FINAL REPORT

THE THIRTY-FIFTH MEETING OF THE ASIA/PACIFIC AIR NAVIGATION PLANNING AND IMPLEMENTATION REGIONAL GROUP (APANPIRG/35)

25 to 27 November 2024

Bangkok, Thailand

The views expressed in this Report should be taken as those of the APANPIRG and not of the Organization. This Report will be presented to the Air Navigation Commission/Council and any formal action taken will be published in due course as a supplement to the Report.

Approved by the Meeting
and published by the ICAO Asia and Pacific Office

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PART I – HISTORY OF THE MEETING

1.1 Introduction

1.1.1 The Thirty-Fifth Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/35) was held at the Kotaite Wing of the ICAO Asia and Pacific Regional Office Bangkok, Thailand from 25 to 27 November 2024.

1.2 Attendance

1.2.1 The Meeting was attended by **163** participants from **24** Member States, **2** Special Administrative Regions of China, and **6** International Organizations (ACI, CANSO, EASA, IATA, ICAO and IFALPA).

1.2.2 A list of participants is provided at **Attachment 1** to the Report.

1.3 Opening of the Meeting

Welcome address by Mr. Tao Ma, Regional Director,
ICAO Asia/Pacific Office and Secretary of APANPIRG

1.3.1 Mr. Tao Ma welcomed the participants from the Member States, International Organizations and delivered the welcome address to the delegates of APANPIRG/35. The full text of the address by the Regional Director is included as **Attachment 2** to this Report.

Opening remarks by Captain Manuel Antonio L. Tamayo, Director General of Civil Aviation Authority of the Philippines and Chairman of APANPIRG

1.3.2 Captain Tamayo, welcomed the members and delivered the opening address.

1.4 Officers and Secretariat

1.4.1 Captain Tamayo, Director General of Civil Aviation Authority of the Philippines and the Chairman of APANPIRG presided over the Meeting.

1.4.2 Mr. Tao Ma, Regional Director, ICAO Asia/Pacific Office, was the Secretary of the Meeting.

1.4.3 The Meeting was assisted by Mr. Manjit Singh, Deputy Regional Director, ICAO APAC Office, Technical Officers from Air Navigation Bureau of ICAO Headquarters, and Regional Officers from ICAO APAC Office, Regional Sub-office, Beijing and Pacific Liaison Office, Fiji.

1.5 Agenda of the Meeting

1.5.1 The meeting adopted the following Agenda:

Agenda Item 1A: Progress Update on Beijing and Delhi Declaration Commitments

Agenda Item 1B: Follow-up on the outcome of APANPIRG/35 Meeting

1B.1: Review of the action taken by the ANC/Council on the Report of APANPIRG/35

1B.2: Review status of implementation of APANPIRG/35 Conclusions and Decisions

1B.3: Review status of implementation of APANPIRG outstanding Conclusions and Decisions

Agenda Item 1C: Update on 59th APAC DGCA Conference Action Items on Air Navigation

Agenda Item 1D: Aviation Safety and RASG–APAC activities

Agenda Item 2: Global and Inter Regional Activities

- Update on ICAO Fourteenth Air Navigation Conference (AN-CONF/14)

Agenda Item 3: Performance Framework for Regional Air Navigation Planning and Implementation

3.0: Regional and National Performance Framework

3.1: AOP

3.2: ATM

3.3: RASMAG

3.4: CNS

3.5 MET

3.6: Other Air Navigation Matters

Agenda Item 4: Regional Air Navigation Deficiencies

Agenda Item 5: Future Work Programme

Agenda Item 6: Any Other Business

1.6 Working Arrangements, Language and Documentation

1.6.1 The working language of the meeting was English inclusive of all documentation and this Report. Information Papers (IP) and Working Papers (WP) considered by the meeting are listed in the **Attachment 3** to this Report and available at APAC website.

1.7 Conclusions and Decisions - Definition

1.7.1 The APANPIRG records its actions in the form of Conclusions and Decisions with the following significance:

1) Conclusions deal with matters which, in accordance with the Group's Terms of Reference, require the attention of States or actions by ICAO in accordance with established procedures; and

2) Decisions deal with matters of concern only to the APANPIRG and its contributory bodies.

1.7.2 Lists of Conclusions and Decisions are given on pages i-4 to i-5.

1.8 Terms of Reference of APANPIRG

1.8.1 The revised Terms of Reference of APANPIRG approved by the President of the ICAO Council on 20 April 2020 is available in **Attachment 4**.

1.9 Adoption of Draft Report

1.9.1 On 27 November 2024, the meeting reviewed and adopted the draft report.

1.10 Closing of the Meeting

1.10.1 Captain Manuel Antonio L. Tamayo in his closing remarks expressed his gratitude for the active participation and fruitful discussions over the two days meeting. He encouraged the Meeting to focus on achieving seamless skies, ensuring efficiency, interconnectivity and safe civil aviation in the APAC Region.

1.10.2 Captain Tamayo applauded the sub-groups for their hard work especially in resolving Air Navigation Deficiencies and urged continued advancement of objectives through collaboration. However, additional deficiencies and emerging risks, such as hotspots and GNSS interference, were identified, requiring urgent regional action. Captain Tamayo reaffirmed the regional commitment to creating an integrated and harmonized air navigation system, aiming for safe skies for all.

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List of Conclusions

Conclusion 35/1	**–**	**Asia/Pacific Seamless ANS Plan**
Conclusion 35/2	**–**	**Regional Guidance for Design and Operations of Altiports**
Conclusion 35/3	**–**	**ICAO Asia-Pacific WHM Go-Team Assistance Mission Programme Document**
Conclusion 35/4	**–**	**Agree on the adoption of FIXM Ver. 4.3.0 in Asia/Pacific Region as the standard format**
Conclusion 35/5	**–**	**Regional Guidance for Space Object Launch and Re-Entry Coordination**
Conclusion 35/7	**–**	**Preparation for World Radiocommunication Conference - 2027 (WRC-27)**
Conclusion 35/8	**–**	**VHF COM Frequency Allotment Plan for APAC Region**
Conclusion 35/9	**–**	**Transition from the regular publication of Frequency List 2 to the global database of frequencies included in the Frequency Finder**
Conclusion 35/10	**–**	**Update of the General Strategy on Assignment of and Migration to SI Code in the APAC Region**
Conclusion 35/12	**–**	**Regulatory and Service Provider Personnel Support for ICAO PSIDS-Focused Activities**
Conclusion 35/13	**–**	**Update of information in APANPIRG Air Navigation Deficiencies Reporting Form**

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List of Decisions

Decision 35/6	**–**	**Information Management Panel considers the adoption of SWIM Discovery Service as a Global Standard for Globally Interoperable Service Discovery.**
Decision 35/11	**–**	**Additional Secretariat Support**

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Agenda Item 1A: Progress Update on Beijing Declaration Commitments

Where does APAC Stand with the Beijing Declaration Commitments? (WP/02)

1A.1 The Secretariat presented the current implementation status of the APAC States' Commitments on Beijing Declaration adopted by the Ministerial Conference in January 2018 in the field of Air Navigation Services, specifically Aeronautical Information Management (AIM), Performance Based Navigation (PBN), ground telecommunication infrastructure (CRV), civil military cooperation, surveillance capability (ADS-B), Air Traffic Flow Management (ATFM) / Collaborative Decision Making (CDM), and National Air Navigation Plan (NANP).

1A.2 Main progress was in the implementation of CRV as 6 more States joined CRV and had implemented operations.

1A.3 After review of the progress achieved by APAC States/Administrations on each commitment on air navigation services, the Meeting agreed that significant efforts were needed from States to achieve satisfactory achievements in fulfilling the Beijing Declaration Commitments in Air Navigation Services.

1A.4 The Meeting suggested that States/Administrations to review and share the latest implementation status of Beijing's declaration commitments with the ICAO APAC Office so that the progress could be tracked and monitored as part of the review of the Delhi Declaration adopted in September 2024 at the 2nd Ministerial Conference in India.

Asia Pacific Ministerial Declaration on Civil Aviation (Delhi) (WP/03)

1A.5 The Secretariat shared information about the Second Asia Pacific Ministerial Conference on Civil Aviation (APACMC/2) held from 11 – 12 September 2024 in New Delhi, India. The Meeting noted that the APACMC/2 adopted "The Asia Pacific Ministerial Declaration on Civil Aviation (Delhi)," also known as the Delhi Declaration, in which the APAC Ministers agreed to another set of commitments to high-priority aviation strategic objectives. The Meeting recognized the slow progress in carrying out the implementation of the Beijing Declaration and recognized the importance of understanding the underlying reasons for these implementation challenges. The Meeting recommended that Member States to share the challenges they encountered and to collaborate work towards achieving Delhi Declaration targets; and to share their latest implementation status of Delhi Declaration commitments with the ICAO APAC Office so that the progress could be tracked and reported accurately in further meetings.

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Agenda Item 1B: Follow-up on the outcome of APANPIRG/34 Meeting

1B.1 Review of the action taken by the ANC/Council on the Report of APANPIRG/34

Review of the Action Taken by the ANC on the Report of APANPIRG/34, RASG-APAC/13, and the Consolidated Report of PIRG and RASG (WP/06)

1B.1 The Secretariat presented the actions taken by the Air Navigation Commission (ANC) on the report of APANPIRG/34 and RASG-APAC/13 meetings. The Meeting was also informed that the ANC had agreed on the consolidated annual report on the PIRGs and RASGs, which included an overview of the APANPIRG/34 and RASG-APAC/13 outcomes.

1B.2 Regarding runway turn pad design and marking and inconsistencies found in Annex 14 – Aerodromes – Volume I – Aerodromes Design and Operations and the Aerodrome Design Manual – Runways (Doc 9157 – Part 1) about the basis taken for runway turn pad design (aerodrome reference code (ARC) letter versus outer main gear wheel span (OMGWS)) and ambiguity created by markings of turn pad as shown in Doc 9157 Part 1 and the Aerodrome Design Manual – Taxiways, Aprons and Holding Bays (Doc 9157 – Part 2) (which was actually shown as aircraft cockpit track but misinterpreted by some aerodrome operators as a marking), the Meeting was informed that the ANC agreed to refer this matter to the Aerodrome Design and Operations Panel (ADOP) for further consideration.

1B.3 Concerning the development of five-letter name codes (5LNC) pronunciation phonetic guidance and harmonised pronunciation at transfer of control (TOC) points, to support smooth coordination between adjacent administrations and to prevent human errors and miscommunication, the Meeting was informed that the ANC noted this item being reported to the Forty First Session of the ICAO Assembly (A41) and was pending the identification of resources to progress the work.

1B.4 With regards to the global dissemination of the ICAO Meteorological Information Exchange Model (IWXXM) and the request to facilitate inter-regional coordination to expedite the implementation of network circuits and communication services necessary to enable the required global dissemination of MET information in the IWXXM form between APAC and the Africa and the Indian Ocean (AFI), Middle East (MID), North American (NAM) and South American (SAM) regions, the Meeting was informed that the ANC noted the Secretariat (ICAO Headquarters) was in close coordination with the APAC Regional Office to provide support as appropriate.

1B.5 The Meeting noted the pertinent items of the Consolidated Report to Council on PIRGs and RASGs for 2023-2024, including the addition of global challenges related to the lack of a harmonized regional framework and global guidance material for the management of Contingency Coordination Teams (CCTs) in case of airspace disruption; and the low-level development of National Air Navigation Plans (NANPs). Concerning the lack of a global framework for space operations supporting adequate coordination related to space activities to mitigate safety risks to airspace users resulting from space launch and re-entry operations, the Meeting noted the ANC's position not to include it at this stage on the list of global challenges, considering the outcomes of the AN-Conf/14, and to allow time to progress the work before assessing the situation and receiving further feedback from the regions.

1B.6 The Meeting was invited to review the actions taken by the ANC on the Report of the Report of APANPIRG/34 and RASG-APAC/13, as well as the Consolidated Report of PIRG and RASG; and to review the global challenges presented in the appendices to the WP/06.

Agenda Item 1B.2 Review status of implementation of APANPIRG/34 Conclusions and Decisions

Status of Implementation of APANPIRG/34 Conclusions and Decisions (WP/04)

1B.7 The Meeting reviewed the actions taken by the Secretariat and the progress made on the APANPIRG/34 Conclusions and Decisions.

1B.8 The Meeting noted that actions on 14 Conclusions and 2 Decisions were completed.

1B.9 The updated status on implementation of APANPIRG/34 Conclusions and Decisions was provided in **Appendix A** to the Report on Agenda Item 1B.

Agenda Item 1B.3 Review status of implementation of APANPIRG outstanding Conclusions and Decisions

Status of Implementation of Outstanding APANPIRG Conclusions and Decisions (WP/05)

1B.10 The Meeting reviewed the actions taken by the Secretariat and progress made on the APANPIRG Outstanding Conclusions and Decisions up to its 34th Meeting.

1B.11 Action on Conclusion APANPIRG/33/5 had been completed on 18 September 2024.

1B.12 The updated status on outstanding Conclusions up to APANPIRG/34 was provided in **Appendix B** to the Report on Agenda Item 1B.

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Agenda Item 1C: Update on 59th APAC DGCA Conference Action Items on Air Navigation

59th APAC DGCA Conference Action Items on Air Navigation (WP/07)

1C.1 The 59th Conference of Directors General of Civil Aviation (DGCA), Asia and Pacific Regions, hosted by Civil Aviation Authority of the Philippines was held in Cebu, Philippines from 14 to 18 October 2024 with the theme "*Shaping the Future of Aviation: Sustainable, Resilient, and Inclusive*".

1C.2 The Conference formulated 49 Action Items in total, in which four (4) of them were formulated under Agenda Item 4 - Air Navigation. Action Items that were related to specific APANPIRG Sub-groups, i.e. AOP/SG, ATM/SG, CNS/SG, MET/SG and RASMAG would be discussed in respective Sub-group meetings to raise awareness and encourage States/Administrations to take action on. States/Administrations would also be reminded to provide ICAO APAC Regional Office with a status report on implementation of DGCA Conference Action Items.

1C.3 In reference to DGCA/59 Action Item 59/15, it was recognized that the topic of GNSS Radio Frequency Interference (RFI) was one of the most strongly discussed topic during the DGCA, with numerous discussion papers from States and International Organizations discussing jamming and spoofing. These threats were perceived to jeopardize the safety and resilience of airspace operations. The Conference urged States/Administrations to take appropriate actions to detect, mitigate, assess, monitor, and report incidents, and to share best practices or measures related to jamming and spoofing through APANPIRG. It also urged States/Administrations to maintain adequate conventional ground-based navigation aids and minimum operational methods to support aircraft navigation. The Conference pledged to foster enhanced cooperation and collaboration with the military regarding GNSS RFI. It also proposed improving RT Phraseology for reporting GNSS RFI events to relevant ICAO forums and for ICAO to organize a workshop for sharing best practices and lessons learned for managing and mitigating GNSS RFI events, Japan shared their intention to contribute to the workshop. The Meeting was informed by the Secretariat that the workshop would be conducted from 7-9 April 2025 in India. The Secretariat would coordinate with Japan while preparing agenda items for the event.

1C.4 Pakistan informed the Meeting that they had started to gather the data and was working closely with the telecommunications authority to resolve the issue.

1C.5 India informed that they had issued circulars on GNSS interference, applicable to all aircraft operators and ANSPs, for information, guidance, and compliance. The purpose of these circulars was to increase awareness among aviation personnel about potential threats of GNSS interference, to define the roles and responsibilities of various stakeholders in monitoring and mitigating such threats, to establish an unambiguous channel for reporting GNSS interference, and to develop a threat monitoring and analysis network. India further stated that while airlines continued to report GNSS RFI/Spoofing issues to the DGCA India, the data had been shared with aircraft manufacturers for further analysis and recommendations on mitigation measures. However, the manufacturers' responses had been delayed, resulting in additional delays in updating the circulars. It was suggested that ICAO to invite aircraft manufacturers to regional forums to discuss such issues, to share their experiences, and to outline their mitigation strategies. This would assist States/Administrations and airlines in developing Standard Operating Procedures (SOPs) to address these challenges effectively.

1C.6 The Meeting noted that the DGCA/60 would be hosted by Japan from 28 July – 1 August 2025 with the Theme Topic adopted by the 59th APAC DGCA Conference as ***"The sustainable skies of the Asia-Pacific region: towards increased economic prosperity and social well-being by air transportation of people and goods in the region"***.

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Agenda Item 1D: Aviation Safety and RASG–APAC activities

Progress Update of the RASG-APAC/13 Decisions and Conclusions (IP/06)

1D.1 IP/06 provided the updates on the Thirteenth Meeting of the Regional Aviation Safety Group – Asia and Pacific Regions (RASG-APAC). RASG-APAC/13 was held in Hong Kong China on 18-19 December 2023. RASG-APAC/13 adopted ten Decisions. The Report of the RASG-APAC/13 can be accessed through https://www.icao.int/APAC/Meetings/Pages/2023-RASG-APAC13.aspx.

1D.2 Regarding Decision RASG-APAC 13/9—Air Navigation Service Providers' Role in Aviation Safety—WP/22 from RASG-APAC/13, the actions outlined in the decisions specific to the APANPIRG were noted. The resolution of the actions remained in process pending further discussions between the APANPIRG and RASG-APAC leadership.

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Agenda Item 2: Global and Inter Regional Activities

- **Update on ICAO Fourteenth Air Navigation Conference (AN-CONF/14)**

Further Regional Cooperation against Global Navigation Satellite System Radio Frequency Interference (GNSS RFI) (WP/08)

2.1 Japan and Singapore shared the importance of GNSS as an essential enabler for Performance-Based Navigation (PBN) and Automatic Dependent Surveillance – Broadcast (ADS-B) as GNSS would provide accurate and reliable positioning and timing information to aircraft avionics systems. The issues of significant increase in the number of GNSS harmful RFI, including multiple events of the degradation of on-board GNSS performance observed in Japan that affected civil aviation globally and the oceanic airspace, were shared.

2.2 The paper requested the Procedures for GNSS and Data Link Disruption Ad Hoc Group, established by ATM/SG, to consider incorporating the relevant actions recommended by AN-Conf/14 and DGCA/59 for States/Administrations to act upon as additional tasks in their Terms of Reference (ToR) for addressing global navigation satellite system interference. Since developing a methodology for detecting and mitigating GNSS jamming or spoofing, etc., would require CNS and Safety expertise, the paper recommended that States/Administrations should consider nominating participants from various fields, including CNS and Safety, along with ATM experts to participate in the Procedures for GNSS and Data Link Disruption Ad Hoc Group of ATM/SG.

2.3 The Secretariat stated that ATM/SG/12 established the Procedures for GNSS and Data Link Disruption Ad Hoc Group to develop operational procedures for Air Navigation Service Providers (ANSPs) and airspace users to report GNSS and data link disruptions; and mechanism to share the information among stakeholders. The Meeting noted that the United States would lead the Ad Hoc Group, which would discuss its ToR at its first meeting in 2025.

2.4 Indonesia and Pakistan supported the proposal in the working paper presented by Japan and recommended incorporating additional tasks into the ToR for the Procedures for GNSS and Data Link Disruption Ad Hoc Group.

2.5 While acknowledging the importance of the subject, Japan and Singapore agreed to the United States, ATM/SG Chairperson and the Secretariat's proposal to maintain the original scope as discussed during the ATM/SG/12, and to adopt a phase-approach for future considerations. APANPIRG/35 agreed to the proposal and suggested to follow up at APANPIRG/36.

Identifying Activities to Response to GNSS RFI (WP/17)

2.6 The Republic of Korea shared a concern about the GNSS RFI issue impacting the safety and efficiency of international air navigation. Acknowledging that the ICAO had made significant efforts to support Member States in managing the risks associated with GNSS RFI, the Republic of Korea continued to identify safety activities and emphasized the importance of leveraging well-established existing operating procedures.

2.7 The paper highlighted the importance of real-time support for aircraft in flight, focusing on existing operating procedures within Air Navigation Services (ANS). Key areas addressed include Flight Information Services (FIS), Aeronautical Information Services (AIS), and Air Traffic Control (ATC) Services, emphasizing the need for proactive information collection and dissemination, collaboration with other organizations to identify RFI sources, and continuous surveillance of air traffic, with close coordination with adjacent ANSPs.

2.8 Indonesia, Pakistan, Republic of Korea, and the United States encouraged active discussions among APAC States/Administrations to foster effective safety measures at both national and regional levels. It was suggested that collaboration through knowledge-sharing and the development of best practices be enhanced, thereby strengthening the region's overall resilience to overcome GNSS RFI challenges.

Outcomes of the Fourteenth Air Navigation Conference (AN-Conf/14) (PPT/01)

2.9 The Secretariat presented an overview of the outcomes of the AN-Conf/14, which was held at ICAO Headquarters, in Montréal from 26 August to 6 September 2024. During the presentation, the Secretariat highlighted the actions addressed specifically to the PIRGs and RASGs for implementation, taking into consideration that some of the actions addressed to States would require regional collaboration and could be integrated into the work of the regional groups. The Meeting was informed that, for some specific actions stemming from AN-Conf/14, a progress report would be required from the PIRGs and RASGs, as part of their meetings' outcomes in the future.

2.10 The Meeting was informed that the Conference emphasized the need to address the growing threat of GNSS interference. A broad agreement was reached on the necessity of a global contingency plan to manage GNSS outages and to ensure continued safe navigation. The Secretariat drew the Meeting's attention to the recommendation calling for States, through the mechanism of the PIRGs, to develop regional GNSS reporting mechanisms to raise operational awareness of affected geographical areas, to the extent feasible, as described in the *Global Navigation Satellite System (GNSS) Manual* (Doc 9849).

2.11 The Meeting took note of the Conference's support for the establishment of frameworks for the near-term implementation of procedures, such as the longitudinal aircraft separation Project 30/10 (the implementation of longitudinal separations of 55.5 km (30 NM) or less in oceanic and remote airspace, and 19 km (10 NM) or less elsewhere), and free route airspace, on a wider and more consistent scale. Special attention was paid to the recommendation calling for States, working within the processes of the PIRGs, to actively collaborate with neighbouring States to implement Project 30/10. The recommendation also called for ICAO to develop regional action plans for the implementation of Project 30/10, through the PIRGs.

2.12 The Meeting was informed that the Conference expressed support for ICAO to undertake a study into the feasibility of establishing an ICAO air navigation efficiency audit programme, or similar initiative, with the involvement of States and international organizations.

2.13 With respect to phasing out legacy systems, the Meeting was informed of the Conference's support of initiatives concerning phasing out and/or optimizing Communications, Navigation and Surveillance (CNS) and Air Traffic Management (ATM) legacy systems. Specifically with the current flight planning mechanism, the Conference agreed to target a global transition to a more advanced flight planning mechanism (Flight and Flow – Information for a Collaborative Environment (FF-ICE)), with a targeted global transition by 2034. The Meeting took note of the recommendation urging States and PIRGs to consider establishing regional focus groups for coordinating the planning and implementation of FF-ICE services and providing necessary support throughout the transition period. That recommendation also called for States to support and contribute to the work of their respective PIRGs and their sub-groups to develop a regional plan to transition to FF-ICE services based on the 2034 global cessation of the ICAO 2012 flight plan. Furthermore, the Meeting noted that the same recommendation urged ICAO to provide guidance and support, through the PIRGs, for the development of regional plans to transition to FF-ICE to enable the 2034 global cessation of the ICAO 2012 flight plan.

2.14 The Meeting took note of the recommendation on aviation cybersecurity, calling for States to align aviation cybersecurity activities in the regional air navigation, safety, security and facilitation plans, through the coordination processes of the PIRGs and RASGs, as well as the regional aviation security and facilitation groups. In addition, the Meeting noted the recommendation calling for States to report to ICAO their experience in implementing ICAO provisions and guidance material related to aviation cybersecurity, through the appropriate expert group(s) or through the processes of the PIRGs and RASGs, as well as the regional aviation security and facilitation groups. In response to a request to incorporate cybersecurity provisions related to ANS into APANPIRG's relevant sub-groups' terms of reference. The Meeting was informed that a similar discussion was initiated during the Twenty-Eighth Meeting of the Communications, Navigation and Surveillance Sub-group (CNS SG/28), which was held at the ICAO APAC Office, in Bangkok from 1 to 5 July 2024. Since the *Manual on Information Services* (Doc 10204) was expected to be published at the end of 2024, the CNS SG would discuss a plan to implement cybersecurity provisions into the relevant CNS SG contributory body, during its Twenty-Ninth Meeting in 2025.

2.15 The Meeting was informed that the Conference also provided clear direction for the next editions of the Global Aviation Safety Plan (GASP) and the Global Air Navigation Plan (GANP), which would be presented for endorsement at the Forty Second Session of the ICAO Assembly (A42).

2.16 With regards to the inclusion of turbulence encounters in the GASP, and the recommendation stemming from AN-Conf/14, the Meeting highlighted the need to ensure meteorology experts be included in the discussion, citing that the GASP being typically discussed in the RASG meetings, whereas the subject matter experts in meteorology be more likely to attend the PIRG meetings. The Secretariat clarified that the AN-Conf/14 recommendation on turbulence did not have specific actions for the PIRGs; it impacted primarily the revision of Regional Aviation Safety Plans (RASPs), hence its impact on the RASG's work programme. However, the Secretariat noted that the inclusion of this issue in the ICAO work programme would be coordinated among the different expert groups, prior to the finalisation of any provisions or guidance. The Secretariat also noted that the issue of turbulence might be discussed as part of the PIRG and RASG Coordination Meeting, as it would require inputs from both groups.

2.17 The Secretariat informed the meeting that the ICAO Council would review the AN-Conf/14 report, along with the results of a review by the Air Navigation Commission (ANC), as an important step in formalising the outcomes of the Conference.

2.18 The Meeting was invited to consider AN-Conf/14 outcomes and recommendations to revise the work programme of APANPIRG; as well as to agree on the appropriate actions to implement the actions addressed to the PIRGs, including the necessary development of transition and implementation regional plans or some of topics and projects.

GNSS Jamming and Spoofing (PPT/02)

2.19 The Secretariat presented an overview of activities related to GNSS jamming and spoofing. The Meeting noted the existing ICAO Assembly Resolution A41-8, *Consolidated statement of continuing ICAO policies and practices related to a global air traffic management (ATM) system and communications, navigation, and surveillance/air traffic management (CNS/ATM) systems*, more specifically Appendix C, *Ensuring the resilience of ICAO CNS/ATM systems and services*, noting that it directly addresses GNSS jamming and spoofing.

2.20 The Meeting was informed of work undertaken between ICAO and the International Telecommunication Union (ITU); the regional support activities undertaken during 2024 and those planned for 2025; as well as an overview of the AN-Conf/14 recommendation related to GNSS interference and contingency planning. The Meeting noted the work underway by ICAO to produce an Implementation Package (iPack) for the Mitigation of GNSS RFI.

Harmonizing Unmanned Aircraft Operations Over the High Seas (IP/02)

2.21 The United States, co-sponsored by Australia, provided information on harmonizing Unmanned Aircraft Systems (UAS) operations over the high seas. UAS presented challenges to traditional aviation frameworks, particularly in shared airspace beyond any State's sovereignty. While domestic UAS operations were managed through established safety practices and regulations, high seas operations required international collaboration to align with global aviation conventions.

2.22 ICAO had initiated efforts to address these issues by forming study groups and promoting the development of global standards to support emerging UAS applications, such as offshore inspections and environmental monitoring. However, the absence of harmonized standards led to fragmented regulations and unauthorized operations, posing safety and legal risks. Initial low-risk operations offered valuable insights, but further efforts were needed to establish cohesive frameworks. By encouraging collaboration and sharing best practices, ICAO aimed to support the development of safe, lawful, and efficient UAS operations over the high sea.

Report on APANPIRG/34 & RASG-APAC/13 Midyear Review and Eleventh PIRG & RASG Regional Coordination Meeting (IP/05)

2.23 The paper summarized the outcomes of the APANPIRG/34 & RASG-APAC/13 Midyear Review and Eleventh PIRG & RASG Regional Coordination Meeting held on 23 August 2024 in Bangkok, Thailand in hybrid format.

2.24 The Meeting covered the topics including the progress updates on APANPIRG/34 and RASG-APAC/13 Conclusions and Decisions Action Plans; PIRG and RASG Regional Coordination; and Coordination between Chairpersons of APANPIRG Sub-groups and RASG-APAC Sub-groups regarding air navigation safety matters and safety enhancement initiatives.

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Agenda Item 3: Performance Framework for Regional Air Navigation Planning and Implementation

3.0 Regional and National Performance Framework

APAC Seamless ANS Plan Update (WP/16)

3.0.1 APANPIRG/35 was informed about the Asia/Pacific Seamless ANS Plan-related discussion outcomes from the APANPIRG/34, and progress of update of the Asia/Pacific Seamless ANS Plan. The Meeting was informed that the Secretariat had prepared draft Version 3.2.2 of the Asia/Pacific Seamless ANS Plan taking into account feedback from all Sub-groups of APANPIRG and thereafter carried out the following tasks in 2024 for updating the Asia/Pacific Seamless ANS Plan:

a) circulated Draft Asia/Pacific Seamless ANS Plan V3.2.2 to nominated Points of Contact (POC) for feedback from APAC States/Administrations – **Status: Completed in May 2024**;

b) deadline for feedback from APAC States/Administrations on Draft Asia/Pacific Seamless ANS Plan V3.2.2 via e-mail – **Status: Completed on 10 June 2024 (feedback received from five States)**;

c) deadline for reporting of Asia/Pacific Seamless ANS Plan V3.0 implementation by States/Administrations, through APAC Seamless ANS Reporting Tool Portal – **Status: 19 APAC States/Administrations provided either complete or partial status reports (October 2024)**;

d) ICAO Secretariat updated the draft Asia/Pacific Seamless ANS Plan to include feedback from APAC States/Administrations and analysis of Asia/Pacific Seamless ANS Plan implementation status and presentation to APANPIRG Sub-Groups (AOP/SG, MET/SG and CNS/SG) – **Status: Completed in July 2024**; and

e) following the ATM/SG/12 discussion, the Draft Asia/Pacific Seamless ANS Plan V3.6 was produced for final review by APAC States/Administrations – **Status: Completed on 08 October 2024**.

3.0.2 As a result of final consultation, Asia/Pacific Seamless ANS Plan Version 4.0 was presented to the APANPIRG/35.

3.0.3 Some editorial corrections were noted by the APANPIRG/35 in the Asia/Pacific Seamless ANS Plan. There was a request to review some of the operational improvements to which the Secretariat informed the Meeting that it would be discussed in the next update of the Asia/Pacific Seamless ANS Plan.

3.0.4 The APANPIRG/35 Meeting adopted the following Conclusion:

<table>
<tr><td colspan="3">Conclusion APANPIRG/35-1: Asia/Pacific Seamless ANS Plan</td></tr>
<tr><td colspan="2">What: That, given the urgency and priority of Air Navigation Service (ANS) planning and modernization, and the lack of progress in implementing the Aviation System Block Upgrade (ASBU) elements, Version 4.0 of the Asia/Pacific Seamless ANS Plan appended as Appendix A to the Report on Agenda Item 3.0 be adopted; and uploaded to the Asia/Pacific Regional Office eDocument webpage.</td><td>Expected impact:
☒ Political / Global
☒ Inter-regional
☒ Economic
☒ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: To incorporate changes from the GANP and regional requirements.</td><td colspan="2">Follow-up: ☒Required from States</td></tr>
<tr><td>When: 27-Nov-24</td><td colspan="2">Status: Adopted by PIRG</td></tr>
<tr><td colspan="3">Who: ☐Sub groups ☒APAC States ☐ICAO APAC RO ☐ICAO HQ ☐Other: XXXX</td></tr>
</table>

3.0.5 The Secretariat provided information on using the APAC Seamless ANS Reporting Tool and a brief analysis of the implementation status of priority elements reported thus far, as provided in APANPIRG/35 PPT/03. APANPIRG Chairperson urged APAC States/Administrations that had not submitted the Asia/Pacific Seamless ANS Plan implementation status to do so using the online reporting tool.

3.0.6 APANPIRG/35 was informed of ICAO Asia and Pacific Office plans for integration of the Asia/Pacific Seamless ANS Plan with other subsidiary regional plans and guidance material, into Regional Air Navigation Plan (ANP) Volume III, with a target completion date in Q2 of 2025.

Data-Driven Performance-Based Approach towards Enhancing Efficiency and Capacity to meet Future Air Traffic Demands (WP/18)

3.0.7 APANPIRG/35 was provided with an overview of data-driven approach based on Key Performance Indicators (KPIs), specifically in the area of ATM, which had supported States/Administrations and the region in identifying and proactively addressing issues related to safety, capacity, efficiency, and environmental impact.

3.0.8 The paper emphasised the importance of continuous KPIs monitoring, which had resulted in improved taxi times, enhanced airspace utilisation, and collaborative initiatives promoting green ATM operations, thus recommended KPIs development and monitoring training to further support Asia and Pacific States/Administrations. The Meeting noted the offer from Singapore for the Singapore Aviation Academy to work with ICAO and States/Administrations to develop the training curriculum on this subject if it would be helpful.

3.0.9 The Secretariat appreciated the contributions from the ATM/SG Data Analytics Ad Hoc Group and informed that ICAO would support the Group under Singapore's continued leadership. The United States echoed Secretariat's comments and stressed the importance of data-driven improvement initiatives.

3.0.10 Recognising the significance of data-driven performance-approach and related training, Japan expressed interest in participating in the ATM/SG Data Analytics Ad Hoc Group.

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Agenda Item 3: Performance Framework for Regional Air Navigation Planning and Implementation

3.1 AOP

Report on the Eighth Meeting of AOP Subgroup (WP/09)

History of the Meeting

3.1.1 The Eighth Meeting of the Aerodrome Operations and Planning Subgroup (AOP/SG/8) was held in Bangkok, Thailand from 15 to 19 July 2024

3.1.2 Based on the outcomes of discussions on various Agenda Items, AOP/SG/8 adopted 4 (Four) Conclusions and 3 (Three) Decisions that were of purely technical or operational nature. In addition, AOP/SG/8 formulated 2 (Two) Draft Conclusions for consideration by APANPIRG/35. The full report of AOP/SG/8 was available at the following URL:https://www.icao.int/APAC/Meetings/Pages/2024-AOP-SG-8.aspx

Amendment of Asia/Pacific Air Navigation Plan (ANP) Volume I, Table AOP I-1 and ANP Volume II, Table AOP II-1

3.1.3 APANPIRG/35 noted that 286 out of 370 aerodromes used for international operations in Asia and Pacific Regions had been listed in Asia/Pacific Region ANP Volume I as of 25 June 2024 (282 in June 2023).

3.1.4 The detailed information of aerodromes yet to be listed in APAC ANP by Asia Pacific States/Administrations was provided in **Appendix A** to the Report on Agenda Item 3.1.

3.1.5 APANPIRG/35 urged States/Administrations to initiate and send proposals to ICAO APAC Regional Office for amendment to APAC ANP Volume I, Table AOP I-1 and ANP Volume II, Table AOP II-1, particularly by States/Administrations identified in **Appendix A** to the Report on Agenda Item 3.1.

3.1.6 APANPIRG/35 noted that the airport planning time horizon for the facilities and services to be provided by the State/Administration concerned at each aerodrome that were listed/or to be listed in Table AOP II1 of the APAC ANP should be sufficient for the period of 5 -10 years as Airport Master Plan be generally reviewed in 5 -7 years' time interval.

Report on the Fifth Meeting of the Asia/Pacific Aerodrome Design and Operations Task Force (AP-ADO/TF/5)

Inconsistency Requirement in ICAO Annex 14 Volume I

3.1.7 Noting the inconsistency observed in Annex 14 Volume I and Aerodrome Design Manual (Doc 9157) Part 4 vis-as-vis some best practices as recommended in ACI Handbook and FAA's study regarding requirements in Taxiway Centerline Marking, Threshold Marking, Taxiway Transverse Stripe Marking, Runway Pavement Edge Flushing and Precision Approach Lighting, AOP/SG/8 had adopted Conclusion AOP/SG/8-1 formulated by AP-ADO/TF/5:

Conclusion AOP/SG/8-1: Inconsistency Requirements in ICAO Annex 14 Volume I (Taxiway Centerline Marking, Threshold Marking, Taxiway Transverse Stripe, Pavement Edge Flushing, and Precision Approach Lighting

That, ICAO HQ should be consulted on the inconsistency in and conflicting ICAO Annex 14 Volume I requirements (Taxiway Centerline Marking, Threshold Marking, Taxiway Transverse Stripe Marking, Pavement Edge Flushing, and Precision Approach Lighting) identified in AP-ADO/TF/5-WP/06 (Appendix B to the APADO/TF/5 Report) for further deliberation at the respective Working Groups (such as, Visual Aids Working Group and Aerodrome Design Working Group).

3.1.8 APANPIRG/35 noted that ICAO APAC Regional Office had sent an IOM Ref.: T 11/5.13.2 – AP-AGA0053/24 dated 2 September 2024 along with the AP-ADO/TF/5-WP/06 to the Air Navigation Bureau for further deliberation at the next meeting of the ADOP Visual Aids Working Group.

Review on the Color Shift Characteristics in relation to the Photometric Testing Requirements Pertaining to the Aeronautical Ground Lighting Systems using Solid State Lighting (LED)

3.1.9 AOP/SG/8 had noted the critical importance of monitoring color shift characteristics in Aeronautical Ground Lighting (AGL) systems, especially with the adoption of Solid-State Lighting (LED) technology.

3.1.10 Acknowledging the benefit of including colour in the national requirements (as recommendations) to protect the interest of the airports and the regulator for ensuring the 4C's (Configuration, Colour, Candelas and Coverage) compliance of the AGL system, AOP/SG/8 had adopted the Conclusion AOP/SG/8-2 formulated by AP-ADO/TF/5.

Conclusion AOP/SG/8-2: Proposal for Amendment to 10.5.3 to 10.5.5 of Annex 14, Volume I for inclusion of the colour measurement

That, ICAO Visual Aids Working Group is requested to review AP-ADO/TF/5 – WP/08 (Appendix C to the Report of AP/SG/8) regarding suggested amendment to 10.5.3 to 10.5.5 of Annex 14, Volume I for inclusion of the colour measurement.

3.1.11 APANPIRG/35 noted that ICAO APAC Regional Office had sent an IOM Ref.: T 11/5.13.2 – AP-AGA0054/24 dated 2 September 2024 along with the AP-ADO/TF/5-WP/08 to the Air Navigation Bureau for further deliberation at the next meeting of the ADOP Visual Aids Working Group.

Review on the Requirement of the Runway Guard Lights Provision when Stop Bars are available and Recommendations on the Stop Bar Operation Sequence Timings

3.1.12 APANPIRG/35 noted that AOP/SG/8 had reviewed the need for runway guard lights and the dependency of the stop bar lighting under different operational conditions. As per ICAO Annex 14, Volume I SARPs, the runway guard lights were required to be provided where stop bars being not installed when Runway Visual Range (RVR) were less than 550 meters.

3.1.13 The aspects of provision of runway guard lights when RVR in range of 550-1200 m when stop bar was installed had been proposed as a recommendation in AP-ADO/TF/5 – WP/09. As ICAO standards did not refer to any guidance on RVR conditions greater than 1200 m, the same had been proposed as a recommendation for providing the runway guard lights. However, it had been suggested to follow based on the need and safety study.

3.1.14 To enhance runway safety through operations of runway guard lights as part of effective runway incursion prevention measures in all visibility or weather conditions, the APADO/TF/5 had recommended to send the AP-ADO/TF/5 – WP/09 to ICAO HQs Visual Aids Working Group for further deliberation. AOP/SG/8 adopted Conclusion AOP/SG/8-3 which was formulated by APADO/TF/5, as appended below:

> ***Conclusion AOP/SG/8-3: Review on the Requirement of the Runway Guard Lights Provision when Stop Bars are available and Recommendations on the Stop Bar Operation Sequence Timings***
>
> *That, ICAO Visual Aids Working Group is requested to review AP-ADO/TF/5 – WP/09 (**Appendix D** to the Report of AOP/SG/8) for consideration of recommendations made in the AP-ADO/TF/5 – WP/09 in Section 5.1 b) and c) regarding runway guard lights.*

3.1.15 APANPIRG/35 noted that ICAO APAC Regional Office had sent an IOM Ref.: T 11/5.13.2 – AP-AGA0055/24 dated 2 September 2024 along with the AP-ADO/TF/5-WP/09 to the Air Navigation Bureau for further deliberation at the next meeting of the ADOP Visual Aids Working Group.

Draft Regional Guidance for Design and Operations of Altiports

3.1.16 APANPIRG/35 noted that the AP/ADO/TF/5 had reviewed in detail the Draft Regional Guidance for Design and Operations of Altiports which had been developed by the participating States (China, Fiji, India, Indonesia and Nepal (lead)) of the AP-ADO/TF.

3.1.17 APANPIRG/35 adopted the following Conclusion formulated by AP-ADO/TF/5 and endorsed by AOP/SG/8:

<table>
<tr><th colspan="3">Conclusion APANPIRG/35/2: Regional Guidance for Design and Operations of Altiports</th></tr>
<tr><td colspan="2">What: That, Regional Guidance for Design and Operations of Altiports (Appendix B to the Report on Agenda Item 3.1) developed by AP-ADO/TF and endorsed by AOP/SG/8 be forwarded to Air Navigation Bureau.</td><td>Expected impact:
☒ Political / Global
☐ Inter-regional
☒ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: To submit the Draft Regional Guidance for review by the Ad hoc Working Group formed under Aerodrome Design and Operation Pannel (ADOP) to develop the Global Guidance on Design and Operations of Altiports.</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
<tr><td>When: 27-Nov-24</td><td colspan="2">Status: Adopted by PIRG</td></tr>
<tr><td colspan="3">Who: ☐Sub-groups ☐APAC States ☒ICAO APAC RO ☒ICAO HQ ☐Other: XXXX</td></tr>
</table>

Workshop on Aerodrome Pavement Design and Evaluation including ICAO ACR-PCR Method of Reporting Pavement Strength

3.1.18 APANPIRG/35 noted with appreciation that the Workshop on Aerodrome Pavement Design and Evaluation including ICAO ACR-PCR Method of Reporting Pavement Strength had been conducted on 7 - 9 February 2024 at ICAO APAC, Bangkok, Thailand with the subject matter expert's support provided by the US FAA.

Report on the Sixth Meeting of the Asia/Pacific Aerodrome Assistance Working Group (AP-AA/WG/6)

Generic Aerodrome SMS Evaluation Tools and Guidance

3.1.19 APANPIRG/35 noted that AOP/SG/8 had reviewed the Generic Aerodrome SMS Evaluation Tool and Guidance developed by the AP-AA/WG to provide CAA inspectors and aerodrome operators with a more comprehensive set of guidelines for the evaluation of Aerodrome Safety Management System, and had adopted the Decision AOP/SG/8-5 formulated by AP-AA/WG/6:

Decision AOP/SG/8-5: Generic Aerodrome SMS Evaluation Tool and Guidance

That, the Generic Aerodrome SMS Evaluation Tool (Appendix F to the Report of AOP/SG/8) be made available on the ICAO Asia/Pacific Regional Office Website for reference by States/Administrations.

3.1.20 *The Generic Aerodrome SMS Evaluation Tool and Guidance* was available on the ICAO APAC Website eDocuments Webpage under AGA Heading at URL: https://www.icao.int/APAC/Pages/eDocs.aspx and had been circulated to States/Administrations through ICAO APAC State Letter Ref.: T 11/5.13.2 – AP110/24 (AGA) on 3 September 2024.

Runway Safety Team (RST) and Runway Safety Go-Team

3.1.21 APANPIRG/35 noted that AOP/SG/8 had acknowledged the significance of the RSTs in promoting runway safety, encouraged collaborative efforts among stakeholders, and emphasized the value of seeking ICAO assistance through Runway Safety Go-Team Missions to enhance safety standards at aerodromes in the Asia/Pacific Region.

3.1.22 APANPIRG/35 also noted that AOP/SG/8 had reviewed and approved the RST questionnaire developed by the AP-AA/WG to gather the information from the States/Administrations on the establishment and operation of the RST at aerodromes, and adopted the Conclusion AOP/SG/8-6 appended below:

Conclusion AOP/SG/8-6: Framework for Monitoring the Establishment and Implementation of Runway Safey Team (RST) at aerodromes in APAC States

That, the "Framework for Monitoring the Establishment and Implementation of Runway Safey Team (RST) at aerodromes in APAC States" provided in Appendix G to the Report of AOP/SG/8 be circulated to States/Administrations for their response. The Framework be also published on the ICAO APAC eDocuments Webpage under AGA Heading.

3.1.23 APANPIRG/35 further noted that ICAO APAC Regional Office had circulated the State Letter Ref.: T 11/5.13.2 – AP111/24 (AGA) on 3 September 2024 along with the RST questionnaire with the deadline for the States/Administrations to submit the completed questionnaire by **30 December 2024**. In addition, the RST Questionnaire was available at ICAO APAC Website eDocuments Webpage under AGA Heading at URL: https://www.icao.int/APAC/Pages/eDocs.aspx.

3.1.24 United States suggested sharing the outcome of the survey with the Safety Enhancement Initiative (SEI) Working Group of APRAST and would discuss this matter in the APANPIRG and RASG-APAC Coordination Meeting.

Asia/Pacific Generic Guidance Materials (GGMs) and Custodian

3.1.25 APANPIRG/35 noted that AOP/SG/8 had adopted the following Decisions formulated by AP-AA/WG/6:

Decision AOP/SG/8-7: Updated List of Asia/Pacific Generic Guidance Materials Developed by the AP-AA/WG with Details of the Custodians

*That, the Attachment A to the Procedure for periodic review and update of the Asia/Pacific Generic Guidance Materials (**Appendix H** to the Report of the AOP/SG/8) be published on the ICAO APAC Website at eDocuments Webpage under the AGA heading.*

3.1.26 The procedure for periodic review and update of the Asia/Pacific Generic Guidance Materials including the ICAO Asia-Pacific Generic Aerodrome SMS Evaluation and Guidance was available at ICAO APAC Website eDocuments Webpage under AGA Heading at URL: https://www.icao.int/APAC/Pages/eDocs.aspx and had been circulated to States/Administrations through ICAO APAC State Letter Ref.: T 11/5.13.2 – AP112/24 (AGA) on 3 September 2024

Report on the Sixth Meeting of the Asia/Pacific Wildlife Hazard Management Working Group (AP-WHM/WG/6)

ICAO Asia-Pacific Wildlife Hazard Management Go-Team Methodology

3.1.27 APANPIRG/35 noted that the AP-WHM/WG had developed the Wildlife Hazard Management (WHM) Go-Team Mission Programme Document to attach to the Asia/Pacific WHM Go-Team Methodology which was approved by APANPIRG/34 in December 2023.

3.1.28 APANPIRG/35 adopted the following Conclusion formulated by AP-ADO/TF/5 and endorsed by AOP/SG/8:

<table>
<tr><td colspan="4">Conclusion APANPIRG/35/3: ICAO Asia-Pacific WHM Go-Team Assistance Mission Programme Document</td></tr>
<tr><td colspan="3">That,
• States with needs to enhance WHM be encouraged and invited to host WHM Go-Team Assistance Mission; and
• ICAO Asia/Pacific WHM Go Team Assistance Mission Programme Document provided in Appendix C to the Report on Agenda Item 3.1 be included as an Appendix to the ICAO Asia/Pacific WHM Go-Team Methodology and published on the ICAO APAC Website.</td><td>Expected impact:
☒ Political / Global
☐ Inter-regional
☒ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why:</td><td>To assist States in WHM</td><td>Follow-up:</td><td>☒Required from States</td></tr>
<tr><td>When:</td><td>27-Nov-24</td><td>Status:</td><td>Adopted by PIRG</td></tr>
<tr><td colspan="4">Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other: AP-WHM/WG</td></tr>
</table>

Asia Pacific Guidance Materials and Custodian

3.1.29 APANPIRG/35 noted that AOP/SG/8 had adopted the Decision AOP/SG/8-9 formulated by AP-WHM/WG/6 as appended below:

Decision AOP/SG/8-9: Updated List of Asia/Pacific Generic Guidance Materials Developed by the AP-WHM/WG with Details of the Custodians

That, the Attachment B to the Procedure for periodic review and update of the Asia/Pacific Generic Guidance Materials (Appendix H to the Report of the AOP/SG/8) be published on the ICAO APAC Website at eDocuments Webpage under the AGA heading after adoption by APANPIRG/35 the ICAO Asia-Pacific Wildlife Hazard Management Go-Team Assistance Mission Programme Document.

Certification of Aerodromes in the Asia Pacific Region

3.1.30 APANPIRG/35 noted that out of 370 aerodromes used for international operations in Asia and Pacific Regions 337 aerodromes had been certified as of 25 June 2024 corresponding to 91.08% progress.

3.1.31 The list of aerodromes used for international operations in Asia/Pacific Region that have yet to be certified and placed in **Appendix D** to the Report on Agenda Item 3.1.

Status of Certification of Aerodromes in AIP

3.1.32 APANPIRG/35 noted that there were number of States/Administrations in Asia and Pacific Regions who had not published the status of certification of aerodromes in AIP AD 1.5. **Table 3.1- *1*** below illustrates States/Administrations that yet to publish the status of certification of aerodromes in AIP AD 1.5.

Table 3.1- 1: Status of AIP AD 1.5 in Sub Regions of Asia/Pacific Region

States	**North Asia (5 States & 2 SARs)**	**South East Asia (11 States)**	**South Asia (8 States)**	**Pacific (15 States & 8 OTs)**
AD 1.5 missing in AIP	--	1) Brunei Darussalam	1) Afghanistan	1) Kiribati 2) Nauru 3) Tuvalu 4) Marshall Is. 5) Micronesia (Federated States of) 6) Palau
Total (8 States)	**0 State**	**1 States**	**1 States**	**6 States / OTs**

ICAO Universal Safety Oversight Audit Programme (USOAP) and AGA Findings

3.1.33 APANPIRG/35 noted that the APAC Average AGA EI score was 60.73% compared to Global Average of 63.06% as of June 2024.

3.1.34 APANPIRG also noted the following results:

1) 19 APAC States had EI in AGA area less than 60%;
2) 5 APAC States had EI in AGA area more than 60% to less than 75%; and
3) 15 States had EI in AGA area more than or equal to 75%

3.1.35 APANPIRG/35 noted that 24 States with EI less than 75% would require more resources and efforts to enhance their EI to meet the 75% EI target by 2024 as set forth in the ICAO Global Aviation Safety Plan (GASP) 2023-2025 (Doc 10004).

Report of Small Working Group (SWG) for Task 5/2 of Asia/Pacific Aerodrome Design and Operations Task Force (AP-ADO/TF) on Organizing Workshop on The Transposition of Annex 14 SARPS into National Standards

3.1.36 APANPIRG/35 noted that the Regional Workshop on Transposition of Annex 14 SARPs into National Aerodrome Standards with the objectives in disseminating good practices in the transposition of Annex 14 Volume I SARPs, in particular Recommended Practices, so as to maximise the safety performance of aerodrome operations to be conducted on 17 February 2025 in conjunction with the Sixth Meeting of the Asia/Pacific Aerodrome Design and Operation Task Force (AP-ADO/TF/6) on 18 – 21 February 2025 in Langkawi, Malaysia.

3.1.37 APANPIRG/35 also noted that the AOP/SG/8 reviewed the draft workshop program and invited States/Administrations, International Organizations and Aerodrome Operators to contribute to the workshop nominating speakers to share States/International Organizations/Aerodrome Operator's experiences and best practices relevant to the topics proposed for the workshop and requested to contact the Secretariat.

3.1.38 APANPIRG/35 was informed by the Secretariat that the State Letter Ref.: T 11/5.13.3 — AP134/24 (AGA) has been circulated to the States/Administrations including aerodrome operators and International Organizations inviting them to attend and contribute to the workshop nominating speakers to share States/International Organizations/Aerodrome Operator's experiences and best practices relevant to the topics proposed for the workshop and requested to contact the Secretariat.

Status of Air Navigation Deficiencies in AOP Field

3.1.39 APANPIRG/35 noted that AOP/SG/8 reviewed the list of Air Navigation Deficiencies in the AOP field endorsed by APANPIRG/34.

3.1.40 6 States including Bangladesh, China, Nepal, Thailand, Timor-Leste and Viet Nam provided updates on their Air Navigation Deficiencies in the AOP field.

Resolution of Air Navigation Deficiency in Certification of Aerodromes used for International Operations

3.1.41 Ninoy Aquino International Airport (RPLL) had been certified and issued the Permanent Aerodrome Certificate on 22 December 2023.

3.1.42 The following four aerodromes used for international operations in India would be added in the list of the Air Navigation Deficiency in AOP Field based on the AD 1.3 & 1.5 of eAIP India (effective from 13 June 2024) as they were yet to be certified:

a) GORAKHPUR (VEGK);

b) HINDAN (VIDX);

c) JODHPUR (VIJO); and

d) VISAKHAPATNAM (VOVZ)

Publication of the status of certification of aerodromes in AIP AD 1.5

3.1.43 China, Samoa, Solomon Island, Tonga, Vanuatu and Viet Nam provided satisfactory evidence on publication of the status of certification of aerodromes in their AIPs.

3.1.44 Considering the progress made by States/Administrations in resolving deficiencies related to the certification of aerodromes and publication of the status of certification of aerodromes in AIP AD 1.5, AOP/SG/8 recommended to APANPIRG/35 that above deficiencies be removed from Air Navigation Deficiency List in AOP Field. AOP/SG/8 also recommended to add four uncertified aerodromes from India in the List of the Air Navigation Deficiencies and submitted to APANPIRG/35 for consideration.

Challenges in AOP Field:

3.1.45 AOP/SG identified the following challenges in aerodrome operations and planning field:

a) Transposition of Annex 14 SARPs (especially Recommendations) into National Aerodrome Standards;

b) Implementation of new SARPs on Obstacle Limitation Surfaces with effective dates in July 2025 and applicability dates in November 2030; and

c) Implementation of new SARPs on Ground Handling with effective dates in July 2025 and applicability in November 2026.

Priorities in 2025:

3.1.46 To address above challenges, the AOP/SG planned to conduct following activities in 2025:

a) Workshop on Transposition of Annex 14 SARPs into National Aerodrome Standards: State Letter Ref.: T 11/5.13.3 — AP134/24 (AGA) had been circulated to the States/Administrations (para 3.1.37 refers).

b) Organize Regional Workshop on OLS to create awareness on new SARPs and their implementation Challenges. – ICAO APAC Regional Office to develop a Special Implementation Project Proposal for funding support from ICAO HQ.

c) Discuss ground handling matters in AP-AA/WG/7 inviting WPs from CAAs, Aerodrome Operators, Airlines Operators, Ground Handling Service Providers to share best practices and exchange experiences in addressing challenges.

3.1.47 The above proposed workshops and discussion on ground handling matters at the next meeting of AP-AA/WG/7 would assist States/Administrations to effectively implement new SARPs and further strengthen aviation safety and efficiency across the region.

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Agenda Item 3: Performance Framework for Regional Air Navigation Planning and Implementation

3.2: ATM

ATM/SG/12 Outcomes (WP/10)

3.2.1 APANPIRG/35 was informed that the outcomes of the Twelfth Meeting of the Air Traffic Management Sub-Group (ATM/SG/12) of the APANPIRG, which was held from 23 to 27 September 2024 at the ICAO Asia and Pacific Regional Office, Bangkok, Thailand, including the outcomes of Air Traffic Flow Management Steering Group (ATFM/SG), APAC Search and Rescue Work Group (APSAR/WG), AIS-AIM Implementation Task Force (AAITF), and South Asia, Indian Ocean and South East Asia ATM Coordination Group (SAIOSEACG).

3.2.2 The ATM/SG/12 was attended by 105 registered participants from 23 States, two Special Administrative Regions of China and four International and Air Traffic Management-related Organizations. A total of 36 Working Papers (WPs), 14 Information Papers (IPs), two flimsies and four presentations were considered by the meeting.

3.2.3 The full ATM/SG/12 meeting report and all associated papers and presentations were available on the ICAO Asia/Pacific (APAC) Regional Office website at: https://www.icao.int/APAC/Meetings/Pages/2024-ATM-SG-12.aspx .

3.2.4 **DISCLAIMER**: The presentation of material in this report and the ATM/SG report do not imply the expression of any opinion whatsoever on the part of ICAO, APANPIRG or the ATM Sub-Group of APANPIRG concerning the legal status of any country, territory, city or area of its authorities, or concerning the delimitation of its frontiers or boundaries.

High Level Recommendations Discussed at AN-Conf/14

3.2.5 The ATM/SG/12 was informed of the high-level recommendations in the field of air navigation and safety discussed at the AN-Conf/14, including the following recommendations. These recommendations would be submitted for approval to the Council and, when applicable, for subsequent endorsement by the 42nd Session of the Assembly in 2025. States/Administrations were strongly encouraged to proactively engage with the regional group related to the recommendation from AN-Conf/14.

Recommendation 1.1/2: Resilience of the air navigation system

Recommendation 2.2/2: Addressing global navigation satellite system interference and contingency planning

Recommendation 3.1/1: Project 30/10 – Optimised implementation of longitudinal separation minima

Recommendation 3.1/3: Enabling successful deployment of trajectory-based operations

Recommendation 3.1/4: Free route airspace

Recommendation 3.2/2: Transition to flight and flow – information for a collaborative environment services and cessation of ICAO 2012 flight plan by 2034

ANS USOAP Update

3.2.6 The ATM/SG/12 was informed about the ICAO Universal Safety Oversight Audit Programme (USOAP) Continuous Monitoring Approach (CMA), which evaluated States' safety oversight systems through Protocol Questions (PQs). As of September 2024, the average Effective Implementation (EI) rate for Air Navigation Services (ANS) in the APAC region stood at 63.44%, based on audits and USOAP activities conducted in 37 States. (**Figure 3.2- 1**).

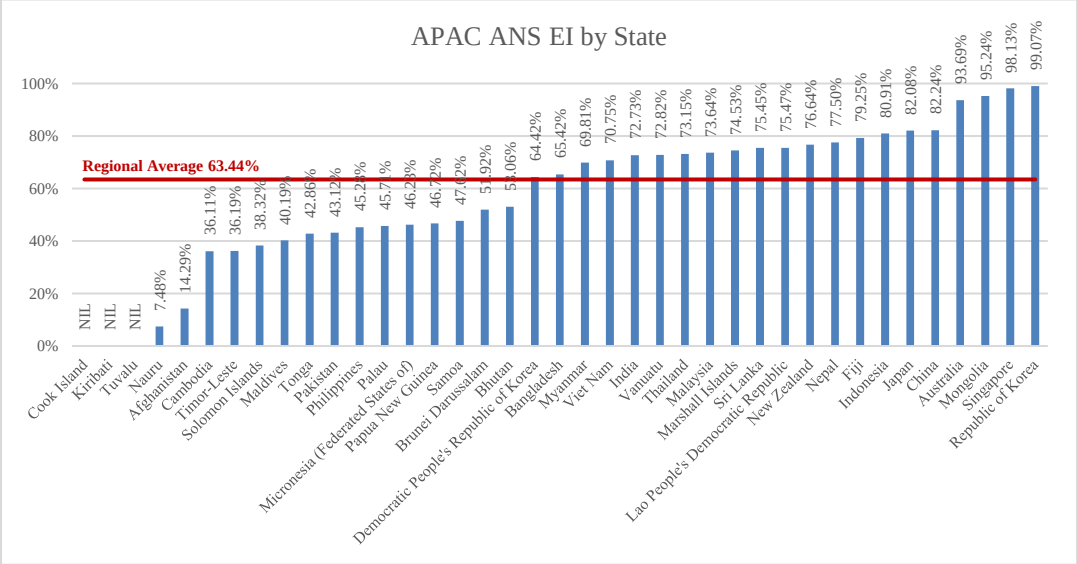

Figure 3.2- 1: USOAP ANS EI Comparisons by State (September 2024)

3.2.7 The Secretariat informed that one of the AN-Conf/14 information sessions was about *USOAP CMA evolution update – an outlook for this triennium and beyond* (https://www.icao.int/Meetings/anconf14/Documents/Information%20Sessions/PPT05.pdf), which provided information on 2024 PQ amendment and integration of State Safety Programme Implementation Assessment (SSPIA) into traditional activities.

Updating the Asia/Pacific Seamless ANS Plan

3.2.8 ATM/SG/12 was informed the status of the Asia/Pacific Seamless ANS Plan, reporting, and implementation progress of air navigation improvements in the APAC region.

3.2.9 The guiding principles adopted by the ICAO Secretariat for updating the Seamless ANS Plan were:

a) refrain from introducing new regional elements, except where absolutely necessary;

b) focus on APAC Regional Prioritization of ASBUs; and

c) keep in mind the ICAO No Country Left Behind (NCLB) principle.

3.2.10 The details were presented in WP/16 under Agenda Item 3.0 - Regional and National Performance Framework.

FIT-Asia and RASMAG Outcomes

3.2.11 The ATM/SG/12 was informed that the outcomes of the FANS Interoperability Team-Asia (FIT-Asia/14) and the Twenty-ninth Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/29), which were held in Bangkok, Thailand, from 16 to 19 July 2024 and 19 to 22 August 2024 respectively, were discussed. The details were further discussed under Agenda Item 3.3, ensuring a comprehensive review of the outcomes.

Application of ATC Separation Standards

3.2.12 ATM/SG/12 was informed that the Secretariat conducted a Seamless ATM survey to assess the Air Traffic Control (ATC) separation minima[1] in the Asia/Pacific Region, with responses decreasing from 25 to 16 compared to the previous period. The survey focused on horizontal separation minima in Category R, S, and T airspace, revealing that 11 States used separation minima exceeding 5 NM in Category S airspace and three States in Category T airspace. Significant non-compliance was identified at Category S → Category S Transfer of Control (TOC) points, where separation minima of more than 10 NM were implemented despite available surveillance coverage in the APAC region.

3.2.13 It was also highlighted the Project 30/10 presented during AN-Conf/14. ICAO proposed Project 30/10 (AN-Conf/14 WP/10) as an initiative to focus attention and to encourage implementation of longitudinal separations of 55.5 km (30 NM) or less in oceanic and remote airspace, and 19 km (10 NM) or less elsewhere. It was expected to be a regionally based, coordinated effort for seamless reduction of excessive separation minima where this had not already been achieved.

Progress of the APAC Data Analytics Ad-Hoc Group

3.2.14 The ATM/SG Data Analytics Ad Hoc Group (DAG), established at ATM/SG/11, had held three meetings to finalise its terms of reference and to develop a framework for measuring and reporting eight key performance indicators (KPIs) under the Global Air Navigation Plan (GANP). The group agreed on the Terms of Reference, task list, and roles, and confirmed the measurement and benchmarking of eight KPIs derived from six data elements (**Table 3.2- 1**and **Figure 3.2- 2**). These KPIs aligned with those previously endorsed by APANPIRG and the APAC Air Traffic Management Performance Measurement Framework (ATM/PMF) stage one framework.

Table 3.2- 1: KPIs to be Reported by ATM/SG DAG

KPA	KPI	Variant	GANP KPI Code
Capacity	Airport peak capacity	Departure	KPI09-D
		Arrival	KPI09-A
Capacity	Airport peak throughput	Departure	KPI10-1D
		Arrival	KPI10-1A
Efficiency	Additional taxi-out time	Advanced	KPI02-2
Efficiency	Additional taxi-in time	Advanced	KPI13-2
Predictability	Departure punctuality	± 15 mins	KPI01-2A
Predictability	Arrival punctuality	± 15 mins	KPI14-2A

[1] Asia/Pacific Seamless ANS Plan 3.0 paragraph 1.4:

Category R: remote en-route airspace with Air Traffic Services (ATS) HF or CPDLC communications and outside the coverage of ground-based surveillance coverage; or

Category S: serviced (or potentially serviced) en-route airspace – by direct (not dependent on a Communication Service Provider (CSP) ATS communications and surveillance; or

Category T: terminal operations serviced by direct ATS communications and surveillance.

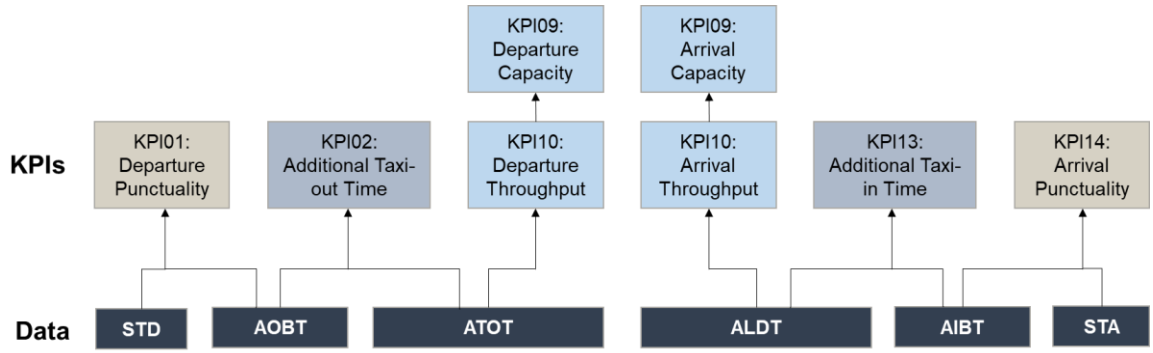

Figure 3.2- 2: KPIs from Data Elements

3.2.15 The ATM/SG DAG agreed to restrict data sharing within the group, requiring Member States' approval for ICAO references. Until a secure portal was established, data would be shared via email, and the use of less sensitive commercial data was considered for future use.

ATM and Airspace Safety Deficiencies List

3.2.16 ATM/SG/12 discussed the list of APANPIRG Air Navigation Deficiencies in the ATM and Airspace Safety fields. The ATM/SG/12 meeting recommended the following change proposals for consideration by APANPIRG/35 under Agenda Item 4:

Non-compliance with Aeronautical Information Publication (AIP) format standards of ICAO Annex 15:

- Nauru's Deficiency deleted.

Non-implementation of AIS Quality Management System as required in Annex 15, Chapter 3:

- Philippines' and Sri Lanka's Deficiencies deleted.

Non-implementation of the Asia/Pacific Air Navigation Plan Vol II, Part I, Section 3 – Specific Regional Requirements for implementation of the Asia/Pacific Search and Rescue (SAR) Plan:

- Malaysia's and Philippines' Deficiencies deleted.

3.2.17 The proposals recommended by ATM/SG/12 were further discussed in WP/14 under Agenda Item 4 — Regional Air Navigation Deficiencies.

Regional Air Navigation Plan Update

3.2.18 ATM/SG/12 was informed an update on the progress of incorporating coordinate data for Asia/Pacific FIRs and SRRs into the Regional Air Navigation Plan (ANP) Volume I. States/Administrations were reminded that Doc 9673 did not legally define FIR boundaries, making the process of checking, aligning, and validating these coordinates crucial for establishing a formal basis for FIRs. The review exercise relied on ICAO historical records rather than proposing new changes.

3.2.19 The review process followed the same Proposal for Amendment (PfA) procedures as other ANP updates, requiring Council approval. Some States submitted significant amendments to their FIRs, which were only considered if they affected national airspace alone or had unanimous agreement from all affected parties. Progress was hindered by unresolved FIR/SRR issues in certain regions, and States/Administrations were urged to address these through bilateral or multilateral discussions.

Air Traffic Flow Management Steering Group Outcomes

3.2.20 ATM/SG/12 was briefed on the outcomes of the MET/ATM Seminar and the Fourteenth Air Traffic Flow Management Steering Group Meeting (ATFM/SG/14), held in Bangkok, Thailand, from 22 to 26 April 2024. It included a joint plenary session with the Thirteenth Meeting of the Meteorological Requirements Working Group (MET/R WG/13). Updates were shared on the operational status of the Bay of Bengal Cooperative ATFM (BOBCAT), the Asia/Pacific Cross-Border Multi-Nodal ATFM Collaboration (AMNAC), and the Northeast Asia Regional ATFM Harmonization Group (NARAHG).

3.2.21 States/Administrations were assessed on their ATFM implementation levels, categorised as Robust (90-100%), Marginal (70-89%), or Incomplete (0-69%). Australia, China, Hong Kong China, Japan, Republic of Korea, Singapore, Thailand, and the USA were identified as having Robust implementation. Additionally, the meeting noted that ATFM/SG/14 had agreed to adopt FIXM Version 4.3.0 for cross-border ATFM-related information exchange.

Progress update of the ICAO Asia Pacific Flight and Flow Information for a Collaborative Environment (FF-ICE) Ad-Hoc Group

3.2.22 The ICAO APAC FF-ICE Ad hoc Group recommended adopting FIXM Version 4.3.0 as the standard format for FF-ICE/R1 services in 2026 to achieve regional harmonization among APAC States/Administrations. ATM/SG addressed the lack of collaboration between operational and technical domains, along with insufficient representation of airspace users. Participants emphasised the need for cross-expertise collaboration in ICAO forums on topics such as SWIM, FF-ICE, TBO, and ATFM to ensure effective implementation. Therefore, ATM/SG/12 agreed to the following draft conclusion, which was merged from two separate draft conclusions from the ATFM/SG and the FF-ICE Ad Hoc Group.

3.2.23 In response to the inquiry, the Meeting confirmed that the FF-ICE/R1 services were as discussed in WP/22.

3.2.24 APANPIRG/35 agreed to the Conclusion respectively.

<table>
<tr><td colspan="3">Conclusion APANPIRG/35/4: Agree on the adoption of FIXM Ver. 4.3.0 in Asia/Pacific Region as the standard format</td></tr>
<tr><td colspan="2">What: That, from Q3 2026 FIXM ver. 4.3.0 would be adopted to support information exchange for:
1) FF-ICE/R1 services implementation;
2) Cross-border ATFM operations</td><td>Expected impact:
☐ Political / Global
☒ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: To support the FF-ICE/R1 requirements to establish a common FIXM version for cross-border information exchange in the Asia/Pacific Region</td><td colspan="2">Follow-up: ☒Required from States</td></tr>
<tr><td>When: 27-Nov-24</td><td colspan="2">Status: Adopted by PIRG</td></tr>
<tr><td colspan="3">Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:</td></tr>
</table>

Regional Supplementary Procedures Doc 7030 Update

3.2.25 The Secretariat informed ATM/SG/12 that a Proposal for Amendment (PfA) submitted by New Zealand and several States to implement ADS-B ITP and ADS-C CDP was partly deemed unnecessary by ICAO Headquarters (HQ). While the related conclusion (APANPIRG/33/5) was referred to ICAO HQ for technical review, it was clarified that amendments to Doc 7030 Regional SUPPs were not required for provisions in Annex 11 or PANS-ATM unless they were based on regional air navigation agreements. Additionally, the Regional Office issued a State Letter to clarify which Standards and Recommended Practices (SARPs), and PANS required SUPPs, ensuring consistent understanding across all regional offices.

3.2.26 The Secretariat reported progress on the 6th Edition of the Regional Supplementary Procedures (Doc 7030), focusing on aligning the applicability of air navigation plans with regional procedures. For the APAC Region, the MID/ASIA and PACIFIC areas were to be consolidated, with MID information removed to reflect the Regional Office's current scope. The proposed amendment would be reviewed by ICAO Air Navigation Bureau (ANB) and the Council upon the release of the 6th Edition.

Reporting of Global Navigation Satellite System (GNSS) Interference and Rationalization of Navigation Infrastructure

3.2.27 ATM/SG/12 addressed the global increase in GNSS interference and stressed the need for States/Administrations to establish procedures for pilots to promptly report such events to Air Traffic Services (ATS). This would facilitate the quick issuance of NOTAMs, inform other airspace users, and allow for the suspension of GNSS-dependent procedures as necessary. The meeting supported publishing reporting procedures in the Aeronautical Information Publication (AIP) but noted that further consultation would be needed to determine the appropriate section. The ICAO Aeronautical Information Services – Aeronautical Information Management Implementation Task Force (AAITF) was tasked with further discussion on the matter.

3.2.28 IATA recommended that States/Administrations and Air Navigation Service Providers (ANSPs) consider current and future risks of GNSS interference when planning the decommissioning of conventional navigation aids. It was suggested to re-evaluate existing Ground-Based Navigation Aids (GBNA), to establish a Minimum Operating Network (MON) for safety, and to retain critical GBNA beyond 2030. Collaboration with airspace users to address GNSS interference risks was also emphasised. The Chairperson highlighted the significant impact of GNSS interference on ATS and airspace users, advising the development of standard operating procedures for air traffic controllers and reporting mechanisms for airspace users to mitigate the issue effectively.

Towards Harmonised Realisation of the ICAO Global Trajectory Based Operations (TBO) Concept in the Asia and Pacific Regions

3.2.29 ATM/SG/12 reviewed the APAC TBO Pathfinder Project, which aimed to harmonise planning for ICAO's global TBO concept by advancing components like SWIM, FF-ICE/R1, and Connected Aircraft through trials and demonstrations. Participants emphasised the need for a regional roadmap to manage varying readiness levels and accelerate TBO implementation, advocating its inclusion in the 2026 Seamless ANS Plan update.

Cross-Border Direct Routing Operations (DRO) between Indonesia and Singapore

3.2.30 ATM/SG/12 highlighted the collaboration between Indonesia and Singapore in implementing cross-border Dynamic Route Optimization (DRO) under the Free Route Operations (FRTO) concept, enhancing flight efficiency and supporting the transition to Trajectory-Based Operations (TBO). The Chairperson emphasised the importance of such partnerships, encouraging

further collaboration with neighbouring FIRs and learning from successful initiatives like this to maximise the benefits of cross-border coordination.

Regional ATM Contingency Planning and Contingency Operations Update

3.2.31 Implementation status was assessed as Robust (90 – 100% of expectations implemented), Marginal (70 – 89%) or Incomplete (0 – 69%). Only Australia, China, Hong Kong China, Indonesia, New Zealand, Singapore and Thailand had reported robust implementation.

3.2.32 The current Kabul FIR Contingency Operations was introduced by the Secretariat. Recognising that ATS routes through the Kabul FIR were integral to major traffic flows between South Asia/Southeast Asia and Europe, and that most airspace users who would typically transit the Kabul FIR had chosen to reroute, the Secretariat acknowledged the efforts of States that managed the increased traffic on alternative routes through their FIRs, especially India, Pakistan, and the Middle East (MID) region States.

3.2.33 ATM/SG/12 was informed about the ICAO APAC/MID ATM Contingency Planning Workshop, which reviewed provisions, examined the regional contingency framework, and discussed case studies to enhance planning. Significant progress by AAC Work Stream 3 was recognised, and the draft framework, tentatively adopted with updates, was under review for harmonisation. The ATM/SG/12 meeting agreed to a proposed update process, emphasising timely revisions to avoid delays, with the framework and regional plan set for discussion at ATM/SG/13 and APANPIRG/36.

SAIOSEACG Meeting Outcomes

3.2.34 The outcomes of the SAIOSEACG/3 meeting held in April 2024 in Bangkok was informed, along with updates from its working groups: the South China Sea Traffic Flow Review Group (SCSTFRG) and the Bay of Bengal Traffic Flow Review Group (BOBTFRG). The SCSTFRG emphasised that optimising Flight Level Allocation Scheme (FLAS) and Flight Level Orientation Scheme (FLOS) operations (SCSTFRG Priority Area 4) depended on addressing related priorities to enhance route capacity and airspace efficiency. The BOBTFRG highlighted ongoing congestion due to conservative separation standards and prioritised implementing improved horizontal separation based on performance capabilities.

Asia Pacific Region ATS Route Catalogue

3.2.35 ATM/SG/12 reviewed the Asia/Pacific Region ATS Route Catalogue (Version 23.2), highlighting developments in airspace management, including 41 routes, two new proposals, and eight archived routes. The successful implementation of RNP 10 route P632 (formerly BOB 01) demonstrated strong collaboration and environmental benefits, such as reduced carbon emissions. The meeting emphasised the importance of coordination, addressing airspace constraints, and exploring alternatives for routes through restricted areas to advance regional airspace management.

Progress Update of the Space Vehicle Launch and Re-Entry Coordination Small Working Group (SVLRC SWG)

3.2.36 The Final Draft Version 1.0 of the Asia/Pacific Regional Guidance for Space Object Launch and Re-entry Activities Coordination was presented, which was intended to replace the current Asia/Pacific Planning Checklist for Space Launch and Space Re-Entry Operations published on the ICAO APAC eDocument webpage, and ATM/SG/12 agreed to the Draft Conclusion.

3.2.37 APANPIRG/35 agreed to the Conclusion respectively.

<table>
<tr><td colspan="3">Conclusion APANPIRG/35/5: Regional Guidance for Space Object Launch and Re-Entry Coordination</td></tr>
<tr><td colspan="2">What: That,
1) the Asia/Pacific Regional Guidance for Space Object Launch and Re-Entry Activities at appended as Appendix A to the Report on Agenda Item 3.2:
a. be uploaded to the Asia/Pacific Regional Office website, to replace the existing Asia/Pacific Planning Checklist for Ballistic Launch and Space Re-entry;
b. be referenced in the Asia/Pacific Seamless ANS Plan; and
2) the related ballistic launch and space re-entry guidance and performance expectations in the Asia/Pacific Seamless ANS Plan be updated accordingly.</td><td>Expected impact:
☐ Political / Global
☒ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: To revise guidance to APAC States/Administration to outline consistent and repeatable coordination procedures to achieve timely and efficient collection and dissemination of space object launch and re-entry information that will assist with avoiding hazards to civil aircraft and minimise interference with the normal operation of such aircraft</td><td colspan="2">Follow-up: ☒Required from States</td></tr>
<tr><td>When: 27-Nov-24</td><td colspan="2">Status: Adopted by PIRG</td></tr>
<tr><td colspan="3">Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:</td></tr>
</table>

3.2.38 As the SVLRC SWG had completed its tasks, the meeting agreed on the dissolution of the SVLRC SWG.

Decision ATM/SG/12-7: Dissolution of the Space Vehicle Launch and Re-entry Coordination Small Working Group (SVLRC SWG)

North Pacific (NOPAC) Route System Redesign

3.2.39 The NOPAC Redesign Project, led by JCAB, FAA, and IATA, improved the NOPAC Route System by implementing new ATS routes with 23 NM lateral separation minima, enhancing airspace efficiency. Phase 2 compressed routes into smaller airspace, enabling more User Preferred Routes (UPRs), though controllers faced challenges with data link outages, requiring reversion to larger separation minima and increased risks. Connectivity issues, particularly during VDL to SAT transitions in Anchorage's FIR, further complicated operations. Despite these challenges, the project highlighted the importance of collaboration in enhancing airspace capacity and efficiency in the APAC region.

3.2.40 ATM/SG/12 acknowledged the need for a mechanism to address GNSS interference and agreed to form a Procedures for GNSS and Data Link Disruption Ad Hoc Group. ATM/SG decided to establish procedures for the group, with its terms of reference and task list to be discussed at the first meeting.

Decision ATM/SG/12-8: Establish Procedures for GNSS and Data Link Disruption Ad Hoc Group

Offset Climb/Descent Procedures in Oceanic Airspace of Fukuoka FIR

3.2.41 Japan implemented reduced separation minima in oceanic airspace, including 30 NM longitudinal, 15 NM for climb/descent, and 23 NM lateral separations, alongside an offset climb/descent procedure to resolve altitude conflicts. A trial of 12 NM lateral separation using ATS data link services began in June 2024, aiming to enhance airspace capacity and efficiency. The offset procedure, applicable in Fukuoka for CPDLC and HF voice communication, allowed aircraft to deviate from cleared routes under controller instructions to achieve desired altitudes.

Capacity Optimisation of Air Routes between Hong Kong and her Neighbouring FIRs

3.2.42 ATM/SG/12 reviewed progress on enhancing longitudinal spacing on ATS routes L642 and M771 between Hong Kong and Sanya FIRs and ATS routes A461, M501, and A583 between Hong Kong and Manila FIRs. An operational trial established 20 NM spacing on L642 and M771 for ADS-B-equipped aircraft at or above FL290, with non-ADS-B-equipped aircraft limited to FL280 or below. On ATS routes A461 and M501, 30 NM spacing for RNP 4-capable aircraft at FL290 or above was implemented in February 2023, while Phase 3 introduced similar spacing for ATS route A583 with RNP 4, CPDLC, and ADS-C equipage.

Space Weather Advisories via Flight Information Services

3.2.43 ATM/SG/12 noted inconsistencies in sharing space weather (SWX) advisory information across the APAC region, highlighting the lack of SIGMET or NOTAM for SWX, its non-FIR-based nature, and varying approaches by States, leading to incomplete information for long-haul flights. It confirmed that PANS-ATM para 9.1.3.8 required transmission of SWX information affecting communications, GNSS navigation, or posing radiation risks to aircraft occupants. ATM/SG/12 discussed the need for guidance on SWX dissemination by ANSPs and emphasised closer coordination between MET and ATM to address the impact of such advisories.

NOTAM ASHTAM for Volcanic Unrest

3.2.44 The Secretariat of ATM/SG highlighted a safety issue regarding international aviation's lack of awareness about pre-eruptive unrest at many Asia-Pacific volcanoes and proposed solutions. States/Administrations with active or potentially active volcanoes were urged to ensure observatories share information with ACC/FIC and clarify volcanic alert level systems. States without FIR responsibilities were encouraged to establish agreements with relevant FIR authorities to disseminate volcanic information. A new practice in Amendment 82 to Annex 3 would require State Volcano Observatories to issue Volcano Observatory Notices to Aviation (VONA), but NOTAMs on volcanic unrest would remain necessary until fully implemented.

AIS – AIM Implementation Task Force Outcomes

3.2.45 ATM/SG/12 reviewed the outcomes of the AAITF/19 and received an update on the APAC Regional Plan for Collaborative AIM, structured into three phases. Hong Kong China, Japan, and Singapore completed Phase I, with only Singapore completed Phase II. Regional implementation stood at 60% for Phase I and 42% for Phase II, indicating overall slow progress, particularly as Phase I expectations were based on longstanding ICAO SARPs.

3.2.46 ATM/SG/12 also discussed NOTAM proliferation in the APAC region, where 6,057 active NOTAMs were included; 5% were categorised as old and 3% as very old. IFAIMA highlighted ICAO provisions on NOTAM management, while IATA raised concerns about NOTAM quality, including inconsistent formatting, delays in moving PERM NOTAMs to proper products, and late delivery of NOTAMs after their effective dates, which created confusion and hindered automation.

3.2.47 ATM/SG/12 reported that between January 2021 and May 2024, 7,483 ICARD requests were processed, with 6,753 approvals and 730 rejections. Common rejection reasons were shared, and challenges faced by the ICARD Planner and Regional Manager, including complex request reviews and managing large batches, were highlighted.

3.2.48 ATM/SG/12 approved ICAO's proposal to amend the Regional Plan for Collaborative AIM, incorporating updates on ASBU, AIM compliance analysis, and the Performance Improvement Plan, with the amended plan to be published on the ICAO APAC Regional Office eDocuments webpage. Additionally, ICAO introduced updated guidance on SNOWTAM issuance, and the meeting agreed to adopt and publish the revised EUR Doc 041 (V.1.1) to replace the existing version.

Conclusion ATM/SG/12-4: Amendment to the Asia/Pacific Regional Plan for Collaborative AIM

Conclusion ATM/SG/12-5: Revised Guidance on the Issuance of SNOWTAM

Asia/Pacific Search and Rescue Update

3.2.49 The Ninth Meeting of the Asia/Pacific Regional Search and Rescue Work Group (APSAR/WG/9) was held in Bangkok in May 2024, with 61 participants from 21 States/Administrations and two international organizations. The meeting reviewed outcomes from the ICAO/IMO Joint Working Group, including updates on the Cospas-Sarsat system, distress alert data, and Emergency Locator Transmitter – Distress Tracking (ELT(DT)) systems, which support the Global Aeronautical Distress and Safety System (GADSS). It noted the operational readiness of first- and second-generation ELT (DT) systems, despite the ICAO requirement for Autonomous Distress Tracking (ADT) being postponed to January 2025.

3.2.50 APSAR/WG/9 discussed differences in notification processes for alerts received by RCCs for ADT and ELT (DT) devices, emphasizing that ELT (DT) activations be notified through Mission Coordination Centres (MCCs) as per Annex 12. APSAR/WG/9 highlighted the need to clarify actions for managing multiple ELT (DT) notifications from Cospas-Sarsat versus a single ADT activation notification from the Location of an Aircraft in Distress Repository (LADR).

3.2.51 As the SAR Plan would address proposals to improve cooperation between SAR Services and Accident Investigation Authorities and facilitate entry into State territories for SAR operations to enhance effectiveness. ATM/SG/12 agreed to the following Conclusion:

Conclusion ATM/SG/12-6: Proposal for Annual Submission of Changes to Asia/Pacific Search and Rescue (SAR) Plan

Need for Proper Guidance to Establish Visual Approach Application Specifications for Parallel Runways

3.2.52 ATM/SG/12 discussed the need for clearer guidelines on visual approach specifications for parallel runways due to rapid air traffic growth, emphasizing the importance of enhancing safety and efficiency. Participants noted that existing ICAO documentation lacked clarity on certain aspects. The Secretariat of ATM/SG reported that such issue was addressed at the SASP-WG/39 meeting, where it was agreed that visual approaches to parallel runways should not be classified as Simultaneous Operations on Parallel or Near-Parallel Instrument Runways (SOIR). It was also deemed beneficial to include lessons learned in the next edition of ICAO Doc 9643. ATM/SG/12 concluded that the ICAO APAC Regional Office should seek clarification from ICAO HQ regarding challenges faced by some APAC States and IFALPA.

State of Aviation Economics

3.2.53 ATM/SG/12 emphasised IATA's "Equilibrium" strategy, promoting collaboration between airspace users and ANSPs on safety, regulations, investments, and capacity planning to enhance efficiency and sustainability in aviation. The ATM/SG Chairperson reminded APAC States/Administrations to comply with APANPIRG Conclusion 34/15 by incorporating ICAO's charging principles into legislation, policies, and agreements and ensuring service providers adhere to ICAO guidance, including consulting with airspace users.

3.2.54 ATM/SG Chairperson informed APANPIRG of the following significant improvements and challenges in 2024.

Significant improvements in 2024:

- Seamless ANS Plan v4.0
- ICAO APAC/MID ATM Contingency Planning Workshop
- Regional guidance for Space Object Launch and Re-Entry Coordination

Significant challenges in 2024:

- Regional ANP Vol III implementation
- Afghanistan on-going contingency situation

3.2.55 ATM/SG Chairperson informed APANPIRG of the following priorities in 2025.

- Appropriate ATC separation minima[2]
- TBO and FF-ICE implementation[3]
- GNSS and Data Link Disruption[4]
- Capacity assessment[5]

3.2.56 APANPIRG/35 noted the following technical Conclusions, and Decisions on ATM/SG working arrangements, agreed by ATM/SG/12.

- ***Conclusion ATM/SG/12-4: Amendment to the Asia/Pacific Regional Plan for Collaborative AIM;***
- ***Conclusion ATM/SG/12-5: Revised Guidance on the Issuance of SNOWTAM;***

[2] ref. AN-CONF/14 Recommendation 3.1/1: Project 30/10 – Optimised implementation of longitudinal separation

[3] ref. Decision ATM/SG/11-4: Establish FF-ICE ad hoc group, AN-CONF/14 Recommendation 3.1/3: Enabling successful deployment of trajectory-based operations, AN-CONF/14 Recommendation 3.1/4: Free route airspace, and ref. AN-CONF/14 Recommendation 3.2/2: Transition to flight and flow – information for a collaborative environment services and cessation of ICAO 2012 flight plan by 2034

[4] Ref. AN-CONF/14 Recommendation 1.1/2: Resilience of the air navigation system, AN-CONF/14 Recommendation 2.2/2: Addressing global navigation satellite system interference and contingency planning, and Decision ATM/SG/12-8: Establish Procedures for GNSS and Data Link Disruption Ad Hoc Group

[5] Ref. ATFM/SG action item 13/3: Support the workshop on capacity assessment, and consider including ATFM-related USOAP PQs and USOAP PQ 7.081, 7.082

- ***Conclusion ATM/SG/12-6: Proposal for annual Submission of changes to Asia/Pacific Search and Rescue (SAR) Plan;***

- ***Decision ATM/SG/12-7: Dissolution of the Space Vehicle Launch and Re-entry Coordination Small Working Group (SVLRC SWG);***

- ***Decision ATM/SG/12-8: Establish Procedures for GNSS and Data Link Disruption Ad Hoc Group.***

Next Generation ATFM for Asia Pacific (WP/19)

3.2.57 The paper provided information about the status of cross border Air Traffic Flow Management (ATFM) implementation in APAC region as of the paper was prepared. The Meeting was informed that Asia Pacific Cross-Border Multi-Nodal ATFM Collaboration (AMNAC) program had identified lack of appropriate equipage for ATFM application by the States/Administrations, potential conflicting ATFM solutions in practice and lack of compliance to ATFM agreements as major pain points. The paper advocated a Virtual ATFM as a possible regional solution for unified ATFM application. The Meeting was informed that the AMNAC group proposes to establish a study group to explore new possible ideas for further evolution of regional ATFM. The paper requested the meeting to support and participate in the study group.

3.2.58 China informed the Meeting about their research on One Calculated Take Off Time (CTOT) Solution (OCS) proposal for resolving conflicting ATFM solutions, and shared their plan to present the same to ATFM Steering Group (ATFM/SG) meetings.

3.2.59 Singapore, United States and ACI expressed their appreciation for the working paper and supported the initiatives proposed by CANSO. The Secretariat informed the Meeting about the DGCA/59 Action Item 59/17, which encouraged APAC States/Administrations to continue promoting ATFM collaboration, and requested CANSO to present the proposal at the next ATFM/SG meeting, for further discussion.

3.2.60 Thailand requested CANSO to present the proposal at the next AMNAC meeting for further discussion.

Collaborative Approach for the Development of a Roadmap to Implement Trajectory-Based Operations (TBO) in Asia and Pacific (APAC) (WP/20)

3.2.61 The paper provided an update on the APAC TBO Pathfinder Project, which was initiated under the Asia Pacific Air Navigation Service Provider (ANSP) Committee (AAC) to determine pathways and coordinated planning towards implementation of the ICAO's TBO concept in the region. The project built on the ongoing efforts to expedite the implementation of the two essential TBO building blocks, i.e., System-wide Information Management (SWIM) and Flight and Flow – Information for a Collaborative Environment Release 1 (FF-ICE/R1).

3.2.62 The APAC TBO Pathfinder Project formed three workgroups, each focused on progressing specific goals and deliverables. It was envisaged that the major output of the APAC TBO Pathfinder Project would include a regional TBO implementation roadmap, with the aim to be incorporated into the *Asia/Pacific Seamless ANS Plan*.

3.2.63 Singapore expressed appreciation to the APAC TBO Pathfinder Project members for their efforts to harmonised and expedited implementation of the ICAO global TBO concept in APAC region, and encouraged APAC States/Administrations and International Organizations to actively participate in the APAC TBO Pathfinder Project workgroups.

3.2.64 The Secretariat commended the APAC TBO Pathfinder Project members for their hard work and substantial effort in progressing the workgroups deliverables. The Secretariat supported the paper and proposed further discussion on this subject at future ATM/SG meetings.

Requirement to Amend Transition Altitude Establishment Criteria in PANS-OPS Volume III (IP/03)

3.2.65 Pakistan highlighted some considerations for the factors when establishing the transition altitude and proposed a review of these criteria contained in Section II Chapter 2 of PANS-OPS VOL III – Aircraft Operating Procedures (ICAO Doc 8168) to cater for advancements in technology and operational practices. The IP also suggested further discussion on the matter at the Thirteenth Meeting of the Air Traffic Management Sub-Group (ATM/SG/13) scheduled in 2025.

Jakarta Metroplex Airspace Optimization – Enhancing Efficiency, Capacity, and Environmental Sustainability (IP/07)

3.2.66 IP/07 introduced Jakarta Metroplex Project which addressed the country's rapid air traffic growth by improving air traffic management efficiency at Soekarno-Hatta and Halim Perdanakusuma airports. It introduced the metroplex concept and the Point Merge System (PMS) to streamline airspace, reduce bottlenecks, and enhance operational efficiency, resulting in smoother, more predictable traffic flows. The project increased runway capacity, reduced delays, and improved fuel efficiency, lowered CO_2 emissions and airline costs. It also eased workloads for air traffic controllers while enhancing safety. By integrating operational, economic, and environmental benefits, the project strengthened Indonesia's aviation infrastructure to meet growing demand sustainably.

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Agenda Item 3: Performance Framework for Regional Air Navigation Planning and Implementation

3.3 RASMAG

RASMAG Outcomes (WP/11)

3.3.1 The Fourteenth Meeting of the FANS Interoperability Team-Asia (FIT-Asia/14) and the Twenty-Ninth Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/29) were held in Bangkok, Thailand, from 16 to 19 July 2024 and 19 to 22 August 2024 respectively. RASMAG was a Sub-Group of APANPIRG, and the FIT-Asia would report to RASMAG.

FIT-Asia Meeting Outcomes

3.3.2 The FIT-Asia meeting was reminded that APANPIRG/34 agreed the following Conclusion proposed by RASMAG/28 - **Conclusion APANPIRG/34/8: Formal Service Arrangements with CRA**.

3.3.3 The United States informed the meeting that the Federal Aviation Administration (FAA) contract for Informal Pacific ATC Coordinating Group (IPACG), Informal South Pacific Air Traffic Services Coordinating Group (ISPACG), and North Atlantic (NAT) would be expanded to include FIT-Asia States without formal service arrangements with a Central Reporting Agency (CRA). The Secretariat of FIT-Asia stated that they would reach out to each State to assess the suitability of the United States' proposed arrangement.

3.3.4 The colour codes from Asia/Pacific Region Combined Performance-based Communication and Surveillance (PBCS) Monitoring Report used by FIT-Asia were slightly different to other FIT's therefore a correction was proposed to the templates to resolve this error. A revised yellow acceptable performance showing as between 99.0% and 99.89% was proposed (**Figure 3.3- 1**).

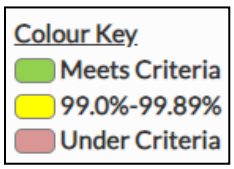

Figure 3.3- 1: Revised Colour Key Code for Yellow Acceptable Performance

3.3.5 FIT-Asia meeting agreed to the revised colour key codes in the following files on the ICAO APAC eDocuments webpage shown below and RASMAG agreed to the following Conclusion, drafted by FIT-Asia/14.

Conclusion RASMAG/29-1: Revised colour key codes for Asia/Pacific PBCS reporting templates

That, the following PBCS reporting templates and example were revised to correctly reflect the criteria colour key code for yellow acceptable performance and be uploaded to the Asia/Pacific Regional Office to replace the existing ones.

1. *Data Link Performance Report Template – ANSP to FIT (RASMAG/29 Appendix C);*
2. *EXAMPLE - Data Link Performance Report Template – ANSP to FIT (RASMAG/29 Appendix D); and*
3. *Aggregated Regional Data Link Performance Report Template - FIT to RASMAG (RASMAG/29 Appendix E)*

3.3.6 During the discussion of the future direction of FIT-Asia, the Secretariat of FIT-Asia provided information on the history and progress of FIT-Asia. The number of working papers at the previous FIT-Asia meetings were mainly WPs provided by States/Administrations for Data Link Performance Reports, and a few papers addressed technical matters at the FIT-Asia meetings by the champion States in the region.

3.3.7 The FIT-Asia meeting agreed to conduct a workshop/seminar in conjunction with the FIT-Asia meeting, at least in 2025, including the subjects such as safety risk assessment for PBCS implementation, PBCS Charter, etc.

RASMAG/29 Meeting Outcomes

3.3.8 The Monitoring Agency for the Asian Region (MAAR) presented a combined summary of the safety analysis results for the APAC region, on behalf of the Asia/Pacific RMAs and EMAs. The report was divided into the Pacific (PAC) area, and Asia area. The full APAC consolidated Safety Report can be found in **Appendix A** to the Report on Agenda Item 3.3.

3.3.9 The estimated vertical collision risk for 2023 for the PAC area did not meet the Target Level of Safety (TLS) (**Table 3.3- 1**).

Table 3.3- 1: Pacific Area Vertical Collision Risk 2023

Pacific Area – annual flying hours = 3,462,071			
Source of Risk	**Risk Estimation**	**TLS**	**Remarks**
Vertical Technical Risk	0.22×10^{-9}	2.5×10^{-9}	Below Technical TLS
Vertical Operational Risk	10.55×10^{-9}	-	-
2023 Vertical Overall Risk	**10.77×10^{-9}**	5.0×10^{-9}	**Above TLS**

3.3.10 There was a total of 134 LHDs in the Pacific area in 2023 (increased from 118 in 2022), with total duration 362 minutes and 36 levels crossed. 33 of the occurrences were Category[1] A, B or C (25%), 64 were Category D, E or F (48%), zero were Category G or H, 20 in Category I (15%), 16 were Category J or K (12%), and one were Category L or M (1%).

3.3.11 The estimated vertical collision risk for 2023 for the Asia area met TLS (**Table 3.3- 2**). The overall risk continued to decline since 2017 due to various safety improvement initiatives and was below the TLS. There was a total of 824 LHDs reported in the Asia area in 2023 (increased compared to 518 in 2022), with total duration 414.45 minutes and 237 levels crossed.

Table 3.3- 2: Asia Area Vertical Collision Risk 2023

Asia Area – annual flying hours = 10,153,474 hours (38% increase from 2022)

[1] Categories of LHD events as recognised by RMAs were:
Category A: Flight crew fails to climb or descent the aircraft as cleared;
Category B: Flight crew climbing or descending without ATC clearance;
Category C: Incorrect operation or interpretation of airborne equipment;
Category D: ATC system loop error;
Category E: Coordination errors in ATC-to-ATC transfer of control responsibility as a result of human factors issues;
Category F: ATC transfer of control coordination errors due to technical issues;
Category G: Aircraft contingency leading to sudden inability to maintain level;
Category H: Airborne equipment failure and unintentional or undetected level change;
Category I: Turbulence or other weather-related cause leading to unintentional or undetected change of flight level;
Category J: TCAS RA – flight crew correctly climb or descend following the RA;
Category K: TCAS RA – flight crew incorrectly climb or descend following the RA;
Category L: An aircraft being provided with RVSM separation is not approved;
Category M: Others.

Source of Risk	Risk Estimation	TLS	Remarks
Vertical Technical Risk	0.56×10^{-9}	2.5×10^{-9}	Below Technical TLS
Vertical Operational Risk	2.84×10^{-9}	-	-
2023 Vertical Overall Risk	**3.40×10^{-9}**	5.0×10^{-9}	**Below TLS**

Process of Hot Spots for RASMAG

3.3.12 RASMAG agreed to adopt the application of the Hot Spot Management Process (Attachment 2 to WP/06 from RASMAG/MAWG/11) developed by the RASMAG MAWG (Monitoring Agency Working Group). The MAWG meeting agreed to allow the splitting of a hot spot into smaller areas depending on the FIR interfaces, the contributing factors, implementation of mitigation measures, etc. and decided to split Hot Spot B and Hot Spot D into smaller areas at the interface level.

3.3.13 RASMAG agreed to the changes to Guidance Material for the Continued Safety Monitoring of the Asia-Pacific RVSM Airspace version 3 and to be uploaded to the ICAO APAC eDocuments webpage to replace the previous version. The meeting agreed to the following conclusion:

Conclusion RASMAG/29-2: Revised Guidance Material for the Continued Safety Monitoring of the Asia-Pacific RVSM Airspace

That, the revised Guidance Material for the Continued Safety Monitoring of the Asia-Pacific RVSM Airspace, containing the Hot Spot Management process, WP/03 - Attachment 3, be uploaded to the Asia/Pacific Regional Office eDocuments webpage to replace the existing version.

Review of Guidance Material for End-To-End Safety and Performance Monitoring of ATS Data Link Systems in the APAC region.

3.3.14 Secretariat of RASMAG, China, New Zealand and United States were tasked with RASMAG Task item *RASMAG28/1 - Review and develop Draft of new version of Guidance Material for End-to-End Safety and Performance Monitoring of ATS Data Link Systems in the APAC Region in cooperation with CNS subject matter experts. Include region-specific matters from Appendix B to the GOLD Manual. (to be removed from the Manual in 2020).*

3.3.15 A working paper was submitted to FIT-Asia/14 held from 16 to 19 July 2024 and FIT-Asia/14 agreed to the Draft Conclusion FIT-Asia/14-1: Revised Guidance Material for End-to-End Safety and Performance Monitoring of ATS Data Link Systems in the APAC Region and Additional PBCS Guidance Material NAT Doc 011.

3.3.16 In addition, Boeing CRA submitted supplementary amendments after the FIT-Asia/14 meeting. Therefore, the updated Guidance Material for End-to-End Safety and Performance Monitoring of ATS Data Link Systems in the APAC Region included all changes were shown in RASMAG/29 WP/17 Attachment A. A summary of the proposed amendments, including reasons for each proposed amendment, was provided in RASMAG/29 WP/17 Attachment B and the EUR NAT Doc 011 could be found in RASMAG/29 WP/17 Attachment C.

3.3.17 RASMAG agreed to the proposed changes, and to adopt the following Conclusion:

Conclusion RASMAG/29-3: Revised Guidance Material for End-to-End Safety and Performance Monitoring of ATS Data Link Systems in the APAC Region and

Additional PBCS Guidance Material NAT Doc 011

That,

1) the revised Guidance Material for End-to-End Safety and Performance Monitoring of ATS Data Link Systems in the APAC Region at Appendix F to the RASMAG/29 report be uploaded to the Asia/Pacific Regional Office eDocuments webpage to replace the existing version; and

2) the EUR NAT Doc 011 – PBCS Monitoring and Reporting Guidance, 1st Ed.- Amdt. 2. at RASMAG/29 WP/17 Attachment C be uploaded on the ICAO Asia/Pacific Regional Office eDocuments webpage.

3.3.18 The Hot Spot Identification process was applied to Hot Spot B and D and Table 10 of RASMAG/29 WP/10 summarised the current LHD Hot Spots including the smaller areas associated with Hot Spot B and D, the FIRs involved, the year of identification, and status remarks.

3.3.19 In response to a query during APANPIRG/35, the RASMAG Chairperson provided additional explanation regarding the LHD Hot Spots, Hot Spot identification process and also the methodology to remove these Hot Spots.

ATM and Airspace Safety Deficiencies List

3.3.20 RASMAG reviewed the APANPIRG ATM and Airspace Safety Deficiencies List and agreed to make the following recommendation to APANPIRG/35, as recorded in Appendix I to the RASMAG/29 Report. RASMAG/29 was informed that the deadline for submission of information on reduction of the remaining monitoring burden must reach MAAR by 25 October 2024 in order to be processed in time for APANPIRG/35.

3.3.21 The Secretariat of RASMAG sent an email to French Polynesia on 21 August 2024 requesting for LHD, LLE and LLD data for 2023, to be submitted to ICAO and PARMO by 18 November 2024 to facilitate the withdrawal of the deficiency for APANPIRG's review. On 22 Oct 2024, PARMO confirmed receipt of the occurrence reports for the Tahiti FIR for 2023 and up till September 2024. Therefore, French Polynesia would not be recommended for inclusion in the deficiencies list.

a) To be retained in the Deficiencies list

<u>Safety Reporting Deficiencies</u>

- **Afghanistan** (Failure to submit Kabul FIR Large Height Deviation (LHD) data).

<u>Long Term Height Monitoring Requirement Deficiencies</u>

- **Afghanistan** (Remaining monitoring burden of 50%, RASMAG/29).
- **Nepal** (Remaining monitoring burden of 45%, RASMAG/29).

<u>ATS Datalink Deficiencies</u>

- **India**: Post implementation monitoring not implemented (insufficient data/evidence).

b) Removal of Deficiency:

Long Term Height Monitoring Requirement Deficiencies

- **Mongolia** (Remaining monitoring burden of 18%, RASMAG/29).
- **New Zealand** (Remaining monitoring burden of 11%, RASMAG/29).
- **Pakistan** (Remaining monitoring burden of 27%, RASMAG/29).
- **Papua New Guinea** (Remaining monitoring burden of 15%, RASMAG/29).
- **Solomon Islands** (Remaining monitoring burden of 0%, RASMAG/29).

ATS Datalink Deficiencies

- **Maldives:** It was confirmed that Maldives had disabled the ADS-C function from the ATM system due to an application issue, and CPDLC/HF is used beyond VHF coverage

c) Add new Deficiency:

Long Term Height Monitoring Requirement Deficiencies

- **India** (Remaining monitoring burden of 48%, RASMAG/29).
- **Philippines** (Remaining monitoring burden of 40%, RASMAG/29).

3.3.22 RASMAG/29 had reviewed the APANPIRG ATM and Airspace Safety Deficiencies List. The updated Deficiencies agreed by RASMAG/29 and agreed to make the following recommendation to APANPIRG/35, as presented separately under Agenda Item 4.

3.3.23 APANPIRG/35 noted the safety critical nature of RASMAG work and congratulated Maldives, Mongolia, New Zealand, Pakistan, Papua New Guinea and Solomon Islands for resolving their deficiencies. It noted new LTHM requirement deficiencies recorded for and requested the concerned States to resolve these deficiencies expeditiously.

RASMAG Chairperson’s view on challenges/priorities in 2025

3.3.24 The RASMAG challenges for next work year:

a) Continue to work towards meeting the Long Term Height Monitoring requirements.

b) FIT-Asia States/Administrations without formal service arrangements with a CRA, to coordinate with the ICAO APAC office to assess the suitability of inclusion in United States' expanded contract for CRA services in the IPACG, ISPACG, and NAT.

c) Develop process to incorporate occurrences of GNSS interference into the Airspace safety risk computation and reporting (including promotion, data collection and harmonization).

3.3.25 APANPIRG/35 noted the following technical Conclusions agreed by RASMAG/29.

- ***Conclusion RASMAG/29-1 Revised colour key codes for Asia/Pacific PBCS reporting templates;***
- ***Conclusion RASMAG/29-2 Revised Guidance Material for the Continued Safety Monitoring of the Asia-Pacific RVSM Airspace;***
- ***Conclusion RASMAG/29-3 Revised Guidance Material for End-to-End Safety and Performance Monitoring of ATS Data Link Systems in the APAC Region and Additional PBCS Guidance Material NAT Doc 011.***

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Agenda Item 3: Performance Framework for Regional Air Navigation Planning and Implementation

3.4 CNS

3.4.1 APANPIRG/35 reviewed the outcomes of the Twenty Eighth Meeting of the Communications, Navigation and Surveillance Sub-group (CNS SG/28) of APANPIRG held at the ICAO APAC Regional Office, Bangkok, Thailand, from 1-5 July 2024. The Meeting noted with appreciation the work done and achievements by the CNS SG and the contributory bodies reporting to APANPIRG through the CNS SG, discussed CNS related matters, took the following actions on the report of CNS SG/28 meeting and other papers presented under Agenda Item 3.4.

Review of Outcomes of CNS SG28 - WP/12

3.4.2 The CNS SG/28 meeting report, papers and other resources could be accessed at https://www.icao.int/APAC/Meetings/Pages/2024-CNS-SG-28.aspx.

3.4.3 APANPIRG/35 noted that several contributory bodies of APANPIRG have held their meetings this year, listed below, which contributed to outcomes to CNS SG/28, and webinars/workshops held to increase awareness and understanding on various topics for the Region to support their planning and implementation.

SN	CNS Meeting/Seminar/Workshop in 2024
1.	CRV Seminar and CRV OG/12 (20-27 Jan)
2.	SRWG/8 (5-7 Mar)
3.	ACSICG/11 (19-22 Mar)
4.	ICAO Workshop on APAC Seamless ANS Reporting Tool (17-19 Apr)
5.	SURICG/9 (7-10 May)
6.	SWIM Seminar (13 May)
7.	SWIM TF/9 (14-17 May)
8.	SURSG/4 (28-31 May)
9.	ATMAS TF/5 (4-7 Jun)
10.	CNS SG/28 (1-5 Jul)
11.	Flight Inspection and Procedure Validation Seminar (30 Jul-1 Aug)
12.	ADS-B Implementation Workshop (14-16 Aug)
13.	Seminar on Frequency Use (16-18 Sep)
14.	Workshop and one-day PSIDS Meeting for preparation of new CRV requirements and specifications for future SWIM/other aviation services (17-20 Sep)
15.	CRV Workshop for MID- 20-23 October
16.	SWIM Working Session (6-8 Nov)
17.	Cybersecurity TTX exercise (2-4 Dec)

3.4.4 APANPIRG/35 also noted that the CNS SG/28 Meeting had adopted the following **4** Conclusions and **2** Decisions on technical and operational matters:

SN	Reference		Subject
1	**Conclusion CNS SG/28/01** *(ACSICG/11/02)*	-	Review of APAC Region IWXXM Implementation Status/ Readiness
2	**Decision CNS SG/28/03** (*Decision SWIM TF/08/02*)	-	Candidate Baseline SWIM Discovery Service Standard for APAC
3	**Decision CNS SG/28/04 (***Decision SWIM TF/09/01***)**	-	APAC SWIM Technical Infrastructure Profiles v1.0
4	**Conclusion CNS SG/28/08** (*GBAS-SBAS ITF 06/01*)	-	Guidance Document for Implementation of GBAS in the APAC Region
5	**Conclusion CNS SG/28/09**	-	Update of Flight Inspection Guidance Material (FIGM)
6	**Conclusion CNS/SG/28/11** (*SURICG/9/2*)	-	Guideline on addressing inconsistencies of Aircraft Address (AD) and Target Identification (ID) between Surveillance Data and Flight Plan

3.4.5 APANPIRG/35 further noted that the CNS SG/28 had identified 20 action items related to CNS. Member States were encouraged to follow up on CNS-related action items resulting from the relevant meetings.

Aeronautical Fixed Service (AFS)

Outcomes of ACSICG/11

3.4.6 APANPIRG/35 noted that CNS SG/28 reviewed various topics discussed in the Eleventh Meeting of Aeronautical Communication Services Implementation Coordination Group (ACSICG/11), updated the AMHS/ATN implementation status in States/Administrations and reviewed the outcomes of the Common aeRonautical Virtual Private Network (CRV) Seminar for the Pacific States and the Twelfth Meeting of the CRV Operations Group of APANPIRG (CRV OG/12) held in Denarau Island, Fiji.

3.4.7 APANPIRG/35 noted that in the CRV Seminar PCCWG shared a new offer and technical equipment details to encourage Pacific States to join CRV. Cook Island, Samoa, and Tonga shared their firm intention to join CRV and that they should be able to sign service orders with PCCWG before 30 April 2024**.** The offer had been extended to 31 December 2024. In addition, APANPIRG/35 noted CRV OG/12 **Decision CRV OG/12/01** - *Publish the updated APAC CRV Operations Manual*, **Conclusion CNS SG/28/01** (ACSICG/11/02) - *Review of APAC Region IWXXM Implementation Status/ Readiness*, and formation of AMHS to SWIM transition CG (ATSCG).

3.4.8 APANPIRG/35 noted the strategy formulated by CRV OG/12 for the new CRV contract management process and the possibility of two options. It was noted that simultaneous work for both options was being done, and based on the outcomes of a contract management process, a chosen option would be presented to APANPIRG/36 for approval. The Meeting requested that the Secretariat to report the chosen option at the next Meeting.

Information Management (IM)

Outcomes of SWIM TF/8 and SWIM TF/9

3.4.9 The APANPIRG/35 reviewed the report of the Eighth Meeting of the System Wide Information Management Task Force (SWIM TF/8) held from 8 to 10 November 2023 and the Ninth Meeting of the System Wide Information Management Task Force (SWIM TF/9) held from 14 to 17 May 2024 in ICAO Asia and Pacific Regional Office, Bangkok, Thailand.

3.4.10 Due to the need for global standards on SDS, the following **Decision** endorsed by CNS SG/28 Meeting was adopted by APANPIRG/35.

<table>
<tr><td colspan="3">Decision APANPIRG/35/6 (Decision CNS SG/28/02 (Decision SWIM TF/08/01)) Information Management Panel considers the adoption of SWIM Discovery Service as a Global Standard for Globally Interoperable Service Discovery</td></tr>
<tr><td colspan="2">What: To propose to the Information Management Panel (IMP) to consider adopting the SWIM Discovery Service (SDS) as a global standard for globally interoperable service discovery.</td><td>Expected impact:
☒ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: Considering that APAC regional SWIM will also be part of global SWIM and that SDS was studied and tested by the SWIM TF, the consideration of IMP on the possible adoption of SDS as a global standard is required to ensure cross-regional interoperability of SWIM service discovery,</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
<tr><td>When: 27-Nov-24</td><td colspan="2">Status: Adopted by PIRG</td></tr>
<tr><td colspan="3">Who: ☒Sub groups ☐APAC States ☒ICAO APAC RO ☒ICAO HQ ☒Other: SWIM TF</td></tr>
</table>

3.4.11 APANPIRG/35 noted the re-election of Dr Amornrat Jirattigalachote, Strategic Planning Manager (Engineering), Policy and Strategy Management Bureau of AEROTHAI, as Co-Chair of the SWIM TF. It was also noted that for the need to have a candidate baseline standard for SDS to support APAC SWIM implementation within the 2024-2030 target implementation timeframe, the CNS SG/28 adopted the **Decision CNS SG/28/03** (Decision SWIM TF/08/02)- *Candidate Baseline SWIM Discovery Service Standard for APAC* and considering the benefits of making the draft version of APAC SWIM Technical Infrastructure Profiles available for States/Administrations to refer to as guidance to assist in their SWIM development and implementation, CNS SG/28 adopted **Decision CNS SG/28/04** (Decision SWIM TF/09/01) –*APAC SWIM Technical Infrastructure Profiles v1.0*.

3.4.12 APANPIRG/35 noted that the CNS SG/28 deliberated the requirements to establish a dedicated group to support the implementation of the ICAO information security provisions in the APAC region and advised that the discussion on forming a dedicated group be deferred to the CNS SG/29 Meeting in 2025.

Aeronautical Mobile Communications Service and Aeronautical electromagnetic spectrum utilization

Outcomes of SRWG/8 and Frequency Spectrum-related Issues

3.4.13 APANPIRG/35 approved the Conclusion endorsed by CNS SG/28 to initiate actions for timely and effective preparation for WRC-27 in the APAC Region.

<table>
<tr><td colspan="3">Conclusion APANPIRG/35/7 (Conclusion CNS SG/28/05 (SRWG/8/1) –
Preparation for World Radiocommunication Conference - 2027 (WRC-27)</td></tr>
<tr><td colspan="2">That, States,
a) assign high priority to aeronautical spectrum management;
b) participate in the development of the ICAO Position for WRC-27;
c) participate in the development of States' positions for WRCs at the national level to ensure support for the ICAO Position;
d) ensure, to the extent possible, that, aviation representatives are included in States delegations to the APAC Telecommunity (APT) Conference Preparatory Group Meetings and at WRCs;
e) to nominate an ICAO designated focal point or contact person for aviation issues related to the WRC-27; and
f) ensure participation of the designated focal point or contact person at the ICAO Regional Preparatory Group Meetings for WRC-27, APT Conference Preparatory Group Meetings for WRC-27, and at WRC-27.</td><td>Expected impact:
☐ Political / Global
☒ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why:
a) implement Assembly Resolution A41-7;
b) support the early development and dissemination of the draft ICAO Position;
c) actively participate in the preparatory work of the ITU and the Meetings of APT to ensure the development of proposals by the regional telecommunication organizations to the conference are in line with the ICAO Position;</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
<tr><td>When: 27-Nov-24</td><td colspan="2">Status: Adopted by PIRG</td></tr>
<tr><td colspan="3">Who: ☒Sub groups ☐APAC States ☐ICAO APAC RO ☐ICAO HQ ☒Other: SRWG</td></tr>
</table>

3.4.14 APANPIRG/35 noted that States/Administrations intended to use or using VHF frequencies for Satellite-based VHF experimental systems during the time the relevant SARPs and planning criteria were being developed should inform ICAO of their use and frequency spectrum. Point of Contact (PoC) should ensure that corresponding State/Administration be aware of and to monitor any possible interference it might cause to VHF terrestrial systems. States/Administrations should also inform ICAO of any interference from VHF Satellite-based experimental systems. In the event of interference, the correction action should be taken as soon as practicable.

3.4.15 APANPIRG/35 adopted the 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, which was endorsed by CNS SG/28.

Conclusion APANPIRG/35/8 *(Conclusion CNS SG/28/06 (SRWG/8/2)* **VHF COM Frequency Allotment Plan for APAC Region**	
What: The VHF COM Frequency Allotment Plan for the APAC Region provided in **Appendix A** is adopted.	Expected impact: ☒ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: Per discussion from SRWG, the Region should simplify the VHF COM Frequency Allotment Plan and clarify the function of the twelve frequencies for inclusion in the next edition of the Frequency Guidance Material (Management Manual).	Follow-up: ☐Required from States
When: 27-Nov- 24	Status: Adopted by PIRG
Who: ☒Sub groups ☐APAC States ☐ICAO APAC RO ☐ICAO HQ ☒Other: SRWG	

3.4.16 APANPIRG/35 noted the **Decision SRWG/8/3** –*Survey on the Utilization of HF Spectrum Frequency bands* and that the Secretariat of CNS SG disseminated the revised Survey through a State Letter.

3.4.17 APANPIRG/35 noted the importance of the Frequency Finder (FF) tool and highly recommended that Member States/Administrations to coordinate frequency through the FF tool and to ensure the FF database remained up-to-date. Based on recommendations from Workshop on Frequency Finder (FF) held at the ICAO Asia and Pacific (APAC) Regional Office (Bangkok, Thailand, 9-13 October 2023), the CNS SG/28 endorsed the following Conclusion which was adopted by APANPIRG/35:

Conclusion APANPIRG/35/9 *(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**	
What: Transition from the regular publication of Frequency List 2 to the global database of frequencies included in the FF is adopted	Expected impact: ☒ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: The regular publication (currently once a year at the end or beginning of the year) of the Frequency List 2 i.e. List of facilities in the band 108 - 117.975 MHz and 960 - 1215 MHz will no longer be required as the global database of frequencies included in the FF would provide an up-to-date status of frequencies assigned or used by States/Administrations.	Follow-up: ☐Required from States
When: 27-Nov-24	Status: Adopted by PIRG
Who: ☒Sub groups ☐APAC States ☐ICAO APAC RO ☐ICAO HQ ☒Other: SRWG	

3.4.18 APANPIRG/35 noted that the SRWG/8 adopted the example forms for GNSS RFI reporting to States/Administrations through the Decision **SRWG/8/5** – *GNSS Interference Reporting Form for APAC.* Information about the **Conclusion SRWG/8/6** - *APAC Regional Aeronautical Radio Frequency Management Guidance Material Edition 1.1* and the **Circular 360** *Guidance on Safeguarding Measures to Protect Radio Altimeters from Potential Harmful Interference* published under the authority of the Secretary-General was noted. The official publication was available at the ICAO store in digital or printed format for USD 33.

Navigation

Outcomes of PBNICG/11 Meeting

3.4.19 APANPIRG/35 noted that by WP/07 in the PBNICG/11, Australia presented an overview of issues encountered when implementing RNP separation standards across FIR boundaries within the framework of APAC plans. The PBNICG/11 requested CNS SG to share the paper with ATM SG to deliberate on the issues raised in the paper and to provide guidance to review the application of RNP separation within Doc 4444 PANS-ATM to include transition from RNP routes or airspace to other route or airspace to improve the seamless nature of boundaries. It was noted that IATA proposed simplified and standardised authorizations, FPL notations for PBN capabilities and their related interpretations in the PBNICG/11, for which the CNS SG/28 suggested sharing the information and concerns communicated by IATA, supported by PBNICG, with relevant HQ panels for further discussion.

3.4.20 APANPIRG/35 noted that after the completion of the tenure of the PBN officer seconded by India in May 2024, no secondee was available to continue the PBN Officer position in ICAO APAC RSO, Beijing, China. Therefore, until the secondment position is filled, the next PBNICG meeting would not be conducted due to the unavailability of Secretariat support. APANPIRG/35 encouraged States/Administrations to provide secondment support for this position.

Outcomes of GBAS/SBAS ITF/6 Meeting

3.4.21 APANPIRG/35 noted **Conclusion CNS SG/28/08** (GBAS-SBAS ITF 06/01) - *Guidance Document for Implementation of GBAS in the APAC Region* and **Conclusion CNS/SG/28/09 -** *Update of Flight Inspection Guidance Material (FIGM)* adopted by CNS SG/28.

ICAO Recommendations and Guidance on GNSS Vulnerability

3.4.22 APANPIRG/35 noted various ICAO's Recommendations and Guidance on Global Navigation Satellite System (GNSS) vulnerability, including the Resolution COM5/5 (WRC-23) and ongoing work in NSP and regional efforts in APAC.

GNSS RFI- IATA

3.4.23 APANPIRG/35 noted IATA's message that mitigating against GNSS RFI had become a critical risk management activity for airlines with few pragmatic options currently available to guarantee operational integrity. Considering increased levels of deliberate RFI, jamming and spoofing, IATA requested to ensure necessary actions were taken to reduce the extent of possible interference with essential GNSS-based navigation and timing services in the interests of the safety of civil aviation.

Surveillance

Outcomes of the SURICG/9 Meeting

3.4.24 APANPIRG/35 reviewed the outcomes of SURICG/8, including the Sixth Meeting of the Mode S Downlinked Aircraft Parameters Working Group (Mode S and DAPs WG/6) and the Third Meeting of the Surveillance Study Group (SURSG/3). It adopted the following Conclusion to amend the General Strategy on Assignment of and Migration to SI Code in the APAC Region.

<table>
<tr><td colspan="3">Conclusion APANPIRG/35/10 (Conclusion CNS/SG/28/10 (SURICG/9/1) Update of the General Strategy on Assignment of and Migration to SI Code in the APAC Region</td></tr>
<tr><td colspan="2">That:
1. The ICAO APAC Regional Office will manage the assignment of II codes 14 and 15 and their matching SI codes like the rest of the II and SI codes.
2. Revised General Strategy on Assignment of and Migration to SI Code provided in Appendix B is adopted.</td><td>Expected impact:
☐ Political / Global
☒ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td colspan="2">Why: A study by SURICG concluded that reservation of II codes 14 and 15 and their matching SI codes for research/test radars and military radars on a region-wide basis is not practicable in APAC.</td><td>Follow-up: ☐Required from States</td></tr>
<tr><td>When: 27-Nov-24</td><td colspan="2">Status: Adopted by PIRG</td></tr>
<tr><td colspan="3">Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other: XXX</td></tr>
</table>

3.4.25 APANPIRG/35 noted that the FF program had been enhanced to address the issue of overlapping coverage of Mode S radars in adjacent ICAO regions, with a new function to hide radar coordinates and allow the owner (the State) to unhide, modify, or add new coordinates. It was also noted that the CNS SG/28 adopted a Guideline on addressing inconsistencies of Aircraft Address (AD) and Target Identification (ID) between Surveillance Data and Flight Plan by **Conclusion CNS/SG/28/11** (SURICG/9/2) - Guideline on addressing inconsistencies of Aircraft Address (AD) and Target Identification (ID) between Surveillance Data and Flight Plan.

Automation

Outcome of ATMAS TF/5 Meeting and ATM Automation System related Issues

3.4.26 APANPIRG/35 noted the Seminar on Air Traffic Management Automation Systems and the Fifth Meeting of the APAC Air Traffic Management Automation System Task Force (APAC ATMAS TF/5) held in Chengdu, China. ATMAS TF/5 updated the table of the ATMAS Status in the APAC region, adopted the Conclusion ATMAS TF/05/01 - ATMAS IGD Edition 1.4 and formed an expert group within ATMAS TF to review the core AIDC messages in the IGD.

Regional implementation review and updates

Workshop on Seamless ANS Reporting Tool

3.4.27 APANPIRG/35 noted the outcomes of the ICAO Workshop on APAC Seamless ANS Reporting Tool held from 17 to 19 April 2024. The Meeting noted that the tool was new and under upgradation. It lacked several essential notification features. The corresponding team in ICAO APAC Regional Office was working with the ICAO HQ IT team to improve the tool's functionality. States/Administrations were encouraged to provide suggestion for improvement.

Guidance Document for achieving high resilience in Sustaining operations of Critical Aeronautical Infrastructure

3.4.28 APANPIRG/35 noted that Hong Kong China shared their offer to host the Workshop on *High Resilience in Sustaining Operations of Critical Aeronautical Infrastructure*.

Status of CNS Deficiencies

3.4.29 The CNS SG/28 reviewed the only outstanding issue on the list of Air Navigation Deficiencies in the CNS field, which was related to the unreliability of AFS communication between Afghanistan and Pakistan. APANPIRG/35 noted Pakistan had joined CRV and was actively coordinating with Afghanistan to restore the communication link. Pakistan shared the expectation of restoring the connection by the end of 2024.

Capacity Building, including Human Factors and Air Traffic Safety Electronics Personnel (ATSEPs) related Training

Supervisory and managerial Roles of ATSEP- IFATSEA

3.4.30 APANPIRG/35 noted that IFATSEA presented the human factors issues and their countermeasures regarding ATSEP while playing supervisory and managerial roles. CNS SG/28 requested Member States/Administrations to review the content of the new proposed chapter and provide their comments to the Secretariat of CNS SG for review. The Ad-hoc work group would present a revised chapter consolidating all comments for CNS SG/29 review and adoption.

Cybersecurity of CNS/ATM systems

3.4.31 APANPIRG/35 noted that the ICAO HQ team would provide a brief about the Manual on Information Security, Doc 10204, in the Air Navigation Cyber Resilience Workshop and Tabletop Exercise (TTX) to be held in Bangkok, Thailand, from 02 – 04 December 2024. Furthermore, the TFP would plan other activities to support States in understanding and implementing the recommendations defined in Doc 10204.

Other Business

CNS Points of Contact

3.4.32 CNS SG/28 reviewed the CNS Points of Contact of Member States and requested States/Administrations to update points of contact of CNS contingency planning and administrative support for effective and efficient coordination in the CNS aspect.

CNS Meeting Planning for 2025

3.4.33 APANPIRG/35 noted the tentative schedule for the CNS contributory bodies' meetings to be held in 2025 for meeting information and action. The CNS SG Secretariat would inform Member States/Administrations about the exact dates, mode and venue of the meetings while issuing invitation letters in due course.

Additional CNS events in 2024

3.4.34 APANPIRG/35 noted information about four additional events organized by the ICAO APAC Office besides regular CNS meetings in 2024. APANPIRG/35 noted key outcomes and significance of the ICAO APAC Flight Inspection and Procedure Validation (FIPV) Seminar held from 30 July to 1 August 2024, the ADS-B Implementation Workshop held from 14 to 16 August 2024, the Seminar on Frequency Use from 16 to 18 September 2024 and System-Wide Information Management (SWIM) Working Session from 6 to 8 November 2024 in Jakarta, Indonesia. It was noted that Cybersecurity TTX would be organized from 2 to 4 December 2024 at ICAO APAC Office, Bangkok, Thailand.

Feasibility Study and Trial of Using Drone to Enhance Efficiency in Flight Inspections at the Hong Kong International Airport (WP/21)

3.4.35 Hong Kong China shared information about their initiative supported by the Flight Inspection Center of Civil Aviation Administration of China (CAAC FIC) in exploring use of drone technology to carry out part of flight inspections at the Hong Kong International Airport (HKIA). Hong Kong China informed about two trials conducted at the HKIA in August 2023 and May 2024 with support of CAAC FIC. It was added that the trials showcased the utilisation of drones for part of flight inspection on navigational aids be more efficient in deployment with increased flexibility in flight maneuvers, and reduced carbon emissions. In addition, during unpredictable weather conditions, drones demonstrated their versatility by quickly adapting to the limited time window and effectively executing the mission.

3.4.36 Hong Kong China informed that based on the successful experience of the two trials, HKCAD would continue to collaborate with the CAAC FIC and relevant stakeholders to conduct further studies on drone utilisation to carry out part of the flight inspection, complying with the relevant standards and requirements. HKCAD would also closely monitor the development of relevant ICAO standards and guidelines to leverage the benefits of drones in conducting flight inspections with greater efficiency and flexibility.

The ICAO Provisions in Various Annexes and the Procedures for Air Navigation Services (PANS) Concerning FF-ICE Services and SWIM- Applicable From 28 November 2024 (WP/22)

3.4.37 The Secretariat shared information about the amendments of the ICAO provisions in various Annexes and the Procedures for Air Navigation Services (PANS) concerning the initial implementation of the flight and flow information for a collaborative environment (FF-ICE) services and SWIM, applicable from 28 November 2024 and relevant recommendations from AN-Conf/14. The Meeting recommended that States/Administrations implement the minimum set of FF-ICE services as soon as possible following the ICAO provisions.

3.4.38 In response to questions about the interrelationship of FF-ICE/R1 services applicability date, Conclusion APANPIRG/33/09 to set the Asia/Pacific SWIM implementation timeframe between 2024 and 2030, and Conclusion APANPIRG/35/4 (ATM/SG/12-3): *Agree on the adoption of FIXM Ver. 4.3.0 in the Asia Pacific Region as the standard format*, the SWIM TF Co-Chair explained detailed information about the context of the selection of respective timelines and other relevant information. In

particular, it was clarified that (*i*) as SWIM is an enabler for FF-ICE, the target Asia/Pacific SWIM implementation timeframe was set to 2030 to provide an ample time for operational test of FF-ICE/R1 services before the cessation of ICAO 2012 flight plan by 2034 as per AN-Conf/14 Recommendation 3.2/2, and (*ii*) the timeline specified in Conclusion APANPIRG/35/4 (ATM/SG/12-3) was to support State/Organization, who was in a position to do so, in implementing cross-border ATFM information exchange and FF-ICE/R1 services implementation as soon as practicable.

3.4.39 CNS SG identified the following challenges in the CNS field, which would be the primary area of focus for CNS SG in 2025:

1. Support PSIDS for CRV Implementation
2. New CRV Contract management process
3. Supporting APAC States/Administrations for FF-ICE R1 and SWIM Implementation
4. Supporting APAC States/Administrations in mitigating challenges associated with GNSS RFI/spoofing incidences.

3.4.40 ICAO APAC Office would plan and execute various activities/events/initiatives related to these key focus areas to assist States/Administrations in effectively implementing ICAO SARPs and enhancing capacity and efficiency across the region.

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Agenda Item 3: Performance Framework for Regional Air Navigation Planning and Implementation

3.5 MET

Meteorology Sub-Group (MET SG/28) Report (WP/13)

Introduction

3.5.1 The Meteorology Sub-Group held its 28th meeting (MET SG/28) in Bangkok, Thailand, from July 8-12, 2024. MET SG/28 reviewed progress on its work plan and activities of its working groups: the Meteorological Information Exchange Working Group (MET/IE WG) and the Meteorological Requirements Working Group (MET/R WG). The full report is available on the ICAO Asia/Pacific Office website.

Additional support for ICAO Meteorological Secretariat

3.5.2 The ICAO Meteorological Secretariat faced capacity issues for several years, and the need for a timely resolution was reiterated. ICAO's attempts to second an Aviation Meteorological Officer had been unsuccessful. MET SG/28 requested ICAO to review the minimum requirements for the support officer role and consider the following options: seconding an administrative capability instead of an Aviation Meteorological Officer, allowing the secondee to work remotely with initial training in Bangkok, and/or seeking additional administrative support within ICAO. Given the above, APANPIRG/35 adopted the following Decision:

Decision APANPIRG/35/11 – Additional Secretariat Support	
What: That, the APANPIRG request ICAO seek additional support for the ICAO RO Met through: a) secondment of an administration resource; b) updating the role location requirements allowing the secondee to work remotely to ICAO APAC Office (i.e. in their home State); and/or c) seeking additional administration support within ICAO.	Expected impact: ☐ Political / Global ☐ Inter-Regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: For several years, MET SG and its contributing bodies, have reported concerns with the capacity of MET Secretariat to contribute to MET SG effectiveness.	Follow-up: ☐ Required from States
When: 27 November 2024	Status: Adopted by PIRG
Who: ☐ Sub Groups ☐ RASG-APAC ☐APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other:	

IWXXM-specific monitoring statistics and implementation status

3.5.3 MET SG/28 supported the proposal to include IWXXM in identifying and reporting air navigation deficiencies, aligning with APANPIRG/34 recommendations. It also agreed to revise performance indices to focus on availability and timeliness, setting a 95% threshold for identifying deficiencies.

3.5.4 MET SG/28 adopted a conclusion to review the IWXXM implementation status in the APAC Region, requiring updates on AMHS capabilities, IWXXM information availability, and operational exchange commencement (Conclusion MET SG/28-03: Review of APAC Region IWXXM Implementation Status/ Readiness). CNS SG/28 agreed to handle AMHS-related items, while MET SG would manage the rest.

3.5.5 Inter-regional IWXXM exchange would require at least one capable route, with two routes preferred for reliability. Currently, operational exchange existed only between APAC and EUR.

3.5.6 To expedite IWXXM implementation, a group of experts would develop a checklist to facilitate operational exchange, which would be included in ICAO regional educational materials.

APANPIRG Air Navigation Deficiencies

3.5.7 MET SG/28 did not consider specific proposals for air navigation deficiencies but noted that the Pacific Islands Aviation Weather Services (PIAWS) Panel was prioritizing efforts to resolve deficiencies in Pacific States. MET SG/28 reiterated the need for technical assistance to help Pacific Small Island Developing States (PSIDS) understand and determine requirements for WAFS forecasts to address deficiencies AP-MET-18, AP-MET-19, and AP-MET-20.

3.5.8 MET SG/28 reviewed the 2023 Annual SIGMET test and November 2023 OPMET Monitoring Activity results, requesting the MET SG Secretariat to prepare documentation for APANPIRG to assess SIGMET service deficiencies in Afghanistan. The MET Deficiencies ad hoc group suggested using operational SIGMET, VAA, TCA IWXXM, METAR, and TAF analyses to identify deficiencies, proposing updates to the MET Deficiency Identification Guide, which MET SG/28 adopted (Decision MET SG/28-05: Update to MET Deficiency Identification Guide).

Updates to the ICAO APAC ROBEX Handbook

3.5.9 MET SG/28 noted proposals from MET/IE WG/22 to update the ROBEX Handbook for better dissemination of Volcano Observatory Notice to Aviation (VONA) and clearer guidance on ROCs' responsibilities for IWXXM formatted OPMET data distribution. MET SG/28 also reviewed updates to monitor METAR and TAF availability and timeliness, setting a 95% threshold for deficiencies.

3.5.10 MET SG/28 supported updates to the ROBEX Handbook for VONA dissemination, METNO guidance, and ROCs' responsibilities. MET SG/28 requested coordination with Thailand and MET/IE WG Chairperson for the November 2024 Monitoring activity and agreed to publish the updated ROBEX Handbook (Decision MET SG/28-09: Updates to APAC ROBEX Handbook).

Updates to Regional SIGMET Guide

3.5.11 MET SG/28 reviewed and supported proposed updates to the Asia/Pacific Regional SIGMET Guide, including guidance on volcanic ash crossing FIR boundaries and coordinating SIGMET for thunderstorms. MET SG/28 also reviewed updates to the APAC Regional SIGMET Test Procedures to address issues with IWXXM form dissemination and requested these updates be included in the 2024 annual SIGMET tests.

3.5.12 Additionally, MET SG/28 supported a proposal to provide additional guidance for VA SIGMET issuance and approved the inclusion of relevant examples in the SIGMET Guide. MET SG/28 agreed to publish the updated Regional SIGMET Guide (Decision MET SG/28-10: Updates to Regional SIGMET Guide).

Draft Guidance for Meteorological Exercises METEX Advisory Group

3.5.13 With the replacement of the VOLCEX Steering Group by the MET Exercise Advisory Group, MET SG/28 reviewed and supported new guidance for planning meteorological scenario-based exercises. MET SG/28 also proposed updates to the MET SG Work Plan to reflect the activities of the new advisory group. MET SG/28 adopted a decision to publish this guidance (Decision MET SG/28-06: Meteorological Exercise Guidance Material).

Guidance for Tailored Meteorological Information & Services to Support Air Traffic Management (ATM) Operations

3.5.14 MET SG/28 reviewed and supported the proposed updates to the APAC Regional Guidance for Tailored Meteorological Information and Services to Support ATM Operations, which included an implementation example from China. MET SG/28 agreed to update and publish the guidance material (Decision MET SG/28-07: Update the Regional Guidance for Tailored Meteorological Information and Services to Support ATM Operations).

Asia/Pacific Use Cases & User Requirements for SWIM-based MET Information Services Supporting Air Traffic Flow Management (ATFM)

3.5.15 MET SG/28 reviewed and supported proposed updates to the reference document on APAC Use Cases and User Requirements for SWIM-based MET Information Services supporting ATFM, developed by the MET/R WG ad hoc group. These updates were based on reviews by ATFM/SG/14, MET/R WG/13, and SWIM TF/9. MET SG/28 agreed to publish the document with minor editorial edits (Decision MET SG/28-08: Publishing the document on APAC Use Cases and User Requirements for SWIM-based Meteorological Information Services Supporting ATFM).

Revised MET SG Work Plan

3.5.16 Following the dissolution of MET/S WG, MET SG/28 reviewed four outstanding actions from MET/S WG/13. Based on advice from New Zealand and VAACs Darwin and Wellington, MET SG/28 decided to close two actions (MET/S WG/13-01 and MET/S WG/11-01) and to retain two actions (MET/S WG/13-03 and MET/S WG/10-21) for follow-up by MET SG. MET SG/28 adopted a decision to add these outstanding actions to the MET SG action list (Decision MET SG/28-04: Addition of MET/S WG actions to MET SG action list).

Challenges and Future Work Plan

3.5.17 The Meeting noted that the MET SG would continue to support the APANPIRG work plan with a focus on the following areas:

1. Facilitate monitoring of MET information disseminated in TAC and IWXXM form to support States with the implementation of MET service and the identification and resolution of air navigation deficiencies

2. Implementation of the connections needed to support exchange of MET information in IWXXM form, intra- and inter-regionally.

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Agenda Item 3: Performance Framework for Regional Air Navigation Planning and Implementation

3.6 Other Air Navigation Matters

ICAO Pacific Small Island Developing States Liaison Office Progress and Planned Activities 2024/2025 (WP/23)

3.6.1 The Secretariat informed the Meeting of the work of the Pacific Small Island Developing States (PSIDS) Liaison Office, and the support provided by partner States, acknowledging with thanks the substantial voluntary contributions and in-kind support provided by Australia, Singapore, United States, Japan, Republic of Korea and Saudi Arabia for ICAO-coordinated, PSIDS-focused activities. States were encouraged to continue to provide voluntary contributions and, importantly, in-kind support for PSIDS-related activities, through the following Conclusion adopted by the Meeting:

<table>
<tr><th colspan="3">Conclusion APANPIRG/35/12: Regulatory and Service Provider Personnel Support for ICAO PSIDS-Focused Activities</th></tr>
<tr><td colspan="2">What:
That, noting Pacific Small Island Developing States' (PSIDS') needs for regulatory and technical training, on-the-job training, and appropriately qualified experts to support ICAO-coordinated activities and projects, States are urged to provide:
• Regulatory and technical training opportunities in air navigation fields;
• On-the-job training opportunities; and
• Appropriately qualified personnel for temporary deployments or short-to-medium term secondments;
to support PSIDS-focused activities and projects.</td><td>Expected impact:
☒ Political / Global
☐ Inter-regional
☒ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: To provide training opportunities and the availability of appropriately qualified experts to support improved aviation outcomes for PSIDS.</td><td colspan="2">Follow-up: ☒Required from States</td></tr>
<tr><td>When: 27-Nov-2024</td><td colspan="2">Status: Adopted by PIRG</td></tr>
<tr><td colspan="3">Who: ☐Sub groups ☒APAC States ☒ICAO APAC RO ☒ICAO HQ ☐Other:</td></tr>
</table>

3.6.2 Japan, Singapore and United States expressed their continued support for PSIDS, and the PSIDS Liaison Office.

3.6.3 The Meeting was further informed that, while traffic density managed by PSIDS was generally lower than in other parts of the Asia/Pacific Region, there were several fields of air navigation that were critical to current and future air connectivity and safety. Information was provided on key areas of current interest including aerodrome pavement degradation, the status and future of the Aeronautical Telecommunications Network (ATN) in the Pacific, and on the current PSIDS Search and Rescue (SAR) Capability Improvement project. The Meeting was reminded of ***Conclusions APANPIRG/34/4: ICAO Asia-Pacific Aerodrome Assistance Go-Team Methodology*** and ***APANPIRG/34/5: ICAO Asia/Pacific Wildlife Hazard Management (WHM) Go-Team Methodology***. ICAO would be working to coordinate Go-Team missions to PSIDS.

3.6.4 Noting that only two of the 13 ICAO-member PSIDS were able to attend APANPIRG/35, the Meeting was informed that an online meeting of ICAO and PSIDS would be held in Q1 2025 to brief them on APANPIRG/35 outcomes, and to discuss planning for implementation of relevant regional initiatives and the development of corrective action plans for air navigation deficiencies.

Harmonizing Global Standards for the Integration of Unmanned Aircraft and its New Entrants into Airspace Operations (WP/24)

3.6.5 The rapid advancement of Unmanned Aircraft Systems (UAS) technology offered opportunities to revolutionise air transportation, with the potential to alleviate congestion, reduce emissions, and open new possibilities for urban mobility and logistics. However, the integration of UAS, including Advanced Air Mobility (AAM) and drone deliveries, into existing airspace systems would pose challenges related to regulatory framework and compliance, safety and privacy concerns, airspace management, infrastructure development, public acceptance, and environmental impacts.

3.6.6 Indonesia highlighted the importance of a harmonised global standards, thus encouraged APAC States and Administrations to support ICAO's efforts in developing comprehensive guidance documents; and promote sharing of best practices and lesson learned for integrating UAS into airspace operations.

3.6.7 Singapore supported the call for greater harmonisation of global standards for AAM and highlighted its ongoing work with Indonesia and APAC States in developing a regulatory toolkit. The reference materials would be shared with the ICAO AAM Study Group for consideration when ready.

3.6.8 The Secretariat clarified the status of the *Asia/Pacific Regional Guidance for the Regulation and Safe Operation of UAS within National Airspace*, as mentioned in the working paper. The guidance document had been removed from the ICAO APAC Regional Office eDocument webpage due to divergence between global and regional guidance. States and Administrations were advised to visit the ICAO UAS Toolkit webpage (https://www.icao.int/safety/UA/UASToolkit/Pages/default.aspx) for UAS operational guidance.

3.6.9 The Secretariat also provided information about the Second Webinar on Unmanned Aircraft Systems – Remotely Piloted Aircraft Systems (UAS/RPAS) Implementation/Regulation for the APAC Region, to be held via video teleconference, from 11 to 12 December 2024. Additional information about the webinar could be found at the ICAO APAC Regional Office Meetings webpage.

Support for the Sustainable Workforce Development (IP/04)

3.6.10 This paper introduced Japan Civil Aviation Bureau's collaboration with Japan Intenational Cooperation Agency (JICA) for activities related to ANS domain including technical cooperation project, the GNSS Implementation Plan Training in ASEAN2.0 and capacity developing project in PSIDS.

3.6.11 Japan emphasised the importance of inter-regional/States cooperation in APAC region and encourages States/Administrations to share best practice for support in ANS field.

SSCs on Oversight of Instrument Flight Procedures (PPT/04)

3.6.12 The Secretariat highlighted the Significant Safety Concerns (SSCs) that were raised in other parts of the world, which were related to publications and the associated oversight/regulatory inadequacies of Instrument Flight Procedures (IFPs). The presentation covered the common shortcomings that lead to SSCs and available ICAO resources from the recent workshops organised in Thailand and Fiji.

Aviation CO_2 Emissions Reduction Activities (PPT/05)

3.6.13 ICAO's strategic objective on Environmental Protection aims to minimise the adverse effects of global civil aviation on the environment, supporting 14 out of the 17 UN Sustainable Development Goals. Key goals include reducing aviation greenhouse gas emissions. The 41st ICAO Assembly 2022 adopted resolutions on Climate Change (A41-21) and the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA, A41-22). These resolutions emphasised the importance of air traffic management, technology, operations, and fuel-related measures in reducing CO_2 emissions and encouraged collaboration among States/Administrations and stakeholders.

3.6.14 The Assembly also set a long-term global aspirational goal (LTAG) for international aviation to achieve net-zero carbon emissions by 2050, aligning with the UNFCCC Paris Agreement's temperature goal. Achieving this goal would require a comprehensive approach, including technology, sustainable aviation fuels, operational improvements, market-based measures, and evolving Standards and Recommended Practices (SARPs).

3.6.15 Sustainable Aviation Fuels (SAF) and Lower Carbon Aviation Fuels (LCAF) were expected to play the largest role, but their current production was very low at just 0.2% of all aviation fuel use. Urgent global action was needed to scale up these cleaner aviation energies. In November 2023, the Third ICAO Conference on Aviation and Alternative Fuels (CAAF/3) resulted in the ICAO Global Framework for SAF, LCAF, and other aviation cleaner energies, aimed to reduce CO_2 emissions in international aviation by 5% to 8% by 2030.

3.6.16 ICAO's State Action Plans (SAP) initiative provided Member States with the tools and capacity to develop long-term climate change strategies for the international aviation sector, involving all relevant national stakeholders. These plans, which should be updated at least every three years, included emissions mitigation measures such as aircraft technology, operational improvements, sustainable aviation fuels (SAF), and market-based measures. Examples from the APAC Region would include more fuel-efficient aircraft, upgraded avionics, modernised ATM infrastructure, and best practices in operations. Recent State Action Plans, like Singapore's Sustainable Air Hub Blueprint, outlined and quantified the expected results of activities to achieve net-zero aviation CO_2 emissions by 2050.

3.6.17 The ICAO Council identified seven priority focus areas (PFAs) for its Business Plan activities, including the LTAG. For 2023-2025, the LTAG PFA would involve monitoring progress, enhancing policy and regulatory frameworks, providing implementation support, and facilitating financing for clean energy and decarbonisation projects.

3.6.18 The Fourteenth Air Navigation Conference (AN-Conf/14) recommended that the PIRGs consider incorporating LTAG-supporting activities into their work programmes. These activities would align with APANPIRG's existing efforts in aviation safety, capacity, and efficiency. The LTAG's increasing priority in ICAO’s work offered an opportunity to integrate environmental considerations into APANPIRG's work and further support the LTAG's achievement

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Agenda Item 4: Regional Air Navigation Deficiencies

Status of Air Navigation Deficiencies in the Asia/PAC Region (WP/14)

4.1 Under the Terms of Reference, the APANPIRG had been regularly reviewing the status of implementation of the Asia Pacific Air Navigation Plan through its subgroups to identify and address the air navigation deficiencies according to the uniform methodology approved by the ICAO Council. In meeting this objective, APANPIRG facilitated the development and implementation of action plans by States/Administrations to resolve identified deficiencies, where necessary.

Deficiencies in the ATM and Airspace Safety Fields

4.2 The Meeting noted the List of Air Navigation Deficiencies in the ATM and Airspace Safety fields which was reviewed and updated by ATM/SG/12 (23 – 27 September 2024) and RASMAG/29 (19 – 22 August 2024) based on information provided by the concerned States. The Meeting also acknowledged the resolution of existing deficiencies and addition of the new deficiencies to the List, as follows:

a) Removal of Deficiency:

Non-compliance with Aeronautical Information Publication (AIP) format standards of ICAO Annex 15

- Nauru

Non-implementation of AIS Quality Management System as required in Annex 15, Chapter 3

- Philippines
- Sri Lanka

Non-implementation of the Asia/Pacific Air Navigation Plan Vol II, Part I, Section 3 – Specific Regional Requirements for implementation of the Asia/Pacific Search and Rescue (SAR) Plan

- Malaysia
- Philippines

Long Term Height Monitoring requirement

- Mongolia (Remaining monitoring burden of 18%, RASMAG/29).
- New Zealand (Remaining monitoring burden of 11%, RASMAG/29).
- Pakistan (Remaining monitoring burden of 27%, RASMAG/29).
- Papua New Guinea (Remaining monitoring burden of 15%, RASMAG/29).
- Solomon Islands (Remaining monitoring burden of 0%, RASMAG/29).

ATS Datalink Deficiencies

- Maldives: It was confirmed that Maldives had disabled the ADS-C function from the ATM system due to an application issue, and CPDLC/HF is used beyond VHF coverage.

b) Add new Deficiency:

Long Term Height Monitoring requirement – remaining burden more than 30%

- India (Remaining monitoring burden of 48%, RASMAG/29).
- Philippines (Remaining monitoring burden of 40%, RASMAG/29).

4.3 **Appendix A** to the Report on Agenda Item 4 presented the updated List of Air Navigation Deficiencies in the ATM and Airspace Safety fields.

Deficiencies in the AOP Field

4.4 The Meeting noted the List of Air Navigation Deficiencies in the AOP field which was reviewed and updated by AOP/SG/8 (15 – 19 July 2024) based on information provided by Bangladesh, China, Nepal, Thailand, Timor-Leste, and Viet Nam.

4.5 The Meeting acknowledged the resolution of deficiencies related to the certification of aerodromes [Ninoy Aquino International Airport (Philippines), and publication of the status of certification of aerodromes [China, Samoa, Solomon Island, Tonga, Vanuatu and Viet Nam)] by the respective States and agreed to remove them from the APANPIRG Air Navigation Deficiencies List.

4.6 The four aerodromes used for international operations in India were added in the list of the Air Navigation Deficiencies in AOP field based on the AD 1.3 and 1.5 of eAIP India effective from 13 June 2024 as they were not yet certified.

4.7 **Appendix B** to the Report on Agenda Item 4 presented the updated List of Air Navigation Deficiencies in the AOP field.

Deficiencies in the CNS Field

4.8 The Twenty-Ninth Meeting of the CNS Sub-group of APANPIRG (CNS/SG/29, 01 – 05 July 2025) did not identify any new deficiencies in the CNS fields.

4.9 **Appendix C** to the Report on Agenda Item 4 presented the updated List of Air Navigation Deficiencies in the CNS field.

Deficiencies in the MET Field

4.10 The Twenty-Eighth Meeting of the Meteorology Sub-group (MET SG/28), from 08 – 12 July 2024, reviewed the APANPIRG List of Air Navigation Deficiencies in the MET field, which included 12 (open) deficiencies concerning MET facilities and services provided in seven APAC States, as summarised in the Table below:

Table 4 - 1: APANPIRG Air Navigation Deficiencies in the MET Field

MET facilities and services	Asia/Pacific States	Def. ID	Status
Aerodrome meteorological observations or reports	Kiribati Nauru	AP-MET-02 AP-MET-21	open open
Meteorological Watch Office (MWO) or SIGMET information	Democratic People's Republic of Korea Nauru Nepal Papua New Guinea Papua New Guinea	AP-MET-16 AP-MET-24 AP-MET-14 AP-MET-08 AP-MET-22	open open open open open
Volcanic ash/activity information	Papua New Guinea Tonga	AP-MET-04 AP-MET-17	open open
WAFS forecasts or flight briefings	Kiribati Nauru Solomon Islands	AP-MET-18 AP-MET-19 AP-MET-20	open open open

4.11 Further details are provided in the notes section of the APANPIRG Air Navigation Deficiencies Reporting Form in **Appendix D** to the Report on Agenda Item 4.

4.12 Although States discussed ongoing efforts to resolve Air Navigation Deficiencies and planned actions to support the identification and reporting of air navigation deficiencies, MET SG/28 did not formulate any specific proposals for APANPIRG/35 to consider regarding identifying new or rectifying existing air navigation deficiencies in the MET field.

Update of Information in APANPIRG Air Navigation Deficiencies Database

4.13 The Meeting reviewed the Air Navigation Deficiencies as presented in **Appendices A to D** to the Report on Agenda Item 4**.** It credited States, including China, Malaysia, Maldives, Mongolia, Nauru, New Zealand, Pakistan, Papua New Guinea, Philippines, Samoa, Solomon Islands, Sri Lanka, Tonga, Vanuatu and Viet Nam, for significant progress in resolving their listed deficiencies. In addition, the Meeting requested that States, including India and Philippines, expeditiously resolve newly identified deficiencies. The Meeting endorsed the current list of APANPIRG Air Navigation Deficiencies and adopted the following Conclusion:

<table>
<tr><td colspan="3">Conclusion APANPIRG/35/13 - Update of information in APANPIRG Air Navigation Deficiencies Reporting Form</td></tr>
<tr><td colspan="2">That,
1) ICAO to update the APANPIRG Air Navigation Deficiency Database to reflect the information as presented in Appendices A - D to the to the Report on Agenda Item 4.

2) States/Administrations be urged to:
a) establish action plan with defined target dates for resolution of deficiencies, update the status on the corrective action taken and report the progress to the ICAO APAC Office in the Reporting Form of Air Navigation Deficiencies identified in ATM and Airspace Safety, AOP, CNS and MET fields as detailed in Appendices A to D to the Report on Agenda Item 4; and

b) update contact details of a Focal Point (Appendix E) to coordinate actions to resolve the Deficiencies.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☒ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: Official reports providing full details of the corrective actions taken where deficiencies have been resolved be reported to the APANPIRG Sub-groups in 2025.</td><td colspan="2">Follow-up: ☒Required from States</td></tr>
<tr><td>When: 27-Nov-24</td><td colspan="2">Status: Adopted by PIRG</td></tr>
<tr><td colspan="3">Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:</td></tr>
</table>

4.14 APANPIRG Chairperson encouraged attendees to inform their respective Director Generals about the identified deficiencies and suggested that the resolution of the deficiencies be given priority. The Chairperson recommended conducting a separate virtual meeting with the Director Generals in January 2025 to specifically discuss these deficiencies.

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Agenda Item 5: Future Work Programme

APANPIRG Work Programme 2025-2026 (WP/15)

5.1 The Meeting agreed with the tentative schedule of meetings for 2025 and 2026, placed in **Appendix** to the Report on Agenda Item 5, and noted that a formal letter of invitation would normally be issued by the Secretariat at least 3 months prior to each event, as well as posted on ICAO APAC website.

5.2 The Meeting also agreed that the next APANPIRG Meeting would be conducted in-person and the Chairperson urged States/Administrations to attend APANPIRG Subgroups and Contributory Bodies meetings in-person.

5.3 Hong Kong China indicated their intention to host APANPIRG/36 and RASG-APAC/15 in the first week of December 2025. Confirmation of the acceptance would be announced after coordination with RASG-APAC.

5.4 CANSO informed the Meeting that CANSO Airspace APAC and relevant conference would be organised in Hong Kong China on 8-11December 2025.

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Appendix

2025 – MEETINGS, WORKSHOPS AND SEMINARS		
Meetings	**Tentative Dates**	**Venue**
First Working Session of System Wide Information Management (SWIM) Implementation Pioneer Group (SIPG)	14 – 17 January	Bangkok, Thailand
AP-ADO/TF/6 and Workshop on Transposition of Annex 14 SARPs into National Aerodrome Standards	17 – 21 February	Langkawi, Malaysia
WRC27 Workshop	24 – 25 February	Bangkok, Thailand
FSMP-WG/20	26 February – 7 March	Bangkok, Thailand
CRV OG/13	03 – 08 March	Wellington, New Zealand
SAIOSEACG/4	10 – 14 March	Bangkok Thailand
ACSICG/12	24 – 28 March	Bangkok, Thailand
MET/IE WG/23	24 – 28 March	Bangkok, Thailand
SURSG/5	To be confirmed	N/A
AP-AA/WG/7	8 – 11 April	Bangkok, Thailand
SURICG/10	22 – 25 April	USA (Tentative)
GNSS RFI Workshop	April	New Delhi, India (Tentative)
ATFM/SG/15	April	Bangkok, Thailand
MET/R WG/14	April / May	Bangkok, Thailand
AP-WHM/WG/7	5 – 9 May	Bangkok, Thailand
SRWG/9	7 – 9 May	Bangkok, Thailand
GBAS/SBAS ITF/7	14 – 16 May	Bangkok, Thailand
SWIM TF/10	19 – 23 May	Bangkok, Thailand
Second Working Session of System Wide Information Management (SWIM) Implementation Pioneer Group (SIPG)	26 – 30 May	Bangkok, Thailand
APSAR/WG/10	May	Siem Reap, Cambodia
ATMAS TF/6	2 – 5 June	Singapore (Tentative)
AAITF/20	June	Tokyo, Japan
FIT-Asia/15	June	Bangkok, Thailand
AOP/SG/9	30 June – 4 July	Bangkok, Thailand
RASMAG/30	14 – 17 July	Bangkok, Thailand
60th DGCA Conference	28 July – 1 August	Sendai, Japan
MET/SG/29	July	Bangkok, Thailand
SCSTFRG/13	July	TBD
ATM/SG/13	25 – 29 August	Singapore, Singapore
PIRG/RASG Coordination Meeting	28 – 29 August	Bangkok, Thailand
CNS SG/29	1 – 5 September	Bangkok, Thailand
CRV OG/14	October	Bangkok, Thailand
APANPIRG/36 and RASG-APAC/15	24 – 28 November	Bangkok, Thailand
BOBTFRG/7	November	Bangkok, Thailand
SWIM and CRV Joint Meeting to review new CRV RFI responses	November/ December	USA (Tentative)

(Note: Acronyms provided at the end of Appendix)

2026 – MEETINGS, WORKSHOPS AND SEMINARS		
Meetings	**Tentative Dates**	**Venue**
AP-ADO/TF/7	January	Bangkok, Thailand
AP-AAWG/8	March	Bangkok, Thailand
MET/IE WG/24	March	Bangkok, Thailand
SURSG/5	March	Bangkok, Thailand
SAIOSEACG/5	March	Bangkok, Thailand
ATFM/SG/16	April	Bangkok, Thailand
ACSICG/13	April	Bangkok, Thailand
SRWG/10	May	Bangkok, Thailand
MET/R WG/15	April / May	Bangkok, Thailand
GBAS/SBAS ITF/8	May	Bangkok, Thailand
SWIM TF/11	May	Bangkok, Thailand
APSAR/WG/11	May	Bangkok, Thailand
AP-WHM/WG/8	May	Bangkok, Thailand
SURICG/11	June	Bangkok, Thailand
ATMAS TF/7	June	Bangkok, Thailand
AAITF/21	June	Bangkok, Thailand
FIT-Asia/16	June / July	Bangkok, Thailand
AOP/SG/10	June / July	Bangkok, Thailand
CRV OG/15	July	Bangkok, Thailand
MET/SG/30	July	Bangkok, Thailand
SCSTFRG/14	July	Bangkok, Thailand
PIRG/RASG Coordination Meeting	July / August	Bangkok, Thailand
RASMAG/31	July / August	Bangkok, Thailand
ATM/SG/14	August / September	Bangkok, Thailand
CNS SG/30	September	Bangkok, Thailand
BOBTFRG/8	November	TBD
APANPIRG/37 and RASG-APAC/16	November / December	TBD
61st DGCA Conference	TBD	Malaysia

ACRONYMS

AAITF	Aeronautical Information Services – Aeronautical Information Management Implémentation Task Force
ACSICG	Aeronautical Communication Services (ACS) Implementation Co-ordination Group
AOP/SG	Aerodrome Operations and Planning Sub Group
AP-AA/WG	Asia/Pacific Aerodrome Assistance Working Group
APAC AIG	Asia Pacific Accident Investigation Group
AP-ADO/TF	Asia/Pacific Aerodrome Design and Operations Task Force
APANPIRG	Asia/Pacific Air Navigation Planning and Implementation Group
APSARWG	Asia Pacific Search and Rescue Work Group
APUASTF	Asia Pacific Unmanned Aircraft System Task Force
AP-WHM/WG	Asia/Pacific Wildlife Hazard Management Working Group
ATFM/SG	Air Traffic Flow Management Steering Group
ATM/SG	Air Traffic Management Sub Group
ATMAS TF	ATM Automation System Task Force
BOBTFRG	Bay of Bangel Traffic Flow Review Group
CNS/SG	CNS Sub-Group of APANPIRG
CRV OG	Common Regional Virtual Private Network (VPN) Operations Group
CSMMTC – MCIS	CAA Senior and Middle Managers Training Course (CSMMTC) on Managing Compliance with ICAO SARPs (MCIS)
FIT-Asia	FANS Interoperability Team-Asia
FPP SCM	Flight Procedure Programme Steering Committee
GBAS/SBAS ITF	GBAS and SBAS Implementation Task Force
ISTF	Ionospheric Study Task Force
MET/IE WG	Meteorological Information Exchange Working Group (of the MET/SG)
MET/R WG	Meteorological Requirements Working Group (of the MET/SG)
MET/SG	Meteorology Sub-Group of APANPIRG
PBNICG	Performance Based Navigation Implementation and Coordination Group
PSIDS	Pacific Small Islands Developing States – Aviation Needs Analysis
RACP/TF	Regional ATM Contingency Planning Task Force
RASMAG	Regional Airspace Monitoring Advisory Group of APANPIRG
SAIOSEACG	South Asia, Indian Ocean and Southeast Asia ATM Coordination Group
SCSTFRG	South China Sea Traffic Flow Review Group
SEA/BOB ADS-B WG	South East Asia and Bay of Bengal Sub-regional ADS-B Implementation Working Group
SRWG	Spectrum Review Working Group
SURICG	Surveillance Implementation Coordination Group
SURSG	Surveillance data sharing Study Group
SWIMTF	System Wide Information Management Task Force

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