



ICAO

International Civil Aviation Organization

TENTH MEETING OF SPECTRUM REVIEW
WORKING GROUP (SRWG/10)

Bangkok, Thailand, 04 – 06 February 2026

Agenda Item 3: Review Frequency planning requirements for the Asia/Pacific Region

3.2 HF Utilization in APAC

**HF-RELATED INFORMATION FOR INCLUSION IN THE ASIA/PACIFIC REGIONAL
FREQUENCY MANAGEMENT MANUAL**

(Presented by HF Ad Hoc Group)

SUMMARY

This Working Paper presents the outcomes of the HF ad hoc group established under SRWG/7 to address HF spectrum utilization for aeronautical communications in the APAC region. In accordance with **Action Item 9-5** of SRWG/9, additional HF assignment guidance and criteria for new or modified HF spectrum use have been developed, based on ITU Radio Regulations Appendix 27 and relevant ICAO references, and are submitted to SRWG/10 for review and consideration for inclusion in the Asia/Pacific Regional Frequency Management Manual v1.1.

1. INTRODUCTION

1.1 At SRWG/7, Indonesia presented [WP/17](#) addressing challenges in the use of the HF band for aeronautical communications in relation to Appendix 27 of the ITU Radio Regulations. The meeting agreed, under **Action Item 7-3**, to establish an HF ad hoc group led by Indonesia, with participation from Australia, China, India, and Thailand, to review HF utilization and develop recommendations.

1.2 In line with the establishment of the HF ad hoc group under **Action Item 7-3**, the group produced [WP/15](#) at SRWG/8 as an interim report, presenting the results of its review of relevant documents, the current status of HF utilization, and the outcomes of WRC-23 Agenda Item 1.9. The report identified discrepancies between the ITU Radio Regulations and operational conditions in the APAC region, particularly in allocation plans and registered HF data, and encouraged States to maintain accurate and up-to-date information in the MIFR and the ICAO HF Frequency List. Based on WP/15 and [WP/14](#), the meeting adopted **Decision SRWG/8/3** to conduct a survey on HF spectrum utilization and to update the HF frequency assignment table for the APAC region, which was circulated by the Secretariat under **Action Item 8-3** through ICAO APAC State Letter Ref. T 8/8.1: AP094/24 (CNS) dated 8 August 2024.

1.3 At SRWG/9, the HF ad hoc group issued [WP/05](#) as its final report, presenting the results of the questionnaire on the utilization of HF spectrum bands for aeronautical communications in the APAC region. Based on the discussions, the meeting agreed on the following actions:

- 1) **Action Item 9-2:** States/Administrations should register HF frequencies in the ITU Master International Frequency Register (MIFR).
- 2) **Action Item 9-3:** States/Administrations should update the HF Network Designators table in the ICAO APAC e-ANP Volume II.

- 3) **Action Item 9-4:** States/Administrations should respond to the survey circulated under ICAO APAC State Letter Ref. T 8/8.1: AP094/24 (CNS).
- 4) **Action Item 9-5:** The HF ad hoc group will consolidate the HF allotment plan information presented in WP/15 (SRWG/8) and WP/05 (SRWG/9) for inclusion in the Asia/Pacific Regional Frequency Management Manual v1.1, to be submitted to SRWG/10 for further consideration.

1.4 In relation to Action Item 9-5 of SRWG/9, this paper presents the relevant information for inclusion in the APAC Regional Frequency Management Manual and is submitted to SRWG/10 for further review and discussion.

2. DISCUSSION

2.1 An initial draft of the HF section contained in Chapter 3, Sub-Chapter 3.1, *HF Air-ground Communication Frequency bands*, of the APAC Regional Frequency Management Manual has been prepared and is provided in **Attachment A** to this paper for the meeting’s review and consideration.

2.2 In general, the additional information in the sub-chapter addresses the assignment criteria for HF frequencies and the criteria for new or modified use of the HF spectrum. The assignment criteria describe the selection of appropriate HF channels based on area-based arrangements, including Major World Air Route Areas (MWARAs), Regional and Domestic Air Route Areas (RDARAs), and VOLMET areas. The criteria for new or modified HF spectrum use describe the actions available to States/Administrations when proposing new or modified use of HF frequency bands.

2.3 The additional information is based on ITU Radio Regulations (RR) Appendix 27 and relevant ICAO references. For ease of reference, it is noted that the use of the most recent edition of the ITU Radio Regulations is essential to ensure the accuracy and currency of the information. In the attached file, grey highlighting is used to identify new insertions, while yellow highlighting indicates text extracted from the e-ANP Volume II originating from the ASIA/PAC/3 RAN Meeting documents, which, as noted in WP/15 of SRWG/8, were identified as containing certain discrepancies.

2.4 In relation to the above information, the ICAO Secretariat has circulated State Letter Ref. AN 2/1 – AP092/25 (CNS), informing that ICAO APAC is currently conducting a round of updates to the ANP, including HF-related content. It is anticipated that the revised version will reflect the latest developments once finalized.

2.5 In light of the above, the following draft Conclusion/Decision is proposed for the Meeting adoption:

Draft Conclusion/Decision SRWG/10/XX - Update the APAC Regional Frequency Management Manual v1.1 to include the additional HF information	
What: Update the APAC Regional Frequency Management Manual v1.1 to include the additional HF information	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: The current APAC Regional Frequency Management Manual v1.1 doesn't contain detailed information on the assignment process that could be used as a reference by States/Administrations when using HF bands for aeronautical communications.	Follow-up: <input type="checkbox"/> Required from States

When: 9-May-25	Status: Draft to be adopted by Subgroup
Who: <input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: SRWG	

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) review and adopt the draft Conclusion/Decision concerning the inclusion of the additional HF information;
- c) review and discuss future work arrangements of the HF ad hoc group; and
- d) discuss any relevant matter as appropriate

Chapter 3

AIR-GROUND COMMUNICATION FREQUENCY MANAGEMENT

3.1 HF Air-ground Communication Frequency bands

3.1.1 HF bands (between 2850 kHz and 22 000 kHz) coordination is recommended to be carried out between States. Coordination and registration of HF frequencies is undertaken by the ITU, through the Radio Regulatory Authorities in each country. ICAO does not coordinate assignments for HF frequencies. ICAO is considering developing, in parallel, a relevant ICAO list of HF frequency assignments. Pre-coordination of HF frequencies could be arranged through the ICAO ASIA/PAC Office in Bangkok. However, the national radio regulator is required to develop a proposal for the registering required frequency assignments with the ITU. Such proposals should be based on the provisions of Appendix 27 to the ITU Radio Regulations, together with the information contained in the ITU International Frequency List (IFL) taking into consideration the protection requirements for HF as contained in Appendix 27.

3.1.2 Appendix 27 to the Radio Regulations (RR) contains the frequency allotment plan for the AM(R)S in the HF bands. This appendix contains the plan for HF frequency allotments to major world air route areas and to regional and domestic air route areas as well as VOLMET areas. It also includes worldwide frequency allotments, which are for the use of aircraft operating agencies for AOC, to be assigned in accordance with RR Appendix 27/217.

3.1.3 The technical characteristics for HF aviation equipment in Appendix 27 of the Radio Regulations, since they form part of the Radio Regulations, enjoy the same status as compulsory treaty obligations.

3.1.4 The Assignment Criteria for HF Air-ground Communication

3.1.4.1 In order to facilitate the assignment of HF bands, the first step is to define the types of areas concerned, without specifying the individual stations to which the frequencies will be assigned, whether they are used for MWARA, RDARA, VOLMET, or as part of a worldwide allotment area.

3.1.4.2 In addition to the above, it is also important to note that a given channel should not be used within the same allotment area. This measure is necessary to prevent potential interference and is consistent with the provisions of RR Appendix 27/14. Further criteria related to channel characteristics can be found in Section II of ITU RR Appendix 27.

3.1.4.3 The comprehensive overview of area-based frequency allocation arrangements, incorporating data from ICAO-related references and ITU RR Appendix 27, is presented in Appendix X of this manual.

SRWG/10
Attachment A to WP/05

3.1.5 Criteria of New or Modified HF assignments

3.1.5.1 In order to have a new or modified frequency assignments, States/Administrations can coordinates with National Spectrum Authority to check the availability status in ITU MIFR, while in parallel, the request shall be submitted to the ICAO Regional Office in any format (e.g., letter, email). This action is actually in line with ITU RR Appendix 27/19 that ICAO should be consulted in all appropriate cases relating to the operational use of HF, so ICAO could maintain the relevant ICAO Frequency List No. 4 in order to have effective and efficient in utilize the HF frequency band.

27/19 3 The International Civil Aviation Organization (ICAO) coordinates radiocommunications of the aeronautical mobile (R) service with international aeronautical operations and this Organization should be consulted in all appropriate cases in the operational use of the frequencies in the Plan.

3.1.5.2 In cases where the Allotment Plan contained in ITU Radio Regulations Appendix 27 does not meet the operational requirements of States or Administrations, those States or Administrations may assign frequencies from areas other than those allotted to them in the Plan. Such assignments shall be subject to prior agreement between the Administrations concerned, and the coordination process shall be conducted under the auspices of ICAO. This provision refers to ITU RR Appendix 27/20, 27/21, and 27/22.

27/20 It is recognized that not all the sharing possibilities have been exhausted in the allotment Plan contained in this Appendix. Therefore, in order to satisfy particular operational requirements which are not otherwise met by this allotment Plan, Administrations may assign frequencies from the aeronautical mobile (R) bands in areas other than those to which they are allotted in this Plan. However, the use of the frequencies so assigned must not reduce the protection to the same frequencies in the areas where they are allotted by the Plan below that determined by the application of the procedure defined in Part I, Section II B of this Appendix.

27/21 5 When necessary to satisfy the needs of international air operations Administrations may adapt the allotment procedure for the assignment of aeronautical mobile (R) frequencies, which assignments shall then be the subject of prior agreement between Administrations affected.

27/22 6 The coordination described in No. 27/19 shall be effected where appropriate and desirable for the efficient utilization of the frequencies in question, and especially when the procedures of No. 27/21 are unsatisfactory.

3.1.5.3 The coordination procedure for establishing a new HF allocation may follow the process illustrated in Figure 2-1, which remains relevant considering that HF frequencies are not coordinated through the Frequency Finder system.