrick T. Baes (Alternate/Associate focal point) (updated on 6 March 2024)	Division Chief III Air Navigation Services Civil Aviation Authority of the Philippines MIA Road, Pasay City Manila 1300 <u>PHILIPPINES</u>	Tel: +63 2 82464 988 2207 Fax:	anfquad_chief@caap.gov.ph ;
33.	REPUBLIC OF KOREA			

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	46.	Ms. Shin Suyong (Main focal point) (updated on 7 March 2024)	Assistant Director Ministry of Land, Infrastructure and Transport (MOLIT) #11, Doum-ro 6, Sejong City 30103, <u>REPUBLIC OF KOREA</u>	Tel : +82(44) 201 4362 Fax : +82 (44) 201 5637	yong404@korea.kr;
	47.	Mr. Lee Kyung Won (Associate focal point) (updated on 04 Jun 2021)	Assistant Director Ministry of Land, Infrastructure and Transport (MOLIT) 54, Gonghangjinip-ro 42beon-gil Gangseo-gu, Busan <u>REPUBLIC OF KOREA</u>	Tel : +82(51) 974 2182 Fax : +82(51) 974 2188	junag333@korea.kr ;
	48.	Ms. Son Hyang Jin (Associate focal point) (updated on 74 March 2024)	Assistant Director Ministry of Land, Infrastructure and Transport (MOLIT) Gonghang- ro 2, Jeju Si 54, Gonghangjinip-ro 42beon-gil Gangseo-gu, Busan <u>REPUBLIC OF KOREA</u>	Tel : +82(51) 974 2181 Fax : +82(51) 974 2188	hjhj777@korea.kr ;
34.	SAMOA				
35.	SINGAPORE				

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	49.	Mr. Lim Wee Siang (Main focal point) (updated on 9 May 2025)	Engineer (Communications Systems) Air Navigation Services (Engineering) Division Civil Aviation Authority of Singapore 60 Airport Boulevard #04-11 Changi Airport Terminal 2 SINGAPORE 819643	Tel: +65 9759 7399	lim_wee_siang@caas.gov.sg ;
	50.	Mr. Augustine Lau (Associate focal point) (updated on 9 May 2025)	Head (Communications Systems) Air Navigation Services (Engineering) Division Civil Aviation Authority of Singapore 60 Airport Boulevard #04-11 Changi Airport Terminal 2 SINGAPORE 819643	Tel: +65 9745 1544	augustine_lau@caas.gov.sg ;

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	51.	Mr. Loh Wen Cong Sherman (Associate focal point) (updated on 9 May 2025)	Engineer (Navigation & Specialised Systems) Air Navigation Services (Engineering) Division Civil Aviation Authority of Singapore 60 Airport Boulevard #04-11 Changi Airport Terminal 2 SINGAPORE 819643	Tel: +65 9222 3360	sherman_loh@caas.gov.sg ;
36.	SOLOMON ISLANDS				
37.	SRI LANKA				
	52.	Mr. M. A. K. Prasanna (Main focal point) (updated on 31 Oct 2022)	Director, Air Navigation Services Civil Aviation Authority of Sri Lanka <u>SRI LANKA</u>	Tel:+94112358849/+94112253863 Fax: -	dans@caa.lk ;
	53.	Ms. Abhimani Peiris (Associate focal point) (updated on 31 Oct 2022)	Civil Aviation Inspector Air Traffic Management – Technical Civil Aviation Authority of Sri Lanka <u>SRI LANKA</u>	Tel: - Fax: -	caiatmtech@caa.lk ;
38.	THAILAND				

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	54.	Mr. Chavalit Ithiapa (primary contact) (updated on 08 May 2025)	ANS Senior Officer Civil Aviation Authority of Thailand 222 Soi Vibhavadi Rangsit 28, Vibhavadi Rangsit Road, Chatuchak, Chatuchak, Bangkok, Thailand 10900 <u>THAILAND</u>	Tel: +66 (2) 568 8831 Ext. 0831 Fax:	chavalit.i@caat.or.th ;
	55.	Mr. Chainan Chaisompong (Associate focal point)	Air Traffic Engineering Manager Aeronautical Radio of Thailand Ltd. 102 Ngamduplee, Rama IV Road Tungmahamek, Bangkok 10120 <u>THAILAND</u>	Tel: +66 (2) 287 8391 Fax: -	chainan.ch@aerothai.co.th ;
	56.	Mr. Mana Ladthawanidphan (Associate focal point) (updated on 08 May 2025)	Air Traffic System Engineering Manager Aeronautical Radio of Thailand Ltd. 102 Ngamduplee, Rama IV Road Tungmahamek, Bangkok 10120 <u>THAILAND</u>	Tel: Fax:	mana.la@aerothai.co.th ;
39.	TIMOR LESTE				
40.	TONGA				
41.	TUVALU				

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42.	USA				
	57.	Mr. Shayne Campbell (Main focal point) (updated on 08 Jul 2022)	Senior Air Traffic Representative, Asia Pacific Federal Aviation Administration Air Traffic Organization, System Operations American Embassy, Singapore 27 Napier Rd. Singapore INTL 258508	Tel: +65 6476 9413	shayne.a.campbell@faa.gov ;
	58.	Ms. Lorena Carvajal (Associate focal point) (updated on 01 Jun 2021)	Spectrum Engineer Spectrum Assignments and Engineering Office FAA National Headquarters 800 Independence Ave SW Washington, DC 20591-0001	Cell: +1 (202) 507 0598 Office: +1 (202) 267 7051	Lorena.carvajal@faa.gov ;
43.	TUVALU				
44.	VANUATU				
45.	VIETNAM				
	59.	Mr. Mai Manh Hung (updated on 16 May 2025)	Director/Air Navigation Department, CAAV No 119 Nguyen Son Str, Long Bien Dist, Ha Noi Viet Nam	Tel: 84 43 38723600	hungmm@caa.gov.vn ;
	60.	Mr. Vu Ngoc Tuan (updated on 16 May 2025)	CNS Officer/Air Navigation Department, CAAV No 119 Nguyen Son Str, Long Bien Dist, Ha Noi Viet Nam	Tel: 84 24 38720199	vungoctuan@caa.gov.vn ;

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	61.	Mr. Ho Sy Tung (updated on 16 May 2025)	Deputy General Director, Viet Nam Air Traffic Management Corporation No 6/200 Nguyen Son Str, Long Bien Dist, Ha Noi Viet Nam	Tel: 84 24 969653001	tunghosy@vatm.vn ;
	62.	Mr. Nguyen Manh Tung (updated on 16 May 2025)	Director/CNS Department, Viet Nam Air Traffic Management Corporation No 6/200 Nguyen Son Str, Long Bien Dist, Ha Noi Viet Nam	Tel: 84 24 962540818	manhtung@vatm.vn ;
	63.	Mr. Nguyen Hai Quang (updated on 16 May 2025)	Specialist/CNS Department, Viet Nam Air Traffic Management Corporation No 6/200 Nguyen Son Str, Long Bien Dist, Ha Noi Viet Nam	Tel: 84 24 392519030	Quangnh@vatm.vn ;