



FINAL REPORT

THE THIRTY-THIRD MEETING OF THE ASIA/PACIFIC AIR NAVIGATION PLANNING AND IMPLEMENTATION REGIONAL GROUP (APANPIRG/33)

22 – 24 November 2022

Bali, Indonesia

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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Attachment 4 – Terms of Reference of APANPIRG

Attachment 5 – APANPIRG/33 Conclusions/Decisions – Action Plan

PART I – HISTORY OF THE MEETING

1.1 Introduction

1.1.1 The Thirty-third Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/33) was held at the Trans Resort Bali in Bali, Indonesia from 22 to 24 November 2022 as a hybrid event (in-person and virtual participation). The meeting was graciously hosted by Indonesia.

1.2 Attendance

1.2.1 The Meeting was attended by **326** participants from **30** Member States, **2** Special Administrative Regions of China, and **7** International Organizations (ACI, CANSO, IATA, ICAO, IFALPA, IFATSEA and PASO).

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

1.3 Opening of the Meeting

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

1.3.2 Mr. Kevin Shum, Deputy Secretary (Strategy, Sustainability & Technology) Ministry of Transport of Singapore and the Chairperson of APANPIRG, delivered the welcome remarks to the delegations.

1.3.3 Mr. Novie Riyanto R., Secretary General, Ministry of Transport, Indonesia delivered the welcome remarks to the delegates of APANPIRG/33.

1.4 Officers and Secretariat

1.4.1 Mr. Kevin Shum, Deputy Secretary (Strategy, Sustainability & Technology) Ministry of Transport and the Chairperson 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, Technical Officers from Air Navigation Bureau and Air Transport Bureau of ICAO Headquarters, and Regional Officers from ICAO APAC Office and Regional Sub-office.

1.5 Agenda of the Meeting

1.5.1 The meeting adopted the following Agenda:

Agenda Item 1A: Progress Update on Beijing Declaration Commitments

Agenda Item 1B: Follow-up on the Outcome of APANPIRG/32 Meeting

- 1B.1: Review of the action taken by the ANC/Council on the Report of APANPIRG/32
- 1B.2: Review status of implementation of APANPIRG/32 Conclusions and Decisions
- 1B.3: Review status of implementation of APANPIRG outstanding Conclusions and Decisions
- Agenda Item 1C: Update on 57th 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
- 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 24 November 2022, the meeting reviewed and adopted the draft report which has been finalized after incorporating comments received from States/Administrations and International Organisations.

1.10 Closing of the Meeting

1.10.1 The Chairman thanked Indonesia for hosting and the excellent arrangement of the APANPIRG/33 Meeting. The Chairman also thanked all delegates for their cooperation and active participation during the meeting and Chairpersons of the APANPIRG Subgroups and various Working Groups and the Secretariat for their contribution to progress the enhancement to air navigation in the region.

1.10.2 The Regional Director thanked Indonesia for hosting the APANPIRG/33 Meeting and the staff of DGCA Indonesia for the excellent support provided for the successful conduct of the Meeting. He also thanked all delegates who participated in-person and online for their active participation in the Meeting and Mr. Kevin Shum for his excellent leadership, contribution and guidance on APANPIRG's work.

1.10.3 Mrs. Maria Kristi, Advisor to the Minister for Safety and Connectivity, Indonesia, thanked all delegates for their active participation in the Meeting and ICAO for providing an opportunity for Indonesia to host the Meeting. She congratulated Mr. Kevin Shum for on his reelection as the Chairman of APANPIRG for the next term. She expressed that all participants had benefitted from this Meeting, and further emphasized the need for States to have a strong commitment for collaboration and cooperation among States/Administrations and aviation stakeholders to better the Civil Aviation System.

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List of Conclusions

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|-------------------------|----------|---|
| Conclusion 33/1 | – | Proposal for Amendment to Asia/Pacific ANP Volume I, Table AOP I-1 and ANP Volume II, Table AOP II-1 |
| Conclusion 33/2 | – | Publication of procedures for reporting of runway condition report and issuance of the SNOWTAM in AIP |
| Conclusion 33/3 | – | Assistance to APAC States that require assistance in AGA area including certification and surveillance of aerodromes |
| Conclusion 33/4 | – | State Action Plan for Establishment and Implementation of WHMP - Generic Template |
| Conclusion 33/5 | – | Provide clear direction on Doc 7030 Regional SUPPs publication requirements |
| Conclusion 33/6 | – | Revised Amendment of the Management Service Agreement for CRV project (RAS14801) |
| Conclusion 33/7 | – | Extension of CRV Contract for one year |
| Conclusion 33/9 | – | The Asia-Pacific SWIM Implementation Timeframe and inclusion of the Asia/Pacific SWIM Implementation in the Asia/Pacific Seamless ANS Plan |
| Conclusion 33/10 | – | Planning Principle for Aeronautical Frequency Bands of 108-117.975 MHz, 960-1215 MHz and 117.975-137 MHz |
| Conclusion 33/11 | – | Revised Surveillance Strategy for the APAC Region |
| Conclusion 33/12 | – | WAFS, SADIS and WIFS upgrades |
| Conclusion 33/13 | – | 0.25-degree WAFS hazard data |
| Conclusion 33/14 | – | Update of Information in APANPIRG Air Navigation Deficiencies Reporting Form |
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List of Decisions

Decision 33/8 – Harmonization of Timelines for SWIM-related Initiatives

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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 updates on Beijing Declaration Commitments proposing to review the current status of the APAC States' commitments in the field of Air Navigation Systems, 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 For example, small increase of overall progresses in Transition from AIS to AIM with Phase I increased to 55% from 54% in 2021, Phase II a little be improved by two percentages at 40% and Phase III increased to 13% from 12% in 2020.

1A.3 The meeting was informed about the progress of PBN implementation in APAC Region. It was noted that States should continue efforts towards greater PBN implementation to derive optimum benefits, which may result in reduction of operating costs due to probable rationalization of navigation aids.

1A.4 Progress in CRV implementation could be noted as three new States/Administrations, compared to last year, had implemented CRV, reaching now a total of 14. Besides, four more States had joined CRV, while installation was in progress.

1A.5 Regarding ADS-B implementation one more State compared to last year had installed ADS-B ground stations. The paper noted slow progress of sharing of ADS-B data among States and lack of a regional ADS-B mandate.

1A.6 The meeting was informed on the progress of Airport Collaborative Decision Making (ACDM) implementation. Information was also shared on the progress of implementation of Air Traffic Flow Management (ATFM) / Collaborative Decision Making (CDM) at high density airports and airspace (FIR) serving major traffic flows. The need for harmonization of sub-regional ATFM initiatives was emphasized.

1A.7 The meeting noted the progress achieved by many States/Administrations in the implementation of the Beijing Declaration's commitments and acknowledged that some States/Administrations need further assistance to achieve their commitments.

1A.8 The meeting encouraged States/Administrations to collaborate and rigorously work to expedite the achievements of the commitments of the Beijing Declaration. ICAO encouraged States to ensure the submission of correct data to the Regional Office for effective compliance monitoring.

1A.9 The Chair reminded the meeting of the forthcoming Ministerial Conference in 2023 and need for States and Administrations to strive for continued efforts towards implementation of commitments of Beijing Declaration.

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Agenda Item 1B: Follow-up on the Outcome of APANPIRG/32 Meeting

1B.1 Review of the Action Taken by the ANC and the Council on the Report of APANPIRG/32 and RASG-APAC/11 Meetings

Council Action on the Report on APANPIRG/32 Meeting (WP/03)

1B.1 The meeting was informed of the outcome of the Air Navigation Commission (ANC) and Council review of the Report of the Thirty-second meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/32) that took place from 1-3 December 2021 as discussed in AN WP/9570.

1B.2 It was noted that the Commission was informed of the slow recovery of ANSPs and aerodromes from the impacts of the COVID-19 pandemic. The Commission was informed that many States of the Region had insufficient resources to improve compliance with ICAO provisions. The Commission noted that only few Pacific Small Island Developing States (PSIDS) had attended ICAO virtual meetings, webinars and workshops in 2021. The Commission noted that since 16 August 2021, the Kabul Flight Information Region (FIR) had been unavailable except for very limited contingency services that were provided in Kabul, Kandahar, Herat and Mazar-e-Sharif that resulted in many overflights avoiding this FIR.

1B.3 The Commission noted with concern that many aircraft operators who avoid overflying the Kabul FIR must also avoid the Tehran and Baghdad FIRs due to political issues at a very significant cost to the industry. The Commission was informed that the potential interference to radio altimeters from 5G implementation was an emerging issue in the Region that required to be monitored and properly addressed to ensure flight safety. The Commission noted that States were facing difficulties with the certification of military aerodromes used for international operations.

1B.4 The Commission noted that only 14 States had fully implemented the Global Reporting Format (GRF) and developing States from landlocked countries and PSIDS were facing difficulties with the implementation.

1B.5 The Commission noted that many States in the Region had not been correctly applying ATC separation minimums for many years and prefer to use larger or more conservative separations at a high cost to the users.

1B.6 The Commission noted that as in previous years, the space vehicle prelaunch coordination with the aeronautical authorities responsible for affected FIRs did not meet Annex 11 — Air Traffic Services requirements and was frequently incorrect or misdirected, requiring intervention by the ICAO Regional Office. It was noted with concern that the regional airspace safety monitoring agencies (RASMAG), continued to face significant difficulties in assessing the RVSM status/compliance of State aircraft.

1B.7 The Commission noted that in relation to the AKARA-FUKUE Corridor, significant progress had been made to improve ANS safety and capacity especially with regard to resolving Annex 11 compliance. The implementation of additional ATS routes in a parallel route structure was now subject to ongoing coordination between the States concerned (China, Japan and the Republic of Korea).

1B.8 The Meeting was invited to note the information, and take appropriate action as required.

Agenda Item 1B.2 Review status of implementation of APANPIRG/32 Conclusions and DecisionsStatus of Implementation of APANPIRG/32 Conclusions and Decisions (WP/04)

1B.9 The Meeting reviewed the actions taken by ICAO and the progress made on the APANPIRG/32 Conclusions and Decisions.

1B.10 The Meeting noted that actions on 10 Conclusions and 4 Decisions were completed, which resulted in 100 % completion of the planned action. The updated status on implementation of APANPIRG/32 Conclusions and Decisions provided in **Appendix A** to the Report on Agenda Item 1B.

Agenda Item 1B.3 Review status of implementation of APANPIRG outstanding Conclusions and DecisionsStatus of Implementation of Outstanding APANPIRG Conclusions and Decisions (WP/05)

1B.11 The Meeting reviewed the action taken by ICAO and progress made on the APANPIRG Outstanding Conclusions and Decisions up to its 31st Meeting.

1B.12 Action on Conclusion APANPIRG/28/19 was still in progress and remained open. However, as the Draft Conclusion CNS/SG/26/01 had been adopted by the APANPIRG/33, the outstanding Conclusion APANPIRG/28/19 was superseded by the new Conclusion APANPIRG/33/6.

1B.13 The updated status on outstanding Conclusions up to APANPIRG/31 provided in **Appendix B** to the Report on Agenda Item 1B.

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Agenda Item 1C: Update on 57th APAC DGCA Conference Action Items on Air Navigation

57th APAC DGCA Conference Action Items on Air Navigation (WP/06)

1C.1 The 57th Conference of Directors General of Civil Aviation (DGCA Conf/57), APAC, was hosted by Republic of Korea in Incheon from 4 to 8 July 2022. Total 503 participants with 302 attending in-person and 201 online, from 31 States/Administrations and 11 International Organizations participated the meeting. With the theme “*Strengthening regional cooperation for the restoration of air network with No Country Left Behind*”, 84 Discussion Papers were presented and 49 Information Papers were submitted under 11 Agenda Items in the Conference.

1C.2 The Conference formulated 64 Action Items in total, in which six (6) of them were formulated under Agenda Item 4, Air Navigation. Action Items that are related to specific APANPIRG Sub-groups, i.e. AOP SG, ATM SG, CNS SG, MET SG and RASMAG, had been/would be discussed in respective Sub-group Meetings to raise awareness and facilitate States/Administrations to take action. States/Administrations were also reminded to provide the ICAO APAC Regional Office a status report of implementation of 57th DGCA Conference Action Items so that the next (58th DGCA) conference can be informed accordingly.

1C.3 The meeting noted that the 58th Conference of Directors General of Civil Aviation (DGCA Conf/58) would be hosted by Bangladesh in 2023 with the theme “*Promoting ICAO Gender Equality Programme in conjunction with Next Generation of Aviation Professionals (NGAP) initiative*”.

1C.4 The meeting was informed that India would host the Second Asia Pacific Ministerial Conference in the third quarter of 2023. The Second Asia Pacific Ministerial Conference is expected to deliver renewed commitments from the Asia Pacific Aviation Ministers in the new regional aviation landscape in the post-pandemic era.

Guidance to Develop Discussion Paper for the Asia and Pacific DGCA Conference (WP/17)

1C.5 The Secretariat presented this Working Paper to raise awareness and consult with the APANPIRG forum on the outcomes of the Asia and Pacific DGCA Conferences while endeavoring to analyze the effectiveness of the Discussion Papers submitted by the States/Administrations. Essentially with the aim to improve the effectiveness of the future Asia and Pacific DGCA Conferences and for more productive outcomes, the Secretariat presented a draft framework of guidance for developing Discussion Papers for APAC DGCA Conference to the meeting for comments. The draft guidance is aimed to manage the content of the DGCA Conference Papers vis-à-vis papers presented at the various APAC technical forums (i.e. RASG-APAC, APANPIRG, RASCF APAC etc.), clarify the focus that should be taken when drafting DGCA conference papers, including the due process to be followed for acceptance or rejection of papers by the Secretariat.

1C.6 In response to the comments from Japan and United States, the Secretariat clarified that the ‘*Draft Guidance for the Development of the Discussion Papers for APAC DGCA Conference*’ would be circulated to States through a State Letter for comments and inputs in the near future. Recognizing that the Director Generals of Civil Aviation would have the final say on the content of DGCA Conference papers and conference themes, the Secretariat clarified that the Draft Guidance was intended to be a living document, and the Secretariat would consolidate all the feedback received and present an updated Draft Guidance for further discussions and endorsement at the forthcoming DGCA Conference.

1C.7 Singapore suggested that that in the response to the proposed State Letter by the APAC Regional Office, States should also emphasize their challenges that are key to the implementation of the APANPIRG work program and flag out the resources/assistance needed, which would then allow for further discussions at the DGCA Conference.

1C.8 Singapore also suggested for the DGCA/58 to be hosted before the 2nd APAC Civil Aviation Ministerial Conference in India, as it would be very useful for the DGCA/58 to first discuss potential key issues prior to them being discussed at the Ministerial Conference. The Chairman, after consultation with the Secretariat, informed the meeting that the most likely scenario was that the 2nd APAC Ministerial Conference would be held in September 2023, followed by DGCA/58 in October 2023.

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Agenda Item 1D: Aviation Safety and RASG-APAC Activities

Updates on RASG-APAC/12 Meeting Outcomes (WP/07)

1D.1 The Meeting reviewed the updates on the Twelfth Meeting of the Regional Aviation Safety Group – Asia and Pacific Regions (RASG-APAC). RASG-APAC/12 was held in hybrid mode from Bangkok, Thailand on 17-18 November 2022. RASG-APAC/12 adopted Twelve Decisions and all are ‘Open’ as the meeting was just held right prior to APANPIRG/33. The Meeting noted the outcomes that were summarized in the **Attachment A** to **WP/07**.

1D.2 The Meeting also noted RASG-APAC/12 approved Yearly Work Program for 2022/2023, which was provided in the **Attachments B** to **WP/07**.

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Agenda Item 2: Global and Inter Regional Activities

High-Level Review of the ICAO 41st Assembly (WP/08)

2.1 The meeting was presented with an overview of the outcome of the 41st ICAO Assembly (27 September 2022 to 7 October 2022, Montreal, Canada). It was noted that 2,573 Ministers and high-ranking government officials from 184 States gathered in-person and virtually. The meeting noted with satisfaction that the 41st Assembly elected its first ever female President, the Director General of Civil Aviation of South Africa, Ms. Poppy Khoza.

2.2 The meeting noted that the ICAO Council President Salvatore Sciacchitano recognized nine States' significant progress in improving safety and security oversight systems by awarding them with Council President Certificates.

2.3 The meeting was informed that other topics for State consideration centred around the integration of unmanned aircraft systems into traditional aviation airspace, the re-opening of air tourism markets and overcoming protectionist constraints to enable air operators to swiftly recover from COVID-19, digital travel documents and the deployment of interoperable health certificates using ICAO verification, and many other issues surrounding future sectoral resilience and passenger security and convenience.

2.4 With regards to the election of the 36 countries to serve on the ICAO Council, the meeting noted with satisfaction that, Australia, China, Japan, India, Singapore, Malaysia, Republic of Korea, were elected. The meeting expressed its gratitude to all the States that supported the APAC States during the election.

2.5 With regards to the environment, it was noted that the ICAO member States adopted a collective long-term global aspirational goal (LTAG) of net-zero carbon emissions by 2050. It was noted that the 41st Session of the ICAO Assembly included the completion of the first periodic review of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). Countries agreed on a new CORSIA baseline from 2024 onwards.

2.6 The endorsement of the latest editions of ICAO's GASP and GANP will bring the aviation community together around common targets and pathways to achieve an agile, safe, secure, sustainable, high-performing and interoperable global air transport system. Cyber resilience of safety critical systems is a key priority in the next edition of the GANP. The Assembly fully endorsed the Safety Stream recommendations from ICAO's High Level Conference on COVID-19.

2.7 The Assembly also endorsed the new ICAO Implementation Support Policy which will enhance efforts to assist States to implement the international standards contained in the nineteen Annexes to the Convention on International Civil Aviation.

2.8 With regards to implementation, the meeting noted with satisfaction that the Assembly also endorsed the new ICAO Implementation Support Policy which will enhance efforts to assist States to implement the international standards contained in the nineteen Annexes to the Convention on International Civil Aviation. The meeting was informed that the 41st ICAO Assembly also agreed that regional aviation safety organizations and accident investigation bodies should be better supported through more sustainable funding and legal frameworks.

Recent Developments in ICAO on International Aviation and Environmental Protection (WP/21)

2.9 The Secretariat presented recent developments in ICAO on environmental issues, including the results of the 41st Session of the ICAO Assembly and the adoption of Assembly Resolutions A41-20, 21 and 22, including the agreement of the long-term global aspirational goal (LTAG) of net-zero CO₂ emissions by 2050. The paper also covered the significant work of the Committee on Aviation Environmental Protection (CAEP) and relevant deliverables from the Twelfth meeting of CAEP (CAEP/12), the ICAO Assistance, Capacity-building and Training for Sustainable Aviation Fuels (ACT-SAF), and related planned activities by ICAO, including the next edition for the ICAO Stocktaking, and the Third Conference on Aviation and Alternative Fuels (CAAF/3), which will be held in 2023.

2.10 Noting the 41st Session of the ICAO Assembly decisions on the environment and related developments, the Meeting agreed to continue to consider environmental issues in the planning and implementation of regional air navigation systems and bring to the attention of the ICAO Secretariat specific areas where additional guidance on environmental benefits would be valuable.

A41 Endorsement of the 2023-2025 Edition of the Global Aviation Safety Plan (IP/12)

2.11 The Meeting noted that the ICAO Assembly endorsed the 2023-2025 edition of the GASP and adopted a revision to Assembly Resolution A40-1 on global planning for safety and air navigation. IP/12 presented an overview of the outcomes of A41 related to the GASP, including amendments to the plan, a summary of discussions, revisions to guidance material and to Assembly Resolution A40-1. The IP/12 invited States to note the amendments to the GASP and review their national aviation safety plan (NASP), as applicable, and to provide the most recent version of their NASP for posting on the ICAO GASP public website (www.icao.int/NASPLibrary); and requested the Secretariat of the RASG-APAC to publish a revised Asia Pacific Regional Aviation Safety Plan (AP-RASP), in line with the 2023-2025 edition of the GASP.

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

3.0 Regional and National Performance Framework

Updating the Asia/Pacific Seamless ANS Plan (WP/20)

3.0.1 The Secretariat presented a proposal for the update of the Asia/Pacific Seamless Air Navigation Services (ANS) Plan for APANPIRG's consideration.

3.0.2 The update cycle of the Seamless ANS Plan was based on the intention that APANPIRG and its contributory bodies conduct a complete review every three years to align with the review cycle of the Global Air Navigation Plan (GANP) and the meeting cycle of the ICAO Assembly. The last review of the Seamless ANS Plan was conducted in 2019, in the same year as the last major update of the GANP.

3.0.3 The scheduling of the Seamless ANS Plan updates to coincide with the GANP cycle and the approval of the GANP update by the Assembly presented a significant challenge to the Asia/Pacific Region in terms of fully analyzing and comprehending GANP changes which may be still under final development quite late in the cycle, and then identifying and prioritizing GANP elements for regional implementation while developing any proposed regional planning elements in parallel. An example was provided, where the 2019 meetings of all APANPIRG technical Sub-Groups were held prior to the formal approval of the GANP update by the 40th Session of the Assembly.

3.0.4 The meeting agreed to the proposal for the Seamless ANS Plan to be updated during 2022/2023, and presented to APANPIRG Sub-Groups in 2023 before then being presented for the approval of APANPIRG/34 in 2023. Subsequent updates of the Seamless ANS Plan would be conducted in the year immediately following the year of the ICAO Assembly.

3.0.5 APAC Administrations were invited to provide details of a single Point of Contact for participation in the review activity.

3.0.6 The meeting was also informed that the unavailability of the Seamless ANS reporting portal, which had been requested in 2019, had been the subject of intensive coordination between the CNS Section of ICAO APAC Office and ICAO Headquarters. A further delay in the development of a new reporting interface was caused by licensing issues. However, a new reporting interface had been made available for internal ICAO review and testing before proceeding to final stages of development.

3.0.7 Japan expressed support for the proposal, which would also take into consideration the outcomes of the 41st Session of the ICAO Assembly.

Demonstration of ANS Reporting Portal

3.0.8 ICAO provided a demonstration of the Seamless ANS Reporting Portal (β version) that was currently being developed by ICAO.

3.0.9 ICAO informed the meeting that the Portal was undergoing testing by ICAO at the moment but would also be available for testing by APAC States/Administrations. States/Administrations that wished to participate in the trial testing of the reporting portal were invited to contact ICAO. Following successful testing and finalization of the reporting portal, APAC States/Administrations would be notified of its availability by State Letter.

Setting Performance Targets for the Asia/Pacific Region (WP/19)

3.0.10 Noting the endorsement by APANPIRG/30 (2019) of the Asia/Pacific ATM Performance Measurement Framework (ATM/PMF), and recent outcomes of the 41st Session of the ICAO Assembly, Singapore proposed the establishment of a Performance Measurement Small Working Group at the next meeting of the ATM Sub-Group of APANPIRG (ATM/SG) to identify Key Performance Indicators (KPIs) to be measured, and to assess the feasibility of setting performance targets.

3.0.11 The ATM/PMF included 28 KPIs across the 11 Key Performance Areas (KPA) identified in ICAO Doc 9883 Manual on Global Performance of the Air Navigation System. APANPIRG 31 (2020) had urged APAC Administrations to implement the eight State 1 KPIs listed in **Table 3.0-1**.

S/N	KPA	KPI	GANP
1	Capacity	Airport peak arrival capacity	KPI09
2	Capacity	Airport peak departure capacity	KPI09
3	Capacity	Airport arrival throughput	KPI10
4	Capacity	Airport departure throughput	KPI10
5	Efficiency	Additional taxi-in time	KPI13
6	Efficiency	Additional taxi-out time	KPI02
7	Predictability	Flight arrival punctuality	KPI14
8	Predictability	Flight departure punctuality	KPI01

Table 3.0-1: ATM/PMF Stage 1 KPIs

3.0.12 Japan supported discussing the establishment of a SWG at the next ATM-SG, and recognized the importance of developing KPIs in accordance with the Global Air Navigation Plan. In this regard and noting the outcomes of the 41st Session of the ICAO Assembly, Japan highlighted the importance of including KPIs tracking environmental benefits such as carbon dioxide emissions reduction in the review of current KPIs. Japan would continue to cooperate in the development of the KPIs.

3.0.13 ICAO proposed that Singapore and other proponent States should form an informal collaborative group at earliest opportunity, noting that the next ATM/SG would be eight to ten months away. The informal group should develop a proposal to track regional KPIs, taking into consideration of the willingness of APAC States/Administrations in the reporting of these KPIs. The informal group should then develop a proposal and present it to relevant APANPIRG Sub-Groups. The participating States should also consider conducting trial activities to measure and record their performance against the draft KPIs, and thereafter develop trial corrective action plans. These could then be included in Working Papers to the relevant APANPIRG Sub-Groups.

3.0.14 Indonesia, Malaysia, Thailand and USA also expressed their support for the proposal and willingness to participate in the SWG when formed.

3.0.15 The Chair requested that the Secretariat work with ATM/SG to determine how best to bring forward the establishment of the SWG.

National Airspace and Air Navigation Master Plan Development in Thailand (IP/13)

3.0.16 Thailand provided information sharing experience and lessons learned in the development of the national airspace and air navigation master plan, including information on concept development, the relationship with the GANP and APAC Seamless ANS Plan, ASEAN ANS Master Plan and the commitments in the Beijing Declaration. Lessons were learned in the areas of stakeholder

involvement, the use of a multi-level management structure for better communication and approvals processes, coordination of technical working groups, use of the website or social media, the need for a dedicated team to handle KPI matters, and the benefits of technical workshops or seminars.

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

3.1 AOP

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

History of the Meeting

3.1.1 The Sixth Meeting of the Aerodrome Operations and Planning Subgroup (AOP/SG/6) was held as a video teleconference from 27 to 30 June 2022.

3.1.2 Based on the outcomes of discussions on various Agenda Items, AOP/SG/6 adopted 5 (Five) Conclusions that were of a purely technical or operational nature. In addition, AOP/SG/6 formulated 4 (Four) Draft Conclusions for consideration by APANPIRG/33. The full report of AOP/SG/6 is available at the following URL: <https://www.icao.int/APAC/Meetings/Pages/2022-AOP-SG6.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/33 noted that there were **269** international aerodromes listed in Asia/Pacific Region ANP Volume I. However, the number of international aerodromes used for international operations in Asia/Pacific Region had reached to **354** based on information gather from Doc 7910 (Location Indicator), States Aeronautical Information Publication (AIP), CAA Websites and ICAO Missions.

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

3.1.5 Considering a significant number of aerodromes used for international operations were yet to be listed in Asia and Pacific Air Navigation Plans (in Table AOP I-1 and Table AOP II-1) and to meet the objectives and purpose of Regional Air Navigation Plan by all States/Administrations of Asia and Pacific Regions, APANPIRG/33 adopted the following Conclusion formulated by AOP/SG/6:

Conclusion APANPIRG/33/1: Proposal for Amendment to Asia/Pacific ANP Volume I, Table AOP I-1 and ANP Volume II, Table AOP II-1	
That, Asia Pacific States/Administrations are urged to: 1) review the aerodromes listed in APAC ANP Volume I, Table AOP I-1; 2) review the ANP Volume II, Table AOP II-1 for the list of facilities and services to be provided by the State concerned at each aerodrome that is listed in Table AOP I-1; and 3) initiate and send to ICAO APAC Office proposals for amendment to APAC ANP Volume I, Table AOP I-1 and ANP Volume II, Table AOP II-1 in accordance with the template provided in Appendix B to the Report on Agenda Item 3.1 , if their international	Expected impact: ☒ Political / Global ☐ Economic ☐ Environmental ☒ Inter -Regional ☒ Ops/Technical

aerodromes are not yet listed in Table AOP I-1 or require any amendments to update the information provided in Tables AOP I-1 and AOP II-1.	
Why: To update Tables AOP I-1 and AOP II-1 of ANP Volume I and II respectively, as ANPs serve as the primary basis for correspondence with States and within the Secretariat on ANP matters, which makes their accuracy and currency of critical importance.	Follow-up: ☒ Required from States
When: 24-Nov-22	Status: Adopted by PIRG
Who: ☒ Sub groups ☒ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other	

Report on the Third Meeting of the Asia/Pacific Aerodrome Design and Operations Task Force (AP-ADO/TF/3)

3.1.6 APANPIRG/33 noted that AP-ADO/TF had prepared the first draft of the *Regional Guidance for Design and Operations of Altiport* which would be reviewed by AP-ADO/TF experts for further improvement.

Report on the Fourth Meeting of the Asia/Pacific Aerodrome Assistance Working Group (AP-AA/WG/4)

Enhanced Global Reporting Format for Assessing and Reporting Runway Surface Conditions (GRF)

3.1.7 APANPIRG/33 noted that ICAO APAC Office had received GRF Implementation Action Plans from 29 States/Administrations in 2021. So far, 15 States had implemented GRF (14 States on 4 November 2021). Remaining 14 States were in the process of implementation of GRF. 13 States had yet to submit their GRF Implementation Action Plan to ICAO APAC Office.

3.1.8 Annex 15 Aeronautical Information Services (AIS) requires that any permanent changes in the AIP shall be published as AIP Amendments (6.3.1.2 of Annex 15 refers). Therefore, the procedures for reporting of runway condition report and issuance of the new SNOWTAM format should also be published in national AIP.

3.1.9 Recognizing the need for the promulgation of the procedures for the reporting of runway condition report and issuance of the new SNOWTAM format by States in their AIP in accordance with 6.3.1.2 of *Annex 15 Aeronautical Information Services (AIS)*, APANPIRG/33 adopted the following Conclusion formulated by AP-AA/WG/4 and endorsed by AOP/SG/6 which was also supported by ATM/SG/10 (17 – 21 Oct. 2022):

Conclusion APANPIRG/33/2: Publication of procedures for reporting of runway condition report and issuance of the SNOWTAM in AIP

That, Asia Pacific States/Administrations:	Expected impact: ☒ Political / Global ☐ Economic ☐ Environmental ☐ Inter -Regional ☒ Ops/Technical
1) are urged to publish the procedures for reporting of runway condition report and issuance of SNOWTAM in their AIP in accordance with 6.3.1.2 of Annex 15 Aeronautical Information Services; and	
2) may consider to publish above information in “AD 1.2.2 Snow plan” (refer to Appendix 2 of PANS-AIM (Doc 10066))	
Why: For safety, regularity and efficiency of air navigation.	Follow-up: ☒ Required from States
When: 24 November 2022	Status: Adopted by PIRG
Who: ☒ Sub groups ☒ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other	

Generic Surveillance Programme for Certified Aerodromes

3.1.10 APANPIRG/33 noted that AOP/SG/6 adopted the following Conclusion formulated by AP-AA/WG/4:

Conclusion AOP/SG/6 - 3 (AP-AA/WG/4 – 2): Generic Surveillance Programme for Certified Aerodromes

*That, the Generic Surveillance Programme for Certified Aerodromes developed by AP-AA/WG and placed in **Appendix C** to the AO/SG/6 Report be published in ICAO APAC Website for the reference by Asia Pacific States.*

3.1.11 APANPIRG/33 also noted that the *Generic Surveillance Programme for Certified Aerodromes* was published in ICAO APAC Website eDocuments under AGA heading at <https://www.icao.int/APAC/Pages/eDocs.aspx>.

Report of the Analysis of States’ Responses on Survey Questionnaire for Aerodrome Assistance in APAC States

3.1.12 APANPIRG/33 noted that 18 APAC States/Administrations had responded to the survey questionnaire developed by the AP-AA/WG for assistance to APAC States, which had not completed certification of international aerodromes, with an AGA EI score below 75% and/or having APANPIRG Air Navigation Deficiencies.

3.1.13 Recognizing the availability of limited qualified technical personnel in CAA and assistance required for the certification and continuous surveillance of aerodromes used for international operations, resolution of APANPIRG Air Navigation Deficiencies and improving USOAP EI in AGA area in some States in Asia Pacific Region, APANPIRG/33 adopted the following Conclusion formulated by AP-AA/WG/4 and endorsed by AOP/SG/6:

Conclusion APANPIRG/33/3: Assistance to APAC States that require assistance in AGA area including certification and surveillance of aerodromes.	
What: That, 1) States requiring assistance in developing regulations and Guidance Material are encouraged to utilize the generic guidance materials made available on ICAO-APAC website at eDocuments under AGA heading (https://www.icao.int/APAC/Pages/eDocs.aspx); 2) States requiring assistance in AGA area including certification and surveillance of aerodromes and USOAP CMA are encouraged to approach to COSCAPs and PASO or ICAO APAC Office with specific request for assistance; and 3) Champion States* and Industries** wishing to volunteer in assisting States and aerodromes that require assistance in AGA area including certification and surveillance of aerodromes are requested to inform to ICAO APAC Office and provide contact details of their subject matter experts (SME). <u>Notes:-</u> * Champion States - States with 100% aerodrome certification, without APANPIRG Air Navigation Deficiencies and having achieved USOAP EI score more than 75% ** Champion Industries – Certified aerodromes with good safety records and positive safety culture, and Industry Partners, Associations of Aerodrome Operators	Expected impact: ☒ Political / Global ☐ Inter -Regional ☒ Economic ☐ Environmental ☒ Ops/Technical
Why: For enhancing safety, regularity and efficiency of aerodrome operations through certification and surveillance of aerodromes and improving APAC USOAP EI in AGA area.	Follow-up: ☒ Required from States
When: 24 November 2022	Status: Adopted by PIRG
Who: ☒ Sub groups ☒ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other: Industry Partners	

Report on the Fourth Meeting of the Asia/Pacific Wildlife Hazard Management Working Group (AP-WHM/WG/4)

Template of State Action Plan for Establishment and Implementation of Wildlife Hazard Management Programme

3.1.14 APANPIRG/33 noted that AP-WHM/WG had developed a generic template with 16 action items, responsible entities, target, and actual implementation dates to assist Asia-Pacific States in establishing and implementing national Wildlife Hazard Management Programme (WHMP).

3.1.15 APANPIRG/33 adopted the following Conclusion formulated by AP-WHM/WG/4 and endorsed by AOP/SG/6:

Conclusion APANPIRG/33/4: State Action Plan for Establishment and Implementation of WHMP - Generic Template			
What:	That, Asia/Pacific States are urged to:	Expected impact:	
	- Develop “State Action Plan for Establishment and Implementation of WHMP” in accordance with the generic template in Appendix C to the Report on Agenda Item 3.1 assigning State responsible entities and targeted implementation dates (milestones); and - Commence to execute the State Action Plan the latest from first quarter of 2023, and in accordance with the proposed targeted implementation date (milestone) and complete all actions by 2026.	☒ Political / Global ☐ Inter-regional ☒ Economic ☐ Environmental ☒ Ops/Technical	
Why:	To reduce wildlife strike hazards on or in the vicinity of aerodromes and enhance safety of aerodrome operations in Asia-Pacific States.	Follow-up:	☒ Required from States
When:	24-Nov-22	Status:	Adopted by PIRG
Who:	☒ Sub groups ☒ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other: NA		

3.1.16 APANPIRG/33 also noted that the AOP/SG/6 had adopted the following Conclusion formulated by the AP-WHM/WG/4:

Conclusion AOP/SG/6 – 6 (AP-WHM WG/4-2): Asia/Pacific Guidance on Development and Implementation of Aerodrome Wildlife Hazard Management Programme

*That, Asia/Pacific Guidance on Development and Implementation of Aerodrome Wildlife Hazard Management Programme provided in **Appendix E** to the Report of AOP/SG/6 be endorsed for publication on ICAO APAC Website.*

3.1.17 The *Asia/Pacific Guidance on Development and Implementation of Aerodrome Wildlife Hazard Management Programme* was made available on ICAO APAC Website eDocuments under AGA heading at <https://www.icao.int/APAC/Pages/eDocs.aspx..>

Implementation of Requirements for Certification of Aerodromes in the Asia Pacific Region

Status on Certification of Aerodromes in Asia Pacific States

3.1.18 APANPIRG/33 noted that **90.68%** of aerodromes used for international operations (**321** out of **354** International Aerodromes) in Asia and Pacific Regions have been certified to date.

3.1.19 The list of aerodromes used for international operations in Asia/Pacific Region that have yet to be certified, which was prepared based on information collected from APAC States through survey questionnaire, ICAO/COSCAPs missions including ICAO USOAP audit and ICVM, and video conferences and correspondences with States, and placed in **Appendix D to the Report on Agenda Item 3.1**.

3.1.20 Australia informed that the name of one of the airports in above **Appendix D** for Kiribati should be Cassidy International Airport instead of Christmas I, which was corrected in **Appendix D**. However, Kiribati was invited to send the Proposal for Amendment to APAC Air Navigation Plan (ANP) as per template provided in **Appendix B to the Report on Agenda Item 3.1** for correction in APAC ANP Volume I and II, Table AOP I – 1 and II – 2 respectively.

Status of Certification of Aerodromes in AIP

3.1.21 APANPIRG/33 noted that there were number of States / Administrations in Asia and Pacific Regions that have yet to publish the status of certification of aerodromes in AIP AD 1.5. **Table 3.1** below illustrates States/Administrations that have yet to publish the status of certification of aerodromes in AIP AD 1.5.

States	North Asia (5 States & 2 SARs)	South East Asia (11 States)	South Asia (8 States)	Pacific (15 States & 8 OTs)
Aerodromes not listed in AD 1.5/ AD 1.5 missing in AIP	--	1) Brunei Darussalam 2) Timor-Leste	1) Afghanistan	1) American Samoa, Guam and N. Mariana Is. (US) 2) Kiribati 3) Nauru 4) Samoa 5) Solomon Is. 6) Tonga 7) Tuvalu 8) Vanuatu
Some but not all aerodromes listed in AD 1.5	1) China	1) Viet Nam	1) India	--
Status listed but not under AD 1.5	--	--	--	--
AIP cannot be located	--	--	--	1) Marshall Is. 2) Micronesia (Federated States of) 3) Palau
Total (17 States)	1 State	3 States	2 States	11 States / OTs

Table 3.1 – Status of AIP AD 1.5 in Sub Regions of Asia/Pacific Region

3.1.22 APANPIRG/33 noted that APAC AOP/SG/6 urged: (a) States and their aerodrome operators that had yet to certify aerodromes used for international operations to take an effective action on the 55th DGCA Action Item 55/42; (b) States to provide periodic updates on the progress of the certification of aerodromes and AIP AD 1.5 to the ICAO APAC Office; and (c) States that have not published the status of certification of aerodromes in State's AIP to publish the status as soon as possible in accordance with Annex 14 Vol I (para. 2.13.1), PANS-Aerodromes (para. 2.3.7) and Appendix 2 to PANS-AIM (Doc 10066).

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

3.1.23 APANPIRG/33 noted that there was a slight decrease of the EI scores (APAC average AGA EI and its corresponding CEs) for 2022 compared to EI data obtained for 2021. This was primarily due to adjustment of the EI because of the reduction of AGA PQs from **168** (2017 AGA PQs) to **143** (2020 AGA PQs) numbers (please refer to AOP/SG/6-**IP/04** for *USOAP CMA Protocol Questions – 2020 Edition*), and partially due to some decline in AGA EI of Pakistan as a result of the USOAP CMA Audit conducted in November 2021.

3.1.24 APANPIRG/33 also noted that AOP/SG/6 had urged States/Administrations with EI less than 75% to put more resources and efforts to improve EI to meet the 75% of GASP target by 2022 and adopted the following Conclusion:

Conclusion AOP/SG/6 – 7: State's Actions on USOAP CMA On-line Framework (OLF)

That, States/Administration are urged to take following actions through USOAP CMA OLF:

- a) continuous update of the compliance checklist/EFOD and SAAQ;*
- b) submission of the Corrective Action Plans (CAPs) on the USOAP CMA OLF, and inform the ICAO Regional Office when complete and ready for review; and*
- c) implementation of the CAPs and complete the self-assessment of the PQs on the OLF, including uploading the evidence documents, to report the progress on the OLF, and inform the ICAO Regional Office when complete and ready for validation.*

Status of Air Navigation Deficiencies in AOP Field

3.1.25 AOP/SG/6 reviewed the list of Air Navigation Deficiencies in the AOP field endorsed by APANPIRG/32. Cook Islands, New Zealand, Niue, Sri Lanka, Thailand, Timor-Leste and Viet Nam (6 States) provided updates on their Air Navigation Deficiencies in the AOP field before AOP/SG/6 Meeting.

3.1.26 The List of Air Navigation Deficiencies in AOP Field endorsed by APANPIRG/33 placed at **Appendix B to the Report on Agenda Item 4.**

Asia/Pacific Generic Guidance Materials and Custodian

3.1.27 APANPIRG/33 noted the list of Asia/Pacific Generic Guidance Materials (GGMs) developed by various Working Groups and Task Forces and approved by AOP/SG and APANPIRG.

3.1.28 APANPIRG/33 also noted that AOP/SG/6 had reviewed the process developed by the Secretariat for periodic review and update of the APAC GGMs in future and adopted the following Conclusion regarding the Asia/Pacific Generic Guidance Materials and Custodians:

Conclusion AOP/SG/6 – 8: Asia/Pacific Generic Guidance Materials and Custodians

*That, the process for periodic review and updating of the Asia/Pacific Generic Guidance Materials in the area of Aerodromes and Ground Aids placed at **Appendix J** to the AOP/SG/6 Report and Asia/Pacific Generic Guidance Materials with the details of the Custodians placed at **Attachments A to D of Appendix J** be published on ICAO APAC Website at eDocuments Webpage under the AGA heading.*

3.1.29 The Procedure for periodic review and update of the Asia/Pacific Generic Guidance Materials in the area of Aerodromes and Ground Aids was made available in ICAO APAC Website eDocuments under AGA heading at <https://www.icao.int/APAC/Pages/eDocs.aspx>.

WGS-84 and Data Accuracy – AAITF/17 Outcomes

3.1.30 APANPIRG/33 noted that the Seventeenth Meeting of the APAC Aeronautical Information Services (AIS) – Aeronautical Information Management (AIM) Implementation Task Force (AAITF/17, Video Teleconference, 20 to 23 June 2024) had included a workshop activity on World Geodetic System – 1984 (WGS-84) and (aeronautical) Data Accuracy. AAITF/17 meeting documentation including the workshop presentations was available on the AAITF/17 meeting webpage at: <https://www.icao.int/APAC/Meetings/Pages/2022-AAITF17.aspx>.

3.1.31 Information had been provided on the WGS-84 reference frame, the reasons for re-collection of WGS-84 coordinate data, the recommendation that coordinate data be revalidated each 5 years, or after certain events, and the impact of non-maintained WGS-84 coordinate data on Instrument Flight Procedures and aircraft Terrain Awareness Warning Systems (TAWS).

3.1.32 The *Draft Conclusion AAITF/17 – 3: Revalidation of Coordinate Data* formulated by the AAITF/17 and adopted by the Air Traffic Management Sub-Group of APANPIRG (ATM/SG/10, 17 – 21 October 2022, video teleconference), was also supported and endorsed by the AOP/SG/6 meeting as *Conclusion AOP/SG/6-9* for awareness of the AOP/SG members.

Technology-Enabled Workforce in Supporting Post-COVID-19 Air Traffic Recovery at Hong Kong International Airport (IP/02)

3.1.33 It was noted that the Airport Authority Hong Kong in coordination with the Hong Kong Civil Aviation Department, had continued to proceed full steam ahead on a Digital Transformation Roadmap under the Smart Airport vision. IP/02 presented the experience on three key airport technology deployments including the implementation of (1) Driverless Technology for Security Patrol, Baggage, Cargo and Staff Conveyance (2) Digital Apron and Tower Management Systems (DATMS) to support airport transformation and third-runway system at Hong Kong International Airport (HKIA) and (3) Smart Marshalling for the purpose of developing a technology-enabled workforce to enhance resilience and sustainability across the Hong Kong International Airport in the path of post-COVID-19 air traffic recovery.

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

3.2: ATM

ATM/SG/10 Outcomes (WP10)

3.2.1 The Tenth Meeting of the Air Traffic Management Sub-Group (ATM/SG/10) of the Asia Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) was held by Video Teleconference (VTC) from the ICAO Asia and Pacific Regional Office, Bangkok, Thailand.

3.2.2 The meeting was attended by 265 registered participants from 29 States, two Special Administrative Regions of China and four International and Air Traffic Management-related organizations, including Australia, Bangladesh, Bhutan, Cambodia, China, Hong Kong China, Macao China, Fiji, France, India, Indonesia, Japan, Kiribati, Kyrgyzstan, Lao People's Democratic Republic (PDR), Malaysia, Mongolia, Myanmar, Nepal, New Zealand, Pakistan, Philippines, Republic of Korea (ROK), Singapore, Somalia, Sri Lanka, Thailand, United Arab Emirates, USA, Viet Nam, Yemen, IATA, IFAIMA, IFALPA, and ICAO.

3.2.3 A total of 46 Working Papers (WPs), 22 Information Papers (IPs), two flimsies and five presentations were by ATM/SG/10.

3.2.4 The full ATM/SG/10 meeting report and all associated papers and presentations are available on the ICAO Asia/Pacific (APAC) Regional Office website at:

<https://www.icao.int/APAC/Meetings/Pages/2022-ATM-SG10.aspx>

3.2.5 **DISCLAIMER:** The presentation of material in this report does 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.

ANS USOAP Update

3.2.6 The average ANS Effective Implementation (EI) of APAC region was 64.24%, as at October 2022. **Figure 3.2-1** illustrated the EI ratings for ANS-related protocol questions (PQs) of the 37 APAC States that had been audited or received USOAP activity:

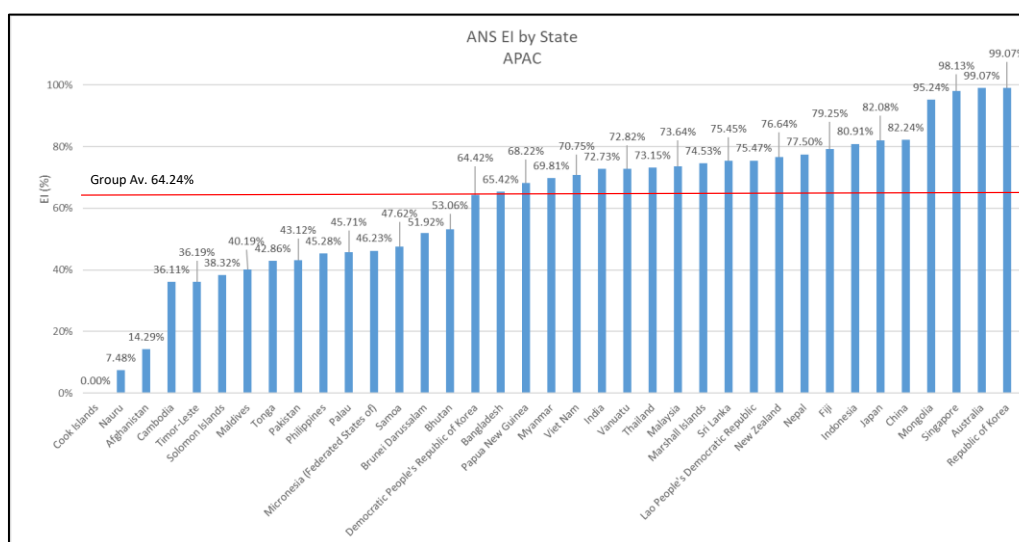


Figure 3.2-1: USOAP ANS EI Comparisons by State (October 2022)

3.2.7 ATM/SG/10 was informed that the data source was the USOAP Continuous Monitoring Approach (CMA) Online Framework (OLF), which reflected the 2020 version of PQs and recent USOAP activities such as CMA Audit (CMAA), ICAO Coordinated Validation Mission (ICVM), and Off-Site Validation Activity (OSVA).

3.2.8 Two USOAP CMA workshops had been tentatively scheduled for 2023 in Bangkok. The details would be shared in due course.

Updating the Asia/Pacific Seamless ANS Plan

3.2.9 The Secretariat presented a proposal for the update of the Asia/Pacific Seamless ANS Plan for ATM/SG comment. The proposal was provided in a separate working paper (WP/20) for consideration by APANPIRG/33.

ATM-Related Regional Guidance and Plans Update Cycle, Standardised Reporting Format and Reporting Date

3.2.10 ATM/SG/10 considered a proposal for a revised document review cycle for ATM-related Regional guidance material and plans, a revised common due date (28 February each year) and standardised format for implementation status reporting of their performance expectations. ATM/SG/10 had consequently agreed to the following Conclusion:

Conclusion ATM/SG/10-1: Revised Reporting Date for ATM Regional Plans' Implementation Status Monitoring

Application of ATC Separation Standards

3.2.11 ICAO had presented ATM/SG/10 with data on surveyed ATC separation standards that were being applied within the APAC Region compared to the provisions in elements 7.34 and 7.35 of the *Asia/Pacific Seamless ANS Plan*. The response from APAC States and Administrations to the latest survey had been poor, with only 21 responses received (48%).

3.2.12 **Figures 3.2-2 and 3.2-3** illustrated the efficiency of ATC spacing between aircraft at the same level as it was theoretically being applied inbound at FIR Transfer of Control (TOC) points, and within FIRs, as at September 2022.

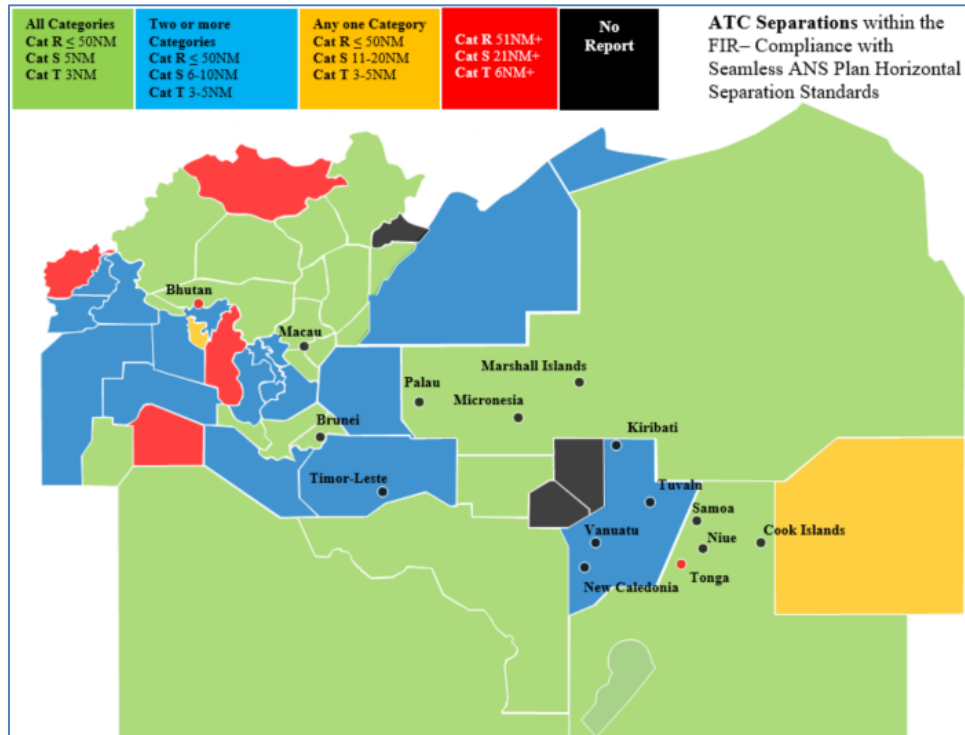


Figure 3.2-2: ANS Horizontal Spacing at Inbound FIR TOC points, September 2022

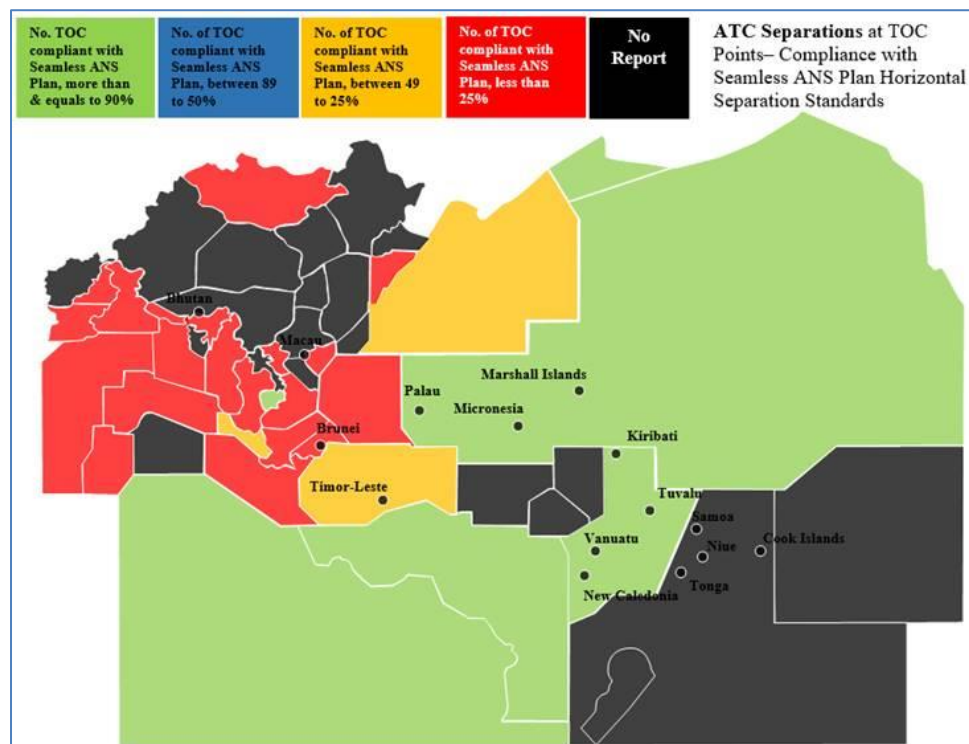


Figure 3.2-3: Horizontal Separation Minimums within the FIR, September 2022

3.2.13 All Administrations were urged to complete the ATC separations survey and to implement separation minima and update their Air Traffic Services (ATS) LOAs to meet the expectations of the *Asia/Pacific Seamless ANS Plan*.

ATM and Airspace Safety Deficiencies List

3.2.14 ICAO presented the list of APANPIRG Air Navigation Deficiencies in the ATM and Airspace Safety fields. The ATM/SG/10 meeting recommended the following change proposals for consideration by APANPIRG/33 under Agenda Item 4:

- a) SAR capability
 - i. Fiji Deficiency deleted;
 - ii. Tuvalu – new Deficiency.
- b) WGS-84 not implemented
 - i. Bangladesh Deficiency deleted.

Regional Air Navigation Plan Update

3.2.15 ICAO presented an update on the progress of incorporating coordinate data for Asia/Pacific Flight Information Regions (FIRs) and Search and Rescue Regions (SRRs) in the Regional Air Navigation Plan (ANP) Volume I. **Figure 3.2-4** and **3.2-5** illustrated the current status of the FIR and SRR reviews.

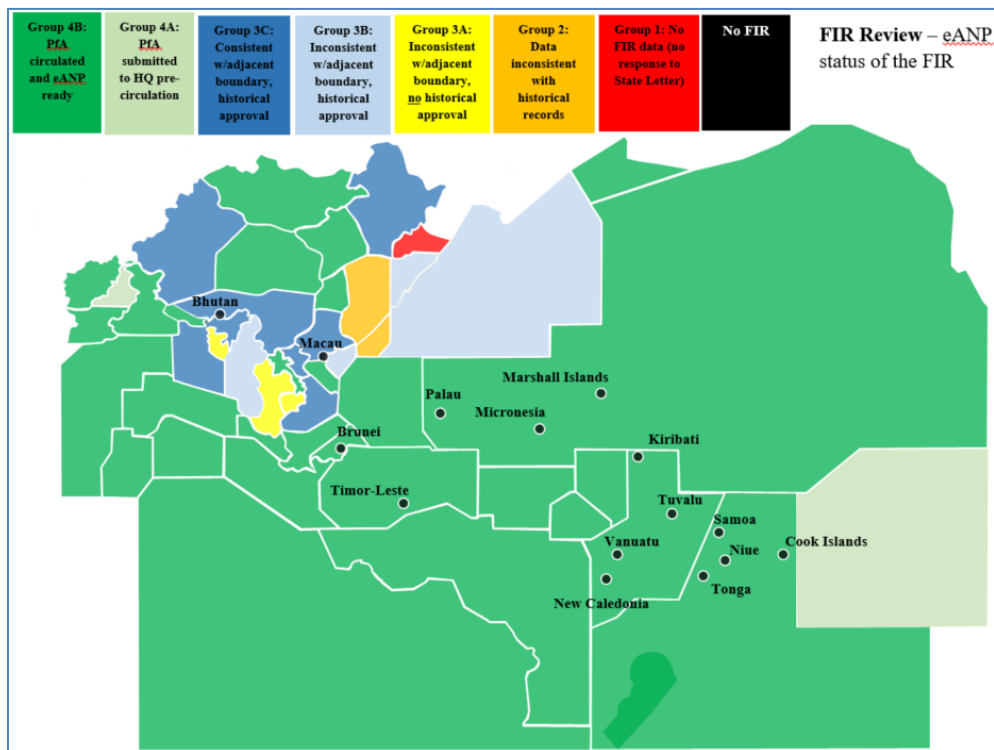


Figure 3.2-4: FIR Review Status, as at September 2022

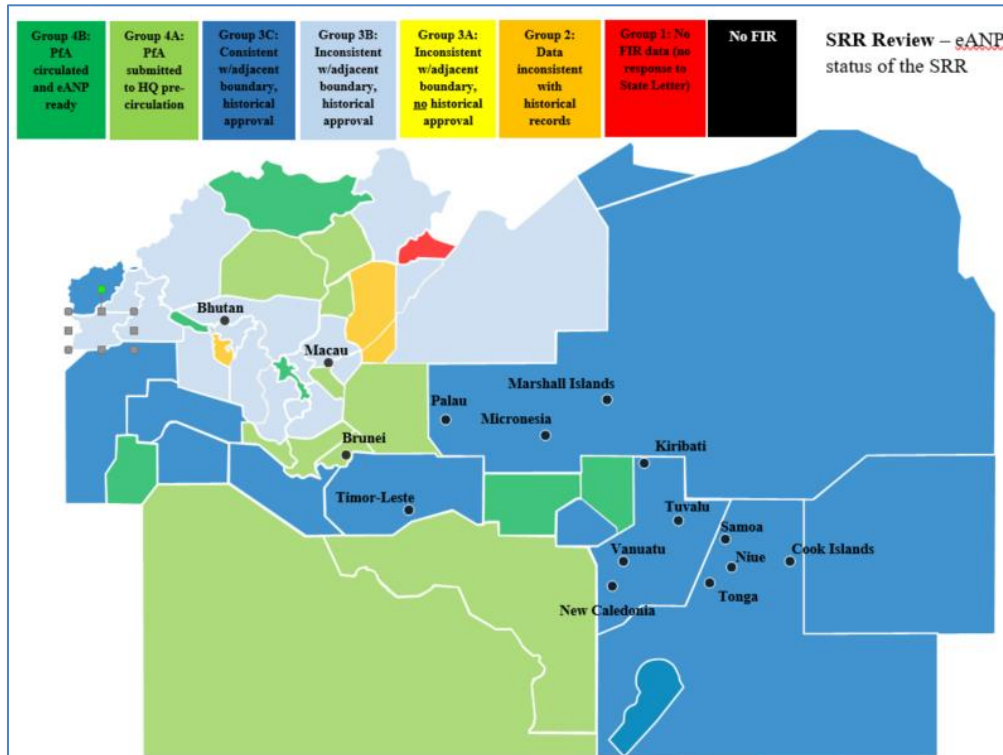


Figure 3.2-5: SRR Review Status, as at September 2022

3.2.16 ICAO shared the Proposal for Amendment (PfA) process for approved FIR and SRR data to be included in ANP Volume I (approval of the Council). In order to facilitate the PfA process, ICAO urged States to urgently review the FIR/SRR data of those FIRs and SRRs related to their administration that were not yet included in the ANP Volume I Tables GEN I-1 or SAR I-1 and provide feedback to the Regional Office on the data's accuracy.

3.2.17 ATM/SG/10 was reminded that the purpose of this process was not to modify FIR boundaries. The purpose of the process was to define current FIR boundaries in Volume I of the ANP.

ICAO Doc 7030 Regional Supplementary Procedures Publication Guidance for Implementation of ADS-B In-Trail Procedures (ITP) and Climb and Descent Procedure

3.2.18 New Zealand provided information on PfAs to ICAO Doc 7030 Regional Supplementary Procedures (SUPPS), jointly submitted by several States, for the implementation of ADS-B In Trail Procedure (ITP) and ADS-C Climb and Descent Procedure (CDP). In its review ICAO Headquarters had determined parts of the PfAs were unnecessary.

3.2.19 It was noted that for many years publication of an Air Traffic Control (ATC) procedure in SUPPS had been important to many ANSPs because it provided notification to their regulator that the FIR was approved to apply the procedure.

3.2.20 APANPIRG/33 agreed to the following Conclusion:

Conclusion APANPIRG/33/5: Provide clear direction on Doc 7030 Regional SUPPS publication requirements.		
What:	That, ICAO provides clear direction on which separation minima require Doc 7030 Regional SUPPS publication to provide consistency in the information published in the different ICAO Regions.	Expected impact: ☒ Political / Global ☐ Inter-regional ☐ Economic

		☐ Environmental ☒ Ops/Technical
Why: To provide consistency of published information in ICAO Doc 7030.	Follow-up:	☐ Required from States
When: 24-November-22	Status:	Adopted by PIRG
Who: ☐ Sub groups ☐ APAC States ☒ ICAO APAC RO ☒ ICAO HQ ☐ Other: XXXX		

3.2.21 Japan, Singapore, USA and Thailand proposed the establishment of a Study Group to prepare a set of harmonised operational requirements of Flight and Flow Information for a Collaborative Environment (FF-ICE) and recommend an approach to devise an FF-ICE implementation strategy for Asia/Pacific, aligned with the Asia/Pacific Seamless ANS objective. FF-ICE would require changes in operational processes and flight planning procedures. New processes would be required to cater to a mixed mode environment where both current flight plan (FPL2012) and FF-ICE flight plan co-exist. The interaction of FF-ICE with other ATM initiatives such as Air Traffic Flow Management (ATFM) would also need to be studied.

3.2.22 ATM/SG/10 agreed to the following Decision:

Decision ATM/SG/10-3: Establish FF-ICE Operational Requirements Small Working Group

Air Traffic Flow Management Steering Group Outcomes

3.2.23 USA commented that ***Decision ATM/SG/10-3*** would help to harmonise operational requirements of FF-ICE implementation and also help to recommend the approach in the development of an implementation strategy for the Region in line with seamless ANS objectives.

3.2.24 ATM/SG/10 was informed of the outcomes of the 12th Meeting of the Air Traffic Flow Management Steering Group (ATFM/SG/12), held by VTC from 13 to 16 September 2022.

3.2.25 Updates were provided on progress in the Asia/Pacific Cross-Border Multi-Nodal ATFM Collaboration (AMNAC), the Northeast Asia Regional ATFM Harmonization Group (NARAHG), and the East-Asia Air Traffic Management Coordination Group (EATMCG). The meeting was grateful for EATMCG's cooperation in using the Regional ATFM Concept of Operations (multi-nodal ATFM concept), especially for acting as a bridge between North East Asia and South East Asia.

3.2.26 Based on reports received States were assessed as having *Robust* (90-100%), *Marginal* (70-89%) or *Incomplete* (0-69%) implementation. Japan, Singapore, Thailand and USA were assessed as having Robust implementation. Australia, Cambodia, China, Hong Kong China, India, Pakistan, Philippines and Republic of Korea were assessed as having Marginal implementation.

3.2.27 The ATM/SG/10 meeting was provided with information on ATFM in the context of recent years' contingency situations in the Asia and Pacific Region. The use of ATFM in contingency situations such as the ongoing Kabul FIR and recent Taipei FIR contingency events were examples.

3.2.28 ATFM/SG/12 had been informed of the benefits of using Ground Delay Programs (GDPs) as the preferred ATFM solution for Demand-Capacity Balancing (DCB) as compared to Minutes-In-Trial/Miles-In-Trial (MINIT/MIT). The meeting was also informed that ATFM measures were intended to be used for the purpose of managing traffic flow to address demand-capacity imbalance rather than as a tool to ensure aircraft separation. As such, tolerance windows for ATFM measures should be provided to account for tactical variations rather than applying the measures with the rigidity of an aircraft separation minimum.

3.2.29 ATFM/SG/12 had been informed that ATFM Information Requirements Small Working Group (ATFM/IR/SWG) had worked on the update of the Regional Framework for Collaborative ATFM, the separate publication of the ATFM Training Guide (previously an appendix to the Framework document), and the Regional ATFM Implementation Status Reporting form.

3.2.30 ATM/SG/10 agreed to the following Conclusions:

Conclusion ATM/SG/10-4: Update Regional Framework for Collaborative ATFM

Conclusion ATM/SG/10-5: ATFM Training Guide

Conclusion ATM/SG/10-6: Regional ATFM Implementation Status Reporting

Missing Departure (DEP) Messages

3.2.31 ICAO provided an update on the issue of missing Departure (DEP) messages, as discussed at ATFM/SG/8/9/10/11/12 (2018-22) and presented to ATM/SG meetings in 2019 and 2021.

3.2.32 It was noted that a large percentage of missing DEP messages pertained to flights departing from other ICAO regions (Mid-East/Europe/AFI). The meeting also noted that considerable progress had been made by APAC States in reducing the percentage of missing DEP messages.

Asia/Pacific Unmanned Aircraft Systems

3.2.33 ATM/SG/10 was provided information on the availability of global and regional guidance for the regulation and integration of Unmanned Aircraft Systems (UAS) in national airspace. Information was also provided on past and upcoming ICAO unmanned aviation symposia.

3.2.34 ATM/SG/10 participants had been invited to utilize the available regional guidance and the information available in the ICAO UAS Toolkit, Model UAS Regulations and UTM Framework, and participate in the ICAO Unmanned Aviation 2022 Symposia.

Alphanumeric Call Signs

3.2.35 Following up on ***Conclusion APANPIRG/31/11: Alphanumeric Call Sign Initiative***, a regional webinar was conducted with a view to provide information on the need for Alpha Numeric Call Signs to mitigate call sign confusion in ATC communications, implementation challenges, and benefits to all stakeholders. The webinar, hosted by CANSO as a joint activity with ACI, and supported by IATA, was held on 01 June 2022.

3.2.36 In follow-up consultation, the webinar organizers considered that development of a Safety Enhancement Initiative (SEI) for inclusion in the APAC Regional Aviation Safety Plan (RASP) might encourage APAC stakeholders to trial and then implement the use of alphanumeric call signs. The meeting was informed there could also be benefit in including a related regional planning element in the APAC Seamless ANS Plan.

Implementation of Enhanced Wake Turbulence Separation (eWTS)

3.2.37 ATM/SG/10 was informed of the implementation of enhanced wake turbulence separation (e-WTS) in Hong Kong China, Republic of Korea and Japan.

3.2.38 The review concluded that the implementation increased the runway capacity of HKIA without compromising flight safety. An increase in hourly arrival capacity (from 34 to 35) and progressively for more hours in a day had been achieved. Information was provided on comprehensive safety assessment and safety case that were conducted to ensure all aspects of safety were reviewed and addressed.

3.2.39 High Intensity Runway Operation (HIRO) procedures had been implemented in consultation with all stakeholders at Incheon International Airport (RKSI) since 2017. RKSI had also added multiple rapid exit taxiways on the 4th runway in 2021. Details of the procedures were described in AIP RKSI AD 2.20. About two years after the implementation of the HIRO, the throughput of the main landing runway was analyzed, and it was noted that the Runway Occupancy Time (ROT) improved significantly.

3.2.40 Japan presented information on the implementation process and status of eWTS at Tokyo/Haneda International Airport (RJTT) and Tokyo/Narita International Airport (RJAA), planned for implementation in early 2020 with a phased approach. A trial operation until 5 November 2020 had been conducted based on the result of safety assessments by JCAB.

Remote Apron Control Implementation in China

3.2.41 China shared their experience in the implementation of remote apron control tower technology and the trial operations of remote ATS based on visual surveillance system usage. The meeting was informed of technical highlights of the use of remote tower technology at Guangzhou Baiyun airport.

SAIOSEACG Meeting Outcomes

3.2.42 ICAO presented the key outcomes of the First Meeting of the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG/1, 29 March – 01 April 2022).

3.2.43 The SAIOSEACG/1 meeting also noted some improvements in Bay of Bengal and South China Sea airspaces, such as Area Navigation (RNAV) 2 implementation on ATS routes L642, M771 and N892, and Required Navigation Performance (RNP) 10 for ATS route M768, implementation of 10 NM surveillance spacing between Jakarta ACC and Ujung Pandang ACC, Malaysia's revised ATM contingency plan level 2 in Kuala Lumpur FIR, RNP 4 implementation on ATS routes M767 and N884, and the completion of a trial of 30 NM longitudinal spacing on ATS routes A461 and A583.

ATS Route Catalogue

3.2.44 ATM/SG/10 was informed of the review process for the Asia/Pacific Region ATS Route Catalogue, including correspondence with all concerned States/Administrations and IATA requesting status updates on relevant route proposals. Feedback had been incorporated into the draft Asia/Pacific Region ATS Route Catalogue, which was reviewed by the meeting and would be uploaded to the APAC website as Version 21.2.

3.2.45 There were currently 33 proposals in the Route Catalogue, with positive progress in three proposals, but none had been implemented in this year. Additionally, 26 proposals had no progress in the past four years, 27 proposals were classified as priority C or D by States, and four proposals were assigned LOW priority by IATA. These could trigger the deletion mechanism according to the established management protocols for the Asia/Pacific Region ATS Route Catalogue.

Outcomes of the Mekong ATM Coordination Group

3.2.46 ATM/SG/10 was informed the outcomes of Ninth Meeting of the Mekong ATM Coordination Group (MK-ATM/CG/9) held on 21 – 23 September 2022.

3.2.47 Several route structure enhancements agreed to in previous MK-ATM/CG/9 Meetings had been discussed including route proposals from the ICAO APAC ATS Route Catalogue. MK-ATM/CG/9 discussed operational issues related to Flight Level Allocation Scheme (FLAS) for ATS routes A1 and B202, tasking member States to further study and provide updates prior to the next meeting. ATFM service development in Lao PDR, and surveillance service development plans including surveillance data sharing between Lao PDR and Thailand had also been discussed.

Route Developments

L644

3.2.48 Singapore presented an overview of the plans and phased approach to enhance flight utilization of L644, starting with the removal of flight planning restrictions. The WP discussed a phased enhancement of operations and utilization of L644 that would help to provide airspace users flexibility in planning the most optimal flight paths.

3.2.49 Singapore had engaged with Indonesia, Viet Nam, and the Philippines to remove the flight planning restriction on L644 where it previously only served flights to Jakarta from Hong Kong China and beyond. The removal of the flight planning restriction had been effective since 8 September 2022.

L642 and M771

3.2.50 Hong Kong China presented a progress update of the initiative to optimize the capacity of air routes L642 and M771 by means of enhancing the longitudinal spacing applied.

3.2.51 ATM/SG/10 was informed that a comprehensive evaluation for optimization of the longitudinal spacing between aircraft operating along L642 and M771 from 50NM to 20NM within the Hong Kong FIR was completed in Q2 2022. Information was also provided on an additional ATC sector established for the southern portion of the Hong Kong FIR, and ADS-B surveillance coverage extending up to 80 NM south of the FIR boundary.

3.2.52 Hong Kong China had encouraged all concerned States/Administrations to actively participate in discussions in order to expedite the implementation of revised longitudinal spacing as soon as possible.

Update on Trials for Application of 10 Minutes Separation on Crossing Tracks over Oceanic Airspace in Mumbai Flight Information Region

3.2.53 India proposed the application of 10 minutes' separation on an opportunity basis between ADS-B equipped aircraft flying on crossing tracks under Space Based ADS-B (SB ADS-B) Surveillance in the oceanic airspace of Mumbai FIR. For the proposed separation, the establishment of two-way radio communication via VHF/HF or CPDLC connection for suitably equipped aircraft was considered mandatory. 15 minutes' separation over the crossing points was currently being applied.

3.2.54 Responding to the proposal that ICAO recognize the separation applied in this project, the meeting was informed that ICAO may only 'recognize' separations that are defined in Annex 11, PANS-ATM and Doc 7030. ICAO suggested India may consider developing a Doc 7030 Pfa proposal, which would require extensive work, or engage with the Separation and Airspace Safety Panel (SASP).

Space Launch and Space Vehicle Re-Entry Coordination and Military exercise Coordination

3.2.55 There were three WPs related to the Space Activity coordination and Military exercise coordination from Republic of Korea, the USA and Japan.

3.2.56 Republic of Korea proposed to strengthen international coordination procedures to secure the safety of civil aircraft and space launch vehicles when space vehicle launch and re-entry took place, and suggested that States/Administrations took appropriate measures in accordance with the ICAO Asia/Pacific Seamless ANS Plan and related guidance materials.

3.2.57 Information was provided on the requirement in Annex 11 section 2.19 that States shall coordinate with the appropriate ATS authorities with regard to activities potentially hazardous to civil aircraft.

3.2.58 Areas for improvement were identified, particularly the inability to conduct a conference for pre-tactical launch coordination due to the absence of a unitary POC, with no single contact designated for this matter among the domains identified in the ATM POC list.

3.2.59 USA presented a proposed process for the timely coordination of space launch and re-entry activities in the Asia/Pacific Region.

3.2.60 Information was provided on specific coordination activities that all States and organizations that conducted ballistic launch or space re-entry activities should ensure, including development of written coordination agreements between the State civil aviation authority and the launch/re-entry agency concerned, coordination milestones and their timing, consideration of affected airspace users and ANSP to lessen possible disruption, and the establishment of communication with affected ANSPs.

3.2.61 Japan informed the meeting of the impact of the establishment of airspace on short notice, such as rocket launch/re-entry areas and military exercise areas, on ATM and ATC operations.

3.2.62 Information was provided on a number of Danger Areas that had been established in the North Pacific and affecting ATS routes in the Anchorage Oceanic and Fukuoka FIRs, and for which the notification had been at short notice of less than seven days, and required close coordination between the Anchorage Air Route Traffic Control Center (ARTCC) and the Fukuoka Air Traffic Management Center (ATMC) to establish alternative routes to avoid the danger areas.

3.2.63 A further example of short notice activation of multiple Danger Areas in the Taipei FIR in August 2022 had resulted in a significant impact on major international ATS routes between Japan and Southeast Asia, and irregular traffic flow and significant congestion in the affected sector of the Fukuoka Area Control Center.

3.2.64 Recalling Annex 11 section 2.19, the Asia/Pacific Seamless ANS Plan and **Conclusion APANPIRG/29-9: Procedures for Ballistic Launch/Space Re-entry Management**, Japan highlighted that 14 days' prior coordination of rocket launch/re-entry areas and seven days' prior notification for military exercises would reduce operational impact, provide enough time for coordination among ATC units and allow ATC units to arrange and manage human resources accordingly. Japan also informed the meeting that enhancement of civil-military coordination based on the guidance in ICAO Doc 10088 Manual on Civil – Military Cooperation in ATM would lead to more effective outcomes.

3.2.65 ATM/SG/10 had agreed to the following Conclusion and Decision:

Conclusion ATM/SG/10-7: Points of Contact List for Space Vehicle Launch and Re-Entry Coordination

Decision ATM/SG/10-8: Space Vehicle Launch and Re-entry Coordination Small Working Group

3.2.66 USA commented that **Conclusion ATM/SG/10-7** and **Decision ATM/SG/10-8** would be important for harmonizing space coordination activities in the APAC Region and beyond. USA also mentioned that, as SWG rapporteur, they had been working with the Secretariat to identify and coordinate with members of the SWG for the initial meeting in the near term.

3.2.67 Republic of Korea also supported **Decision ATM/SG/10-8** and mentioned that since space vehicle launch-related activities affected civil aviation safety, other States/Administrations not listed in **Decision ATM/SG/10-8** should also be encouraged to join the SWG to strengthen cooperation.

Regional ATM Contingency Planning and Contingency Operations Update

3.2.68 ICAO presented information on the Asia/Pacific Regional ATM Contingency Plan with regard to State reporting of implementation of its performance expectations, a brief outline of recent ATM contingency events in the APAC Region, and an update on the proposal to update of the Regional contingency plan.

3.2.69 The Regional ATM Contingency Plan, available on the ICAO Asia/Pacific Regional Office eDocuments web-page, included the expectation that States would report their implementation status at least once annually, using the Regional ATM Contingency Plan Monitoring and Reporting Form. The performance expectations of the plan were expected to be implemented by 10 November 2016, reflecting the Annex 11 standard that had been applicable since November 2003.

3.2.70 Implementation status was assessed as robust (90 – 100% of expectations implemented), marginal (70 – 89%) or incomplete (0 – 69%). Only Indonesia, Singapore, Thailand and USA were assessed as having robust implementation.

3.2.71 **Figure 3.2-6** illustrated the overall regional implementation status:

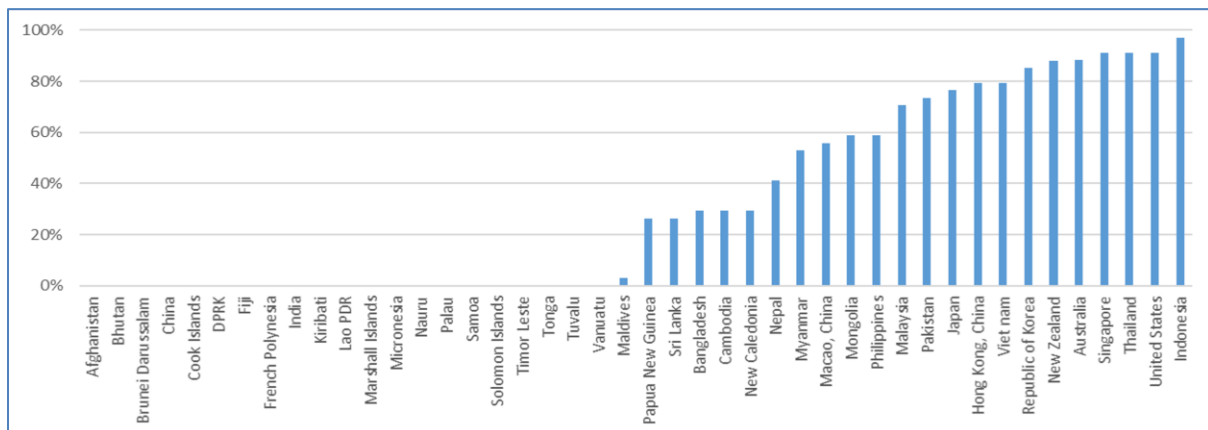


Figure 3.2-6: Regional ATM Contingency Plan –Implementation Status (21 October 2022)

3.2.72 ATM/SG/10 had been reminded of Annex 11 Attachment C Material Relating to Contingency Planning, which provided guidelines supporting the standard in Annex 11 section 2.19. The information provided highlighted the allocation of responsibility among States and ICAO for contingency planning, and ICAO Asia/Pacific Regional Office consideration of any notification of ATM contingency operations to, where considered necessary, form a Contingency Coordination Team.

3.2.73 Regarding CCT communications, ICAO noted that it was not feasible for the ICAO Regional Office to use forms of direct one-on-one communications such as telephone calls for the purpose of forming and coordinating with the CCT. ICAO therefore requested that all CCT POCs ensured they provide an up-to-date email address, and that their Administration ensured nominees for this purpose were enabled to receive and respond appropriately to official email communications out-of-hours.

3.2.74 A brief update of the current, ongoing ATM contingency operations in the Kabul FIR and the meetings of its related CCT was also provided. The meeting was also briefed on the ICAO response to the Tonga volcanic eruption and tsunami event of January 2022, noting that while the formation of a CCT was not considered necessary ICAO had a role in coordinating relevant aeronautical information to humanitarian aid agencies to support their preparations for relief operations.

3.2.75 A further briefing was provided on contingency operations associated with the short notice promulgation by NOTAM of multiple Danger Areas affecting major traffic flows through the Taipei FIR in August 2022 (**Figures 3.2-7 and 3.2-8**).

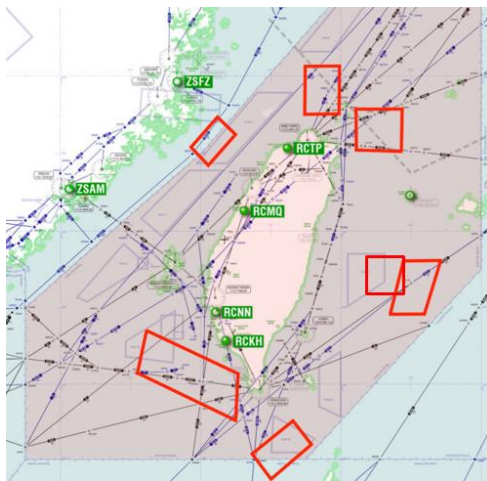


Figure 3.2-7: Danger Areas

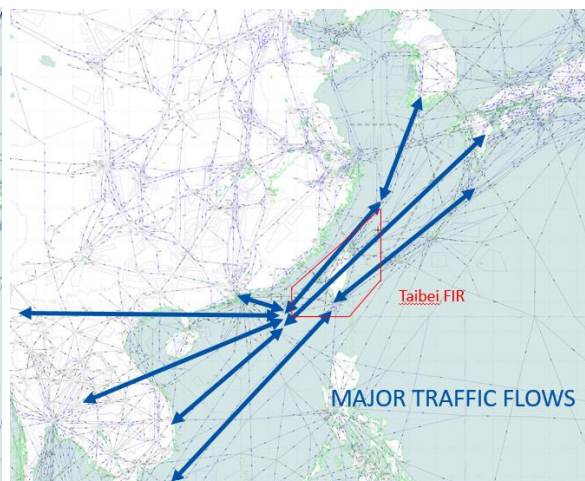


Figure 3.2-8: Major Traffic Flows

3.2.76 Subsequent NOTAMs imposing large longitudinal spacing requirements and substantial ATFM delays on flights that may have flight planned to avoid the Danger Areas via ATS routes to the west of the Taipei FIR were issued for the Shanghai and Hong Kong FIRs. No contingency ATS routes were made available to the west of the Taipei FIR.

3.2.77 A CCT had been formed by the ICAO Asia/Pacific Regional Office on 03 August 2022, and dissolved on 05 August, 24 hours after the expiry of the last of the NOTAMs. During the contingency period traffic operating between Northeast Asia and Southeast Asia that would normally transit the Taipei FIR operated on alternate routes to the east of the FIR. ATFM support was provided by Japan, Singapore and Thailand.

3.2.78 Key points arising from the contingency situation were:

1. The need for compliance with the Standard in Annex 11 2.19 requiring that activities potentially hazardous to civil aircraft shall be coordinated with the appropriate ATS authorities;
2. The need for compliance with ICAO Annex 15 Aeronautical Information Services and PANS-AIM provisions for NOTAM promulgation, particularly relating to the use of correct location indicators in NOTAMs;
3. The value of ATFM capability among CCT participating Administrations.

3.2.79 ICAO acknowledged the competent, professional engagement of States and international organizations that participated in managing this contingency situation.

AKARA Corridor Progress and Update

3.2.80 Japan and the Republic of Korea had presented updates on the AKARA Corridor to the ATM/SG/10 meeting. The meeting was informed that Phase 1 of the AKARA airspace improvement project had been implemented since 25 March 2021, but Phase 2 was not yet completed.

3.2.81 Noting the ATM/SG/9 discussion, Japan and ROK had conducted a bilateral discussion on the use of non-FLAS flight levels, which would provide more preferred and efficient operation to aircraft operators and contribute to decreasing the technical risk estimates.

3.2.82 The ATM/SG/10 meeting was also informed that Republic of Korea would work closely with China and Japan to improve the situation regardless of the Phase 2 implementation delay, including:

- Efficient FLAS operation: formulating measures and discussion with Japan;
- AIDC implementation: with Shanghai ACC targeted by 3Q 2023; and
- Reducing longitudinal separation minima (currently 10 minutes).

3.2.83 China could discuss further improvement after the completion of Phase 2. ICAO informed the meeting that the Technical Working Group (TWG) Secretariat had advised that improvement initiatives, including FLAS, AIDC and separation minima could be arranged separately from Phase 2 of the project, and independently from the TWG. The meeting ATM/SG/10 Chair had recommended the States concerned conduct bilateral and/or trilateral meetings to discuss this further.

Coordination of ATFMs across the Region in the Irregularities Situation

3.2.84 Japan presented information on operations in response to contingency situations, especially ATFM operations, and shared lessons learned from this experience.

3.2.85 ATM/SG/10 had been informed of how Japan coordinated with the neighbouring ATS units when Danger Areas were recently promulgated in the Taipei FIR. Regular coordination processes were used to communicate with Taipei ACC, Daegu ATCC and Manila ACC for ATFM-related discussion. In addition, GDP for domestic flights were applied in order to accommodate separations/restrictions requested by the neighbouring FIRs.

3.2.86 Through this experience, Japan had considered that, rather than establishing a contingency-specific scheme, coordinating with neighboring FIRs and enhancing the communication and coordination scheme during normal situations could result in flexible ATFM measures for any situation.

3.2.87 ICAO acknowledged Japan's ATFM initiative in the Taipei FIR contingency situation. ICAO pointed out the importance of direct coordination among the ATS units concerned rather than waiting for CCT activity since the ICAO Regional Office, while having a formal role in the convening and running of CCTs, was not a tactical ATS facility.

The Feasibility of Large-Scale Detour Procedure

3.2.88 China presented the Typhoon Detour Procedure trial jointly evaluated by China, Japan and Republic of Korea in September 2022, to manage the number of detouring flights by managing as many detour flights as possible without affecting regular flights. Additional information on Trajectory-based Operations (TBO) verification in China was provided.

3.2.89 ATM/SG/10 had been informed that MET was one of the key factors affecting airspace capacity and airport capacity, and common terminology, terms and abbreviation should be used to avoid confusion.

COVID Impact and Forecast – Navigating Safely and Sustainably out of COVID

3.2.90 IATA had provided an update on the COVID-19 pandemic impact on the airline industry, and recovery and traffic growth expectations.

3.2.91 Information had been provided on numbers of passengers and flights and the value of goods carried before and during the pandemic, and in the recovery period, noting that it was the largest and longest shock to hit the industry in the history of aviation. ATM/SG/10 had been informed of the rate of recovery of the industry, its financial performance, and the recovery of international travel, noting that the Asia/Pacific Region was lagging behind other regions in this aspect (**Figure 3.2-9**).

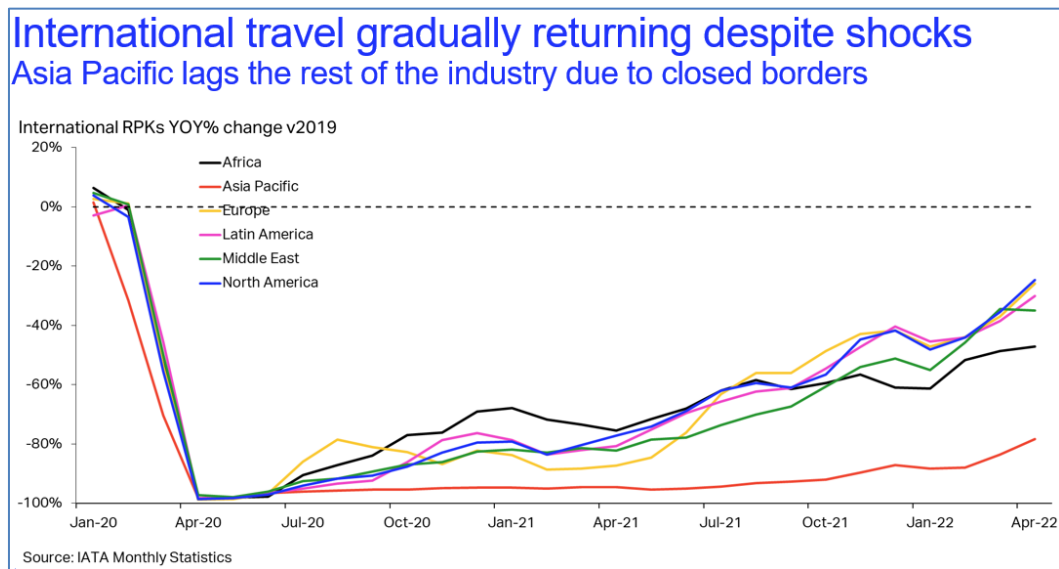


Figure 3.2-9: Post-Pandemic International Travel Recovery

AIS – AIM Implementation Task Force Outcomes

3.2.92 Outcomes from the 17th Meeting of the ICAO AIS – AIM Implementation Task Force (AAITF/17, 20 to 23 June 2022) were provided to the meeting.

3.2.93 AAITF/17 had reviewed APANPIRG Air Navigation Deficiencies in the AIS/AIM field. No changes to the Deficiencies List approved by APANPIRG/32 had been identified. At the time of the AAITF/17 meeting 10 APAC States had Deficiencies recorded for non-implementation of World Geodetic System 1984 (WGS-84), two for non-implementation of AIP Format, and 20 for non-implementation of AIS Quality Management System (QMS).

3.2.94 Japan and Singapore had reported implementation of all Phase I elements. Only Singapore reported implementation of all Phase II elements. **Figures 3.2-10** and **3.2-11** illustrated overall regional implementation of Phases I and II, which was unchanged from the implementation reported to ATM/SG/9 in 2021.

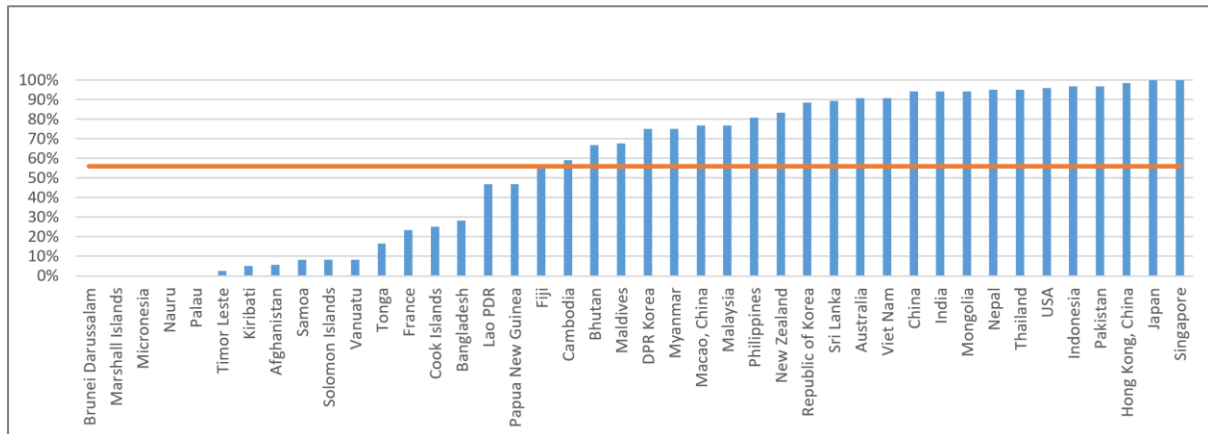


Figure 3.2-10: Regional Phase I Implementation Progress (updated 29 September 2022)

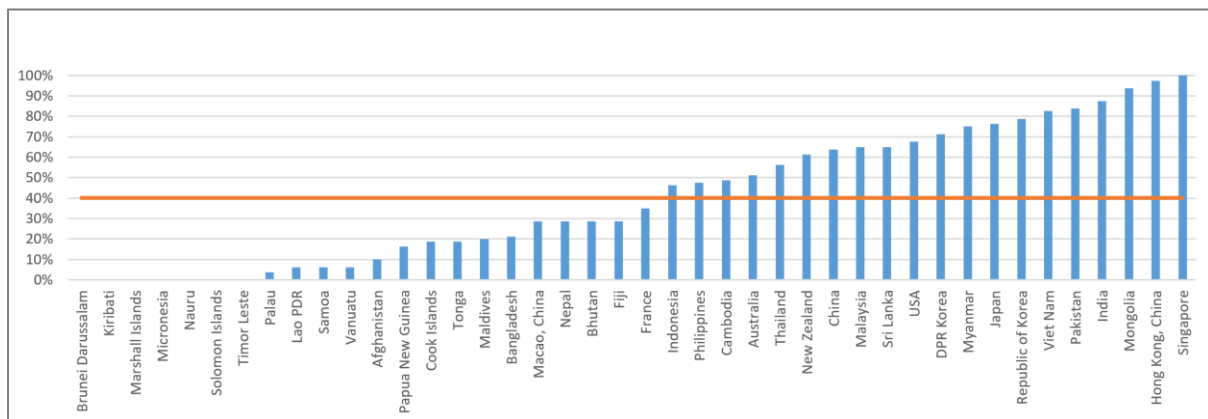


Figure 3.2-11: Regional Phase II Implementation Progress (updated 29 September 2022)

3.2.95 Following discussion of the outcomes from the Workshop on WGS-84 and Data Accuracy (AAITF/17 Agenda Item 2), AAITF/17 had discussed the reasons that data revalidation was necessary, and recommended that data be revalidated every five years, after a major natural event, or following construction of critical airport elements.

3.2.96 Noting that Annex 11 Appendix 7 required the State to ensure that maintenance and periodic review of instrument flight procedures for aerodromes and airspace under the authority of the State were conducted, and that States must establish an interval for periodic review of instrument flight procedures not exceeding five years, ATM/SG/10 agreed to the following Conclusion:

Conclusion ATM/SG/10-9: Revalidation of Coordinate Data

3.2.97 IFAIMA had conducted the annual analysis of NOTAMs for AAITF/17, supporting the drive to reduce NOTAM proliferation. **Figures 3.2-12** and **3.2-13** illustrated APAC NOTAM statistics since June 2020. At 01 June 2022, a total of 6122 NOTAMs were active in the APAC Region. 323 (5.3%) of these were old (i.e. more than three months but less than one year), and 666 (10.9%) were very old (one year or more).

Trend Analysis by Region

Select a region, or click **WORLD** for all:

WORLD **APAC** ESAF EUR/NAT MID NACC SAM WACAF

Total NOTAM

6122

Old NOTAM

323 (5.3%)

Very Old NOTAM

666 (10.9%)

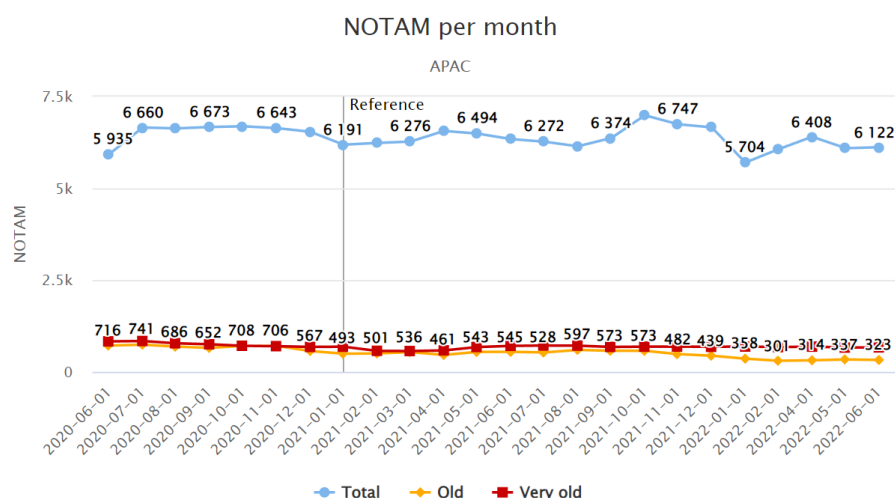


Figure 3.2-12: APAC NOTAM Statistics (Total, old and very old)

Trend Analysis by Region

Select a region, or click **WORLD** for all:

WORLD **APAC** ESAF EUR/NAT MID NACC SAM WACAF

Total NOTAM

6122

Old NOTAM

323 (5.3%)

Very Old NOTAM

666 (10.9%)

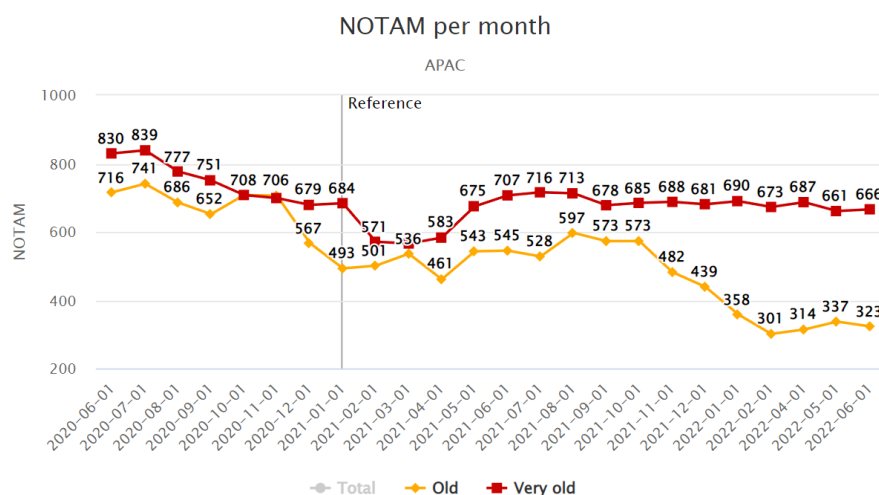


Figure 3.2-13: APAC NOTAM Statistics (old and very old)

3.2.98 ICAO provided an update on the use of the ICAO International Codes and Route Designators (ICARD) application in the APAC Region and the resolution status of 5-letter name code (5LNC) duplicates.

3.2.99 The Regional Office had presented a State 5LNC status report for each Administration to the AAITF/15 meeting in 2020. The status reports were again presented to AAITF/16 in 2021 and AAITF/17 in 2022 (ATM/SG/10 WP/44 Attachment 3). APAC Administrations had been requested at AAITF/15 and AAITF/16 to review and maintain their status reports, and send an update to the ICAO Regional Office at least once per year. Very few reports had been received.

3.2.100 ATM/SG/10 agreed to the following Conclusions:

Conclusion ATM/SG/10-10: State Reports of 5LNC Status

Conclusion ATM/SG/10-11: Regional Guidance for Postponement of Changes to Aeronautical Information

Asia/Pacific Search and Rescue Update

3.2.101 The Seventh Meeting of the Asia/Pacific Regional Search and Rescue Work Group (APSAR/WG/7) was held from 24 to 27 May 2022.

3.2.102 **Figure 3.2-14** illustrated the implementation status of the performance expectations of the Asia/Pacific Regional SAR Plan as at 29 September 2022.

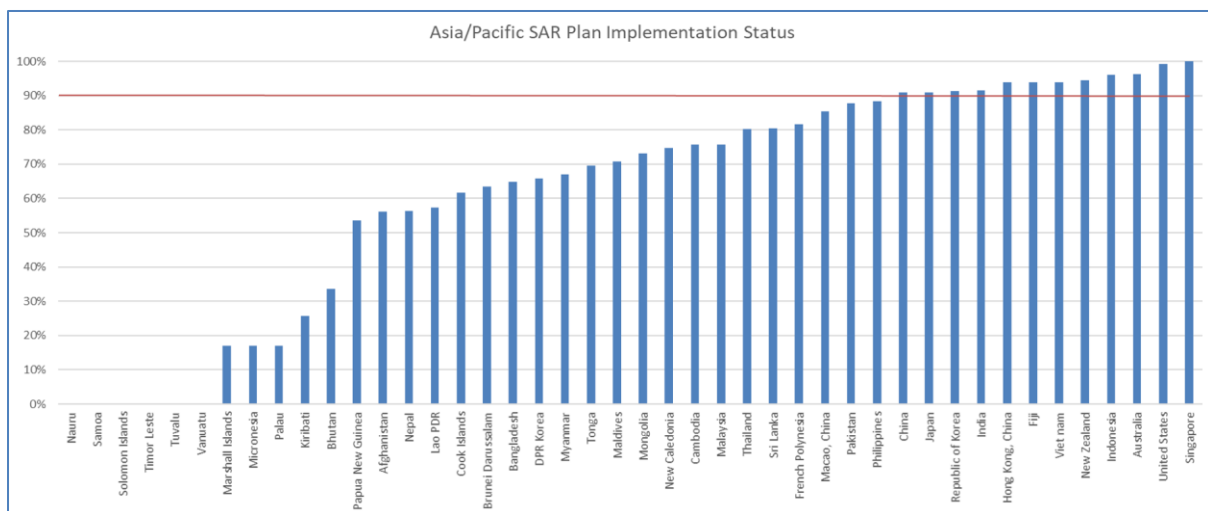


Figure 3.2-14: Asia/Pacific SAR Plan Implementation Status as at 29 September 2022

3.2.103 Regional policy established that States below 90% implementation would be considered to have an APANPIRG ANS Deficiency recorded for SAR implementation. Since APSAR/WG/6 (2020) there was an increase from 10 to 12 Administrations that had reported implementation of 90% or more:

Australia, China, Fiji, Hong Kong China, India, Indonesia, Japan, New Zealand, Republic of Korea, Singapore, USA and Viet Nam

3.2.104 The APSAR/WG/7 meeting had discussed the Location of an Aircraft in Distress Repository (LADR), which would support the Autonomous Distress Tracking (ADT) Standards in Annex 6 Operation of Aircraft Part I International Commercial Air Transport – Aeroplanes. The LADR was intended to meet the requirements for information sharing as part of the Global Aeronautical Distress and Safety System (GADSS). The GADSS concept of operations and the functional specifications for the LADR were available at <https://www.icao.int/safety/globaltracking>.

3.2.105 ATM/SG/10 agreed to the following Conclusions:

Conclusion ATM/SG/10-12: Checklist of Considerations in Readiness for Autonomous Distress Tracking

Conclusion ATM/SG/10-13: Revised Asia/Pacific Regional SAR Plan

Survey Results on Positive ATM Safety Culture in the APAC Region

3.2.106 ICAO had presented an analysis of responses to a survey distributed by State Letter AP069/22 in May 2022 to the ATM/SG/10 meeting. The survey had resulted from ATM/SG Task List Action Item 9/9.

3.2.107 APAC States/Administrations and industry were encouraged to utilize the survey results to promote a positive safety culture and strengthen safety management performance in ATM. ATM/SG/10 had also been invited to note that the conclusions arising from the survey results, and further detailed survey results, would be used to prioritize and develop future ICAO APAC implementation support planning.

3.2.108 As the survey outcomes revealed gaps and potential areas of improvements that required attention of all of the ATM community, particularly in the course of recovery from the pandemic, ATM/SG/10 had strongly supported the proposal that a safety management and safety culture workshop be conducted to provide a regional forum for ATM stakeholders to share experience, lessons learned and best practices in developing a positive safety culture to enhance ATM safety management performance and facilitate safe and effective implementation of APAC Seamless ANS Plan.

3.2.109 Multiple States/Administrations had indicated their interest in participating in the safety culture workshop. USA had offered to facilitate the workshop, and would be working with ICAO on this.

CANSO APAC study collaboration opportunities (WP/16)

3.2.110 CANSO was conducting a study on ways to accelerate ANS modernization in the region. The trend of greater digitalization could offer more collaboration opportunities for the region. This in turn could enable more cost-effective ways to build up capabilities. The study would also look at the roles of ATM and technology companies and how their service offerings could encourage collaboration and were cost-effective. Progress could be shaped from the supply side. There was a case for alternate pathways to help ANSPs acquire new capabilities and more easily adopt of technology. While the study team would actively work with CANSO members, the inputs of ICAO and international organizations and States/Administrations that were not members of CANSO were also welcome.

3.2.111 The meeting supported CANSO's study in order to facilitate better understanding of resource allocation for ANSP amongst many ANS priorities. Singapore encouraged States and International Organisations participating in the collaboration initiatives to consider them in tandem with the priorities for next ministerial conference in 2023. The Chair also encouraged non-CANSO members to participate in this study.

Environmental benefits achieved from the implementation of enhanced wake turbulence separation at the Hong Kong International Airport (WP/22)

3.2.112 Hong Kong China informed the meeting of their support for ICAO's initiative on enhanced Wake Turbulence Separation (eWTS) and the associated environmental benefits. eWTS with optimized final approach spacing had been successfully implemented for arriving traffic at Hong Kong International Airport (HKIA) since 5 November 2020. eWTS was one of the capacity enhancement initiatives taken by Hong Kong China to reduce airborne delay through the incremental increase of

runway capacity at HKIA, and hence to reduce CO₂ emissions in line with the long-term aspirational goal (LTAG) adopted by the 41st Session of the ICAO Assembly.

3.2.113 Benefits of eWTS at HKIA included an increase in hourly arrival capacity (from 34 to 35) and progressively for more hours in a day and showed a reduction of 223 minutes of airborne delay for a total of 68 flights. This was approximately equivalent to saving 15 tons of fuel (i.e., 47 tons of CO₂ emission).

3.2.114 Malaysia expressed their support, and they would consider implementing eWTS at the Kuala Lumpur airport to improve the environmental sustainability of the aviation industry and to achieve the long-term goal of net-zero carbon dioxide emissions as decided at the 41st Session of the ICAO Assembly.

User-Preferred Route (UPR) Implementation in Indonesia (WP/23)

3.2.115 Indonesia had implemented a User-Preferred Route trial during the period of COVID-19 pandemic-related traffic downturn. The UPR trial implementation was based on the FREE ROUTE concept, where airspace users could freely plan a route between a defined entry point and a defined exit point, with the possibility to route via intermediate waypoints without referring to the Air Traffic Services (ATS) route network.

3.2.116 The third phase of the trial, which commenced in May 2022, included the procedures listed in **Table 3.2-1**:

PARAMETER	PROCEDURES
Users	International flight
Level	F310 - F600
Entry and Exit	- Published Waypoint - Designated point (latitude/longitude)
Intermediary point	- Published Waypoint (include navaid & ATS route) - Designated point (latitude/longitude)
Proposal submission procedures	- At least 3 hours before EOBT; - Responded by AirNav within 2 hours after submission
Usage	Eva Air (EVA) regularly: more than 60 flights Hongkong Express

Table 3.2-1: Indonesia UPR Trial Procedures – Phase 3

3.2.117 Evaluation of Phase 3 operations showed a reduction 94.5 tons of carbon emissions in 2022. Phase 4 procedures were expected be published by Aeronautical Information Supplement (AIP SUP) on 15 December 2022. Future work would be undertaken on post-pandemic traffic management when the increased number of domestic flights could affect flights following UPR procedures.

3.2.118 The meeting congratulated Indonesia on the implementation of this initiative and noted that the experience of many States in the Asia/Pacific in UPR may support expansion of their use on a regional basis. Several States expressed interest to work with Indonesia on Cross-border UPR.

Indonesia update on implementation of National Air Navigation Plan (IP/03)

3.2.119 Indonesia shared the status of implementation of their National Air Navigation Plan (NANP), conforming to the changes arising from the introduction of a revised ASBU framework in the 6th edition of the Global Air Navigation Plan (GANP). The paper included progress updates at the technical and service levels such as setting of strategies and objectives resulting from gap analysis aligned with ICAO Asia Pacific Seamless ANS Plan.

AIS-AIM Update (IP/05)

3.2.120 DPR Korea presented an overview of progress towards the transition from Aeronautical Information Services (AIS) to Aeronautical Information Management (AIM), including implementation status measured against the performance expectations of the Regional Plan for Collaborative AIM.

Fatigue Risk Management in Air Traffic Services (PPT/01)

3.2.121 One of the APANPIRG/33 sponsors, LAMINAAR Aviation Infotec provided a presentation on Fatigue risk management in Air Traffic Services.

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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 Twelfth Meeting of the Future Air Navigation Services (FANS) Interoperability Team-Asia (FIT-Asia/12) and the Twenty-Seventh Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/27) were held by video teleconference from 25 to 28 July 2022 and 22 to 25 August 2022 respectively.

FIT-Asia/12 Meeting Outcomes

3.3.2 FIT-Asia/12 had been informed that the reduced number of data link problem reports (PRs) submitted in the last 12 months reflected the dramatic decrease in air traffic due to the impact of the COVID-19 pandemic.

3.3.3 FIT-Asia/12 had agreed to adopt the FANS1/A CPDLC latency timer value of 300 seconds which was also implemented under trial for several years in the NAT Region, and was now formalized in the North Atlantic Operations and Airspace Manual. The RASMAG/27 meeting had agreed to the following Conclusion drafted by FIT-Asia/12:

Conclusion RASMAG/27-1: CPDLC Latency Monitor Value

That, recognizing:

the need for aircraft to provide an appropriate indication when the age of the time stamp of a received CPDLC message exceeds a defined value (latency timer value), in accordance with ICAO Doc 9869 PBCS Manual safety requirement SR-15; and

the need for a single, standardized global value.

The Asia-Pacific region adopts a latency timer value of 300 seconds for use in oceanic airspace.

3.3.4 India highlighted that ATM automation system capability should also be taken into account when implementing the latency monitor. The Secretariat would further explore this issue and update India accordingly.

3.3.5 A total of 19 APAC Administrations had responded to the annual Survey of the Status of Current and Planned Implementation of Performance-Based Horizontal Separation Minima prior to FIT-Asia/11 (2021). Only Australia, Indonesia, Singapore and Thailand provided their annual survey response for 2022. ICAO had provided further information on the need for an update of the survey form, and had proposed that the annual submission date for both the survey form and the PBCS performance monitoring data (ANSP to FIT) be brought forward to 28 February each year.

3.3.6 The RASMAG/27 meeting had agreed to **Conclusion RASMAG/27-2: Updated Reporting of PBCS Implementation Status and Performance Monitoring Data**, supporting the revised survey form and the revised survey and performance data reporting date.

3.3.7 The annual Asia/Pacific Region Combined Performance-Based Communications and Surveillance (PBCS) report highlighted consolidated performance data and issues associated with Automatic Dependent Surveillance – Contract (ADS-C) Actual Surveillance Performance (ASP) and Controller – Pilot Data Link Communications (CPDLC) Actual Communications Performance (ACP) for the region.

Overall ASP and ACP for the region had met the 95% criterion¹. While the volume of the data count had slightly increased in 2021, the trend of regional performance in both the 95% and 99.9% criteria had generally improved.

RASMAG/27 Meeting Outcomes

3.3.8 The Monitoring Agency for the Asian Region (MAAR) had presented a combined summary of the safety analysis results for the Asia/Pacific Region, on behalf of the Asia/Pacific Regional Monitoring Agencies (RMAs) and Enroute Monitoring Agencies (EMAs). The report was divided into the Pacific (PAC) area, and Asia area.

3.3.9 The estimated vertical collision risk for 2021 for the Pacific (PAC) area did not meet the Target Level of Safety (TLS) (**Table 3.3-1**). The overall vertical risk had been increasing from 2016 to 2021 due to improvements in reporting. The PAC vertical collision risk estimates had been above TLS and trending upwards each year from 2016 to 2019. In 2020, there was a significant fall in the risk estimate, reflecting the reduction in traffic volumes caused by the COVID-19 pandemic, before resuming the upward trend in 2021. The estimated horizontal collision risk for 2021 for the PAC area met TLS in all longitudinal and lateral risk categories.

Pacific Area – annual flying hours = 2,159,665			
Source of Risk	Risk Estimation	TLS	Remarks
Vertical Technical Risk	0.14×10^{-9}	2.5×10^{-9}	Below Technical TLS
Vertical Operational Risk	19.61×10^{-9}	-	-
2021 Vertical Overall Risk	19.74×10^{-9}	5.0×10^{-9}	Above TLS

Table 3.3-1: Pacific Area Vertical Collision Risk 2021

3.3.10 There was a total of 123 Large Height Deviations (LHDs) in the Pacific area in 2021 (increased from 91 in 2020), with total duration 508.40 minutes and 65 levels crossed. 16 of the occurrences were Category² A, B or C (13%), 80 were Category D, E or F (65%), six were Category G (5%), 11 were Category I (9%), and nine were Category J.

3.3.11 The estimated horizontal collision risk for 2021 for the PAC area met TLS in all longitudinal and lateral risk categories.

¹ ASP and ACP: 95% of transactions completed within 90 seconds.

² 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.

3.3.12 There was a total of 137 Large Lateral Deviations (LLDs) and Large Longitudinal Errors (LLEs) in the Pacific area in 2021 (increased from 109 in 2020), with a total duration of 664 minutes and total horizontal deviation of 597NM. 105 of the occurrences were Category E (77%), 11 were Category A or B (8%), 1 was Category G (< 1%) and 5 were Category H (4%).

3.3.13 The estimated vertical collision risk for 2021 for the Asia area met TLS (**Table 3.3-2**). The overall risk continued to decline since 2017 due to various safety improvement initiatives.

Asia Area – annual flying hours = 5,404,154 hours			
Source of Risk	Risk Estimation	TLS	Remarks
Vertical Technical Risk	0.32×10^{-9}	2.5×10^{-9}	Below Technical TLS
Vertical Operational Risk	3.71×10^{-9}	-	-
2020 Vertical Overall Risk	4.03×10^{-9}	5.0×10^{-9}	Below TLS

Table 3.3-2: Asia Area Vertical Collision Risk 2021

3.3.14 The Asia vertical collision risk estimates had been above TLS each year from 2016 to 2019 and trending downwards since 2017. In 2020 there was a significant fall in the risk estimate, while still remaining above TLS, reflecting the reduction in traffic volumes caused by the COVID-19 pandemic (**Table 3.3-3**). The 2021 vertical collision risk estimate was below TLS. There was a total of 379 LHDs reported in the Asia area in 2021, with total duration 339 minutes and 115 levels crossed.

Year	Vertical Overall Risk Estimate (x 10^{-9} FAPFH)	Remark
2021	4.03	Below TLS
2020	7.42	Above TLS
2019	12.88	Above TLS
2018	15.50	Above TLS
2017	27.30	Above TLS
2016	12.53	Above TLS

Table 3.3-3: Asia Area Vertical Collision Risk Estimates 2016 – 2021

3.3.15 The estimated horizontal collision risk for 2021 for the Asia area met TLS in all longitudinal and lateral risk categories. There was one LLD reported in the Asia area in 2021, with a duration of 29 minutes.

3.3.16 RASMAG/27 considered that all current Large Height Deviation (LHD) hot spots should be retained due to the continuing reduced traffic resulting from the COVID-19 pandemic. The hot spots would be reviewed at RASMAG/28.

3.3.17 Indonesia informed the Meeting that they would work towards improvement for the next RASMAG.

3.3.18 Noting that the process of identifying, monitoring and removing LHD hot spots had been developed informally over several years to focus RASMAG attention on areas that required special attention, a draft process for identifying, monitoring and removing LHD hot spots had been developed by the Monitoring Agencies Working Group (MAWG). The regional monitoring agencies had trialled the draft process in their safety reports for RASMAG/27. It had been noted by RASMAG/27 that the trial hotspot identification process was subjective to some degree and difficult to standardize, but supported continuation of this activity with a view to its future formalization.

3.3.19 RASMAG/27 was provided a list of rogue State aircraft (from States under MAAR responsibility) that were reported on the European Air Navigation Region Bulletin (version 17.7, updated July 15, 2022). These aircraft were identified as RVSM non-approved aircraft operating within the European region by filing 'W' in their flight plan but did not have matching RVSM approval records in the global RVSM approval combined snapshot.

3.3.20 Germany had requested that the EUROCONTROL Integrated Initial Flight Plan Processing System (IFPS) reject flight plans for such aircraft planning to operate in RVSM designated airspace over Germany. A proposal to extend the scheme throughout the area covered by the IFPS would be submitted to EANPG.

3.3.21 RASMAG/27 had reviewed the APANPIRG ATM and Airspace Safety Deficiency List. The updated Deficiencies agreed by RASMAG/27 were presented separately under Agenda Item 4.

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Agenda Item 3: Performance Framework for Regional air navigation planning and implementation

3.4 CNS Matters

3.4.1 APANPIRG/33 reviewed the outcomes of the Twenty Sixth Meeting of the Communications, Navigation and Surveillance Sub-group (CNS SG/26) of APANPIRG held from 5 to 9 September 2022 via Video Tele-Conference (VTC). The Meeting noted with appreciation the work done and achievements by the SG and the contributory bodies reporting to APANPIRG through the SG, and discussed CNS related matters and took the following actions on the report of CNS SG/26 meeting and other papers presented under Agenda Item 3.4.

Report of CNS SG/26 (WP/12)

3.4.2 The full report and papers of the CNS SG/26 meeting were available on the following webpage: <https://www.icao.int/APAC/Meetings/Pages/2022-CNS-SG-26.aspx>

3.4.3 APANPIRG/33 noted that a number of contributory bodies of APANPIRG have held their meetings via video teleconferences listed below which contributed discussion outcomes to CNS SG/26, and webinars/workshops held to increase awareness and understanding on various topics for the Region to support their planning and implementation:

No.	Meeting/Seminar/Workshop in 2022
1	CRV OG/9 (25-27 January)
2	SRWG/6 (1-3 March)
3	SURSG/2 (15-17 March)
4	PBNICG/9 (22-24 March - RSO)
5	Mode S Workshop (22 March)
6	DAPs WG/ (23-25 March)
7	CRV OG/10 (18 April)
8	ACSICG/9 (19-21 April)
9	GBAS/SBAS ITF/4 (11-12 May - RSO)
10	SWIM TF/6 (17-20 May)
11	SURICG/7 (24-27 May)
12	ATMAS Webinar (7 June)
13	ATMAS TF/3 (8-10 June)
14	CRV Webinar (29 June)
15	5G&RA webinar (23 August)

3.4.4 APANPIRG/33 also noted that CNS SG/26 meeting had adopted the following 5 Conclusions and 2 Decisions on technical and operational matters:

Reference	Subject
Conclusion CNS SG/26/03 (ACSICG/09/04)	- Revised AFTN/ATSMHS Routing Directory
Decision CNS SG/26/04 (SWIM TF/06/01))	- The Use of the Internet for MET Information Services in Regional SWIM architecture
Decision CNS SG/26/07 (SWIM TF/06/06)	- Revised SWIM TF Terms of Reference
Conclusion CNS/SG/26/09	- Update of Flight Inspection Guidance Material (FIGM)

Conclusion CNS SG/26/10
(SURICG/7/1 (DAPs WG/5/1))

- Mode S DAPs IGD 4.0

Conclusion CNS SG/26/12
(SURICG/7/4)

- Revised ADS-B Implementation and Operations Guidance Document (AIGD)

Conclusion CNS SG/26/13
(ATMAS TF/3/1)

- ATMAS IGD Edition 1.0

3.4.5 APANPIRG/33 further noted that the SG had identified a number of action items related to CNS. Member States were encouraged to take active follow-up actions on CNS related action items resulted from the relevant meetings.

Aeronautical Fixed Service (AFS)

Outcome of ACSICG/9

3.4.6 APANPIRG/33 noted that CNS SG/26 reviewed the various topics discussed in ACSICG/9, updated the AMHS/ATN implementation status in States, reviewed the outcomes of CRV OG/9 and CRV OG/10 meetings which included discussions on the upgrade/downgrade CRV circuits subscribed and contract extension requirements, discussed and addressed the implementation issues, further explored Inter-regional AFS connection, and shared experience on AFS related cybersecurity issues.

Updates on CRV Pioneer State Contribution to the ICAO Managed Service Agreement

3.4.7 The ICAO Secretariat informed that in CRV OG/2 about the fund balance of USD 104,596 and proposed a draft of revision of Annex 1b to the Management Service Agreement (MSA), and adopted as Conclusion APANPIRG/28/19: *Amendment of the Management Service Agreement for CRV project (RAS14801)* which remains as one of outstanding Conclusions/Decisions up to APANPIRG/32 held in December 2021. With the efforts of the ICAO Secretariat, ICAO TCB, CRV OG co-chairs and ACSICG Chair, the Revised Annex 1 to MSA was prepared that the fund will be utilised in the span of 5 years starting from 31 March 2022 to 31 March 2027. The CRV OG/9 meeting requested Member States to provide examples of activities under different categories provided in scope of supporting CRV Network as described in section 10.5 as an action item of CRV OG/9. The following Conclusion was adopted for the next step for using the rest of CRV Pioneer State Contribution to the ICAO MSA, which superseded the Conclusion APANPIRG/28/19.

Conclusion APANPIRG/33/6 (CNS SG/26/01 (ACSICG/09/01 (CRV OG/09/01))):

Revised Amendment of the Management Service Agreement for CRV project (RAS14801)

What: Recognizing that ICAO Technical Cooperation Bureau satisfactorily completed all the defined work items in the initial Management Service Agreement (MSA) and Project Document of RAS14801, that the required payments were settled, and that in end 2016, all the requirements of both parties have been fully completed and closed on record, That,

i) all Pioneer States are encouraged to counter-sign the **Revised amended Pro Document provided in Appendix A to Agenda Item 3.4;**

ii) any Pioneer State not countersigning is entitled to get its share of the remaining fund balance back. and

Expected impact:

- ☐ Political / Global
- ☐ Inter-regional
- ☒ Economic
- ☐ Environmental
- ☒ Ops/Technical

iii) a Pioneer State for which a direct CRV connection is not considered feasible in 2017 by the selected vendor is entitled to get its initial contribution in full		
Why: The initial scope of MSA was completed by ICAO TCB which allowed for a successful evaluation process and selection of a best and final offer; a majority of Pioneer States is willing to use the rest of their initial contribution to continue to support CRV implementation.	Follow-up: ☒ Required from States	
When: 24-Nov-22	Status: Adopted by PIRG	
Who: ☒ Sub groups ☒ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other:		

Proposal to Extend CRV Contract

3.4.8 The first meeting of ICAO CRV Steering Group created by CRV OG/9 reviewed and discussed the requirement of additional efforts to support pacific Member States to join CRV, and advised to extend the contract duration for **one additional year**. Endorsed in CRV OG/10, ACSICG/9 and CNS SG/26, the Meeting adopted the following Conclusion:

Conclusion APANPIRG/33/7 (CNS SG/26/02 (ACSICG/09/02 (CRV OG/10/01))): Extension of CRV Contract for one year		
What: a) Recognizing that as per current contract, all authorities shall join the CRV project and sign the relevant Service Contract(s) with PCCWG with the billing start date on or before 31 December 2022 to not impose additional charges by the service provider and based on the survey responses of 2022, many Member States are in process to join CRV which may not be completed by December 2022, it is recommended to extend current CRV contract for one year . b) If agreed to extend, as per amended CRV contract, all authorities shall join the CRV program and sign the relevant Service Contract(s) with PCCWG with the billing start date on or before 31 December 2023 to not impose additional charges by the service provider. c) After the extension, the CRV contract expiry date will be 31 December 2028 .		Expected impact: ☐ Political / Global ☐ Inter-regional ☒ Economic ☐ Environmental ☒ Ops/Technical
Why: Several ICAO Member States have requested to extend CRV contract due to COVID-19 pandemic in CRV Implementation webinar held in 2021 and based on the response of the survey done in 2022, many Member States are in process to join CRV which may not be completed by December 2022.	Follow-up: ☒ Required from States	
When: 24-Nov-22	Status: Adopted by PIRG	
Who: ☒ Sub groups ☒ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other:		

Other AFS-related topics

3.4.9 APANPIRG/33 reviewed the proposal endorsed of the upgrade/downgrade/addition of new services or sites in CRV contract and the further work for revision of relevant documentation of CRV common package. The Meeting also noted of the publication of the ICAO APAC CRV OG Operations Manual as Version 1.1 via *Decision ACSICG/09/03*, the publish of Revised AFTN/ATSMHS Routing Directory as 29th Edition via *Conclusion CNS SG/26/03 (ACSICG/09/04)*, the current discussion status of interconnection of CRV with REDDIG II and new PENS, the discussion on Aeronautical Fixed Service (AFS) Cybersecurity Considerations for Information over CRV, the review on AMHS readiness status for supporting IWXXM Traffic of the States/Administrations in support to the monitoring of *Beijing Declaration* with a summary provided at **Appendix B to Agenda 3.4**, and the request on ATS Messaging Management Centre to invite all COM Centres to update their FTBP capabilities information.

Information Management (IM)

Outcome of SWIM TF/6

Consideration of SWIM Architecture for Efficient Provision of MET Information Services

3.4.10 With the operational needs of efficient MET information service provision, the Use of the Internet for MET Information Services in Regional SWIM architecture was endorsed as *Decision CNS SG/26/04 (SWIM TF/06/01)* to include the use of Internet for meteorological information services in designing the regional SWIM architecture. The SWIM TF/6 meeting also discussed the need of participation of MET experts in SWIM TF and requested Member States to nominate MET experts to contribute and participate in various tasks of SWIM TF. The Meeting also noted that the revised SWIM TF ToR was adopted by CNS SG via *Decision CNS SG/26/07*.

Harmonization of the Asia-Pacific SWIM Implementation Initiatives and Timeline

3.4.11 Considering the need to align all the timelines across different ICAO Air Navigation Commission Technical Panels regarding components related to SWIM to assist States in planning their investment and transition, APANPIRG/33 adopted the following Decision:

Decision APANPIRG/33/8 (CNS SG/26/05 (SWIM TF/06/03)): Harmonization of Timelines for SWIM-related Initiatives	
What: To feedback to the ICAO Air Navigation Commission Technical Panels for a need to harmonize the implementation timelines of SWIM-related initiatives.	Expected impact: ☒ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: There exists different timelines for the implementation of SWIM-related initiatives identified by various ICAO ANC Technical Panels. This creates confusion within States on their corresponding implementation sequences and as to how these different timelines are to be met.	Follow-up: ☐ Required from States
When: 24-Nov-22	Status: Adopted by PIRG
Who: ☒ Sub groups ☐ APAC States ☒ ICAO APAC RO ☒ ICAO HQ ☒ Other: SWIM TF	

SWIM Implementation and the Asia-Pacific Seamless ANS Plan

3.4.12 To align the relationship between SWIM implementation in Asia/Pacific and the Asia-Pacific Seamless ANS Plan, it was proposed that CNS SG and SWIM TF consider including SWIM implementation as part of Performance Improvement Plan in the next edition the Asia-Pacific Seamless ANS Plan aligned with SWIM implementation timeframe. Considering that APAC SWIM Timeline is proposed to be started from 2024 and to incorporate into the Seamless ANS Plan v5.0, which will be published in 2025, the SWIM TF/6 meeting agreed to add SWIM-B2/1- Information Service Provision and SWIM-B2/2- Information Service Consumption under Priority Two in the Seamless ANS Plan v4.0 to be published in 2022. The content to be added to the plan was proposed in **Appendix C to Agenda Item 3.4**. Accordingly, APANPIRG/33 adopted the following Conclusion:

Conclusion APANPIRG/33/9 (CNS SG/26/06 (SWIM TF/06/02, SWIM TF/06/04)): The Asia-Pacific SWIM Implementation Timeframe and inclusion of the Asia-Pacific SWIM Implementation in the Asia-Pacific Seamless ANS Plan	
What: 1. To set the timeframe for the implementation of SWIM in the Asia-Pacific region to be between 2024 and 2030, with 2030 being the target timeline for implementation completion. 2. To include SWIM implementation in the next edition of the Asia-Pacific Seamless ANS Plan.	Expected impact: ☐ Political / Global ☐ Inter-regional ☒ Economic ☐ Environmental ☒ Ops/Technical
Why: This is to set the concrete target implementation of the Asia-Pacific regional SWIM to assist States in harmonizing their implementation plans in order to achieve the seamless information exchange across the region in time for future operations, e.g. FF-ICE. Additionally, to ensure that SWIM, a key building block to achieve the vision outlined in ICAO Doc 9854 Global ATM Operational Concept (GATMOC), is captured in the Asia-Pacific Seamless ANS Plan, providing an overall framework for Asia-Pacific States to plan their implementations to meet the future performance requirements.	Follow-up: ☒ Required from States
When: 24-Nov-22	Status: Adopted by PIRG
Who: ☒ Sub groups ☒ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☒ Other: SWIM TF	

Other IM-related Topics

3.4.13 APANPIRG/33 noted the result of Asia-Pacific SWIM Implementation Plan and Status Survey and its subsequent recommendations, and the discussion on a proposal to establish a Joint Work Group between the ATM SG and CNS SG to Create the FF-ICE Implementation Strategy, which the CNS SG/26 meeting deliberated at length on the rationale and appropriate timing for the proposal that the CNS SG/26 deemed important to consider how best we could make use of the existing contributory bodies under the CNS SG, as well as the implementation of FF-ICE by its nature requires a strong and close coordination and cooperation between operational and technical experts. Noting that ATM Automation System Task Force will host a half-day seminar in conjunction with its 4th meeting in 2023 to discuss topics of interest including FF-ICE, SWIM, system interoperability, etc., the CNS SG/26 requested the ICAO Secretariat to ensure that SWIM TF and ACSICG experts are involved in the FF-ICE workshop/webinar/seminar to be held by ATMAS TF.

Aeronautical Mobile Communications Service and Aeronautical electromagnetic spectrum utilization

Outcome of SRWG/6 and Frequency Spectrum related Issues

Aeronautical Frequency Spectrum Coordination and Planning Criteria in APAC

3.4.14 APANPIRG/33 reviewed the current practices and coordination procedures for aeronautical facilities and services operating in the aeronautical frequency bands and the evolution of planning criteria employed. States should coordinate in principle with the Regional Office for all frequency assignments that may affect the use of frequency assignments coordinated through the ICAO mechanism. Not doing so will ultimately result in unforeseen interference, less efficient and less flexible assignment coordination and planning in a congested environment, as there will not be any possibility of optimizing assignments to solve congestion, as well as for a chance to conduct a meaningful simulation at the regional level. The Secretariat raised that use of frequencies belongs to States themselves and thus needs to encourage States to coordinate with ICAO office to avoid possible interference. With consideration that frequencies should be coordinated before deployment by default to avoid undesirable interference, the Chair suggested the Secretariat to issue a State Letter for promulgating the *Draft Conclusion SRWG/6/1 - Frequency coordination for aeronautical frequency bands of 190-526.5 kHz, 108-117.975 MHz, 960- 1215 MHz and 117.975-137 MHz*.

3.4.15 The Meeting discussed the frequency planning principles adopted by the ASIA/PAC/3 RAN Meeting in 1993 which covered NDB (List 1), VOR, DME and ILS (List 2), VHF COM (List 3). The latest revisions of the Handbook on Radio Frequency Spectrum Requirement for Civil Aviation (Doc 9718) Volumes I and II have been approved by the Secretary-General and published in early 2022. Subsequently, the revised planning criteria contained in the revision for compatibility assessment of frequency assignments to VHF COM systems and NAV systems (ILS, VOR, DME and GBAS/VDB) have been incorporated in the new release of the Frequency Finder tool. With the Doc 9718 overrides previous RAN meeting outcome, the Meeting adopted following Conclusion:

Conclusion APANPIRG/33/10 (CNS SG/26/08 (SRWG/6/2)): Planning Principle for Aeronautical Frequency Bands of 108-117.975 MHz, 960-1215 MHz and 117.975-137 MHz	
What: That, Doc 9718, Handbook on Radio Frequency Spectrum Requirements for Civil Aviation, Volume II, Second Edition – 2022, is adopted as the planning principle for aeronautical facilities and services operating in the aeronautical frequency bands of 108-117.975 MHz, 960- 1215 MHz and 117.975- 137 MHz in APAC.	Expected impact: ☐ Political / Global ☒ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To implement the updated ICAO provisions	Follow-up: ☐ Required from States
When: 24-Nov-22	Status: Adopted by PIRG
Who: ☒ Sub groups ☒ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other: -	

3.4.16 The Meeting noted the other discussions in SRWG/6, including the analysis on survey outcomes of VHF COM Simulation for 2030 and a frequency simulation for India conducted by ICAO Headquarter to demonstrate the frequency planning techniques with actual situation to estimate the future traffic growth and subsequently the need for an increase in frequency channels. The Meeting also noted the preparation for implementation of VHF COM 8.33 kHz channel spacing requirements and relevant issues identified by Indonesia, and the outcome of ad-hoc group activities and initial survey result of the introduction of 50 kHz channel spacing for ILS and VOR Facilities in

APAC. The Meeting also noted the updates to the Frequency Finder Tool provided by ICAO Headquarters, and the review on the draft of APAC Regional Aeronautical Radio Frequency Management Guidance Material which to be further reviewed by States. Outcomes of relevant meetings and regional updates, including the Outcomes of APT-ICAO Webinar on 5G Implementation and Radio Altimeter, Amendment 91 to Annex 10 Volume III on SELCAL, and the outcome of APG23-4 Meeting, were also provided to the Meeting.

Navigation

Outcomes of PBNICG/9 Meeting

3.4.17 APANPIRG/33 noted the global PBN implementation status at international airports presented by the secretariat in PBNICG/9. The current implementation status of Asia/Pacific Regional Transition Plan for RNP APCH Chart Identification from RNAV to RNP, and the global PBN implementation status as available in ICAO iSTARS were also presented. ICAO informed that implementation of APV procedures for all instrument runway ends by 2016, key requirement of ICAO Assembly Resolution A37-11, was behind global achievement. However, implementation of PBN SID/STAR were above the global implementation status.

3.4.18 Discrepancy about the list of International Airports in iSTARS and ANP had been resolved after extensive coordination with iSTARS team. This data is reflected in PBN Implementation of the States, and all APAC States should update their list of Airports in ANP Vol-I & Vol-II as urged by APANPIRG/31 in order to display a more accurate data of implementation.

3.4.19 The Implementation status of the regional transition plan for RNP APCH chart identification from RNAV to RNP, Asia/Pacific Regional Transition Plan for RNP APCH Chart Identification from RNAV to RNP as adopted by APANPIRG/30 vide Conclusion APANPIRG/30/14 (CNS SG/23/8-PBNICG/6/1) were presented, and States were reminded about target date as November 2022 for RNP transition.

Outcomes of GBAS/SBAS ITF/4 Meeting

3.4.20 APANPIRG/33 noted the status and outcomes from the activities of the Expert Group for revision of the GBAS and SBAS safety assessment guidance documents related to anomalous ionospheric conditions and timeline for the work of the Expert Group. The group reviewed the GBAS and SBAS safety assessment guidance documents related to anomalous ionospheric conditions published in 2016, and identified points to be updated. The outcomes from a review of SBAS Safety Assessment Guidance Document Related to Ionospheric Anomalies and those new proposed contents of the document were also discussed in the ITF/4.

3.4.21 The ITF/4 also reviewed a draft guidance reference document for implementation of GBAS/SBAS in the Asia/Pacific Region, which the document would be prepared to present a holistic view of implementation from the initial phase for the analysis of operational needs to the phase for conducting post-implementation review. States' experience in implementation of GBAS/SBAS and specific consideration(s), such as ionospheric impacts in low altitude region, only particularly applicable to the Asia/Pacific Region would be incorporated.

Other Navigation Issues

3.4.22 The Flight Inspection Guidance Material (FIGM) is subject to regular review and update for on-going development of flight inspection standards and recommended practices. To cope with the dynamic pandemic situation, new paragraphs were proposed to provide additional guidance on the advance planning for arranging flight inspections under pandemic situation. In addition, new paragraphs were proposed to adopt surveillance flight inspection to the safety-critical navigation

systems as part of the commissioning flight inspection programme, and on the application of UAS for flight inspection. With the aforementioned, the *Conclusion CNS SG/26/09 - Update of Flight Inspection Guidance Material (FIGM)* was adopted by CNS SG/26. Besides, the Meeting noted that CNS SG/26 shared the information on ITU Circular Letter CR/488 on Prevention of Interference to GNSS, and also the BDS standardization status in ICAO Headquarters.

Surveillance

Outcomes of SURICG/7 Meeting

3.4.23 APANPIRG/33 reviewed the outcomes of SURICG/7 including the achievements made by the Fifth Meeting of Mode S Downlinked Aircraft Parameters Working Group (DAPs WG/5) and the Second Meeting of the Surveillance Study Group (SURSG/2).

Review Report of Mode S DAPs WG/5

3.4.24 APANPIRG/33 noted that the APAC Regional Workshop on Mode S Implementation was held in conjunction with Mode S DAPs WG/5. The papers and issues discussed covered Interregional IC Coordination, Guidance Material for Assignment of Interrogator Codes (IC) for MLAT and ADS-B, Reservation of IC Codes 14 and 15 for Research and Military, Trials of Mode S Surveillance Co-ordination Network, Upper Air Wind Speed Estimation based on Mode S SSR DAPs, Management of 1030/1090MHz Utilization, Planning Criteria for II/SI Code Assignment.

3.4.25 The Mode S DAPs Implementation and Operations Guidance Document was reviewed to include ADS-B DAPs and their benefits, the mandate of implementing ADS-B DAPs, the Mode S extended squitter transponder capability to broadcast ADS-B DAPs, and the application of ADS-B DAPs in the ATM automation system. CNS SG/26 subsequently endorsed the Conclusion CNS SG/26/10 (*SURICG/7/1 (DAPs WG/5/1)*): Mode S DAPs IGD 4.0.

3.4.26 The proposals for amending the Aeronautical Surveillance Manual (Doc. 9924) Appendix H and J were reviewed in CNS SG/26. The proposed text was still being worked out, and Surveillance Panel's Chair commented that the enhancement work could be completed by SP/5 in fall 2023.

3.4.27 The proposal from DAPs Working Group to rename the Group and update its Terms of Reference (ToR) to better reflect the current work scope that covers not only DAPs but also Mode S radars was reviewed in SURICG/7. After deliberation, SURICG/7 considered it appropriate to rename the Group as "Mode S and DAPs Working Group", and endorsed the Decision SURICG/7/2.

Review Report of SURSG/2

3.4.28 SURSG/2 provided a progress summary of SURSG tasks since SURSG/1, listed out major recommendations in the Study Report, and proposed way forwards for the recommendations for members' discussions and decisions. SURSG/2 reviewed and deliberated the recommendations and moving forward proposals provided in the Table. The details of revised high-level recommendation and moving forward agreed by SURSG/2 were provided in the paper.

3.4.29 SURSG/2 deliberated and approved the necessity for establishment of the Surveillance Sharing in SWIM Trial Implementation Group (S3TIG) to oversee a trial proposed by the recommendation. SURICG/7 suggested that it would be more effective to form S3TIG as an ad-hoc group within SURSG in lieu of a contributory body under SURSG.

3.4.30 SURSG/2 discussed the Surveillance Data Sharing Proof of Concept (POC) conducted by HKCAD, PCCWG and Frequentis ComSoft. PCCWG shared the outcomes of a POC

conducted on 4 March 2022, which was the collaboration of HKCAD, PCCWG and partner Frequentis ComSoft to demonstrate sharing ADS-B data in a simulated SWIM over CRV environment and the benefits of a Surveillance Central Data Processor (SCDP). PCCWG prepared a video to introduce the POC exercise which was presented in SURICG/7.

3.4.31 ROK presented its efforts to Implement FF-ICE Interoperability using Globally Unique Flight Identifier (GUFI) in SWIM Environment. The SURSG/2 meeting noted that by introduction of GUFI to the surveillance data, it not only solved mismatch problems on co-relation between FPL and surveillance data by Call sign, DoF, departure/arrival aerodrome, but also made the co-relation become simple and reliable. Additionally, ROK shared the detailed method of introducing the GUFI in the surveillance information domain.

Review APAC Regional Surveillance Strategy

3.4.32 The Surveillance Strategy for the APAC Region is expected to be regularly reviewed to cope with the prevailing circumstances and developments. The ICAO Secretariat presented the last version of the Surveillance Strategy for the APAC Region adopted in 2019 for review. SURICG/7 reviewed the comments/views received for revising the Surveillance Strategy, discussed the amendment proposals, formulated the revised Strategy, and further discussed and endorsed by CNS SG/26. Subsequently, APANPIRG/33 adopted the Conclusion as follows:

Conclusion APANPIRG/33/11 (CNS SG/26/11 (SURICG/7/3)): Revised Surveillance Strategy for the APAC Region	
What: That, the Revised Surveillance Strategy for the APAC Region provided in Appendix D to Agenda Item 3.4 be adopted.	Expected impact: ☐ Political / Global ☒ Inter-regional ☒ Economic ☐ Environmental ☒ Ops/Technical
Why: To reflect the outcome of the latest development in surveillance technology.	Follow-up: ☒ Required from States
When: 24-Nov-22	Status: Adopted by PIRG
Who: ☒ Sub groups ☒ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☒ Other: SURICG	

Other Surveillance-related Topics

3.4.33 APANPIRG/33 noted that the CNS SG/26 reviewed surveillance topics including the 1090MHz occupancy monitoring in the Region and best practices, the evaluation of Space Based ADS-B in APAC, updates to revised ADS-B Implementation and Operations Guidance Document (AIGD) as *Conclusion CNS SG/26/12 (SURICG/7/4)*, the work done in generating ATS Surveillance and DCPC VHF Coverage Charts for APAC Region, the follow-up of Inconsistent ICAO Aircraft Address and Target Identification between Surveillance Data and Flight Plan and also other surveillance implementation updates from States.

Automation

Outcome of ATMAS TF/3 Meeting and ATM Automation System related Issues

Webinar on Implementation of ATM Automation System

3.4.34 The Webinar on Implementation of ATM Automation System was organized in conjunction with the ATMAS TF/3 meeting on 7 June 2022. The Webinar was conducted to cover Experience Sharing of Practices, and System Integration and Interoperability respectively. It provided

the APAC Region an update on the latest developments and practices related to ATM automation systems at global and regional levels. Total eight comprehensive presentations from contributors were presented during the webinar.

Repository of the ATMAS in APAC

3.4.35 The table of ATMAS status in APAC region, re-designed and re-formatted by the ad-hoc group led by Indonesia, has been reviewed and adopted by the ATMAS TF/3 meeting. State Letter Ref.: T 8/12.18: AP139/22 (CNS) has been issued on 21 October 2022 to invite States/Administrations to complete and return the table of ATMAS Status in APAC Region.

Air Traffic Management Automation System Implementation and Operations Guidance Document (ATMAS IGD)

3.4.36 APANPIRG/33 noted that the ATMAS IGD was adopted by ATMAS TF/3 and CNS SG/26 via *Conclusion CNS SG/26/13 (ATMAS TF/3/1) - Air Traffic Management Automation System Implementation and Operations Guidance Document (1.0)*.

Other ATM Automation System related topics

3.4.37 APANPIRG/33 noted the Repository of AIDC Implementation Status in APAC was formulated, and invited States to validate and supplement the information in the Repository via State Letter Ref.: T 8/3.5: AP135/22 (CNS) on 17 October 2022. The Meeting also noted the discussion of the consolidated implementation issues reported and resolved.

CNS Review and Updates

CNS Deficiencies

3.4.38 The only outstanding issue was related to unreliability of AFS communication between Afghanistan and Pakistan. Poor performance of AFS including data communication between Kabul and Karachi and ATS voice communication between Lahore and Kabul had become issues of regional concerns. In addition, the Meeting noted WP/10 of ATM SG/9 regarding the IFALPA defined deficiencies, States/Administrations are encouraged to take note of CNS-related IFALPA deficiencies, and take proper action to address these IFALPA deficiencies. Air Navigation Deficiencies were reviewed under Agenda Item 4 of the Meeting.

Other Global and Regional Issues

3.4.39 The CNS SG/26 meeting reviewed Regional CNS Requirements in ICAO APAC e-ANP, Seamless ANS Plan and National Air Navigation Plan (NANP), the regional commitment progress on Beijing Declaration Implementation Related to CNS, as well as updates on Seamless ANS Plan. The meeting also shared the Update on ICAO GANP Study Group related to CNS and the presentation from CNSS Section and Airport Operations and Infrastructure (AOI) Section, ANB, ICAO HQ, regarding global developments on CNS.

Human Factors and Air Traffic Safety Electronics Personnel (ATSEP)

Review Outcomes of Small Working Group Study on Human Factor Issues of ATSEP

3.4.40 IFATSEA-led Small Working Group on human factor issues of ATSEP presented the draft guidance material for review in the CNS SG/26 meeting. ICAO Secretariat suggested to share the guidance material with APAC Member States for their comments and observations via State

Letter. The CNS SG/26 meeting encouraged Member States to review the guidance material and respond to the State Letter in a timely manner.

Standardizing the ATSEP Training for the Successful Implementation of the GANP

3.4.41 APANPIRG/33 noted in CNS SG/26 a request was made on specifying initial training for certain prioritized modules of ASBU as an integral part of GANP. ICAO Secretariat noted the deliberation and will work with IFATSEA to share with the relevant expert group of ICAO HQ and the deliberation be evaluated along with other topics identified as valuable to the ATSEP training objectives.

Cybersecurity and New Technologies

Updates on ICAO International Aviation Trust Framework

3.4.42 APANPIRG/33 noted the sharing of recent development ICAO's work on building an International Aviation Trust Framework since CNS SG/25, including developments of TFSG, information security framework (ISF), new proof of concept exercise, and digital identity. The meeting was informed that several papers on the trust framework and cybersecurity were received for A41, and ICAO is working on SkyTalk and sidebar meetings to promote cyber activities within ICAO.

Application of New Technologies

3.4.43 Apart from encouraging the Member States to share their experience on new technologies application, as the response to APANPIRG's call on enhancing engagement with the industry, CNS SG and its contributory bodies invited various industry partners to share and update the latest progress in relevant areas. The sharing and discussions covered Surface Security Enhancement Application Based on Voice and Photoelectric Intelligent Assistant; Enhancement of AeroMACS SARPs and Technical Manual; LEO Navigation Augmentation Concept, Constellation Construction and Civil Aviation Application Research; Digital Tower and Apron Management System to Support Safe and Efficient Operation, etc.

Industry Presentations

3.4.44 There were four industry presentations invited in CNS SG/26. *CETC Glarun Technology* presented Comprehensive Applications of the Radar-based Monitoring Systems in Airport; *Searidge* presented the Resilience, Recovery, Refocus as its 3Rs concept applied in the process to implement digital tower; *Huawei* presented Advanced Digitization Facilitating Air Traffic Development; and *Saab* shared its Experience on Digital Towers.

CNS Works and Other Business

Impact of COVID-19 to CNS Works in 2022

3.4.45 Due to the decline in implementation of CNS/ATM projects by the Member States, the planned programme has been postponed or has broken into phases and the harmonisation of implementing activities between neighbouring States and among stakeholders became more difficult.

Tracking CNS-Related APANPIRG Conclusions/Decisions

3.4.46 In view of the importance of the APANPIRG Conclusions/Decisions, the Secretariat has reviewed the reports of the former meetings from APANPIRG/1 to APANPIRG/32, extracted more than 600 CNS-related APANPIRG Conclusions/Decisions from the reports on various media,

and consolidated in one Microsoft Excel table with marked status as *in force/applicable, closed, not applicable, group dissolved, superseded, task completed, and undertaken by ICAO HQ/Panels*, for easy reference and tracking by States/Administrations.

Contributory bodies Meetings in 2023

3.4.47 APANPIRG/33 noted the schedule of the CNS contributory bodies meetings in 2023, and requested APAC Member States to support the ICAO Secretariat in conducting the CNS SG and CNS contributory bodies meetings in effective manner. The ICAO Secretariat will inform Member States about the exact dates, mode and venue of the meeting while issuing invitation letters in due course.

Development of Fully Integrated Safeguarding Surfaces to Uphold Flight Safety While Facilitating Pressing Needs of Infrastructure / Building Developments in Hong Kong (WP/18)

3.4.48 Hong Kong China shared its successful experience in making use of advanced computer modelling to proactively develop integrated safeguarding surfaces for CNS equipment, aerodrome and flight procedures, and publish them under a regulatory framework to uphold flight safety while minimising constraints to infrastructure/building developments to cope with the pressing needs for lands for developments in the Hong Kong territories. Hong Kong China has revamped the existing CNS safeguarding surfaces based on comprehensive computer modelling for each CNS equipment against the environment in which the equipment operates by means of a state-of-the-art 3-dimensional (3D) computer modelling solution. The CNS safeguarding surfaces so derived in 3D manner are highly accurate to provide sufficient safeguarding protection while minimizing constraints to building heights. Resulting from the highly accurate computer simulation, coverage and limiting height of the revamped safeguarding surfaces can be less stringent as compared with the existing ones.

3.4.49 Besides, Hong Kong China also integrated all safeguarding surfaces through a highly complex and iterative process with high degree of accuracy in formulating a combined set of most limiting surfaces, which were published as “Airport Height Restriction Plan” (AHRP) under the Hong Kong Airport (Control of Obstructions) Ordinance with effect since 31 May 2022. Such a comprehensive and systematic approach was considered beneficial to all stakeholders concerned, including Civil Aviation Authorities/Air Navigation Service Providers, airport operators, lands planners and property owners/developers etc, to facilitate development without jeopardizing flight safety. States/Administrations are encouraged to be fully aware of the potential risks induced by the protrusion of safeguarding surfaces and take proactive steps to engage advanced computer modelling to develop integrated safeguarding with high accuracy, and publish them under a regulatory framework, to uphold flight safety while facilitating pressing needs of infrastructure/building developments.

3.4.50 Australia, India, Malaysia, Nepal and Singapore supported the Paper with appreciation to the sharing of experience. To supplement on this subject the ICAO Secretariat drew attention to the state letter on “Protection of airport land reserves to limit impact of illegal occupation affecting aircraft safety and for future expansion of airports” (Ref: AN 4/17 – 21/9, dated 10 February 2021). With interest expressed by States, the ICAO Secretariat invited Hong Kong, China to share the experience in the upcoming 4th Meeting of the Asia/Pacific Aerodrome Design and Operations Task Force (AP-ADO/TF/4) on 10-13 January 2023. Hong Kong, China welcomed the invitation and they would be pleased to share the experience in any appropriate forum.

Managing Changes to Spectrum Use for Safe Coexistence (IP/06)

3.4.51 The United States informed APANPIRG/33 about the 5G C-Band Implementation in the United States in details, with lessons learnt and future focus beyond. As the radio frequency spectrum is a natural resource with finite capacity and constantly increasing demands, internationally, the aviation industry relies on the use of spectrum for a variety of technologies that ensure safe, efficient and cost effective air travel. Similarly, innovation by the telecommunications industry is critical for economic and societal advances throughout the world, requiring States charged with making spectrum decisions to balance these needs. It was believed that increased and sustained cooperation, coordination, and communication among regulatory entities, consistent with their respective roles and authorities, would be conducive to promoting spectrum coexistence. The Meeting was invited to note the information provided in this paper and visit the FAA's 5G and Aviation Safety website (www.faa.gov/5g) for more detailed information.

CNS-ATM System Upgrade in Ulaanbaatar FIR (IP/10)

3.4.52 APANPIRG/33 noted the sharing from Mongolia on their strategic plan "Seamless aviation-2030" in accordance to global documents such as ICAO GANP, ASBU, Seamless ANS Plan and regional civil aviation development planning and long-term "Vision-2050" policy of Mongolia, advising their successfully-redesigned Mongolian airspace and their progressing of air navigation equipment upgrades and ANS infrastructure developments.

The Implementation of Surveillance Systems in Pyongyang FIR (IP/11)

3.4.53 APANPIRG/33 noted the information provided by Democratic People's Republic of Korea (DPRK) on the implementation of surveillance systems to provide the safety, regularity and efficiency of the international flights within Pyongyang FIR. The information of DPRK AIP concerned with ADS-B implementation and the SIC assignment within Pyongyang FIR were provided in the paper. DPRK expressed the postponement of their plan to share their SSR surveillance data due to not joining the CRV.

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

3.5 MET

Meteorology Sub-Group (MET SG/26) Report (WP/13)

3.5.1 The Meteorology Sub-Group convened online for its Twenty-sixth Meeting (MET SG/26) from 1 to 5 August 2022. MET SG/26 reviewed the status of progress on its work plan, including its contributory bodies: Meteorological Requirements Working Group (MET/R WG), Meteorological Information Exchange Working Group (MET/IE WG), and Meteorological Services Working Group (MET/S WG).

3.5.2 All documentation and reports from MET SG/26 and the meetings of MET/R WG, MET/IE WG and MET/S WG are available at the ICAO APAC Office website at: <http://www.icao.int/apac> > Meetings > Meeting List – 2022. The full report from MET SG/26 is at the following link: <https://www.icao.int/APAC/Meetings/Pages/2022-MET-SG-26.aspx>.

3.5.3 MET SG/26 formulated two Draft Conclusions for consideration and possible adoption by APANPIRG/33 on the following matters: WAFS, SADIS and WIFS upgrades; and 0.25-degree WAFS hazard data. These are discussed further in paragraphs 3.5.14 and 3.5.15.

SWIM Architecture Support for MET Information Services

3.5.4 MET SG/26 noted further developments related to the previous APANPIRG/32 discussion on Draft Conclusion MET SG/25-07 concerning SWIM architecture and MET information services.

3.5.5 Based on the outcomes of APANPIRG/32, MET experts contributed to the SWIM TF formulation of Draft Decision SWIM TF/06/01 – *The Use of the Internet for MET Information Services in Regional SWIM architecture* and Draft Decision SWIM TF/06/07 – *Revised SWIM TF Terms of Reference*.

3.5.6 Furthermore, as presented in WP/12, CNS SG/26 has supported and adopted the above Draft Decisions (Decision CNS SG/26/04 and Decision CNS SG/26/07 refer).

APANPIRG Air Navigation Deficiencies in the MET field

3.5.7 With assistance from partner States, Solomon Islands made significant progress towards rectifying the APANPIRG air navigation deficiency, index no. AP-MET-23, concerning the lack of SIGMET issued for the Honiara FIR. MET SG/26 noted that Solomon Islands planned to conduct further monitoring to validate the improvements to its SIGMET service and, therefore, might soon be able to report that the deficiency has been rectified.

3.5.8 After the MET SG/26 discussion, Solomon Islands completed the additional corrective actions, as presented and validated in the information provided by Solomon Islands in IP/08. Therefore, based on the information provided by Solomon Islands validating that the deficiency AP-MET-23 has been rectified, the MET SG recommended APANPIRG to remove the deficiency AP-MET-23 from the Open List (as also indicated in WP/14). Given the discussion above, the Meeting agreed to remove the deficiency AP-MET-23 from the Open List, as indicated in the discussion under Agenda Item 4: Regional Air Navigation Deficiencies.

3.5.9 In addition, Papua New Guinea (PNG) and Tonga made significant progress on corrective actions to rectify the APANPIRG air navigation deficiencies, index no. AP-MET-04 and AP-MET-17, concerning volcanic activity information not regularly provided to ATS units, MWOs and VAACs.

3.5.10 However, MET SG/26 noted that PNG and Tonga were still seeking confirmation from the relevant units of the regular, timely receipt of the information on volcanic activity and had not yet confirmed the establishment of procedures to provide information regularly on volcanic activity.

3.5.11 Therefore, MET SG/26 recommended that PNG and Tonga complete the necessary corrective actions and then submit an official report to ICAO validating that the deficiencies have been rectified. Finally, ICAO would inform APANPIRG that the deficiencies can be removed from the Open List.

Updates to Regional Guidance Material

3.5.12 MET SG/26 reviewed and approved updates to the following Regional Guidance Material:

- ICAO APAC Regional SIGMET Guide (Decision MET SG/26/01 – *Updates to Regional SIGMET Guide* refers); and
- APAC Regional Guidance for Tailored Meteorological Information and Services to Support Air Traffic Management Operations (Decision MET SG/26/02 – *Update the Regional Guidance for Tailored Meteorological Information and Services to Support ATM Operations* refers).

WAFS, SADIS and WIFS Upgrades

3.5.13 MET SG/26 noted the recent developments and upcoming changes to the World Area Forecast System (WAFS) service provided by the World Area Forecast Centres (WAFCs) in London and Washington. The WAFCs are expected to implement the changes to the WAFS service as early as November 2023. MET SG/26 considered the need to inform and encourage WAFS users in the Region to prepare their systems for the significant changes to WAFS data and its delivery. Given the discussion above, APANPIRG/33 adopted the following Conclusion:

Conclusion APANPIRG/33/12 – WAFS, SADIS and WIFS upgrades (Draft Conclusion MET SG/26/03)	
What: That, users of WAFS, SADIS and WIFS are invited to: a) familiarise themselves with the proposed WAFS data and technical changes planned for November 2023 and 2024; b) discuss the upcoming changes with their technical departments and make plans for how their organisation could adapt to these technological changes; c) get involved in trying out the new test/beta application programming interfaces (APIs) once they become available in late 2022 or 2023.	Expected impact: ☐ Political / Global ☐ Inter-Regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: WAFS, SADIS and WIFS users will have to adapt their systems to benefit from the planned WAFS upgrades, which correspond with proposed Amendments 81 to ICAO Annex 3.	Follow-up: ☒ Required from States
When: by November 2023 and 2024	Status: Adopted by APANPIRG
Who: ☐ Sub Groups ☐ RASG-APAC ☒ APAC States ☐ ICAO APAC RO ☐ ICAO HQ ☐ Other:	

3.5.14 In addition, MET SG/26 noted the Secure Aviation Data Information System (SADIS) had introduced the 0.25-degree WAFS hazard data and planned to discontinue the provision of the legacy 1.25-degree hazard data sets in November 2023. Therefore, MET SG/26 considered the need to remind and encourage SADIS user States to make the necessary systems changes to integrate the new 0.25-degree WAFS hazard data into their SADIS user systems and software. Given the discussion above, APANPIRG/33 adopted the following Conclusion:

Conclusion APANPIRG/33/13 – 0.25-degree WAFS hazard data (Draft Conclusion MET SG/26/04)	
What: That, users of WAFS, SADIS and WIFS are urged to, if not already done so, integrate the 0.25-degree WAFS hazard data (for cumulonimbus, icing and turbulence) into their systems and software before November 2023.	Expected impact: ☐ Political / Global ☐ Inter-Regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: The WAFCs have introduced 0.25-degree WAFS hazard data and will discontinue providing users with the 1.25-degree hazard data sets in November 2023. The previous Conclusion APANPIRG/31/17: 0.25-degree WAFS hazard data, and associated ICAO State letter Ref.: T 4/8.2 – AP129/21 (MET), dated 15 July 2021, also requested SADIS user States to make the necessary systems changes to integrate the new 0.25-degree WAFS hazard data into their SADIS user systems and software.	Follow-up: ☒ Required from States
When: by November 2023	Status: Adopted by APANPIRG
Who: ☐ Sub Groups ☐ RASG-APAC ☒ APAC States ☐ ICAO APAC RO ☐ ICAO HQ ☐ Other:	

SIGMET Coordination

3.5.15 MET SG/26 noted developments on the online repository for information on SIGMET coordination activities, including the document *Consolidation of SIGMET Coordination Practices in the APAC Region*. Additional inputs from States would support the expansion and integration of SIGMET coordination activities (Conclusion MET SG/26/05 – *Encourage States to provide input on the online repository on SIGMET Coordination and the consolidation document on SIGMET Coordination Practices in the APAC region* refers).

3.5.16 In addition, the SIGMET Coordination Training Workshop, organised by the Hong Kong Observatory (HKO) in June 2022, and the Collaborative SIGMET Issuance (CSI) Project workshop, organised by Japan in January 2022, continued to support States with coordinating SIGMET with neighbouring States.

MET SG Work Plan

3.5.17 MET SG/26 reviewed and updated its work plan to ensure a continued focus on the Region's requirements for support related to the implementation of MET services for international air navigation.

Secretariat resourcing

3.5.18 Following the discussion at APANPIRG/32 concerning the Secretariat resourcing to APANPIRG, ICAO is advertising a secondment opportunity for an Aviation Meteorology Officer to supplement the Secretariat support for the APANPIRG MET-related work. Nominations from States will be welcomed.

The ICAO Asia/Pacific Volcanic Ash Exercise 22/01 (IP/07) - Indonesia

3.5.19 The Meeting noted of the general summary of the simulation of volcanic ash information handling, conducted through the Asia/Pacific Volcanic Ash Exercise (APAC VOLCEX 22/01), which Indonesia, through the Indonesian Agency for Meteorology, Climatology, and Geophysics (well known as BMKG), was appointed to be the exercise leader. The exercise implemented several actions including demonstrations of volcanic ash information flow in accordance with ICAO Doc 9766 – Handbook on the International Airways Volcano Watch (IAVW) and cross-boundary international coordination to provide and respond to volcanic ash information between Jakarta FIR and Colombo FIR, based on real-time operational responses to a volcanic event. The exercise also demonstrated the use of I-WISH, Indonesia Web-based aeronautical Information Services Handling, a communication and information exchange system to support the CDM process, and regulated ATM response and CDM process for aeronautical meteorological information services.

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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 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/10 (17-21 October 2022) and RASMAG/27 (22-25 August 2022) based on information provided by concerned States as follows:

- a) SAR capability – deletion for Fiji; new for Tuvalu;
- b) WGS-84 not implemented - deletion for Bangladesh;
- c) Non-Provision of Safety-related Data – new for Brunei Darussalam.

4.3 The APAC regional missing DEP messages analysis was conducted on 31 October 2022 based on the ATFM/SG/12 action item. The ICAO secretariat conducted the analysis, and the five States' improvement to meet the criterion was observed. Therefore, the following modification on the DEP message transmission deficiency was agreed by APANPIRG/33:

- Deletion – Bangladesh, India, Malaysia, Nepal and the United States

4.4 Regarding the Deficiency recorded against Afghanistan for non-compliance with Long Term Height Monitoring requirement (remaining monitoring burden more than 30%), the Monitoring Agency for the Asia Region (MAAR) informed ICAO that all known Reduced Vertical Separation Minimum (RVSM)-capable airframes in Afghanistan had complied with the monitoring requirement. However, the deficiency was retained due to the unknown status of the Afghanistan aeronautical authority responsible for ensuring monitoring being conducted.

4.5 **Appendix A** to 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

4.6 The Meeting noted the List of Air Navigation Deficiencies in the AOP field which was reviewed and updated by AOP/SG/6 (27-30 June 2022) based on information provided by Cook Islands, New Zealand, Niue, Sri Lanka, Thailand, Timor-Leste and Viet Nam. Tuvalu provided updates on their corrective action plan on 1 November 2022 and they were incorporated in the List of Air Navigation Deficiencies in the AOP field.

4.7 As U-Tapao Airport (Thailand) was certified in March 2022, and Cook Islands, Malaysia, New Zealand and Niue had promulgated the information on the status of certification of aerodromes in their AIP, deficiencies related to certification of aerodromes (U-Tapao Airport, Thailand) and publication of the status of certification of aerodromes (Cook Islands, Malaysia, New Zealand and Niue) were deleted from APANPIRG Air Navigation Deficiency List.

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

Deficiencies in the CNS field

4.9 The Meeting noted the List of Air Navigation Deficiencies in the CNS field which was reviewed and updated by CNS SG/26 (5-9 September 2022). One outstanding issue was discussed, which was related to unreliability of AFS communication between Afghanistan and Pakistan, and there had been no further progress since last update in 2020. The CNS SG/26 Meeting did not identify any additional deficiencies in the CNS fields.

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

Deficiencies in the MET field

4.11 The Meeting noted the List of Air Navigation Deficiencies in the MET field which was reviewed and updated by MET SG/26 (1–5 August 2022).

4.12 There were thirteen (13) deficiencies in the Open List related to MET facilities and services in seven (7) APAC States, as summarised in **Table 4 - 1** below:

Table 4 - 1: Summary of APANPIRG air navigation deficiencies in the MET field

MET facilities and services	APAC States	Def. ID	Status
Aerodrome meteorological observations or reports	Kiribati	AP-MET-02	open
	Nauru	AP-MET-21	open
Meteorological watch office (MWO) or SIGMET information	Democratic People's Republic of Korea	AP-MET-16	open
	Nauru	AP-MET-24	open
	Nepal	AP-MET-14	open
	Papua New Guinea	AP-MET-08	open
	Papua New Guinea	AP-MET-22	open
	Solomon Islands	AP-MET-23	open
Volcanic ash/activity information	Papua New Guinea	AP-MET-04	open
	Tonga	AP-MET-17	open
WAFS forecasts or flight briefings	Kiribati	AP-MET-18	open
	Nauru	AP-MET-19	open
	Solomon Islands	AP-MET-20	open

4.13 Solomon Islands reported significant progress towards rectifying deficiency AP-MET-23 (concerning the lack of SIGMET issued for the Honiara FIR) and planned additional actions to validate the SIGMET improvements. Therefore, subject to the additional corrective actions, MET SG/26 considered Solomon Islands could report that the deficiency AP-MET-23 had been rectified.

4.14 Subsequently, Solomon Islands had implemented the additional corrective actions and submitted information which validated the rectification of deficiency AP-MET-23, as discussed in IP/08. Therefore, the MET SG recommended APANPIRG to remove the deficiency AP-MET-23 from the Open List.

4.15 Papua New Guinea (PNG) and Tonga also reported significant progress towards rectifying the deficiencies AP-MET-04 and AP-MET-17 (concerning information on volcanic activity not provided regularly to ATS units, MWOs and VAACs). However, MET SG/26 recommended that PNG and Tonga conduct additional corrective actions, including seeking confirmation from the recipient operational units and providing evidence of the relevant established procedures. PNG and Tonga could then submit an official report to ICAO providing complete details of the action taken. ICAO would then inform APANPIRG that the deficiencies could be removed from the Open List.

4.16 **Appendix D** to Report on Agenda Item 4 presented the updated List of Air Navigation Deficiencies in the MET field.

Update of Information in APANPIRG Air Navigation Deficiencies Database

4.17 The Meeting noted that it was the responsibility of States with Deficiencies to provide updates to ICAO APAC Office so that the information in the Deficiency database could be updated in a timely manner. The Regional Office would update the Deficiencies database based on written evidences provided by the respective States/Administrations and following the procedures as stipulated in the APANPIRG Procedural Handbook.

4.18 The Meeting reviewed the Air Navigation Deficiencies as presented in **Appendices A to D to the Report on Agenda Item 4** and endorsed as current list of APANPIRG Air Navigation Deficiencies. The Meeting adopted the following Conclusion:

Conclusion APANPIRG/33/14 – Update of Information in APANPIRG Air Navigation Deficiencies Reporting Form	
That, 1) ICAO to update the APANPIRG Air Navigation Database to reflect the information as presented in Appendices A to D to 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 progress 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 Report on Agenda Item 4; and b) update contact details of a Focal Point to coordinate actions to resolve the Deficiencies.	Expected impact: ☐ Political / Global ☒ Economic ☐ Environmental ☐ Inter -Regional ☒ Ops/Technical
Why: The resolution of air navigation deficiencies in the ATM and Airspace Safety, AOP, CNS and MET fields (in the APANPIRG database) have lacked satisfactory progress over several years, due in part to inadequate information in the Reporting Form, e.g., infrequent updates and lack of concise and concrete Corrective Action Plans with defined target dates	Follow-up: ☒ Required from States
When: official reports providing full details of the corrective actions taken where deficiencies have been resolved be reported to APANPIRG's Sub-groups in 2023.	Status: Adopted by PIRG
Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other	

Rectification of APANPIRG AN Deficiency AP-MET-23 (IP/08)

4.19 The Meeting noted the corrective action taken by Solomon Islands and supported by partner States to rectify the APANPIRG air navigation deficiency AP-MET-23 concerning the lack of SIGMET issued for the Honiara FIR. Corrective actions taken involved active participation in SIGMET tests, training, volcanic ash exercises, data collection and analysis, and collaboration with various operational units in Australia, Hong Kong, China, Fiji and New Zealand, and the World

Meteorological Organization, with SIMS is currently working with the Australian Bureau of Meteorology on the timeliness of re-routing the SIGMET transmissions via new dissemination method with tests carried out to demonstrate its effectiveness. It was noted that the timing of products received during the three-week test period by RODB Brisbane was significantly improved compared to the previous dissemination method using the Solomon Islands' Air Traffic Services (ATS) system. The information provided by Solomon Islands in this Paper intended to validate that the deficiency has been rectified and support the removal of deficiency AP-MET-23 from the APANPIRG list.

Update on Efforts by Timor-Leste to Eliminate Its ANS Deficiencies as Assessed by ICAO USOAP Audit (IP/09)

4.20 Timor-Leste shared its efforts in the improvement of aviation safety in their airspace. ICAO USOAP Audits and missions over the last decade had identified numerous deficiencies in the Timor-Leste aviation regulatory and service provider areas. It was noted that a certain level of issues was raised against the ANS area of the national regulator, Autoridade da Aviação Civil de Timor-Leste (AACTL). AACTL, with the assistance of the Australian Government aid programs, had allocated significant financial resources to allow engagement of technical expertise to assist AACTL in addressing the ICAO findings. The Meeting noted that the outstanding CAPs were expected to be closed out during 2023. In addition, other significant bodies of work had also been completed to bring about an improvement in safety in various ANS areas as listed in IP/09.

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Agenda Item 5: Future Work Programme

APANPIRG Work Programme 2023-2024 (WP/15)

5.1 The Meeting agreed with the tentative schedule of meetings for 2023 and 2024, 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 Chair urged States/Administrations to attend APANPIRG Subgroups and Contributory Bodies meetings in-person.

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Appendix

2023 – MEETINGS, WORKSHOPS AND SEMINARS		
Meetings	Tentative Dates	Venue
AP-ADO/TF/4	10 – 13 January	Hybrid, Chiang Rai, Thailand
CRV OG/11	1 – 3 February	In-person, Bangkok
SRWG/7	15 – 17 February	Hybrid, Bangkok
SURSG/3	1 – 3 March	Hybrid, Bangkok
AP-AAWG/5	14 – 17 March	Hybrid, Maldives
MET/IE WG/21	27 – 29 March	Virtual/Hybrid and/or Bangkok
MET/S WG/13	29 – 31 March	Virtual/Hybrid and/or Bangkok
SAIOSEACG/2	27 – 31 March or in May	Virtual (RSO)
Mode S & DAPs WG/6	March	Hybrid, Bangkok
PBNICG/10	April	Virtual (RSO)
ATFM/SG/13	April	Hybrid (tentative), Bangkok
SWIM TF/7	09 – 12 May	In-Person, Bangkok
AP-WHM/WG/5	15 – 19 May	Hybrid, TBD
MET/R WG/12 + MET/ATM seminar	22 – 26 May	Virtual/Hybrid and/or Bangkok
ACSICG/10	24 – 26 May	Hybrid, Bangkok
APSAR/WG/8	May	Hybrid (tentative), Bangkok
GBAS/SBAS ITF/5	May	Virtual (RSO)
AD Seminar	29 – 30 June	Hybrid, Bangkok
SURICG/8	June	Hybrid, Bangkok
FIT-Asia/13	June	Hybrid (tentative), Bangkok
AAITF/18	June	Hybrid (tentative), Bangkok
ATMAS TF/4	June	Hybrid, Chengdu, China
SCSTFRG/11	June/July	Virtual (RSO)
AOP/SG/7	3 – 7 July	Hybrid, Bangkok
Webinar Wake Turbulence Separation	July	Virtual (RSO)
CNS SG/27	July	Hybrid, Bangkok
RASMAG/28	July	Hybrid (tentative), Bangkok
MET/SG/27	July/August	Virtual/Hybrid and/or Bangkok
PIRG/RASG Coordination Meeting	29 – 30 August	Hybrid, Bangkok
ATM/SG/11	August	Hybrid (tentative), Bangkok
58 th DGCA Conference	15 – 19 October	Hybrid/Bangladesh
Webinar on ATM Safety Culture	October	Hybrid/Bangkok
APANPIRG/34 and RASG-APAC/13	27 Nov. to 1 Dec. 2023	Hybrid, Bangkok
BOBTFRG/5	December	Hybrid/Bangkok
VOLCEX/SG/9	TBC	Virtual/Hybrid and/or Bangkok

(Note: Acronyms provided at the end of Appendix)

APANPIRG/33
Appendix to Report on Agenda Item 5

2024 – MEETINGS, WORKSHOPS AND SEMINARS		
Meetings	Tentative Dates	Venue
AP-ADO/TF/5	January	Hybrid, Bangkok
CRV OG/12	January / February	Virtual/Hybrid and/or, Bangkok
AP-AAWG/6	February	Hybrid, Bangkok
MET/IE WG/22	March	Virtual/Hybrid and/or Bangkok
MET/S WG/14	March	Virtual/Hybrid and/or Bangkok
PBNICG/11	March	Hybrid, Bangkok
SRWG/8	March	Hybrid, Bangkok
SURSG/4	March	Hybrid, Bangkok
Mode S & DAPs WG/7	March	Hybrid, Bangkok
SAIOSEACG/3	April	Hybrid and/or Bangkok
ATFM/SG/14	April	Hybrid, Bangkok
ACSICG/11	April / May	Hybrid, Bangkok
GBAS/SBAS ITF/6	May	Hybrid, Bangkok
SWIM TF/8	May	Hybrid, Bangkok
MET/R WG/13	May	Virtual/Hybrid and/or Bangkok
APSAR/WG/9	May	Hybrid, Bangkok
AP-WHM/WG/6	May	Hybrid, Bangkok
SURICG/9	June	Hybrid, Bangkok
ATMAS TF/5	June	Hybrid, Bangkok
SCSTFRG/12	June	Hybrid
AAITF/19	June	Hybrid, Bangkok
AOP/SG/8	June/July	Hybrid, Bangkok
MET/SG/28	July	Virtual/Hybrid and/or Bangkok
CNS SG/28	July	Hybrid, Bangkok
FIT-Asia/14	July	Hybrid, Bangkok
RASMAG/29	July	Hybrid, Bangkok
PIRG/RASG Coordination Meeting	July/August	Virtual/Hybrid and/or Bangkok
ATM/SG/12	August	Hybrid, Bangkok
APANPIRG/35 and RASG-APAC/14	November/December 2024	Hybrid, Bangkok
BOBTFRG/6	December	Hybrid
VOLCEX/SG/10	TBC	Virtual/Hybrid and/or Bangkok
59 th DGCA Conference	TBD	TBD

ACRONYMS

AAITF	Aeronautical Information Services – Aeronautical Information Management Implementation 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 Working 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	ATM/Sub Group
ATMAS TF	ATM Automation System Task Force
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)
DAPs WG	Mode S Downlinked Aircraft Parameters Working Group
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
MET/S WG	Meteorological Services Working Group (of the MET/SG)
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 Air Space Monitoring Advisory Group of APANPIRG
SAIOSEACG	South Asia, Indian Ocean and Southeast Asia ATM Coordination 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
VOLCEX/SG	(APAC) Volcanic Ash Exercises Steering Group

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Agenda Item 6: Any other business

ICAO eLibrary and ICAO Aviation Data Analytics Dashboards (PPT/02)

ICAO eLibrary

6.1 The Secretariat made a presentation on ICAO eLibrary which was launched in January 2021 as an online digital publications repository to provide the public with free online access to ICAO's regulatory and legal publications. The ICAO publications on the eLibrary are available free of charge in a read-only format (please visit elibrary.icao.int to create a personal account).

6.2 While the main focus of the ICAO eLibrary was the nineteen ICAO Annexes, ICAO also had numerous other documents intended for free public access, including selected Circulars and Manuals in all languages. A series of "How to" video tutorials were available on the eLibrary website, where users could learn how to use the eLibrary effectively.

6.3 The eLibrary platform and the ICAO publications on eLibrary were provided in all six official languages (Arabic, Chinese, English, French, Russian, and Spanish). Amendments to the Annexes were continuously updated on the ICAO eLibrary.

6.4 The ICAO eLibrary has filters, search and customizable features to enable users to find publications of interest. In addition, the "How to" tutorials help users create an account and utilize features, including highlights, bookmarks, and notes.

6.5 ICAO publications on the eLibrary are read-only and cannot be printed or copied. However, users who prefer a print or downloadable digital version can purchase the document in print or secured digital format (PDF). *Note: access to ICAO publications in PDF is still possible via States' registered-user-access to the ICAO-NET website on the ICAO Secure Portal.*

6.6 States and organizations are encouraged to ensure their personnel visit the ICAO eLibrary website to create an account and receive free access to the ICAO publications and regular updates on the new publications that are available.

ICAO Aviation Data Analytics Dashboards

6.7 As part of ICAO's digital transformation and the implementation of electronic data management and business intelligence, ICAO has developed advanced dashboards, known as the "ICAO Aviation Data Analytics Dashboards", for monitoring and assessing trends in air transport.

6.8 The interactive dashboards provide customized visualization and querying capabilities on data ranging from operations to financials, including the evolution of passenger and cargo traffic, aircraft fleet usage, traffic by flight information region, and revenue impact on airlines, airports and air navigation services providers. In addition, the new COVID-19 Pandemic Traffic Data Analysis dashboards allow for easy visualization, comparison and analysis at different levels of granularity, e.g., by State, region or route group.

6.9 The ICAO Council reviewed the dashboards in June 2022 and expects them to be valuable in current and post-COVID-19 pandemic planning and implementation efforts. Therefore, as agreed at the Eleventh Session of the Statistics Division (STA/11) held in April 2022, the dashboards are being made available to all ICAO Member States through an exclusive license.

6.10 ICAO State Letter EC 7/1.7 – 22/67, dated 5 July 2022, requested States to submit the name and email address of a State focal point to receive the license to access the dashboards to the following ICAO email address: cads@icao.int. States who have yet to submit a State focal point to ICAO for the access of the dashboards are encouraged to submit them to ICAO as soon as possible.

6.11 The first group of dashboards launched are for COVID-19 Pandemic Traffic Data Analysis. The dashboards are new, additional and complementary to other existing ICAO data platforms. All ICAO data platforms are planned for future review under the digital transformation, electronic data management and business intelligence project.

6.12 Information in the dashboards is continuously updated and can be downloaded for further analysis per each Member State's needs. These dashboards are designed to provide States with detailed insights into the aviation industry and serve as powerful support tools for enhanced data processing and visualization. States can now leverage these resources in their informed decision-making, planning and implementation efforts.

Election of Chair

6.13 Mr. Ma Tao, the APANPIRG Secretary, invited the meeting to provide a nomination to the position of the Chairperson of the Group. The post would take effect from APANPIRG/34 onwards.

6.14 The Head of Delegation from Maldives, Ms. Fathimath Ramiza proposed Mr. Kevin Shum, Deputy Secretary (Strategy, Sustainability & Technology) Ministry of Transport of Singapore, to be the Chairperson of APANPIRG for next three-year term. She provided a brief resume of Mr. Shum's illustrious career achievements, wide management experience and expressed confidence that Mr. Shum would be able to provide an effective leadership to APANPIRG in its current challenging environment. This was supported by the Heads of Delegation from Bhutan, Indonesia, Japan, Papua New Guinea, the Philippines and Timor-Leste. The meeting unanimously elected Mr. Shum as the Chairperson for the next three-year terms.

6.15 Mr. Shum thanked the meeting for reelecting him as a Chairperson of APANPIRG for the next three years, and expressed appreciation for the tremendous support he received from States/Administrations. He stated that he looked forward to close cooperation and guidance of the Group in carrying out his duties as Chairperson of APANPIRG for the next three-year term.

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