INTERNATIONAL CIVIL AVIATION ORGANIZATION

FINAL

REPORT OF THE ELEVENTH MEETING OF THE ATM SUB-GROUP OF APANPIRG (ATM/SG/11)

SINGAPORE, 2 – 6 OCTOBER 2023

The views expressed in this Report should be taken as those of the Meeting and not the Organization.

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

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APPENDIXES TO THE REPORT

INTRODUCTION

Meeting

1.1 The Eleventh Meeting of the Air Traffic Management Sub-Group (ATM/SG/11) of the Asia Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) was held from 02 – 06 October 2023 in Crowne Plaza Changi, Singapore. The meeting was graciously hosted by the Civil Aviation Authority of Singapore (CAAS).

Attendance

2.1 The meeting was attended by 123 registered participants from 24 States, two Special Administrative Regions of China and three International organizations, including Australia, Bhutan, Brunei Darussalam, Cambodia, China, Hong Kong China, Macao China, Fiji, France, India, Indonesia, Japan, Lao People's Democratic Republic (PDR), Malaysia, Maldives, Mongolia, Nepal, New Zealand, Pakistan, Philippines, Republic of Korea (ROK), Singapore, Sri Lanka, Thailand, United States, Viet Nam, CANSO, IATA, IFALPA, and ICAO.

2.2 A list of participants is provided at **Appendix A** to this Report.

Officers and Secretariat

3.1 Mr. Kuah Kong Beng, Director (Special Project), Civil Aviation Authority of Singapore presided over the ATM/SG/11 meeting as Sub-Group Chair. He was assisted by the newly elected ATM/SG Vice Chair, Mr. Huho Ha, Deputy Director ICAO and Global Partnerships, Korea Office of Civil Aviation.

3.2 Mr. Hiroyuki Takata, Regional Officer, ATM and Mr. Shane Sumner, Pacific Small Island Developing States (PSIDS) Liaison Officer, ICAO Asia and Pacific Office, were the Secretaries for the meeting. They were assisted by Mr. Ying Weng Kit, ATM Officer and Dr. Prakayphet Chalayonnawin, Programme Analysis Associate, ATM.

3.3 The meeting was also supported by Mr. Lujinag Liu, FPP Manager, Mr. Vijay Kumar, Regional Officer PBN, Mr. Zhi Feng Xu, Regional Officer ATM, and Mr. Hyuk Jin Kwon, Regional Officer ATM, of the ICAO Asia/Pacific Regional Sub-Office.

Language and Documentation

4.1 The ATM Sub-Group met as a plenary throughout the meeting. The working language of the meeting was English for all documentation and this Report. A total of 46 Working Papers (WPs), 25 Information Papers (IPs), nine flimsies and eight presentations were considered by the meeting.

4.2 The List of Working and Information Papers is attached at **Appendix B** to this Report (IP/1).

4.3 **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.

Opening of the Meeting

Chair of ATM/SG Sub-Group

5.1 Mr. Kuah Kong Beng welcomed participants to the meeting.

ICAO Regional Office

5.2 On behalf of Mr. Tao Ma, Regional Director of the ICAO Asia and Pacific Office, Mr. Hiroyuki Takata welcomed all the participants to the meeting.

Draft Conclusions, Draft Decisions and Decisions of ATM/SG – Definition

6.1 The ATM Sub-Group recorded its actions in the form of Draft Conclusions, Draft Decisions and Decisions within the following definitions:

a) **Draft Conclusions** of the ATM/SG relate to matters that are not just of a purely technical or operational nature, which need to be considered by APANPIRG;

b) **Conclusions** of the ATM/SG relate to matters of a purely technical or operational nature, which APANPIRG had delegated authority to ATM/SG to act upon;

c) **Draft Decisions** relate solely to matters dealing with the internal working arrangements of the ATM/SG, which need to be considered by APANPIRG; and

d) **Decisions** of the ATM/SG that relate solely to matters dealing with the internal working arrangements of the ATM/SG, which APANPIRG had delegated authority to ATM/SG to act upon.

List of Draft Conclusions and Decisions

7.1 List of ATM/SG/11 Draft Conclusions

<table>
<tr><td colspan="3">Draft Conclusion ATM/SG/11-5: Development of 5LNC pronunciation phonetic guidance and harmonised pronunciation at transfer of control (TOC) points</td></tr>
<tr><td colspan="2">What: That, noting the global concern regarding the challenges of 5LNC pronunciation as referenced at the ICAO 41st Assembly,

1. ICAO be urged to develop 5LNC pronunciation phonetic guidance; and
2. States be urged to ensure that operational agreements between neighbouring States include agreed pronunciation of 5LNCs at transfer of control points.</td><td>Expected impact:
☒ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: To support smooth coordination between adjacent administrations and to prevent human errors and miscommunication.</td><td colspan="2">Follow-up: ☒Required from States</td></tr>
<tr><td>When: 13-Dec-23</td><td colspan="2">Status: Draft to be adopted by PIRG</td></tr>
<tr><td colspan="3">Who: ☐Sub groups ☒APAC States ☐ICAO APAC RO ☒ICAO HQ ☐Other:</td></tr>
</table>

7.2 List of ATM/SG/11 Conclusions

Conclusion ATM/SG/11-2: Revised Annual APAC Regional Survey of ATC Separation Standard	
What: That, the revised form at **ATM/SG/11 WP/7 Attachment E** be utilized in future Annual APAC Regional Survey of ATC Separation Standards.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To reflect in the APAC Regional Survey of ATC Separation Standards form the performance expectation relating to auto-handoff in the APAC Seamless ANS Plan	Follow-up: ☒Required from States
When: 6-Oct-23	Status: Adopted by Subgroup
Who: ☐Sub groups ☒APAC States ☐ICAO APAC RO ☐ICAO HQ ☐Other:	

Conclusion ATM/SG/11-3: Withdraw Regional UAS Guidance	
What: That, noting the availability on the ICAO website of UAS guidance prepared by the UAS Advisory Group of the RPAS Panel, the Asia/Pacific Regional Guidance for the Regulation and Safe Operation of UAS within National Airspace be removed from the ICAO Asia/Pacific Regional Office website, and archived.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To avoid providing two sets of differing guidance material	Follow-up: ☐Required from States
When: 6-Oct-23	Status: Adopted by Subgroup
Who: ☐Sub groups ☐APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:	

Conclusion ATM/SG/11-6: Asia/Pacific Regional Guidance for Contingency Planning and Response to NOTAM Service Disruption	
What: That, The Asia/Pacific Regional Guidance for Contingency Planning and Response to NOTAM Service Disruption at **ATM/SG/11 WP/39 Attachment B** be adopted and uploaded to the ICAO Asia/Pacific Regional Office website.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To provide regional guidance for NOTAM Office actions in the event of degraded operation or failure of NOTAM systems or any	Follow-up: ☐Required from States

other system or infrastructure supporting promulgation and distribution of NOTAMs	
When: 6-Oct-23	Status: Adopted by Subgroup
Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:	

Conclusion ATM/SG/11-7: Revised 5LNC Data Collection Spreadsheet	
What: That, the revised 5LNC Data Collection Spreadsheet (version 2.0) provided in **ATM/SG/11 WP/39 Attachment D** be made available on the ICAO Asia/Pacific Regional Office website, to replace the existing.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To simplify and clarify the information needed to track resolution of 5LNC duplicates in the Asia/Pacific Region	Follow-up: ☒Required from States
When: 6-Oct-23	Status: Adopted by Subgroup
Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:	

Conclusion ATM/SG/11-8: Consolidation of Regional AIM Guidance Material	
What: That, 1. noting the availability of updated SARPS and PANS in Annex 15 and Doc 10066, and global guidance material in ICAO Docs 8126, 9839 and 9991; and 2. subject to incorporation in the Asia/Pacific Plan for Collaborative Aeronautical Information Management of regional guidance on selection principles and selection processes for AIS personnel extracted from the Guidance Manual for Aeronautical Information Services in the Asia/Pacific Region: The Guidance Manual for Aeronautical Information Services in the Asia/Pacific Region be withdrawn, and the Asia/Pacific Plan for Collaborative Aeronautical Information Management Version 3.0 at **ATM/SG/11 WP/39 Attachment E** be uploaded to the Asia/Pacific Regional Office website to replace the existing.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To retire redundant regional guidance and consolidate, to the extent practicable, AIM guidance in the Asia/Pacific Regional Plan for Collaborative AIM	Follow-up: ☒Required from States
When: 6-Oct-23	Status: Adopted by Subgroup
Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:	

Conclusion ATM/SG/11-9: Revised APAC OPADD	
What: That, the revised Operating Procedures for AIS Dynamic Data Version 4.1 at **ATM/SG/11 WP/39 Attachment F** be uploaded to the Asia/Pacific Regional Office website, to replace the existing.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To incorporate introductory and background information extracted from the now retired Guidance Manual for AIS in the Asia/Pacific Region	Follow-up: ☐Required from States
When: 6-Oct-23	Status: Adopted by Subgroup
Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:	

Conclusion ATM/SG/11-10: Update of APAC ANP Vol II Part VII	
What: That, States are urged to provide all required information for inclusion in APAC ANP Vol II Part VII Tables AIM II-1 and AIM II-2 to the ICAO Asia/Pacific Regional Office by not later than 28 February 2024, for inclusion in a joint PfA to the ANP to be prepared by ICAO.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To incorporate required regional elements relating to AIS/AIM in the APAC ANP Vol II	Follow-up: ☒Required from States
When: 6-Oct-23	Status: Adopted by Subgroup
Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:	

7.3 List of ATM/SG/11 Draft Decisions

Draft Decision ATM/SG/11-11: Update AAITF Terms of Reference	
What: That: the updated AAITF Terms of Reference at **ATM/SG/11 WP/39 Attachment G** be adopted.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To Update the TOR to revise references to regional guidance and planning documents, and to strengthen activity in	Follow-up: ☐Required from States

preparation for exchange of aeronautical information in a SWIM environment	
When: 6-Oct-23	Status: Draft to be adopted by PIRG
Who: ☒Sub groups ☐APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:	

7.4 List of ATM/SG/11 Decisions

Decision ATM/SG/11-1: Establish Performance Management Data Analytics Ad hoc Group	
That, ATM/SG establishes the Performance Management Data Analytics Ad hoc Group, that will: a) Identify initial ATM KPIs, data requirements and common data analysis and evaluation methodologies for APANPIRG. b) Assess participating States' / Administrations' ability to evaluate and report ATM KPIs and propose phases of adoption. c) Validate ATM KPIs, data requirements and common evaluation methodologies through a trial evaluation and reporting by participating States / Administrations. d) Propose framework for reporting of ATM KPIs, including frequency and mechanism; and e) Study insights provided by State /Administration reports and propose additional KPIs and/or modifications to existing KPIs to expand understanding of opportunities to improve ATM performance in APAC region.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To identify and harmonize data analysis capabilities across the APAC region and identify KPIs suitable for assessment of ATM performance in the region to advance the adoption of Performance Based Approach (PBA) in the APAC Region	Follow-up: ☒Required from States
When: 6-Oct-23	Status: Adopted by Subgroup
Who: ☒Sub groups ☒APAC States ☐ICAO APAC RO ☐ICAO HQ ☐Other:	

Decision ATM/SG/11-4: Establish FF-ICE ad hoc group.	
That, ATM/SG establishes the FF-ICE ad hoc group, to: a) study the successful development of FF-ICE in other regions and States, and draw useful lessons; and raise the understanding of FF-ICE by sharing use case scenarios and business cases; b) develop the Asia Pacific regional FF-ICE operational requirements and related operational processes and procedures;	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical

c) provide guidance on capabilities required for mixed mode environment where both FF-ICE capable and non-FF-ICE capable airspace users and ATM service providers operate; d) develop a FF-ICE implementation strategy for the Asia Pacific region including timeframes and roadmap; e) coordinate and collaborate with APAC SWIM TF, review the development of FIXM revisions and if needed, propose FIXM extension amendments for regional adoption; f) recommend more ASBU elements for inclusion into the Asia Pacific Seamless ANS Plan, as they mature; g) submit inputs and recommendations to the ICAO ATM Requirements and Performance Panel (ATMRPP) when deemed necessary; and h) undertake any other tasks related to FF-ICE implementation that may arise in the future.	
Why: Regions, including Asia and Pacific, are expected to transition from FPL2012 to FF-ICE, therefore there is a need to develop a regional harmonised implementation approach to maximise benefits. FF-ICE will transform the current flight planning format and processes completely. This task requires the strong support of ICAO APAC regional office to help Asia Pacific region to transit towards this new flight planning paradigm hence establishment of an ad hoc group to ensure a harmonious and effective transition	Follow-up: ☐Required from States
When: 06 Oct 2023	Status: Adopted by Subgroup
Who: ☒Sub groups ☐APAC States ☐ICAO APAC RO ☐ICAO HQ ☐Other:	

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REPORT ON AGENDA ITEMS

Agenda Item 1: Election of Vice Chair / Adoption of Provisional Agenda

Election of Vice Chair / Adoption of Agenda (WP/1)

1.1 Mr. Huho Ha from Republic of Korea was elected as Vice Chair of the ATM/SG.

1.2 The agenda (WP/1) was adopted by the meeting, which noted the Provisional Order of Discussion (OOD), and the Provisional List of Working and Information Papers (IP/1).

Agenda Item 2: Review of Related High Level Meetings

ATM/SG/10 and APANPIRG/33 Outcomes (WP/2)

2.1 The meeting was reminded of the outcomes of the ATM/SG/10 meeting (17 to 21 October 2022) and informed of the relevant outcomes from the Thirty-Third Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/33, 22 to 24 November 2022).

APAC ANSP Committee (IP/2)

2.2 Information was provided on establishing the APAC Air Navigation Service Provider (ANSP) Committee and its work streams. The First Meeting of the APAC ANSP Committee took place at the ICAO Regional Office in Bangkok, Thailand, on 17-18 April 2023, with eighty-three (83) participants from 20 Member States/Special Administrative Regions and two International Organizations. The meeting was also informed that the next onsite meeting of the APAC ANSP Committee would take place on 22-23 October in Singapore, taking advantage of the ICAO Air Navigation World 2023 – ATM Procedures for Today event being held on 23-27 October.

2.3 The meeting was informed that the progress of the APAC ANSP Committee. The detailed definition of the tasks of each of the four work streams and planned deliverables would be presented at the 58th Conference of Directors-General of Civil Aviation of the Asia/Pacific Region (DGCA58), which would be held in Bangladesh from 16 to 19 October 2023.

Agenda Item 3: Performance Frameworks and Metrics

ANS USOAP Update (WP/3)

3.1 The Secretariat provided information on the ICAO Universal Safety Oversight Audit Programme (USOAP) Continuous Monitoring Approach (CMA). The paper discussed the Protocol Questions (PQs) used to assess State safety oversight systems, and provide an annual update of ANS USOAP status.

3.2 The average ANS Effective Implementation (EI) of APAC region was 64.24%, as at September 2023. **Figure 1** illustrated the EI ratings for ANS-related PQs of the 37 APAC States that had been audited or received USOAP activity:

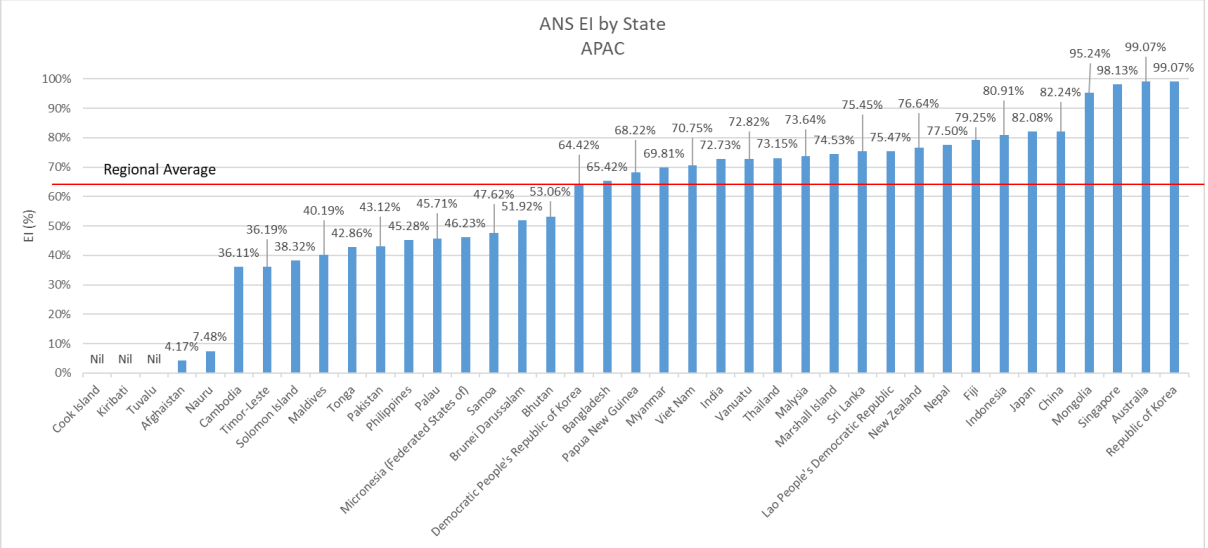

Figure 1: USOAP ANS EI Comparisons by State (September 2023)

3.3 The meeting 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).

3.4 The meeting confirmed that the APAC EI was lower than the global average according to the summary of the global average level of ANS-related EI for the 187 States that had been audited or received a USOAP activity.

3.5 As of the end of June 2022, one CMA audit was completed, along with one State Safety Programme Implementation Assessment (SSPIA) and one Focused Audit. Besides, one ICVM would plan for October 2022. For 2024, four USOAP CMA activities) would be scheduled in the APAC Region: three CMA audits and one ICVM.

3.6 The meeting was informed that one USOAP CMA workshop had been tentatively scheduled for 2023 in Bangkok. The details would be shared in due course. States were encouraged to join the workshop to become familiar with the ANS PQs.

3.7 The meeting was also informed that USOAP CMA workshop would be held from 6 – 9 November 2023 in Incheon, Republic of Korea (ROK). The ROK invited States/Administrations to the workshop.

Progress on APAC Seamless ANS reporting Portal (WP/4)

3.8 In 2021, ICAO Headquarters allocated a budget and assigned a team of ICT experts to kickstart the design and development of the Portal based on the requirements from this Region, and experience gained from the Reporting Portal (now disused). ICAO HQ ICT delivered a new version of the reporting tool based on ICAO cloud services, which would support reporting item configuration by the portal administrator. This provided a more flexible solution to users in case there were new changes to reporting items.

3.9 The new tool was expected to be implemented after the approval of Seamless ANS Plan 4.0 and the agreed definition of various new reporting items. However, the presentation of collected data in graphical mode on iSTARS 4.0 was still a pending issue to be further explored with HQ.

3.10 Since access to the ANS Reporting system required users to have Microsoft accounts, a brief guideline on using the new portal was provided in **ATM/SG/11 WP/04 Attachment**. External (non-ICAO) users could create free Microsoft accounts for themselves.

3.11 Singapore highlighted that the availability of the reporting tool would provide better visibility of how the region was progressing, and would help States focus on key areas for effort can be placed. This would be especially useful for cross-border initiatives that contributes to the progress of the Seamless ANS in the APAC Region.

3.12 The Chair reminded the meeting that reporting would be required annually after the availability of the tool.

3.13 The meeting noted that further information was needed, for example whether implementation values would be recorded in percentages, or in binary format.

Updating the Asia/Pacific Seamless ANS Plan (WP/5)

3.14 The Secretariat presented a proposal for the update of the Asia/Pacific Seamless ANS Plan for ATM/SG comment. The meeting was reminded that APANPIRG/33 had agreed to a revised update cycle for the Seamless ANS Plan, commencing with an update during 2022/2023 with subsequent updates conducted in the year immediately following the year of the ICAO Assembly.

3.15 The guiding principles adopted by the Secretariat for the Seamless ANS Plan update were:

- Refrain from introducing new regional elements, except where absolutely necessary;
- Focus on APAC Regional prioritization of Aviation System Block Upgrades (ASBUs); and
- Keep in mind the ICAO No Country Left Behind (NCLB) Principle.

3.16 The draft update of the Seamless Plan's Section 7 – Performance Improvement Plan, was provided in **ATM/SG/11 WP/5 Attachment 2**.

3.17 Updated versions of the remaining Sections 1 to 6 and 8 to 9 were also provided for review in **ATM/SG/11 WP/5 Attachment 3**. The meeting was informed that, in addition to the proposed revisions some information in Section 6 – *Current Situation*, would require update before presentation to APANPIRG/34. However, the full update of this section could not be completed until after the commissioning of the new implementation status reporting tool.

3.18 The meeting was informed that the draft update of the Plan had been presented to the AOP Sub-Group (AOP SG), Meteorology Sub-Group (MET SG) and Communications, Navigation and Surveillance Sub-Group (CNS SG) for review. CNS SG/27 had formed an ad hoc group to review relevant sections of the draft Seamless Plan by end of November 2023. Consultation with nominated Points of Contact was behind schedule, and would be undertaken before APANPIRG/34.

3.19 ICAO confirmed that the feedback provided by APANPIRG ANS groups would also be circulated to State-nominated POCs, before a final draft was prepared for presentation to APANPIRG/34. A Draft Conclusion would be proposed to APANPIRG/34 to support formal adoption of the updated Seamless Plan.

3.20 It was noted that the timeframe for completion of this activity was limited, and it may not be completed in time for APANPIRG/34. In that case, the update would need to be carried forward into 2024, for eventual formal presentation to APANPIRG/35. In the meantime, regardless of whether the update of the Seamless Plan was finalized before or after APANPIRG/34, it was important that the Seamless ANS implementation status reporting facility as discussed under WP/4 was made available as soon as possible, as APANPIRG and its sub-groups had received no information on regional implementation progress since 2019.

3.21 It was suggested that a more clear process should be developed for future update work, such as the formation of an ad hoc group under each of the APANPIRG Sub-Groups to work on relevant aspects of the Plan.

3.22 The meeting was further informed that any proposed revision to the information provided in the attachments to WP/5 may be provided to the Secretariat by email. States could update their POC contact details at any time, and the POC may be an office instead of an individual.

3.23 China informed the meeting that, having carefully reviewed the Seamless ANS Plan, element 7.15 - ICAO Table of Cruising Levels – Flight Level Orientation Scheme (FLOS) – based on feet as contained in Annex 2 Appendix 3a – was not feasible in the short term due to safety implications. ICAO reminded the meeting that revision of existing elements in Version 3.0 of the plan would also require consensus as they had already been agreed by APANPIRG/30 in 2019.

3.24 China also proposed that the existing element 7.45 be reviewed to ensure consistency with Conclusion APANPIRG/29/9.

3.25 China requested that element 6.11 relating to Pearl River Delta airspace to be deleted from the Seamless ANS Plan. China informed the meeting that this information was no longer appropriate as it was out-of-date and had not been updated to reflect the current status of collaboration.

FIT-Asia and RASMAG Outcomes (WP/6)

FIT-Asia/13 Meeting Outcomes

3.26 The Thirteenth Meeting of the FANS Interoperability Team-Asia (FIT-Asia/13) and the Twenty-Eighth Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/28) were held by video teleconference from 06 to 09 June 2023 and 21 to 24 August 2023 respectively.

3.27 Since the beginning of 2023, the Central Reporting Agency (CRA) had no contract in place for its services in the Bay of Bengal and Arabian Sea areas. Accordingly, the CRA closed six new Problem Reports (PRs) in those areas without investigating them. Given that the PRs all involved Boeing aircraft, however, the CRA recommended to the PR originator to report the problems directly to Boeing for investigation.

3.28 Subsequent to the FIT-Asia/13 meeting, ICAO reviewed the situation and considered that, given the importance of data link problem reporting in States' performance monitoring obligations under Annex 6 Operation of Aircraft Part 11 and Annex 11 Air Traffic Services2, the following Draft

[1] Annex 6 Part I 7.1.5 and 7.3.4

[2] Annex 11 2.29 and 3.3.5.2

Conclusion be considered by APANPIRG:

Draft Conclusion RASMAG/28-1: Formal Service Arrangements with CRA

That, States are urged to ensure that formal arrangements are made with an APANPIRG-recognized, competent Central Reporting Agency for the submission and analysis of data link problem reports.

3.29 The meeting supported the draft conclusion, noting that it would be presented at APANPIRG/34 for adoption.

3.30 The meeting was apprised of the challenges faced by States in establishing contracts with the Boeing CRA for CRA services. This issue would be further discussed at the next FIT-ASIA and RASMAG meetings for a solution.

3.31 FIT-Asia/13 was informed that the Survey of the Status of Current and Planned Implementation of Performance-based Horizontal Separation Minima form had been amended to reflect the current separation minima in the Procedures for Air Navigation Services – Air Traffic Management (PANS ATM – Doc 4444) at FIT-Asia/12 in 2022. In addition, some items in section 4 of the survey form might require clarification because the current and planned status were mixed in the survey and some editorial errors were corrected in the form. The meeting noted the **Conclusion RASMAG/28-2: Revised Survey of the Status of Current and Planned Implementation of Performance-Based Separation Minima.**

3.32 The FIT-Asia/9 meeting, held in Bangkok from 1-5 July 2019, had discussed a review of Regional Guidance Material for End-to-End Monitoring of Data Link Systems, and agreed to conduct a review of the Guidance Material, with a view to removing any material that may be redundant, or that duplicated material that was available in the GOLD Manual and PBCS Manual, and ensuring that all other contents correctly reflected current regional expectations for data link monitoring and reporting. The review would also take into consideration the formalization of regional procedures for the reporting of PBCS non-compliance to the relevant Regional Monitoring Agency (RMA) or En-route Monitoring Agency (EMA), and guidance for response to such reports by the State of Registry.

3.33 However, as the task required non-FIT-Asia States/Administrations' contribution, the FIT-Asia had yet to complete the task. Therefore, FIT-Asia proposed transferring the task to RASMAG, where all ICAO member States/Administrations in the Region were participating. The meeting agreed to include this item in the RASMAG Task List.

RASMAG/28 Meeting Outcomes

3.34 The Monitoring Agency for the Asian Region (MAAR) presented a combined summary of the safety analysis results for the Asia/Pacific Region, on behalf of the Asia/Pacific RMAs and EMAs. The report was divided into the Pacific (PAC) area, and Asia area. The full APAC consolidated Safety Report was provided in **ATM/SG/11 WP/06 Attachment A**.

3.35 The estimated vertical collision risk for 2022 for the PAC area did not meet the Target Level of Safety (TLS). (**Table 1).**

Pacific Area – annual flying hours = 2,758,126			
Source of Risk	**Risk Estimation**	**TLS**	**Remarks**
Vertical Technical Risk	0.19×10^{-9}	2.5×10^{-9}	Below Technical TLS
Vertical Operational Risk	19.43×10^{-9}	-	-
2022 Vertical Overall Risk	**19.62×10^{-9}**	5.0×10^{-9}	**Above TLS**

Table 1: Pacific Area Vertical Collision Risk 2022

3.36 There was a total of 118 Large Height Deviations (LHDs) in the Pacific area in 2022 (decreased from 123 in 2021), with total duration of 449 minutes and 74 levels crossed. 34 of the occurrences were Category[3] A, B or C (29%), 59 were Category D, E or F (50%), six were Category G or H (5%), 11 in Category I (9%), five were Category J or K (4%), and three were Category L or M (3%).

3.37 The estimated vertical collision risk for 2022 for the Asia area met TLS. (**Table 2**). The overall risk continued to decline since 2017 due to various safety improvement initiatives.

Asia Area – annual flying hours = 7,305,055 hours (46% increase from 2021)			
Source of Risk	**Risk Estimation**	**TLS**	**Remarks**
Vertical Technical Risk	0.49×10^{-9}	2.5×10^{-9}	Below Technical TLS
Vertical Operational Risk	1.04×10^{-9}	-	-
2022 Vertical Overall Risk	**1.53×10^{-9}**	5.0×10^{-9}	**Below TLS**

Table 2: Asia Area Vertical Collision Risk 2022

3.38 There was a total of 518 LHDs reported in the Asia area in 2022, with total duration 192 minutes and zero levels crossed.

3.39 **Table 3** summarized current LHD Hot Spots, the FIRs involved, the year of identification, and status remarks.

[3] Categories of LHD events as recognized by RMAs were:

Category A: Flight crew fails to climb or descent the aircraft as cleared;

Category B: Flight crew climbing or descending without ATC clearance;

Category C: Incorrect operation or interpretation of airborne equipment;

Category D: ATC system loop error;

Category E: Coordination errors in ATC-to-ATC transfer of control responsibility as a result of human factors issues;

Category F: ATC transfer of control coordination errors due to technical issues;

Category G: Aircraft contingency leading to sudden inability to maintain level;

Category H: Airborne equipment failure and unintentional or undetected level change;

Category I: Turbulence or other weather-related cause leading to unintentional or undetected change of flight level;

Category J: TCAS RA – flight crew correctly climb or descend following the RA;

Category K: TCAS RA – flight crew incorrectly climb or descend following the RA;

Category L: An aircraft being provided with RVSM separation is not approved;

Category M: Others.

Hot Spot	Involved FIRs	Identified	Remarks
A1	Kolkata/Dhaka-Yangon	2015	Cat. E LHDs. Risk reduced.
A2	Chennai – Yangon/Kuala Lumpur	2015	Cat. E LHDs reduced. Risk reduced. Potential non-hot spot 2023 (RASMAG/28)
B	Incheon (AKARA Airspace)	2015	- Risk at Incheon-Fukuoka ACC interface mitigated. - Cat. E LHDs and risk at Incheon-Shanghai ACC interface reduced
D	Manila – all adjacent FIRs	2015	- Cat. E LHDs and risk at Manila/ Fukuoka FIR boundary reduced. - Risk at all other Manila FIR boundaries mitigated.
F	Mogadishu – Mumbai	2015	Cat. E LHDs reducing. Risk reducing.
G	Sanaa/Muscat – Mumbai	2015	Cat. E LHDs. Risk reducing.
J	Jakarta – Singapore/Kota Kinabalu	2018	Cat. E LHDs.
M	Colombo – Melbourne	2019	LHDs and risk reducing. Awaiting response to establish a POC before removing from the hot spot list.
N	Oakland USA – Hawaii CEP	2019	Cat. E LHDs increasing. Risk increasing
O	Bangkok /Ho Chi Minh/Kuala Lumpur – Singapore	2023	Cat. E LHDs.

Table 3: LHD Hot Spots in the Asia/Pacific Region

3.40 The meeting agreed that all hot spots except A2 be retained, and monitored for another year before considering their reclassification as potential non-hot spots. One new Hot Spot 'O' was added.

3.41 The meeting noted to the proposed changes, in the following Conclusion: **Conclusion RASMAG/28-3: Guidance Material for the Continued Safety Monitoring of the Asia Pacific RVSM Airspace Version 2** in support of the proposed changes to the Guidance Material for the Continued Safety Monitoring of the Asia-Pacific RVSM Airspace. This review of the Guidance Material included contents from the LHD Material Package and updated information arising from APANPIRG conclusions and decisions since its first publication in 2019.

3.42 ICAO proposed the adoption of a stand-alone document detailing the Asia Pacific Flight Information Regions and Responsible Monitoring Agencies, to be maintained on the ICAO APAC website, and the consequential removal of this information from the EMA handbook. The meeting noted the following Conclusion: **Conclusion RASMAG/28-4: Removal of EMA handbook Appendix A and Guidance for PBCS Non-Compliance Reporting.**

3.43 MAAR provided an update on the extension of the Flight Plan RVSM Approval Verification Process (FPRAVP), a proactive system created to reject flight plans of aircraft not approved for RVSM operations within the European airspace. The upcoming phase of the FPRAVP extension aims to incorporate seven additional States within the EUR RMA RVSM area, with the possibility of these States joining the scheme in 2024.

3.44 RASMAG noted the most recent EUR RMA bulletin version (version 21.8), there were still five MAAR State aircraft that continued to be listed on the bulletin, despite their previous inclusion in Bulletin version 17.7 in July 2022. **Table 4** presents a list of aircraft under MAAR's responsibility that were listed on the EUR RMA Bulletin.

State of Operator	Operator Name	Aircraft Registration	Aircraft Type
India	Air Force of India	K3601	E35L
	Air Force of India	K3604	E35L
	Air Force of India	G2961	GLF2
	Air Force of India	GB8001	GL5T
Pakistan	Army of Pakistan	805	B350

Table 4: List of MAAR rogue aircraft on the EUR RMA Bulletin

3.45 MAAR updated the overview of Long Term Height Monitoring (LTHM) compliance status in the APAC Region, including assessments of five APAC RMAs – AAMA, China RMA, JASMA, MAAR and PARMO. The assessment, based on RVSM approval data as of at 30 June 2023, yielded a remaining monitoring burden in the APAC Region of 503 aircraft, which was a 5% decrease since 2021.

3.46 The RASMAG/28 meeting had reviewed the APANPIRG ATM and Airspace Safety Deficiency List and agreed to make the following recommendation to APANPIRG/34.

a) To be retained in the Deficiencies list

- Afghanistan (Failure to submit Kabul FIR Large Height Deviation (LHD) data).
- Afghanistan (Remaining monitoring burden of 62%, RASMAG/26).
- Pakistan (Remaining monitoring burden of 62%, RASMAG/28).
- India **(**Post implementation monitoring not implemented, - Performance monitoring and analysis not reported for the Mumbai FIR).
- Maldives (Post implementation monitoring not implemented - Problem reports not provided to CRA. Performance monitoring and analysis not reported to FIT*)*.

b) Removal of Deficiency:

Non-provision of Safety-Related Data – Requirement of Paragraph 3.3.5.1 of Annex 11 (provision of data for monitoring the height keeping performance of aircraft)

- Brunei Darussalam.

c) Add new Deficiency

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

- Bangladesh (Remaining monitoring burden of 33%, RASMAG/28).
- Indonesia (Remaining monitoring burden of 63%, RASMAG/28).
- Mongolia (Remaining monitoring burden of 39%, RASMAG/28).
- Nepal (Remaining monitoring burden of 46%, RASMAG/28).
- New Zealand (Remaining monitoring burden of 36%, RASMAG/28).
- Papua New Guinea (Remaining monitoring burden of 69%, RASMAG/28).
- Solomon Islands (Remaining monitoring burden of 50%, RASMAG/28).

3.47 The RASMAG/28 meeting had been informed that the deadline for submission of information to reduce the remaining monitoring burden must reach MAAR by 15 Nov 2023 in order to

be processed in time for APANPIRG/34.

3.48 The RASMAG/28 agreed to a survey to seek information from States to improve understanding by RASMAG and FIT-Asia of the PBCS approval process of APAC member states, and whether PBCS approvals issued were in accordance with Annex 6 and PBCS manual Doc 9869 chapter 4. The RASMAG/28 meeting agreed to ***Conclusion RASMAG/28-5: Survey for Asia Pacific States PBCS Approval Process***.

3.49 The meeting was informed that for ANS and Airspace Safety Deficiencies related to *Post-implementation monitoring not implemented*, performance monitoring and analysis results would be presented to the next FIT/ASIA & RASMAG meetings for validation prior to RASMAG recommendation on removal of the deficiencies.

3.50 In response to a query, ICAO reiterated that APANPIRG did not support the proliferation of monitoring agencies.

Application of ATC Separation Standards (WP/7)

3.51 The Secretariat provided information on the Seamless ATM survey conducted to determine which Air Traffic Control (ATC) separation minima were being applied within the Asia/Pacific Region. The survey measured the minimum horizontal separation standard within State/administration's FIR namely Category R, Category S and Category T airspace. The number of responses to the latest survey had increased from 21 to 25 when compared to last reporting period.

3.52 The analysis of Q1 of the survey were presented separately for the three categories of airspaces namely Category R, Category S and Category T in **Figure 2**, **Figure 3** and **Figure 4** respectively. The figures provide an indication, as at June 2023, of the efficiency of ATC spacing between aircraft at the same level as it is theoretically being applied within FIRs. The criteria used the analysis of Q1 were as follows:

- Category R - Acceptable standard: ≤ 50 NM
- Category S - Acceptable standard: 5 NM
- Category T - Acceptable standard: 5 NM

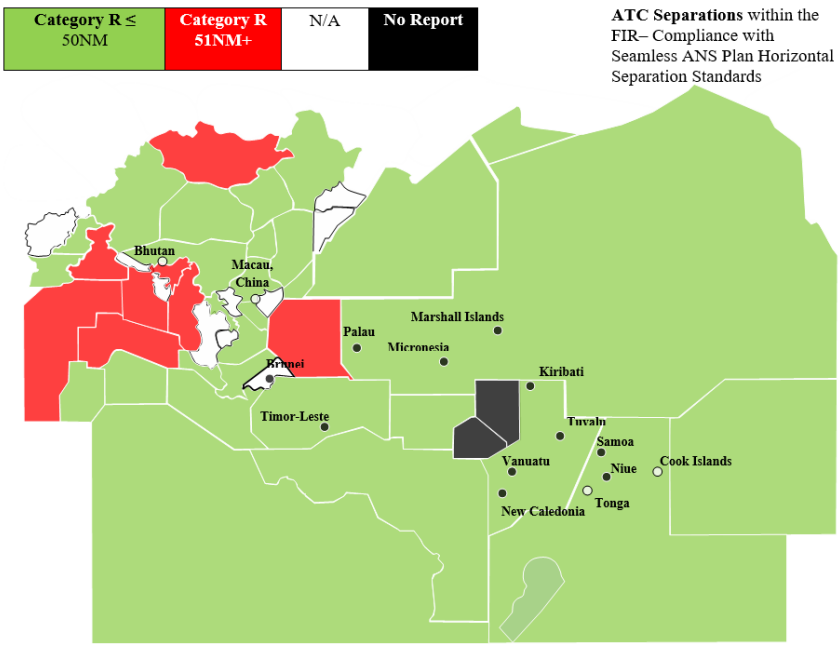

Figure 2: Category R Horizontal Separation Minimums within the FIR

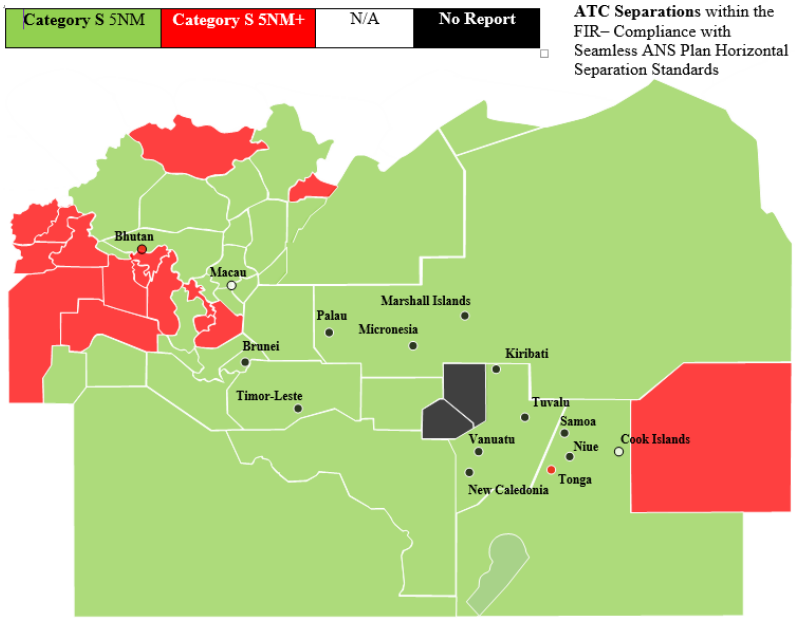

Figure 3: Category S Horizontal Separation Minimums within the FIR

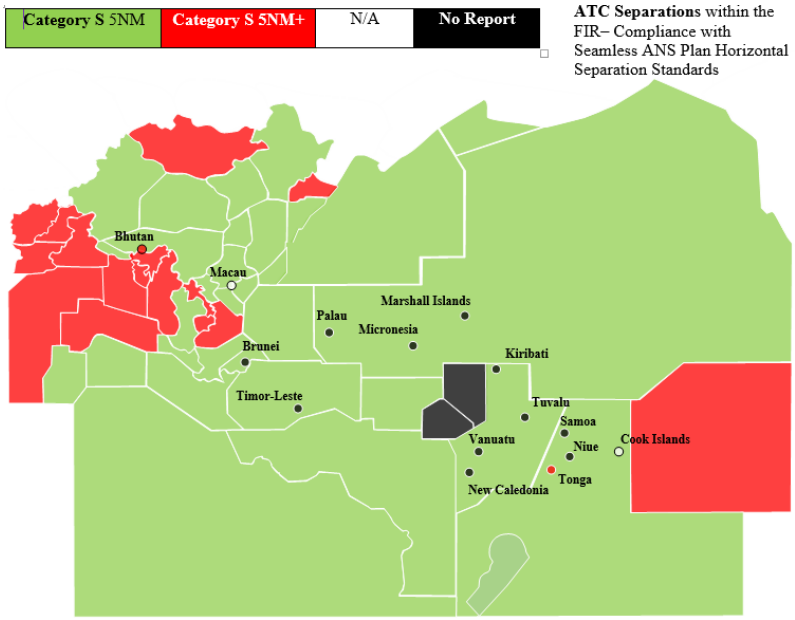

Figure 4: Category T Horizontal Separation Minimums within the FIR

3.53 Q2 of the survey looked at three of categories of separations at Inbound FIR TOC points shown below and the total number of TOC points surveyed this year. After a review, the criteria for Category R→ S TOC had been revised from 10 NM to 50NM. The analysis of Q2 of the survey were presented separately for the three categories in **Figure 5**, **Figure 6** and **Figure 7** respectively.

Q2 Criteria

- Category R/S → R TOC- Acceptable standard: ≤ 50 NM
- Category R → S TOC - Acceptable standard: ≤ 50 NM

- Category S → S TOC - Acceptable standard: ≤ 10 NM

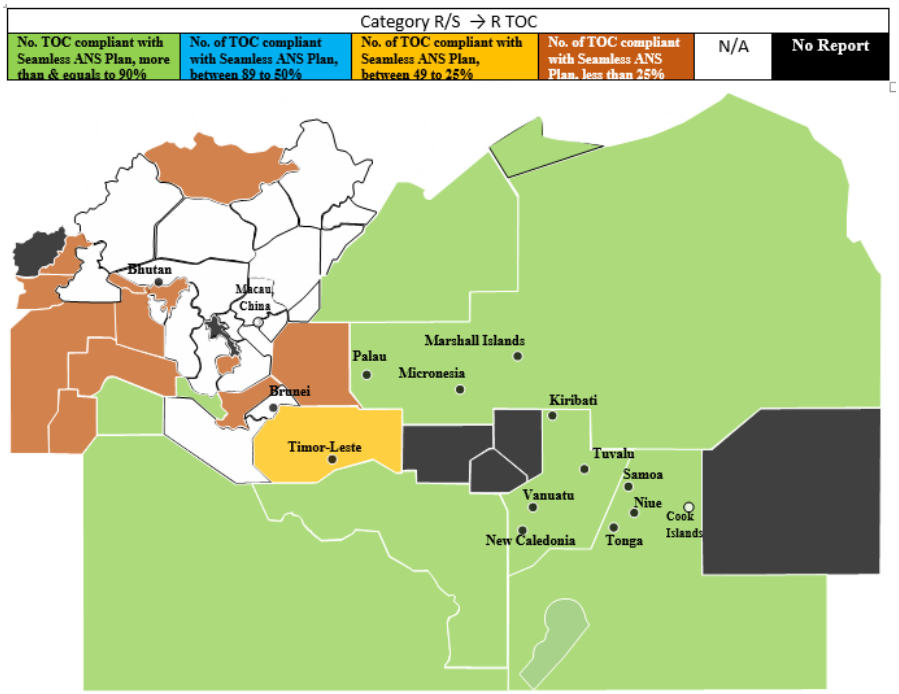

Figure 5: Category R/S → R TOC ATC Horizontal Spacing at Inbound FIR TOC points

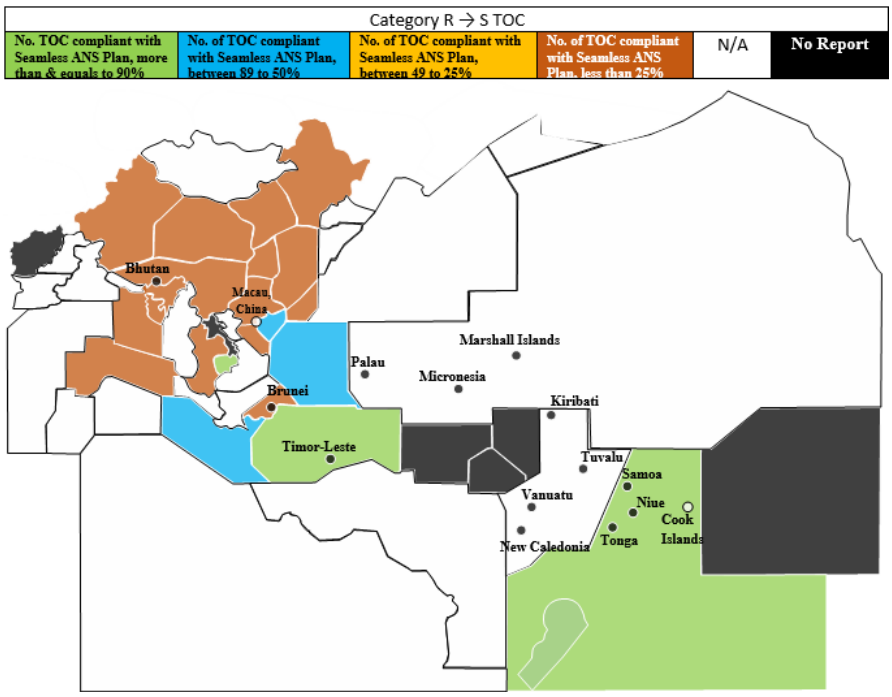

Figure 6: Category R → S TOC ATC Horizontal Spacing at Inbound FIR TOC points

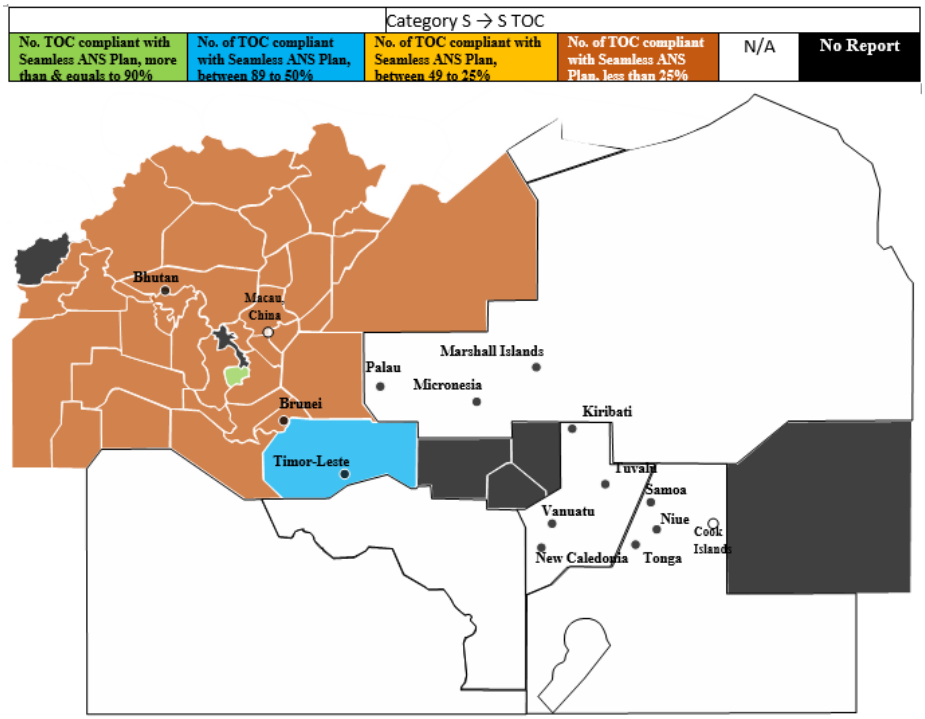

Figure 7: Category S → S TOC ATC Horizontal Spacing at Inbound FIR TOC points

3.54 In view of the performance expectation stated in the APAC Seamless ANS plan, it was proposed to align the annual survey form to better capture the intent of paragraph 4.34 Note 1:

> *At the TOC points in such environments, 5-10NM should be authorised with auto hand-off and surveillance data-sharing or overlapping coverage at the TOC point, and 5-20NM without auto hand-off, as determined by an appropriate safety assessment.*

3.55 An additional column in page 2 of the annual survey form was proposed, new column 'G': A*uto hand-off and surveillance data-sharing or overlapping coverage at the TOC point: Yes or No,* to indicate the various arrangements between adjacent FIRs interfaces in **WP/07 Attachment E**. The meeting agreed to the Conclusion.

> **Conclusion ATM/SG/11-2: Revised Annual APAC Regional Survey of ATC Separation Standards**
>
> That, the revised form at **ATM/SG/11 WP/7 Attachment E** be utilized in future Annual APAC Regional Survey of ATC Separation Standards

Formation of Data Analytics Group to Establish ATM Performance Management in APAC (WP/8)

3.56 China, Indonesia, Japan, Malaysia, Singapore, Thailand and United States proposed the formation of a Data Analytics Group under the ambit of ATM/SG, noting that at the APANPIRG/33 meeting an informal group of these States was formed and conducted trial activities on performance management of eight ICAO Global Air Navigation Plan (GANP) KPIs. The group confirmed that several APAC States were ready for performance measurement.

3.57 The group proposed the formation of a data analytics group to continue building on this foundation to establish broader reporting capability across the region, with each State contributing according to their own capabilities. The reporting capability could then be used to help prioritize and monitor progress of APANPIRG initiatives using the guidance in the ICAO Manual on Global Performance of the Air Navigation System (Doc 9883). At APANPIRG/33 ICAO had proposed the proponent States form an interim collaborative group to develop the proposal, prior to the formation of the Small Working Group (SWG) they had proposed to be established under ATM/SG.

3.58 The group considered the eight Phase 1 Key Performance Indicators (KPIs), plus GANP KPI16 (Additional Fuel Burn) to measure the impact of sustainability efforts. The results of a survey of the participating States on whether they currently measured these KPIs were provided in **Table 5**:

Survey Questions		**Survey Results Summary**
What KPIs are measured?	KPI09 – Airport Peak Capacity	All 7 states measure these KPIs
	KPI10 – Airport Peak Throughput	
	KPI02 – Additional Taxi-out Time	
	KPI13 – Additional Taxi-in Time	
	KPI01 – Departure Punctuality	
	KPI14 – Arrival Punctuality	
	KPI16 – Additional Fuel Burn	2 out of 7 states measure this KPI
What airports are the KPIs measured at?		All major airports are included
Earliest year where all data sets are available?		Varies but all states have data from 2019 onwards
Is there a National ATM Performance Framework?		Yes, in all 7 states
Are KPIs used to improve ATM performance?		Yes, in all 7 states
Are KPIs used for ATM future planning?		Yes, in all 7 states

Table 5: Survey results summary

3.59 **Table 6** listed the group's consensus on suitable KPI variants.

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

Table 6: Trial performance measurement activity KPI variants

3.60 Information was provided on the results of a trial activity conducted by the participating States to measure performance for a period of six months from November 2022 to April 2023, highlighting departure capacity and peak departure throughputs, and arrival punctuality.

3.61 In discussion the meeting was informed that the group would follow declared capacity (per hour) methodology described in the GANP. In response to a query on the purpose of establishing the proposed data analysis framework, the meeting was informed that it was intended to establish performance analysis capabilities to support enhancement to ATM performance. It was not intended for performance scoring and reporting.

3.62 The meeting agreed to the following Decision:

Decision ATM/SG/11-1: Establish Performance Management Data Analytics Ad hoc Group

That, ATM/SG establishes the Performance Management Data Analytics Ad hoc Group, that will:

a) Identify initial ATM KPIs, data requirements and common data analysis and evaluation methodologies for APANPIRG;

b) Assess participating States' / Administrations' ability to evaluate and report ATM KPIs and propose phases of adoption;

c) Validate ATM KPIs, data requirements and common evaluation methodologies through a trial evaluation and reporting by participating States / Administrations;

d) Propose framework for reporting of ATM KPIs, including frequency and mechanism; and

e) Study insights provided by State /Administration reports and propose additional KPIs and/or modifications to existing KPIs to expand understanding of opportunities to improve ATM performance in APAC region.

in accordance with the Terms of Reference, Task List and Data Collection Guide in **ATM/SG/11 WP/8 Appendices A and B**.

3.63 Singapore would be the acting Rapporteur and provide the Secretariat support, pending further consideration of this matter by the group. An invitation would be sent to all States/Administrations.

Challenges in Acquiring a Service Agreement with the CRA for PR Analysis in PBCS Implementation (IP/25)

3.64 Information was provided on the challenges faced by Malaysia in planning the implementation of Performance-based Communications and Surveillance (PBCS) due to the absence of a service agreement with the Central Reporting Agency (CRA) by Malaysia.

3.65 The meeting was informed that Malaysia had contacted the CRA to enter into a contract agreement to enable problem report analysis for flights operating within the oceanic airspace of the Kuala Lumpur Flight Information Region (FIR). In ongoing discussions the CRA had indicated that the overhead administrative expenses for a separate contract with each State would be disproportionately high, and creating a fixed-price contract with each State for a minimal number of problem reports would be impractical.

3.66 A significant level of collaboration and coordination was crucial for acquiring a single, unified contract. Hence, Malaysia strongly recommended that the discussion regarding this matter be held through the ICAO platform.

Agenda Item 4: Air Navigation Service Deficiencies

Air Navigation Service Deficiencies List (WP/9)

4.1 ICAO presented the list of APANPIRG Air Navigation Deficiencies in the ATM and Airspace Safety fields. The meeting agreed to the following change proposals for consideration by APANPIRG/33 and recorded in **Appendix C to the Report**:

a) WGS-84 not implemented

i. Bhutan Deficiency deleted.

4.2 The meeting noted the following new Deficiency proposed by RASMAG/28:

a) Non-Provision of Safety-related Data

i. Brunei Darussalam deleted.

b) Potential new Deficiency (Long Term Height Monitoring Requirement – remaining burden more than 30%)

i. Bangladesh (Remaining monitoring burden of 33%, RASMAG/28).

ii. Indonesia (Remaining monitoring burden of 63%, RASMAG/28).

iii. Mongolia (Remaining monitoring burden of 39%, RASMAG/28).

iv. Nepal (Remaining monitoring burden of 46%, RASMAG/28).

v. New Zealand (Remaining monitoring burden of 36%, RASMAG/28).

vi. Papua New Guinea (Remaining monitoring burden of 69%, RASMAG/28).

vii. Solomon Islands (Remaining monitoring burden of 50%, RASMAG/28).

Datalink Performance Monitoring in Mumbai Flight Information Region (IP/3)

4.3 India provided an update on the planned implementation of data link performance monitoring for Mumbai FIR, to address the existing APANPIRG ATM and Airspace Safety Deficiency (Post implementation monitoring not implemented, - Performance monitoring and analysis not reported for the Mumbai FIR). The meeting was informed that FIT-Asia/14, followed by RASMAG/29 in 2024, would monitor the implementation and take necessary action accordingly.

Update on Designation of Australian Restricted Areas in International Waters (IP/4)

4.4 Australia provided an update on progress to remove Restricted Areas over international waters, to address the existing APANPIRG ATM and Airspace Safety Deficiency.

Initiatives taken towards establishing ISO certified QMS at AIS (IP/5)

4.5 Sri Lanka provided information on the initiation of necessary steps to implement an International Organization for Standardization (ISO) certified quality management system (QMS) for the Aeronautical Information Service (AIS), to comply with the relevant Standard in Annex 15 *Aeronautical Information Services*.

Agenda Item 5: ATM Systems (Modernisation, Seamless ATM, CNS, ATFM)

Regional Air Navigation Plan Update (WP/10)

5.1 ICAO presented an update on the progress of incorporating coordinate data for Asia/Pacific FIRs and Search and Rescue Regions (SRRs) in the Regional ANP Volume I. **Figure 8** & **Figure 9** illustrated the current status of the FIR and Search and Rescue Region (SRR) reviews.

5.2 The exercise to review the ANP with FIR & SSR coordinates was based on ICAO historical records and not new proposals for change. Some States had submitted major amendments to their FIRs during the review process. These would only be considered if it was change that only affected the national airspace and not the neighbouring airspace, or if all parties agreed with the change proposal before submission to ICAO.

5.3 The meeting noted that there were issues in some areas affecting the resolution of FIRs/SRRs, and urged States to provide updates of any bilateral/trilateral discussion of unresolved FIR boundaries.

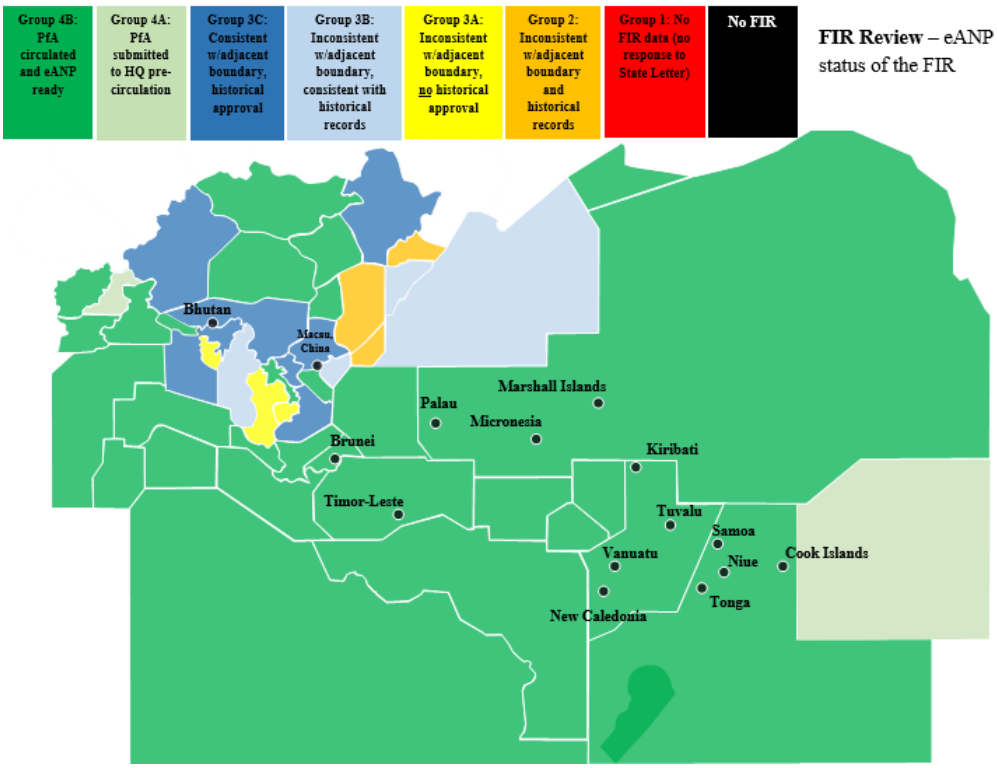

Figure 8: FIR Review Status, as at June 2023

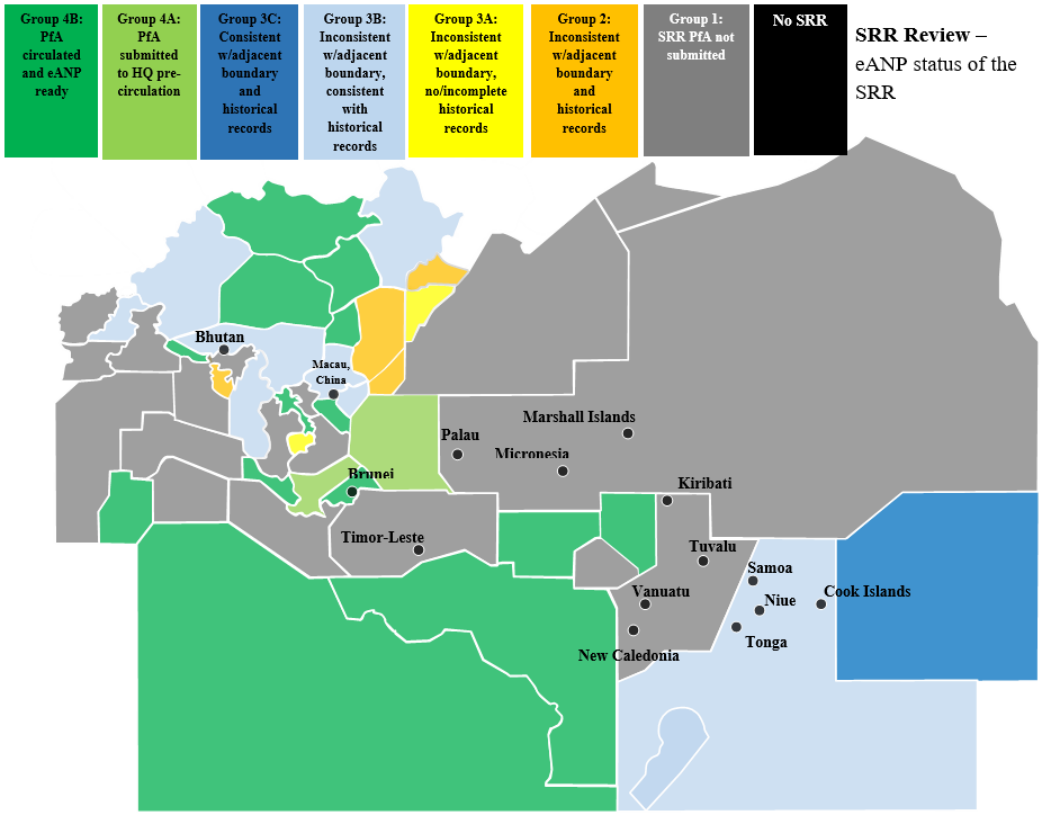

Figure 9: SRR Review Status, as at June 2023

5.4 The meeting noted the PfA submission process was delayed significantly due to the COVID-19 pandemic and resource issues.

5.5 Republic of Korea commented that the processing of PfA approval should be based on the historical data held by the ICAO, and that the PfA submitted by the ROK should be approved immediately considering the purpose of the eANP amendment was to ensure the consistency of the data between State and ICAO.

5.6 China provided the following comments for the WP/10 Attachment I:

a) According to historical documents, the FIRs concerned were defined at the first Regional Air Navigation meeting (RAN/1, 1973) in the absence of China and without China's consultation nor agreement, which was not in line with the procedures.

b) The background history in Attachment I showed only a part of the RAN report and did not fully reflect China's statement which was recorded in the minutes of the RAN meeting and did not reflect the coordination results between China and ICAO. In history, as requested by RAN/1 meeting, ICAO's coordination with China had reached some consensus on adjusting the boundaries but had not been accomplished by 1983.

c) As mentioned in previous meetings, the PfA submitted by CAAC for Shanghai and Taibei FIR was not a new proposal, it was proposed in the 1970s.

d) FIR is very important for operational safety and efficiency and hope that relevant rules and procedures should be strictly complied with by all stakeholders.

5.7 In response to the above comments, ICAO request that evidence be provided, such as the procedures mentioned in item a) and a copy of the PfA mentioned in item c) and proposed in the 1970s.

Update on Response to Conclusion APANPIRG/33/5 (WP/11)

5.8 ICAO provided an update on follow-up on ***Conclusion APANPIRG/33/5***, relating to which separation minima required a supporting procedure in ICAO Doc 7030 *Regional Supplementary Procedures* (SUPPS). New Zealand had provided information to ATM/SG/10 on PfAs to SUPPS jointly submitted by several States for the implementation of separation minima in oceanic airspace. In its review of the PfAs, ICAO Headquarters had determined parts of the PfAs were not necessary.

5.9 Coordination on the matter had been ongoing between ICAO Asia/Pacific Regional Office and the Air Navigation Bureau (ANB) in ICAO Headquarters, in consultation also with ICAO Europe/North Atlantic (EUR/NAT) Regional Office, for several months. The meeting could expect a State Letter on the subject to be issued by the Regional Office in the near future, clarifying the SARPS and PANS that required SUPPs support for implementation.

5.10 Subject to final confirmation in the State Letter, the meeting was informed of the general principle that implementation of procedures and separation minima in airspace over the high seas, a SUPPS procedure is not required to support implementation of any standard in Annex 11, or any procedure or separation minimum provided in PANS-ATM, that is not identified as requiring *regional air navigation agreement*.

5.11 Further detail would be provided in the State Letter, once finalized.

Main Outcomes of CNS SG/27 (WP/12)

5.12 ICAO provided an update on the main outcomes from the Twenty-Seventh Meeting of the Communications, Navigation and Surveillance Sub-Group of APANPIRG (CNS SG/27, Bangkok, Thailand, 28 August to 01 September 2023).

5.13 CNS SG/27 noted the need to enhance the communication and surveillance capability of Member States to improve situational awareness, work towards strengthening effective implementation indicators by complying with protocol questions related to CNS, review NOTAMS and "consider removing" old and very old NOTAMs related to CNS, implement ATS Interfacility Data Communication (AIDC) to mitigate LHD incidents, and the need for robust ATC training to ensure the compliance of new technology and the application of contingency procedures when system operation failed.

ATM/SG Secretariat note: removal of 'old' and 'very old' NOTAMS was not an option for 'consideration', but was an ICAO requirement for compliance with the relevant Standard in Annex 15.

5.14 CNS SG/27 had noted ***Conclusion APANPIRG/33/7 - Extension of CRV Contract for one year***. Member States are urged to initiate a service order with the PCCW Global for CRV implementation as early as possible, on or **before 31 December 2023** and synchronize the implementation of CRV in the APAC region.

5.15 India had informed CNS SG/27 of latest progress of AMHS/CRV implementation, and suggested extending the existing CRV network to the MID Region to facilitate smooth connectivity and exchange of aeronautical/meteorological and other traffic from the APAC region. CNS SG/27 supported the suggestion for MID States to join CRV and the potential benefits to both regions. The ICAO Secretariat would coordinate with the MID office and PCCWG to take follow-up actions.

5.16 CNS SG/27 had endorsed ***Draft Conclusion CNS SG/27/04 (SWIM/TF/07/04) – Asia/Pacific Regional FIXM version 4.2 Extension*** formulated by SWIM TF/7 for APANPIRG/34 adoption.

Multi-Regional TBO Demonstration

5.17 Japan, Singapore, Thailand, and USA jointly presented to CNS SG/27 an overview of the Multi-Regional Trajectory-Based Operations (MR TBO) Demonstration, a collaborative project undertaken to validate the TBO concept as well as to showcase the TBO operational values and key capabilities, both operational and technical, required to support TBO. CNS SG/27 was encouraged to provide guidance and collaborate on establishing the crucial TBO building blocks, i.e., SWIM and FF-ICE, to support the development and realization of TBO in Asia/Pacific.

5.18 CNS SG/27 was informed that the MR TBO Demo had been concluded with the live-flight demonstration in June 2023. There was no plan to conduct any other phase of the MR TBO demonstration. However, another such a demo in Asia/Pacific in the future was under discussion.

5.19 CNS SG/27 had agreed to support the collaboration and coordination between the SWIM TF and FF-ICE Operational Requirements SWG (FF-ICE OR SWG, established under ATM SG) as well as Workstream 2 - *Accelerate the Development and Implementation of Seamless ANS and Collaborate on Green Initiatives to Enhance ANS Sustainability* of the Asia and Pacific ANSP Committee (AAC) to build the TBO enablers, i.e. SWIM and FF-ICE, in Asia/Pacific.

5.20 Outcomes of the Seminar on Air Traffic Management Automation Systems and the work accomplished by the Fourth Meeting of the Asia/Pacific Air Traffic Management Automation System Task Force (ATMAS TF/4), held in Bangkok, Thailand, from 27 to 30 June 2023, were provided.

5.21 The ATMAS repository had been circulated through State Letter, and 11 updates had been received from States/Administrations. Based on the ATM automation systems status collected, the preliminary analysis of the key performance indicators on the ATMAS Repository had also been summarized.

5.22 The Meeting was informed that the revised draft (Edition 1.3) of the Air Traffic Management Automation System Implementation and Operations Guidance Document (ATMAS IGD was adopted by ATMAS TF/4 by ***Conclusion ATMAS TF/04/01 - ATMAS IGD (Edition 1.3)***.

5.23 CNS SG/27 had emphasized the reference to the guidance document adopted by the ICAO APAC ATM Automation System Task Force in providing an independent full-fledged Contingency system from another supplier on top of the Main and Fallback systems for ATM Automation System. The ICAO Secretariat had recalled the Assembly Resolution **A41-8: Ensuring the resilience of ICAO CNS/ATM systems and services,** advised that *resilience* would be a keyword in near future on ICAO forums and encouraged CAAs/ANSPs to share their relevant experience in various contributory bodies of CNS SG.

Asia/Pacific Seamless ANS Plan Update

5.24 CNS SG/27 reviewed Seamless ANS Plan-related discussion outcomes from the APANPIRG/33 Meeting and a proposed update of the Performance Improvement Plan of the Asia/Pacific Seamless ANS Plan.

5.25 SWIM TF had already shared SWIM related ASBUs to be included in the next edition of Seamless ANS plan as detailed in ***Conclusion APANPIRG/33/9 - The Asia-Pacific SWIM Implementation Timeframe and inclusion of the Asia/Pacific SWIM Implementation in the Asia/Pacific Seamless ANS Plan***. The ICAO Secretariat added that except SWIM related ASBUs, other ASBUs required Member State's observations, feedback, and consent before CNS SG agreed to incorporate them into the next version of the plan.

5.26 As a way forward, the CNS SG/27 meeting agreed to form a CNS related ASBUs review Ad-hoc Group for the next edition of Seamless ANS Plan, which would review the proposed ASBUs, prepare a list of CNS related ASBUs to include in the plan, share an interim report to APANPIRG/34, and seek consent from CNS SG/28.

5.27 The CNS SG meeting had agreed that the available timelines to complete the task were very difficult to accomplish. Therefore, an ad-hoc group would try its best to fulfil the expectations by preparing revised content for providing an interim report to APANPIRG/34.

Air Traffic Flow Management Steering Group Outcomes (WP/13)

5.28 The meeting was informed of the outcomes of the 13th Meeting of the Air Traffic Flow Management Steering Group (ATFM/SG/13), held in Bangkok, Thailand, from 03 to 07 April 2023.

5.29 A summary of the ATFM implementation status of APAC Administrations was provided, which reported against the performance objectives of the Regional Framework for Collaborative ATFM. Annual implementation status reports, due by 28 February 2023, were received from 20 APAC Administrations.

5.30 Based on reports received States were assessed as having *Robust* (90-100%), *Marginal* (70-89%) or *Incomplete* (0-69%) implementation. Australia, Cambodia, China, Hong Kong China, Japan, Republic of Korea, Singapore, Thailand and USA were assessed as having Robust implementation. **Table 7** summarized the updated Asia/Pacific Region ATFM Implementation Status as of 2 October 2023.

Administration (Tier)	**% Implementation**			**Implementation Status**
	2021	**2022**	**2023**	
Afghanistan (B	*never reported*	*no report*	*no report*	Never Reported
Australia (A)	87	*no report*	96	Robust
Bangladesh (B)	13	13	*no report*	Did Not Report
Bhutan (A)	*no report*	*no report*	21	Incomplete
Brunei Darussalam (B)	*never reported*	*no report*	*no report*	Never Reported
Cambodia (A)	*no report*	82	95	Robust
China (A)	*no report*	*no report*	97	Robust
Hong Kong, China (A)	89	89	95	Robust
Macao, China (B)	*no report*	*no report*	39	Incomplete
Cook Islands (B)	*never reported*	*no report*	*no report*	Never Reported
Fiji (B)	*no report*	*no report*	0	Incomplete
France (French Polynesia) (B)	*no report*	*no report*	40	Incomplete
DPR Korea (B)	*never reported*	*no report*	*no report*	Never Reported

Administration (Tier)	% Implementation			Implementation Status
	2021	2022	2023	
India (A)	92	84	85	Marginal
Indonesia (A)	71	63	54	Incomplete
Japan (A)	89	94	91	Robust
Kiribati (B)	*never reported*	*no report*	*no report*	Never Reported
Lao PDR (A)	*never reported*	*no report*	*no report*	Never Reported
Malaysia (A)	*no report*	*no report*	36	Incomplete
Maldives (B)	*no report*	*no report*	*no report*	Did Not Report
Marshall Islands (B)	*never reported*	*no report*	*no report*	Never Reported
Micronesia (B)	*never reported*	*no report*	*no report*	Never Reported
Mongolia (A)	*no report*	40	28	Incomplete
Myanmar (B)	*no report*	*no report*	*no report*	Did Not Report
Nauru (B)	*never reported*	*no report*	*no report*	Never Reported
Nepal (B)	43	40	*no report*	Did Not Report
New Caledonia (B)	*no report*	*no report*	*no report*	Did Not Report
New Zealand (A)	*no report*	67	78	Marginal
Pakistan (B)	11	80	59	Incomplete
Palau (B)	*never reported*	*no report*	*no report*	Never Reported
Papua New Guinea (A)	*no report*	*no report*	*no report*	Did Not Report
Philippines (A)	61	77	59	Incomplete
Republic of Korea (A)	82	87	93	Robust
Samoa (B)	*never reported*	*no report*	*no report*	Never Reported
Singapore (A)	97	97	99	Robust
Solomon Islands (B)	*never reported*	*no report*	*no report*	Never Reported
Sri Lanka (B)	*never reported*	*no report*	*no report*	Never Reported
Timor Leste (B)	*never reported*	*no report*	*no report*	Never Reported

Administration (Tier)	% Implementation			Implementation Status
	2021	2022	2023	
Tonga (B)	*never reported*	*no report*	*no report*	Never Reported
Thailand (A)	90	90	91	Robust
Tuvalu (B)	*never reported*	*no report*	*no report*	Never Reported
United States (A)	94	*no report*	96	Robust
Vanuatu (B)	*never reported*	*no report*	*no report*	Never Reported
Viet Nam (A)	34	34	71	Marginal

Table 7: Updated Asia/Pacific Region ATFM Implementation Status

5.31 The following APAC States had never provided an implementation status report, and their implementation status was recorded as *Never Reported*:

- Afghanistan, Brunei Darussalam, Cook Islands, DPR Korea, Kiribati, Lao PDR, Marshall Islands, Micronesia, Nauru, Palau, Samoa, Solomon Islands, Sri Lanka, Timor Leste, Tonga, Tuvalu, and Vanuatu.

5.32 Updates were provided on progress in the Asia/Pacific Cross-Border Multi-Nodal ATFM Collaboration (AMNAC), the Northeast Asia Regional ATFM Harmonization Group (NARAHG), the East-Asia Air Traffic Management Coordination Group (EATMCG), and the Bay of Bengal Cooperative ATFM (BOBCAT) system. The meeting acknowledged the excellent effort and collaboration among sub-regional ATFM groups, and that their close coordination would lead to harmonised ATFM operations.

5.33 ATFM/SG/13 was reminded of ICAO Doc 4444 Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM) procedures for the addressing of ATS messages, noting that there were multiple examples of APAC Administrations specifying non-compliant Flight Plan (FPL) addressing requirements in Aeronautical Information Publication (AIP) Section ENR 1.11, together with the use in AFTN addresses of three-letter designators that were not registered for their use in Doc 8585 Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services. It was noted that the specification of non-compliant addresses was a key factor in missing FPL and associated ATS messages, including DEP messages.

5.34 ATFM/SG/13 agreed to develop an annual regional monitoring and reporting scheme for the elements of the Asia/Pacific A-CDM Implementation Plan by the ATFM Information Requirements Small Working Group (ATFM/IR/SWG) with A-CDM experts, noting that there was currently no mechanism for States to report implementation progress.

5.35 The meeting was informed that ATFM/SG/13 had agreed to conduct a capacity assessment workshop wherein States would be invited to share their experiences in conducting capacity assessments of airports and airspace sectors.

Missing Departure (DEP) Messages (WP/14)

5.36 ICAO provided an update on the issue of missing Departure (DEP) messages, as discussed at ATFM/SG/8-13 (2018-2023) and presented to ATM/SG meetings in 2019-2022.

5.37 The meeting was reminded of PANS-ATM procedures for the addressing of ATS messages, noting that there were multiple examples of APAC Administrations specifying non-compliant Flight Plan (FPL) addressing requirements in Aeronautical Information Publication (AIP) Section ENR 1.11, together with the use in AFTN addresses of three-letter designators that were not registered for their use in ICAO Doc 8585 Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services.

5.38 Analysis of incorrect FPL addressing requirements in AIP would continue, with a view to raising APANPIRG Air Navigation Deficiencies against non-compliance with ICAO Annexes and PANS where necessary.

5.39 The meeting was informed of the APAC Administrations for which APANPIRG ANS Deficiencies were recorded, where the most recent APAC regional analysis indicated 5% or more of the required DEP messages were not received by en-route and/or destination ATS units, as agreed by APANPIRG/33 (December 2022). The meeting agreed to retain the following DEP message transmission deficiency, for consideration by APANPIRG/34.

- To be retained in the Deficiencies list – Maldives

5.40 The meeting was informed that according to the data provided by Thailand, the percentage of missing DEP messages by Maldives was approximately 9% as of July and August 2023. The meeting Chair congratulated Maldives for the progress.

5.41 The meeting was also informed that the Pacific Small Islands Developing States (PSIDS) with insufficient numbers of international departures were excluded from the Deficiency List due to the small sample size.

5.42 The meeting also agreed to terminate the Regional Missing DEP messages collection/analysis this year since most States/Administrations improvements had been observed. Therefore, States/Administrations were urged to monitor Missing DEP messages and communicate with each other to improve the situation.

Asia/Pacific Unmanned Aircraft Systems Update (WP/15)

5.43 The meeting 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.

5.44 Links were provided to the Asia/Pacific Regional Guidance for the Regulation and Safe Operation of UAS within National Airspace, the ICAO UAS Toolkit, UAS Regulatory Guidance, UAS Traffic Management (UTM) Framework, ICAO COVID-19 series webinars on UAS-related topics, and the APAC UAS – Remotely-Piloted Aircraft Systems (RPAS) Implementation/Regulation Webinar held in May 2023.

5.45 The APAC UAS – RPAS webinar had been informed that the APAC Regional Guidance was developed when global guidance was still not available, or was under development. Subsequent to ATM/SG/7 approving the regional guidance the UAS Advisory Group of the ICAO RPAS Panel (UAS-AG) had developed global guidance, including the *ICAO Model UAS Regulations*. Noting there were differences between the global and regional guidance, the meeting agreed to the following Conclusion:

Conclusion ATM/SG/11-3: Withdraw Regional UAS Guidance

That, noting the availability of UAS guidance prepared by the UAS Advisory Group of the RPAS Panel, the Asia/Pacific Regional Guidance for the Regulation and Safe Operation of UAS within National Airspace be removed from the ICAO Asia/Pacific Regional Office website, and archived.

5.46 In response to a query, ICAO confirmed that RPAS certified in accordance with ICAO SARPS were to be separated from other aircraft by the same separation minima used for separation of conventionally crewed aircraft.

The achievements and future workplan of the APAC FPP (WP/16)

5.47 ICAO Asia-Pacific Flight Procedure Programme (APAC FPP) commenced operations in March 2010 in Beijing China. It was funded by the active participating States/Administrations and executed by means of an ICAO Trust Fund project provided by the active participating States, with in-kind and funding support from other States, donors, and partners. The objective of the Programme was to assist States/Administrations to develop sustainable capability in the instrument flight procedure (IFP) domain, to meet their commitments under Assembly Resolutions relating to PBN implementation and their obligations for the quality of their flight procedures.

5.48 The extension of the Programme into Phase V, from 1st January 2024 to 31st December 2026, was endorsed by the FPP Steering Committee during its fourteenth meeting in November 2022. Based on the feedback from FPP training participants and FPP member states, the APAC FPP basic training in Phase V would officially return to the previous on-site training mode. However, the online learning channel would be maintained for participants who were unable to participate in the on-site training, for the purpose of adapting to the different needs of APAC States.

5.49 In addition to the four basic training packages, which included a PBN flight procedure design workshop for new or potential flight procedure designers, PANS-OPS initial training, and PBN training and refresher training, the FPP would select the training needs from the wish list submitted by APAC in PBNICG 10 that were supported by high numbers of votes, for inclusion in its training work plan for 2024.

5.50 The meeting noted that the upcoming 15th APAC FPP Steering Committee meeting was planned to be held in Beijing China from 6-8 November 2023. As phase V of APAC FPP would be launched in 1st Jan of 2024, all current Member States/Administrations needed to sign the Programme Document again in order to join the APAC FPP in Phase V.

Authorizations for PBN operations (WP/17)

5.51 IATA presented a proposal to simplify and standardize authorizations for PBN operations and their related interpretations. The meeting was informed of discussion at the Second Meeting of the South Asia – Indian Ocean – Southeast Asia ATM Coordination Group (SAIOSEACG/2, 20 to 24 March, 2023), which noted there was inconsistency among both States and airspace users interpreting whether stringent PBN approval was automatically approval for less stringent capability. It was also noted that at least one State in the APAC Region did not require operators to seek authorization for most PBN operations, except Required Navigation Performance (RNP) – Authorization Required Approach and/or Departure procedures (RNP AR APCH and RNP AR DP), for which specific authorization was required.

5.52 IATA proposed that ATM/SG and APANPIRG support simplification and standardisation of the interpretation and application of authorizations for PBN operations that provided authorization for all lesser capabilities than the most stringent approved, provided operators qualified for those operations as prescribed in the relevant regulations. IATA further proposed that each States' regulations should be aligned to match this standardisation. RNP AR APCH and RNP AR DP would still require separate specific approval.

5.53 IATA also proposed that ATM SG and APANPIRG support the interpretation that notation of the most stringent PBN capability in the FPL indicated authorization for all lesser capabilities until otherwise specifically notified. A Draft Conclusion was proposed in this regard.

5.54 ICAO informed the meeting that this subject should first be discussed by the PBNICG, where the need for any Conclusion would be discussed and determined. As mentioned in the paper, more stringent RNP requirements did not necessarily qualify an aircraft for a less stringent requirement.

5.55 In response to a comment suggesting that any 'common' approval be reflected in the ICAO Flight Plan template, the meeting was informed that this also would need to be considered by the appropriate ICAO technical panel. In that regard, the meeting was informed that general policy in the technical panels was that the FPL template would not be updated, in order to incentivize transition to FF-ICE.

Fleet Equipage in Oceanic Airspace (WP/18)

5.56 The meeting was informed of the analysis result of fleet equipage in the Oceanic Airspace of Indian FIRs and the implementation of reduced separation in oceanic airspace.

5.57 It was noted that based on flight plans collected in Kolkata, Chennai, and Mumbai FIR, the fleet equipage for reduced separation was very low. Therefore, India encouraged States/Administrations and IATA to advise airspace users to equip Automatic Dependent Surveillance – Contract/Controller-Pilot Data Link Communications (ADS-C/CPDLC) capability and to obtain RNP4/RNP2, Required Surveillance Performance 180 (RSP180) and Required Communication Performance 240 (RCP 240) operational approvals. India also requested to explore possibility to mandate these requirements.

5.58 Singapore shared their analysis of flights operating out of Singapore on ATS route N571, which showed similar trends of aircraft having RNP4/2 capabilities of 85%/72%. Singapore highlighted that the routes over the Bay of Bengal were a critical link for flights between Southeast Asia to South Asia, Middle East and Europe and as such urged relevant States and Stakeholders to come together at the appropriate regional ATM coordination forums to discuss how to enhance capacity on the route by taking advantage of the PBN capabilities of aircraft operating over the Bay of Bengal.

5.59 The meeting was informed of the perspective of the Bay of Bengal Traffic Flow Review Group (BOBTFRG), that some States still applied more conservative separation standards than expected in the Asia/Pacific Seamless ANS Plan (50NM longitudinal separation supported by PBCS) despite available capabilities. ICAO reiterated that the BOBTFRG should continue to encourage the agreed-phased roadmap, and support implementing 50NM based on existing RNP10 capability as soon as possible. In response, India emphasized the importance of cooperation among all stakeholders. Malaysia and India also suggested it would be beneficial if Boeing CRA could be invited to the upcoming BOBTFRG/5 in December 2023 for further discussion.

5.60 The meeting agreed that further discussion would be held at the BOBTFRG, RASMAG and/or FIT-Asia meetings.

Enhancing Operational Safety and Efficiency through use of Big Data Analytics on Missed Approach Data at Hong Kong International Airport (WP/19)

5.61 Hong Kong China presented the benefits of using big data analytics to analyse missed approach data at Hong Kong International Airport (HKIA). The analysis revealed hidden trends and patterns, which allowed for early detection of safety risks and formulation of mitigating measures to manage operational risk of missed approaches, thus enhancing operational safety and efficiency at HKIA. The results from the analysis also aided the assessment of the impact on implementation of Enhanced Wake Turbulence Separation (e-WTS) for arrivals and the monitoring of runway occupancy time of arrivals (ROTA) at HKIA.

5.62 The paper also encouraged States/Administrations to consider the benefits of using big data analytics to analyse data related to ATC operations to uncover dependent factors, hidden trends and patterns for further enhancing operational safety and efficiency, and to share relevant experience.

5.63 In response to some queries, the meeting noted that HKCAD conducted independent analysis of occurrences and would request additional information from the pilot where necessary. To facilitate e-WTS operation, there was an approach spacing tool to aid controllers to determine the required spacing for each aircraft pair.

TBO Session/Seminar

5.64 The Trajectory Based Operations session/seminar was held on 3rd October during the ATM/SG /11 meeting. The session consisted of five presentations:

- Introduction to TBO and ICAO resources by ICO:

  ICAO shared relevant ICAO material such as the ICAO Global Air Traffic Management Operational Concept (GATMOC), GANP and Global TBO concept that would facilitate the transition to TBO and its benefits.

- Progress Update of FF-ICE OR SWG, provided by the SWG:

  The FF-ICE OR SWG highlighted the Status of TBO & FF-ICE Developments, FF-ICE Implementation for Asia Pacific, Key Takeaways of FF-ICE OR SWG and a proposal to further the efforts of the SWG by reforming it into a formal group.

- Multi Regional TBO demo by Singapore, Thailand and US:

  The three states shared their experience from the various stages of MR TBO development, culminating in the live flight demonstration in June 2023. The operational and technical capabilities, and certain technologies providing the most TBO capabilities, were explained. Key takeaways and recommendations were also highlighted by the speakers.

- Multi Regional TBO demo by Boeing:

  Boeing presented the benefits from a different perspective resulting from Live TBO demonstration. The benefits for flight crews and flight dispatch included enhanced operational predictability, efficiency and safety utilizing existing equipage and portable Electronic Flight Bags (EFBs).

- TBO Implementation in the Asia Pacific by CANSO

  CANSO covered topics such as the required enablers of TBO and potential challenges, such as fragmented airspaces and information and lack of a mandate, that exhibited a low readiness level in APAC. Some recommendations that might potentially fill the gap were also shared with the audience for consideration.

Progress Update of the ICAO Asia Pacific Flight and Flow Information for a Collaborative Environment (FF-ICE) Operational Requirements Small Working Group (WP/20)

5.65 The meeting was informed of the progress of the FF-ICE OR SWG. It was noted that several APAC States had plans to commence provision of FF-ICE services within the next few years, considering the development of FF-ICE provisions at ICAO were in the advanced phase.

5.66 ATM/SG had adopted ***Decision ATM/SG/10-3: "Establish FF-ICE Operational Requirements Small Working Group" (FF-ICE OR SWG)*** to look into what FF-ICE could potentially offer the region in terms of operational improvements and benefits. China, Japan, New Zealand, Singapore, Thailand, and USA, as members of the FF-ICE OR SWG, formed two workstreams to address the five tasks in Decision ATM/SG/10-3:

a) Workstream One *(members: China, Singapore, USA)*

- Study ICAO global TBO and FF-ICE provisions and the outcomes of relevant ICAO technical panels and regional technical groups.
- Present related information to the FF-ICE seminar to be organised by ATM Automation System (ATMAS) Task Force in 2023.

b) Workstream Two *(members: Japan, New Zealand, Singapore, Thailand, USA)*

- Prepare a set of draft harmonised regional operational requirements of FF-ICE/R1, and related operational processes and procedures.
- Recommend an appropriate approach to devise a FF-ICE implementation strategy for the Asia Pacific region.
- Recommend priority ASBU elements and develop draft regional performance objectives for consideration for inclusion in the Asia Pacific Seamless ANS Plan version 4.0.

5.67 The meeting was informed that the SWG realized the potential for long-term delay in benefits realization due to mixed mode operations. Therefore, planning for implementing FF-ICE/R1 services needed to be harmonized. In this aspect, the SWG recommended:

- A regional harmonised implementation approach to maximise benefits;
- Establishing incremental steps for States' planned transition to FF-ICE/R1; and
- Setting transition dates for the region.

5.68 The meeting confirmed that regional work on this subject would be required, when the FF-ICE provisions were finalized by ATMRPP.

5.69 The meeting agreed that the group name would be renamed as an Ad Hoc Group, aligning with other APANPIRG sub-groups such as MET SG and CNS SG.

5.70 The meeting agreed to the following Decision:

Decision ATM/SG/11-4: ESTABLISH FF-ICE AD HOC GROUP

That, ATM/SG establishes the FF-ICE Ad hoc group, to:

a) study the successful development of FF-ICE in other regions and States, and draw useful lessons; and raise the understanding of FF-ICE by sharing use case scenarios and business cases;

b) develop the Asia Pacific regional FF-ICE operational requirements and related operational processes and procedures;

c) provide guidance on capabilities required for mixed mode environment where both FF-ICE capable and non-FF-ICE capable airspace users and ATM service providers operate;

d) develop a FF-ICE implementation strategy for the Asia Pacific region including timeframes and roadmap;

e) coordinate and collaborate with APAC SWIM TF, review the development of FIXM revisions and if needed, propose FIXM extension amendments for regional adoption;

f) recommend more ASBU elements for inclusion into the Asia Pacific Seamless ANS Plan, as they mature;

g) submit inputs and recommendations to the ICAO ATM Requirements and Performance Panel (ATMRPP) when deemed necessary; and

h) undertake any other tasks related to FF-ICE implementation that may arise in the future.

5.71 Singapore volunteered to organize the first meeting of the ad hoc group as a rapporteur and Secretariat. ICAO would assist by sending out the State Letter for the convening of the ad hoc group. The rapporteur of the ad hoc group would report the outcomes to ATM/SG for consideration.

Research and Practice of AMAN-DMAN-SMAN Integration in China (WP/21)

5.72 China informed the meeting of matters related to arrival, departure, surface and traffic management, including the method and function of Extended Arrival Manager (E-AMAN), AMAN and Departure Manager (DMAN) integration, and DMAN and Surface Manager (SMAN) integration. Information was provided on the Minimum ATC Functional Requirements Specification for AMAN System issued by the Air Traffic Management Bureau (ATMB) of the Civil Aviation Administration of China (CAAC) to regulate the technical specification.

5.73 In general, AMAN, SMAN, DMAN and other tools had been deployed or gradually introduced as separate ATM tools. Universities and scientific research institutions had studied and explored the integration of AMAN, DMAN and SMAN at the theoretical level, but the technical specifications of information system development needed to be further improved.

5.74 Information was provided on the evaluated improvements in airport/terminal capacity (approximately 10%), approach flight management efficiency (5%) total delay (27%), average monthly delay (31%) and average landing on the nearest runway (38%). The evaluation demonstrated the AMAN system had a significant impact on improving operational efficiency.

5.75 Further information was provided on the development of prototype tools supporting E-AMAN, the challenges of integration of AMAN and DMAN, and developments in the integration of DMAN and SMAN.

5.76 China proposed that the ICAO Asia/Pacific Region conduct a demonstration study on an integrated operational concept/technical framework guidance for AMAN and DMAN, and the cross-border integration of E-AMAN and multi-airport DMAN, to promote tool research and development, to conduct connectivity tests and trial operation, and to develop related regional guidance.

5.77 ICAO noted that the Regional Framework for Collaborative ATFM included the performance expectation:

> *7.40 Full interoperability of cross-border ATFM, A-CDM, AMAN, DMAN, ATM automation and airspace user systems should be implemented, to provide seamless gate-to-gate collaborative ATFM operations.*

5.78 It was also noted that SMAN was within the scope of the Aerodrome Operations and Planning Sub-Group (AOP/SG).

5.79 ICAO proposed that subject to consultation with the ATFM/SG and AOP/SG Chairs, an ad hoc group may be formed to conduct initial work on this subject, pending its introduction for consideration by ATFM/SG and AOP/SG. It was also proposed that any regional study should examine developments in the area of Runway Sequencing (RSEQ, including AMAN and DMAN) and SMAN that were under way in the relevant ICAO technical panels, and implementation of integrated Runway RSEQ operations by advanced Air Navigation Service Providers (ANSPs) in other ICAO regions.

Progression of Free Route Operations (FRTO) in Asia Pacific (APAC) and Singapore's Efforts in Progressing FRTO (WP/22)

5.80 Singapore informed the meeting of the progress of Free Route Operations (FRTO) in the Asia/Pacific Region. With the applicability date for FF-ICE Release 1 services in 2024 and the APAC SWIM TF's expectation of regional implementation of SWIM by 2030, it was proposed that APAC Region consider the implementation of FRTO.

5.81 It was noted that the APAC Seamless ANS Plan included the ASBU elements FRTO B0/1-4 as Priority 1.

5.82 Taking advantage of the reduced traffic volume in 2020-2022 Singapore had conducted trials, initiating direct routing operations (DRO) for aircraft arriving at Singapore/Changi International Airport on two ATS routes within the Singapore FIR. The trials yielded approximately 925,000kg of fuel savings. DRO was operationalized in September 2022, extending the option of DRO to all aircraft arriving at Singapore/Changi airport.

5.83 Singapore had reached out to adjacent ANSPs to share their efforts and exchange ideas to explore cross-border DRO and User-Preferred Routes (UPRs).

5.84 Singapore proposed that the meeting consider the benefits of implementing FRTO, and to discuss cross-border FRTO collaboration between Administrations.

5.85 ICAO noted that an APAC Free Route Airspace (FRA) webinar had been held in August 2023 (WP/43 refers), and the upcoming Air Navigation World symposium (ANW, Singapore, 23 – 27 October 2023) would include a session on FRA.

5.86 ICAO invited Singapore to share lessons learned in an ICAO workshop on FRTO planned for 2024. Noting the goal of net zero carbon emissions by 2050, IATA looked forward to working with APAC Administrations on FRTO.

Data-Driven Strategy for Establishing a Comprehensive and Standardized Training System Across the Entire Career Cycle of Air Traffic Controllers (WP/23)

5.87 China informed the meeting of a data-driven strategy to establish a standardized training system for air traffic controllers encompassing the entire career cycle.

5.88 The meeting was informed that the ICAO Next Generation of Aviation Professionals (NGAP) working group formulated a competency framework for Air Traffic Controllers (ATCOs), guiding competency units, elements, and performance criteria in 2015.

5.89 The meeting was introduced China's comprehensive air traffic controller training system comprised of three layers: training implementation, platform support, and quality assurance. The development of a quality assurance framework for training was aimed at creating a systematic approach to managing training quality, ensuring both the quality and effectiveness of training and achieving the elevation of air traffic controller's comprehensive competency and professional proficiency while meeting the demands of job competency.

5.90 The meeting was reminded that ICAO Doc 9868 Procedures for Air Navigation Services Training (PANS-TRAINING), supporting the training and qualification of personnel conducting activities affecting safety and for whom there were detailed SARPs in Annexes or procedures in PANS with requirements for such training and qualification, should be referenced.

5.91 China proposed that ICAO conduct a seminar related to ATC training, and some other States also showed interest. The meeting agreed to hold a workshop, which would be hosted by China and supported by the ICAO APAC RSO.

Experience sharing for the Application of A-SMGCS Lighting Guidance at Beijing Daxing International Airport and Promoting Suggestions (WP/24)

5.92 China shared their experiences in implementing lighting guidance at Beijing Daxing Airport and proposed the establishment of a working group to study and explore the adaptability of promoting the application of lighting guidance at airports in the Asia-Pacific region,

5.93 The paper proposed a seminar to share experiences, select appropriate lighting guidance methods, study the implementation method of "inter block guidance" and develop operating rules for lighting guidance in the Asia-Pacific region, in order to improve airport surface operation efficiency.

Runway Safety Warning System Based on Sensor Network and Intelligent Video Surveillance in Prevention of Runway Incursions (WP/25)

5.94 China presented the application of runway safety warning system based on sensor network and intelligent video surveillance to prevent runway incursions. A variety of surface surveillance sensors, such as multilateration and surface movement radar, commonly used in large-sized airports, provided controllers with visual or audible alarm functions, which could effectively enhance their situational awareness. However, they were not widely applied in small and medium-sized airports due to high costs.

5.95 Therefore, a cost-effective runway intrusion prevention system that was suitable for small and medium-sized airports in China and runway taxiing configurations had been developed by integrating various technologies related to the prevention of runway incursions, such as multi-sensor data network, video intelligent monitoring and detection, real-time target identification, tracking and positioning, and runway status lighting system.

5.96 The system had been successfully tested, with an accuracy rate of runway safety warnings reaching more than 95%, and applied in numerous small and medium-sized airports, meeting the requirements of the aerodrome control tower for safe operation of runways.

5.97 The meeting proposed that the consideration for workshops suggested in WP/24 and WP/25 to be coordinated with ICAO AOP/SG for concurrence. Subject to that concurrence, it would be ideal to combine the proposed workshops from WP/24 and WP/25 into a single workshop in order to address enhancement to runway safety collectively.

Identification and Classification of Airport Hot Spots (WP/26)

5.98 China informed the meeting of the method of identifying and classifying airport hot spots based on historical surveillance data, and analysis of aircraft taxiing or moving positions on the aerodrome surface. When identified, hot spots were classified according to the classification standard and distinguished by different colours in the system.

5.99 The meeting was informed, taking Guangzhou Baiyun International Airport as an example, of a method of identifying airport hot spots through the comparative analysis of the trajectory data.

5.100 While using computer-aided detection for identifying airport hot spots, experts' opinions and the experience of controllers/operators/pilots/other front-line staff were used to correct and refine the scope and classification standard of hot spots.

US Experience with Air Traffic Management (IP/6)

5.101 In support of Asia-Pacific efforts to establish and strengthen a regional ATM capability, USA shared information on the Air Traffic Management (ATM) System, automation platforms, Traffic Management Measures (TMMs), and Collaborative Decision-Making (CDM) processes used by the Federal Aviation Administration (FAA) in the US.

Continuous Descent Operations (CDO) Trial (IP/7)

5.102 The Airservices Continuous Descent Operations (CDO) Trial had been in place in Melbourne, Australia since December 2022. The descent sequence was established prior to the top of descent. This allowed increased opportunity for uninterrupted (no controller intervention) idle cruise descent into capital city aerodromes. This trial would enable optimisation of air traffic flow including maximising use of runways and reducing travel delays. It would also provide airspace users with predictability, the ability to save fuel and reduce carbon emissions.

ADS-C CDP Progress in Fukuoka FIR (IP/8)

5.103 The meeting was informed of the implementation of the Automatic Dependent Surveillance － Contract (ADS-C) Climb and Descend Procedure (CDP) in the Pacific Ocean airspace of Fukuoka FIR on 15 July 2023. The implementation of ADS-C CDP had enhanced the airspace capacity in the Pacific Ocean airspace of Fukuoka FIR, and also provided more efficient operation to aircraft operators than before, especially in NOPAC. Aircraft operators flying in the Pacific Ocean airspace were strongly encouraged to obtain PBCS approval/authorization since the 23 NM lateral separation minima based on PBCS and RNP 4 had been implemented in the airspace of Fukuoka FIR.

The Progress of Domestic CPDLC Operation in Japan (IP/9)

5.104 The meeting was apprised of the progress of domestic Controller Pilot Data Link Communications (CPDLC) operation in Japan. Japan Civil Aviation Bureau (JCAB) shifted to official operation in March 2023 after a one-year trial operation. Although "contact (CTC)" messages made up the majority of total messages currently, JCAB plans to incrementally expand the types of messages, such as altitude change and route change, from 2027.

The Long-Term Vision for the Future Air Traffic Systems of Japan (CARATS) (IP/10)

5.105 Japan introduced JCAB's measures for decarbonisation, especially through the long-term vision for the future air traffic system in Japan, known as Collaborative Actions for Renovation of Air Traffic Systems (CARATS), including Collaborative Decision-Making (CDM) under the future Trajectory Based Operations (TBO), reconstruction of domestic airspace, UPRs, Dynamic Airborne Re-route Procedures (DARP), Ground Based Augmentation System (GBAS), and CDO.

Implementation of Digital Tower Facilities at Hong Kong International Airport (IP/11)

5.106 The Digital Tower Facilities (DTF) System at Hong Kong International Airport (HKIA) provided benefits to safety and efficiency for ATC and airport operations by enhancing the visual capacity of aerodrome controllers with comprehensive coverage of the aerodrome through multiple camera views. The system featured seamless stitching, pan-tilt-zoom views and overlay capabilities, allowing controllers had access to a detailed and intuitive user interface to enhance their situation awareness. The DTF system also ensured continuous operation through redundancy and failover mechanisms.

Application of Time to Threshold Function (IP/12)

5.107 India had implemented the Time to Threshold concept, an ATM capacity and safety enhancement tool at Bengaluru Airport. The paper presented the requirements, working procedures and additional controller position required for TTT to be used at Bengaluru. India also informed that TTT concept is already implemented in various high intensity runway operation (HIRO) airports in India.

Implementation of 3NM Surveillance based Separation in Terminal Airspace of Kolkata (IP/13)

5.108 Since April 2023, India had implemented reduction in surveillance based separation from 5NM to 3NM in terminal airspace at Kolkata Airport, India. This initiative improved airspace capacity, efficiency and further enhanced the runway capacity to cope up with the future growth of traffic.

Modernization of ATM and Airspace Capacity Optimisation Initiatives within Colombo FIR (IP/14)

5.109 Sri Lanka highlighted the airspace capacity enhancement initiatives taken and modernization of ATM in Colombo FIR. These initiatives included 50NM longitudinal Separation within Colombo Oceanic airspace (category R), 5NM surveillance-based separations within exclusive ADS B airspace and Multi Sensor ADS B Non Exclusive airspace (category S), 30NM separation minima at the Transfer of Control Point of Male FIR and Colombo FIR boundaries (category S) using enhanced CNS facilities, and the commissioning of the new ATM System at Colombo Approach Control Center.

Fatigue Management of Air Traffic Controllers in India (IP/15)

5.110 India informed the meeting of the regulation and implementation of Fatigue Management regulations for Air Traffic Controllers (ATCOs) in India. As fatigue was one of the significant human factor hazards affecting the Air Traffic Controller's ability, ICAO mandated that every State establish regulations for fatigue management in Air Traffic Services.

AIDC Test between Mumbai and Muscat (IP/16)

5.111 India provided an update of AIDC Testing between Mumbai and Muscat. The plan to implement AIDC between Mumbai OCC/ACC and Muscat ACC had been going on for last few years since there were LHD hotspots at the Mumbai-Muscat FIR boundaries. However, the tests were unsuccessful. Recently both the ATSUs engaged in AIDC again after removing the technical impediments. India and Oman would implement AIDC after further tests including additional messages. Once decided, both ATSU would sign AIDC Letter of Agreement and a SOP and trial operation with live traffic would be carried out with voice conformation initially.

Green ATM Operations (IP/24)

5.112 The Civil Aviation Authority of Singapore (CAAS) and the Japan Civil Aviation Bureau (JCAB) successfully conducted a one-month trial in June 2023 on air traffic management (ATM) operational measures aimed at achieving a sustainable and efficient aviation system, or green ATM operations. The trial was conducted for one daily passenger service between Tokyo and Singapore. ATM operational measures implemented included the facilitation of continuous climb and descent operations, and optimal cruising flight level assignment, which would save fuel, cut carbon emissions, and reduce flight times. Building on the success of the one-month trial, CAAS and JCAB would further extend the green ATM operations to all flights between Singapore and Tokyo.

Uniting the Strength of Innovation for Building a Seamless Sky - The Asia Pacific Region Innovation & Capacity Building Symposium 2023 (APICS 2023) (IP/17)

5.113 Hong Kong, China, on behalf of the Organizing Committee of APICS 2023, informed the meeting that the Civil Aviation Administration of China (CAAC), the Civil Aviation Department of Hong Kong, China (HKCAD), and the Hong Kong International Aviation Academy (HKIAA) would jointly organize the inaugural Asia Pacific Region Innovation & Capacity Building Symposium 2023 (APICS 2023).

5.114 APICS 2023 aimed to bring together aviation leaders, decision-makers, and senior professionals from Civil Aviation Authorities, Air Navigation Service Providers, Airport Operators, and leading Systems/Solutions Integrators in the Asia Pacific Region and beyond in search of innovative solutions to enhance air navigation and airport operations further. Further details and registration for APICS 2023 were available at https://www.apics2023.org.

Data Link Service Progress in Guangzhou (FL/01)

5.115 China presented the outcome of the experimental operation of data link service (DLS) in Guangzhou Air Traffic Control Center (GZATCC). The flimsy proposed to improve the relevant standards and procedures of data link service with development of guidance material and to promote the interoperability between ATS providers and aircraft operators, so as to enhance safety and efficiency of Data Link Service operations.

5.116 The meeting was informed that there was already the Regional Guidance Material for End-to-End Monitoring of Data Link Systems, and encourage administrations to participate in the review process of the Guidance Material during FIT-Asia or RASMAG.

The CONOPS of Collaborative Multi-Constraint Conversion Program (CMCP+)-One CTOT Solution (OCS) on Conflicting ATFM Measures (FL/04)

5.117 The flimsy presented the CONOPS of Collaborative Multi-constraint Conversion Program (CMCP+) which was an upgrade to the Collaborative Miles-in-Trail (MIT) Conversion Program (CMCP) to CMCP+, based on the concept of One Calculated Take Off Time (CTOT) Solution (OCS). China further proposed the CONOPs of CMCP to be considered as a means to solve conflicting ATFM measures in the Asia and Pacific region, and as an amendment to the "Asia Pacific Regional Framework for Collaborative ATFM".

5.118 The meeting agreed to discuss this topic at the next ATFM/SG and the Chair urged administrations to submit new proposal well in advance for ATFM/SG considerations.

A Proposal on the New CONOPS Research Working Group (FL/06)

5.119 ATM/SG noted the data exchange and other achievements through cooperation within NARAHG and the proposed the formation of a working group to develop new CONOPS in APAC based on data exchange.

5.120 ICAO reiterated that the Regional ATFM CONOPS were developed by ATFM/SG. Any new CONOPS proposals should be presented ATFM/SG, coordinating where necessary with IATA and the Common aeronautical Virtual Private Network (CRV) Operations Group (CRV OG) and, if agreed, then presented to ATM/SG for endorsement.

Agenda Item 6: ATM Coordination (Meetings, Route Development, Contingency Planning)

SAIOSEACG Meeting Outcomes (WP/27)

6.1 ICAO presented the key outcomes of the Second Meeting of the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG/2), held in Bangkok, Thailand, from 20 – 24 March 2023.

6.2 The meeting was invited to note that SAIOSEACG had always been the first formal meeting of the year in the ICAO ATM calendar. At these meetings, ICAO introduced ATM information that would be later assessed by other relevant technical groups and finally by ATM/SG. The consideration and input of the broader ATM community at SAIOSEACG help to inform and support the discussion at later groups.

6.3 The key outcomes of the two Small Working Groups subordinated to the SAIOSEACG, namely the South China Sea Traffic Flow Review Group (SCSTFRG) and the Bay of Bengal Traffic Flow Review Group (BOBTFRG), were also mentioned.

6.4 With respect to the four SCSTFRG priority areas, it had been highlighted that the SCSTFRG Priority 4 (optimisation of FLAS/FLOS operation) could not be considered as an isolated project; it had significant interconnectivity with the SCSTFRG Priority 1, 2 and 3 (reduction of longitudinal separation on primary routes). Reducing longitudinal separation would enhance route capacity and improve airspace efficiency.

6.5 Regarding the BOBTFRG, the meeting noted that despite available capabilities, some States still applied conservative separation standards than specified in regional planning expectations, contributing to the growing congestion. Noting the objectives and the tasks under the BOBTFRG, the group prioritised implementation timelines for the improved horizontal separation standards according to demonstrated performance capabilities.

6.6 In response to the query from Australia regarding the implementation of Spaced-based ADS-B surveillance separation in the oceanic airspace, India confirmed that they already reached a consensus with Oman to start the trial.

6.7 India stated that the naming convention for contingency ATS routes in the Regional ATM Contingency Plan was not as described in Annex 11, and was not accepted by some ATM systems. ICAO would follow up on the matter.

The Asia/Pacific Region ATS Route Catalogue (WP/28)

6.8 ICAO had updated the Asia/Pacific Region ATS Route Catalogue, now available as Version 22.2. The revision focused on high-benefit proposals, and archived others for future potential. Out of 39 routes discussed in 2023, 11 were examined, with four progressing, five newly introduced, and the status of others remaining unchanged. A highlight was the consensus on establishment of the BOB01 route in the Bay of Bengal, saving about 55 track NM and benefitting approximately 110 weekly flights.

6.9 During the meeting, Nepal suggested that the Himalaya02 route should remain in the catalogue. Regional Sub-Office informed the meeting that the route would be retained in the catalogue and would continue to be discussed.

North Pacific (NOPAC) Route System Redesign (WP/29)

6.10 The meeting was informed of the joint effort by JCAB, FAA and IATA to improve the efficiency of operations in the NOPAC Route System in the Fukuoka and Anchorage Oceanic FIRs.

6.11 The NOPAC route system was created in 1974 when standard oceanic separation was 100 NM lateral, 20 minutes longitudinal and 2000 feet vertical. The NOPAC route system was designed as five parallel routes with a minimum of 50 NM in lateral spacing. Composite separation (½ lateral and ½ vertical) was applied between the aircraft. Subsequent improvements in aircraft capabilities (RNP10/RNAV10 and RVSM) allowed standard oceanic separation to be reduced to 50 NM laterally and 1,000 feet vertically, resulting in significant increases in the capacity of the NOPAC Route System.

6.12 In 2016, the Informal Pacific Air Traffic Control Coordinating Group Forty Second Meeting (IPACG42) agreed to adopt a new PANS-ATM 23 NM lateral separation minimum to optimize the NOPAC Route System. IATA endorsed the proposal and agreed to work with its recommendations. After the consolidation of airline inputs, IATA provided the following recommendations for optimization/reorganization of the NOPAC Route Structure to the IPACG43 meeting:

- The NOPAC airspace be declared as RNP4 exclusive airspace.
- The current NOPAC fixed route structure be replaced with a series of closely spaced (RNP4 23 or 30 NM) bidirectional routes, accompanied with additional connector routes between the tracks.
- There be increased use of UPRs in the NOPAC Airspace.

6.13 JCAB, FAA and IATA developed a phased plan to compress the 5 NOPAC Routes into a series of four 25 NM spaced ATS Routes against the northern oceanic FIR boundary with Russia. The new NOPAC Route System would occupy less airspace than the three routes previously occupied. This opened significantly more airspace south of the NOPAC ATS Routes for UPRs and flexible tracks. (**Figure 10**)

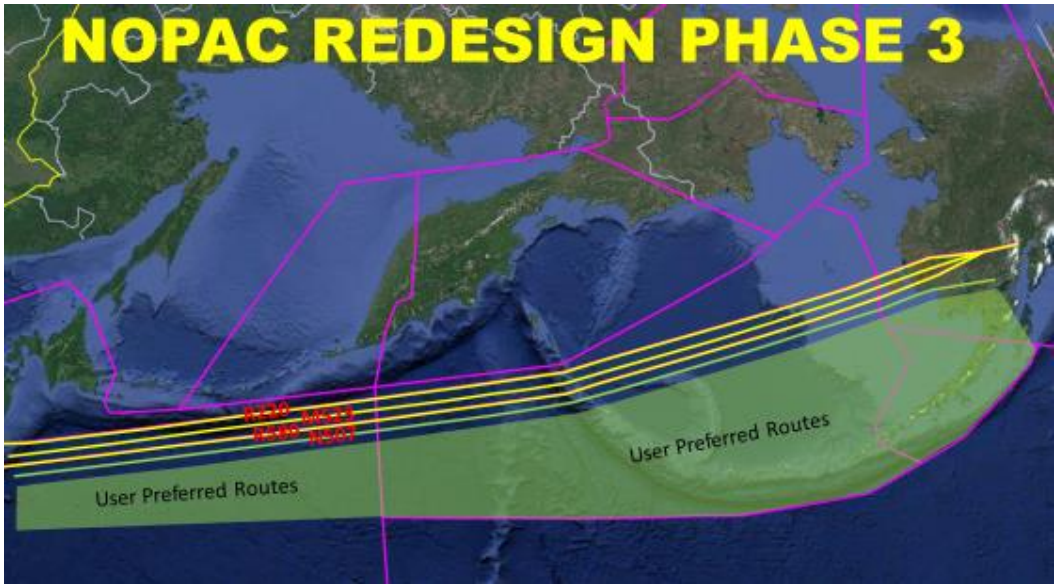

Figure 10: NOPAC Redesign Phase 3

6.14 The meeting was informed that to apply the 23 NM lateral separation minimum, aircraft must be RCP240, RSP180 and RNP4 approved from FL340 through FL400. 90% or more of the aircraft operating in the NOPAC airspace would need these approvals to maintain the appropriate controller workload. Therefore, for several years, JCAB, IATA and the FAA made many efforts to ensure operators were aware of the future NOPAC Redesign Project requirements for RCP240, RSP180 and RNP4 on the routes. Then, the percentage of PBCS/RNP4-approved aircraft operating in NOPAC became 96%.

6.15 The meeting was reminded that the NOPAC Redesign Project would be an excellent example of collaborative work between States/Administrations, operators and international organizations to achieve an enhancement of airspace capacity.

6.16 IATA had expressed their full support for this initiative since the benefits became clearer for airspace users to invest in the capability after a number of years of cooperation and collaboration with JCAB and FAA.

6.17 Responding to a query regarding the reason for the target of 90% equipage, the meeting was informed that it was based on the ATC workload requirement rather than a safety-related point of view.

6.18 JCAB and FAA were requested to update the information for the upcoming BOBTFRG and SAIOSEACG meetings as suitable lessons learned.

Regional ATM Contingency Planning and Contingency Operations Update (WP/30)

6.19 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.

6.20 The Regional ATM Contingency Plan, available on the ICAO Asia/Pacific Regional Office eDocuments webpage, included among its performance expectations 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 section 2.32 Standard that had been applicable since November 2003.

6.21 Implementation status was assessed as *robust* (90 – 100% of expectations implemented), *marginal* (70 – 89%) or *incomplete* (0 – 69%).

6.22 Only Australia, Hong Kong China, Indonesia, New Zealand, Singapore and Thailand had reported robust implementation.

6.23 18 Administrations had never provided an implementation status report.

Afghanistan, Brunei Darussalam, China, Cook Islands, DPR Korea, India, Kiribati, Lao PDR, Marshall Islands, Micronesia, Nauru, Palau, Samoa, Solomon Islands, Timor Leste, Tonga, Tuvalu, Vanuatu.

6.24 **Figure11** illustrated the overall regional implementation status:

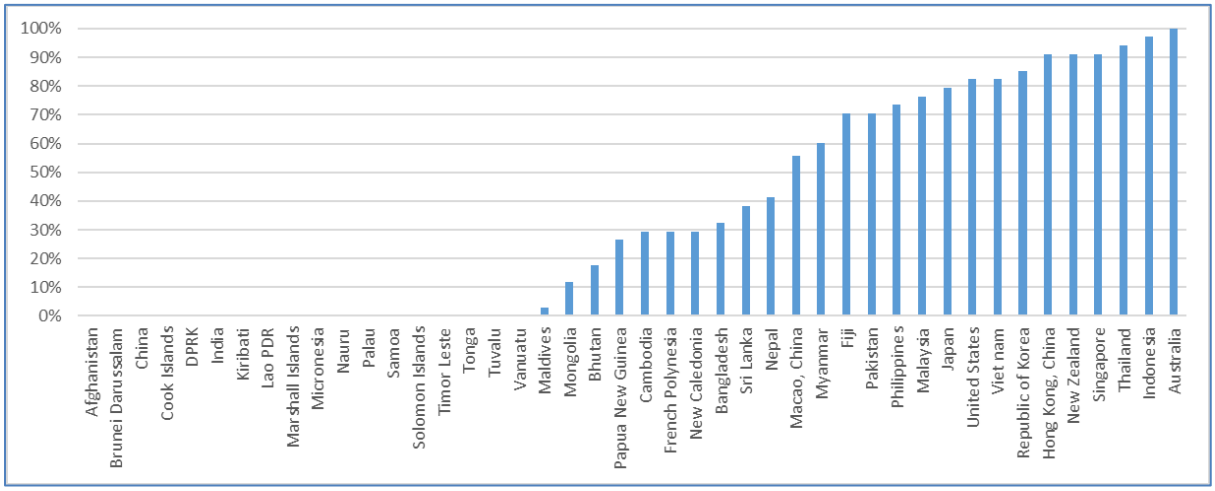

Figure 11: Regional ATM Contingency Plan –Implementation Status (26 September 2023)

6.25 The meeting was reminded of COVID-19 pandemic-related contingency information, and the *APAC Regional Strategy for COVID-19-related ATM Contingency Recovery*.

6.26 The meeting was also reminded of Annex 11 Attachment C Material Relating to Contingency Planning, which provided guidelines supporting the standard in Annex 11 section 2.32 that required States to develop and promulgate ATM contingency plans. 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.

6.27 Regarding CCT communications, ICAO noted that, as evidenced by the direct experience of the ICAO Regional Office in successfully forming and running multiple CCTs in recent years, they usually comprised more than 50 persons at the initial stages and their size increased rapidly. It was therefore 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 ensure 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.

6.28 A brief update of the current, ongoing ATM contingency operations in the Kabul FIR and the meetings of its related CCT was also provided.

6.29 In response to a query on whether it was expected that formal contingency agreements be established between neighbouring States, ICAO informed the meeting that it was expected that

contingency agreements be established either as stand-alone agreements, or as part of established ATS coordination letters of agreement or other instrument that existed between the parties.

Note: ICAO USOAP PQ 7.153 (a priority PQ - PPQ) and its associated guidance for review of evidence examined whether contingency plans had been developed in close coordination with the air traffic services authorities responsible for the provision of services in adjacent portions of airspace and with airspace users concerned. USOAP auditors would normally seek evidence of formal letters of agreement or memoranda of understanding established between the authorities concerned.

6.30 In response to India's query on whether ATS contingency routes and FLAS should be harmonized between adjacent States, ICAO informed the meeting that contingency route and FLAS structures were expected to be harmonized, where practicable[4].

6.31 The meeting was informed that ICAO would conduct an APAC ATM contingency management workshop, to be tentatively held in Q1 or Q2 2024. Details would be provided in the near future. Other ICAO Regions would be invited to attend, to share information and experiences.

Proposal for Asia/Pacific Representatives' Collaboration on Enhancing Business Continuity Management (BCM) in ATM (WP/31)

6.32 China provided information to the meeting on enhancing Business Continuity Management (BCM) in ATM and emergency response practices. The meeting was informed that China conducted ATC responsibility transfer and regularly organized training in major ATC units, proving China's BCM resilience and effectiveness.

6.33 The meeting was informed that Chinese civil aviation had consistently prioritized and invested in Aviation business continuity management and had been active in related research endeavours, and the Civil Aviation Management Institute of China（CAMIC） played a significant role in this, aiming to share China's mature Aviation business continuity management experiences.

6.34 As the global aviation industry rebounded post-COVID-19, it was expected that flight volumes would soon surpass 2019 levels. In order to meet the anticipated traffic growth, China pointed out that a seminar to share the best practices on BCM in the APAC Region would need to be held. Related to this subject, ICAO reiterated that a Contingency Arrangement Workshop would be held in 1Q/2Q 2024 in Bangkok, with other ICAO Regional Offices invited to share lessons learned, such as the UK ATC system outage.

6.35 The meeting also considered this subject may be taken up with the AAC, which had a workstream that included business continuity.

[4] Asia/Pacific Regional ATM Contingency Plan 6.2 and 7.1

CADENCE's Contingency Planning Approaches (WP/32, SP03)

6.36 Past contingency events in the Asia Pacific had borne out the lack of information sharing, which was much needed to minimize the impact of disruptions. CANSO offered a free to use operational information system (OIS) and the assistance of the CANSO ATFM Data Exchange Network for Cooperative Excellence (CADENCE) Task Force (TF). The OIS could enhance situational awareness and business continuity across the region. The CADENCE OIS was built from the contingency experience of the Latin America and Caribbean (LAC) area. CANSO strongly recommended that the Asia and Pacific Region to try out the CADENCE OIS, modified for APAC region, during its tabletop contingency exercises.

6.37 Information was provided on the OIS, and on the availability of CADENCE TF subject matter experts' knowledge and experience to ease transition and implementation, based on the experience gained through the CANSO ATFM Data Exchange Network for the Americas (CADENA).

6.38 Further information was provided on experience gained in contingency handling in the LAC area, categorization of contingency events by CADENA, and key information that was gathered and utilized. Communication methods for contingency handling and planned contingency routes were also referenced.

6.39 CANSO informed the meeting that the OIS had proven to be a useful tool, allowing ANSPs and airlines to easily access and share information on contingency events and associated operational information, and facilitating a standardized way to share information. The meeting was invited to support the use of CADENCE OIS in the Asia/Pacific Region, and consider adaptation of relevant contents of the WP into State and Regional contingency plans.

6.40 The ICAO Regional Office supported the proposal on the basis that it came from a recognized international organization that could be viewed as a neutral party. ICAO could undertake trial use of the platform to share CCT bulletins and related information, in parallel to current practices for sharing ATM contingency information. Singapore shared that as a participant of the AAC workstream 3, the availability of CADENCE OIS for use by workstream 3 participants during the planned tabletop exercise would provide participants a better understanding on how it worked. Several States expressed interest in participating, either in direct trial operations or in testing activities undertaken by the AAC WS3.

6.41 China stated that the use of specific platform would not be supported. China informed the meeting that they had developed and tested CRV based platforms with same function and mature interfaces. China was willing to provide similar and free platforms and technical support if needed. China pointed out that contingency coordination functions were parts of ATFM functions, and the activities is conflict with the multi-nodal CONOPS in APAC, the necessity and feasibility need to be further discussed in the ATFM/SG in coordination with CRV OG. China also expressed the security concern with the cyber threat to the platform on internet.

Standardizing Pronunciation for 5LNCs (WP/33)

6.42 The meeting discussed issues and considerations for the difference in pronunciation of the Five Letter Name Codes (5LNCs). Since AIDC and datalink (ADS-C and CPDLC) had been implemented in the APAC region, the opportunity for verbal communication between ATCOs in different FIRs/States and ATCOs/Pilots had decreased. However, the 5LNCs at the FIR boundary would be spoken and pronounced by ATCOs and pilots in urgent situations such as unexpected AIDC or datalink outages.

6.43 Therefore, Japan highlighted that matching and standardizing the pronunciation of 5LNCs, especially established at the FIR boundary, was essential and ideal for the Air Navigation Service providers (ANSPs) to prevent human errors and the occurrence of Large Height Deviation (LHD).

6.44 One proposed solution was an official standardisation the pronunciation of 5LNCs globally. An enhancement of the International Codes and Routes Designators (ICARD) system to have a standard pronunciation of 5LNCs, could also facilitate the use of less popular 5LNCs that were difficult to pronounce.

6.45 The meeting agreed this topic was a global concern and drafted the following conclusion.

Draft Conclusion ATM/SG/11-5: Development of 5LNC pronunciation phonetic guidance and harmonised pronunciation at transfer of control (TOC) points

That, noting the global concern regarding the challenges of 5LNC pronunciation as referenced at the ICAO 41st Assembly:

a) ICAO be urged to develop 5LNC pronunciation phonetic guidance; and

b) States be urged to ensure that operational agreements between neighbouring States include agreed pronunciation of 5LNCs at transfer of control points.

Operational Trial of 20NM Longitudinal Spacing on ATS Routes L642 and M771 (WP/34)

6.46 Hong Kong China presented a progress update of the initiative to optimize the capacity of air routes L642 and M771, including trial operation of 20NM longitudinal spacing to meet the traffic resurgence and the strong air traffic growth in the long run.

6.47 The meeting was informed that Hong Kong China had completed a comprehensive evaluation on optimisation of longitudinal spacing between aircraft operating along L642 and M771 from 50NM to 20NM within Hong Kong FIR. It was concluded that the capacity of L642 and M771 would be at least doubled at least after implementing the enhanced spacing. Therefore, more aircraft would be able to operate at optimum cruising levels and achieve better fuel efficiency while maintaining flight safety.

6.48 The meeting was also informed that the States/Administrations concerned had worked diligently to progress the initiative further and agreed to commence the trial application of 20NM longitudinal spacing along L642 and M771 sometime in 2023. This trial operation would allow concerned States/Administrations and IATA to jointly gather valuable operational information and experience to assess the operational benefits and effectiveness of the proposed 20NM.

6.49 The meeting was reminded that the full support of all concerned States/Administrations would mark a significant milestone for this initiative, as the trial operation would be a crucial step towards optimising airspace and air traffic capacity within the APAC Regions.

6.50 Responding to a query regarding surveillance and VHF coverage on the portion of L642 and M771 within the Hong Kong FIR, Hong Kong China confirmed it was covered by full surveillance of ADS-B and VHF. In addition, Singapore mentioned that all portions of M771 and L642 ATS routes in Singapore FIR were fully covered with radar/ADS-B and VHF.

6.51 Singapore had implemented 20NM longitudinal spacing on ATS routes M771 and L642 at the Transfer of Control point with Ho Chi Minh FIR since 2016. Singapore highlighted that the end-to-end reduction of separation on these two routes would contribute to better efficiency for airspace users and reductions in fuel burn. As such, Singapore looked forward to the finalization of the operationalization details for the successful conduct of the trial.

6.52 China agreed with the proposal made by Hong Kong China, and further discussion would be expected with them.

Cooperative Measures to Increase Safety and Efficiency in the Airspace of the AKARA Corridor (WP/35)

6.53 Republic of Korea proposed to implement AIDC between Republic of Korea (ROK) and China's ANSPs, and to reduce the separation minima applied between Republic of Korea and China in order to increase the airspace safety and efficiency in the AKARA Corridor (ATS Route A593).

6.54 The meeting was reminded of the proposal by ROK at ATM/SG/10 for efficient Flight Level Allocation Scheme (FLAS) operation, implementation of AIDC, and reduction of the longitudinal separation minimum in use, to increase safety and efficiency regardless of the implementation status of Phase 2 of the AKARA Corridor airspace project. Consultation on efficient FLAS operation between ROK and Japan began in May 2023 and would be discussed at a bilateral meeting within 2023, but discussion between ROK and China on the implementation of AIDC and reduction of longitudinal separation minima had not made progress.

6.55 The meeting was informed that the Pacific Approvals Registry and Monitoring Organization (PARMO) had informed RASMAG/28 that, while the vertical collision risk in the AKARA Corridor was 0.24×10^{-9} for the year 2022, 108 LHDs had occurred at the transfer point between Incheon and Shanghai ACCs. ROK informed the meeting that AIDC implementation between Incheon and Shanghai ACCs was essential to reduce the number of LHDs. In order to progress the cancellation of the FLAS it was also necessary to reduce the longitudinal separation minima applied between Incheon and Shanghai ACCS.

6.56 The meeting was informed that AIDC was one of the top priorities of the Asia/Pacific Seamless ANS Plan. For reference, there had been no cooperative errors between ROK and Japan, where AIDC was implemented, in the past two years. ROK informed the meeting that the Third Meeting of the ATM Automation Systems Task Force (ATMAS TF/3) held in June 2022 had been informed that China planned implementation of AIDC between Shanghai ACC and Incheon ACC in Q3 2023[5].

6.57 There were two longitudinal separation minima applied in the AKARA Corridor; 20NM separation between flights between China and Japan, and 10 minutes between China and ROK. The application of two different separation minima could have adverse effect on safety and capacity.

6.58 ROK re-emphasized the urgent need to implement AIDC between Incheon ACC and Shanghai ACC, and to reduce separation minima.

6.59 Japan, IFALPA, and IATA appreciated ROK's efforts to enhance airspace efficiency and capacity in the AKARA Corridor, and supported the necessity of the implementation of the AIDC and the reduction of the separation minima. China agreed the ROK's proposals and would begin coordination with the ROK on the implementation of AIDC. However, China mentioned that there were still some problems remain to be resolved before pushing forward the AIDC implementation. Such problems were concerned with the daily ATC operations environment. China would work together with all stakeholders to discuss those relevant issues in the bilateral, or if necessary, multilateral meetings.

6.60 ICAO recalled that, at RASMAG/27 in 2022, China had stated that they would only work through the Technical Working Group (TWG) under which the AKARA airspace project had been developed. In that regard, the TWG Secretariat had informed the ICAO Regional Office that no State

[5] ATMAS TF/3 Report of the Meeting Appendix C *Table of AIDC Implementation Status in APAC*, and IP/7 *Progress of AIDC Implementation in China* paragraph 2.3 Table.

had been in contact on TWG-related matters.

Update on Progress of the Space Vehicle Launch and Re-entry Coordination Small Working Group (WP/36)

6.61 The meeting was informed of the progress of development of the guidance document being created by the Space Vehicle Launch and Re-entry Coordination Small Working Group (SVLRC SWG), formed through Decision ATM/SG/10-8 to:

a) Study global practices and procedures for the coordination of space vehicle launch and re-entry activities, with a view to making recommendations for best practices to be adopted in the Asia/Pacific Region;

b) Consolidate and update Asia/Pacific regional guidance material on space vehicle launch and re-entry coordination and response;

c) Recommend consolidated guidance and performance expectations for inclusion in the 2023 update of the Asia/Pacific Seamless ANS Plan.

6.62 Information was provided on five broad categories of States, the categories defined by the effect of space vehicle launch and re-entry on the State, and within which States would self-determine the category that best represented their status. Airspace users were a sixth category.

6.63 The procedure guidance being developed was intended to improve regional coordination efforts by supplementing, rather than replacing, well-established and proven coordination processes compliant with ICAO Annex 11, Doc 10088 *Manual on Civil-Military Cooperation in ATM*, Doc 9554 *Manual Concerning Safety Measures Relating to Military Activities Potentially Hazardous to Civil Aircraft Operations* and ICAO APAC regional guidance that already existed.

6.64 While significant progress had been made, capturing the needs and wants of all stakeholder groups had proved to be a challenging task. However, there were several areas on which the group had reached consensus. The current draft version of the guidance document was provided in **ATM/SG/10 WP/36 Attachment 1**.

6.65 The SVLRC SWG members understood that creating a comprehensive document that met the needs of the various stakeholders while also protecting safety and efficiency had taken significantly more time than expected. The SWG committed to completing the Asia/Pacific Regional Guidance for Space Vehicle Launch and Re-Entry Operations Coordination in the near term, validating is use via table-top and real-world exercises, and providing a finalized document to ATM/SG/12 in 2024.

6.66 The meeting agreed that it would be beneficial to hold a face-to-face meeting and tabletop exercise to validate the guidance. A meeting was tentatively planned to be held in November 2023, with a view to validating the procedures and then producing a final draft of the regional guidance, to be introduced to the meeting of the ATM Operations Panel (ATMOPSP) in January 2024. ICAO would issue a State Letter inviting participation in the SWG meeting, which would tentatively be held at the ICAO Asia/Pacific Regional Office.

6.67 China commented on the draft and proposed some modifications. China believed that some achievement had been made, but there were still a lot of challenges, and expressed its willingness to host the face-to-face meeting.

6.68 Australia, China, India, Indonesia (new participant), Japan, New Zealand, Republic of Korea, Singapore, Thailand, and USA would continue to support the work of the SVLRC SWG.

6.69 The rapporteur of the SWG stressed the importance of ensuring that participants were empowered to make decisions on behalf of their Administration. It was important to have the right

people in the room at the face-to-face meeting and desktop exercises to finalize the guidance.

Asia Pacific Traffic Information Broadcasts by Aircraft (TIBA) Frequency (WP/37)

6.70 The meeting was reminded by Thailand that ***APANPIRG Conclusion 13/7 – Adoption of a regionally protected frequency for Traffic Information Broadcasts by Aircraft (TIBA)*** proposing a designated VHF radio telephony (RTF) frequency of 128.95 MHz to be used as Traffic Information Broadcasts by Aircraft (TIBA) Frequency for the Asia/Pacific Region was agreed at APANPIRG/13 in 2002.

6.71 According to Conclusion 13/7, the designated frequency of 128.95 MHz was to be promulgated in SUPPS for the use of Traffic Information Broadcasts by Aircraft (TIBA) to permit reports and relevant supplementary information of an advisory nature to be transmitted by pilots. However, no information on TIBA could be found in the document.

6.72 A survey questionnaire: the necessity to implement 128.950 MHz for TIBA, was circulated through State Letter Ref.: T 8/8.6 – AP066/23 (CNS) on 3 May 2023. Further discussion would be held at the eighth meeting of the Spectrum Review Working Group (SRWG/8).

6.73 The paper pointed out that the ATM Community should be aware of the importance of TIBA frequency allotment. Therefore, ATM/SG was asked to communicate with CNS/SG regarding the necessity of protecting the VHF 128.95 MHz to be used for Traffic Information Broadcasts by Aircraft (TIBA) for the Asia/Pacific Region.

6.74 Multiple States stated support for the use of a common TIBA frequency and that the issue of TIBA frequency allocation should be further discussed and coordinated with CNS/SG. The meeting also noted that some States had planned for two different frequencies to be used for TIBA as their area of responsibility included vast areas of oceanic airspace. The meeting noted that 128.95 MHz was already allocated to and used by one APAC State. ICAO also informed the meeting that during the development of the Regional ATM Contingency Plan it was considered that an associated ATC sector frequency was most appropriate for TIBA as it facilitated monitoring and recovery from contingency situations. The meeting was further informed that no ICAO Region had recorded any regional TIBA frequency in SUPPS. Further enquiry would be made into the history and result of Conclusion 13/7.

20-NM Performance Based Longitudinal Separation (PBLS) (IP/18)

6.75 The meeting was informed that the FAA was implementing a 20 NM Performance Based Longitudinal Separation (PBLS) standard in the oceanic areas of New York, Oakland, and Anchorage FIRs in accordance with Annex 6, Annex 11, and PANS-ATM (Doc 4444).

Agenda Item 7: AOP, AIM, MET, SAR

AOP Sub-Group Outcomes (WP/38)

7.1 ICAO presented relevant outcomes of the Seventh Meeting of the APANPIRG Aerodrome Operations and Planning Sub-Group (AOP/SG/7, Bangkok, Thailand, 03 to 065 July 2023.

Enhanced Global Reporting Format for Assessing and Reporting Runway Surface Conditions

7.2 AOP/SG/7 noted that 15 States had implemented the Global Reporting Format (GRF) for runway surface conditions in 2022 (14 States on 4 November 2021). The remaining 14 States were in the process of implementation of GRF. 12 States had yet to submit their GRF Implementation Action

Plan to ICAO APAC Office as of June 2023.

7.3 Annex 15 *Aeronautical Information Services* (AIS) section 6.3.1.2 required that any permanent changes in the AIP be published as AIP Amendments. Therefore, the procedures for assessment and reporting of the runway surface conditions report and issuance of information in the SNOWTAM format should also be published in national AIP. AOP/SG/7 considered the most appropriate section for publication of above information in AIP could be "AD 1.2.2 Snow plan" (refer to Appendix 2 of Procedures for Air Navigation Services – Aeronautical Information Management - PANS-AIM, Doc 10066).

7.4 The list of the Asia - Pacific States/Administrations that have published procedures for assessment and reporting of runway condition report and the issuance of SNOWTAM in AIP is depicted below in the **Table 8**.

No.	States/Administrations that have implemented GRF	Procedures for assessment and reporting of runway condition report and issuance of SNOWTAM in AIP	Section of AIP
1	Australia	√	AD 1.2, 2. Snow Plan; 3. Runway Surface Condition Assessment and Reporting (AIP, 23 Mar. 2022)
2	France (New Caledonia, French Polynesia, and Wallis & Futuna)	√	**POLYNÉSIE FRANÇAISE** AD 1.2.2 Runway Surface Condition Assessment and Reporting and Snow Plan (AIP, 29 Dec. 2022) **NOUVELLE CALEDONIE, WALLIS ET FUTUNA** AD 1.2.2 Runway Surface Condition Assessment and Reporting and Snow Plan (AIP, 26 Jan. 2023)
3	Japan	√	AD 1.2, 2.1. SNOWTAM (AIP, 24 Feb. 2022)
4	Maldives	√	AD 1.2, 2. Snow Plan, 2.1 Runway Surface Condition Assessment and Reporting (AIP, 25 May. 2023)
5	Pakistan	√	AD 1.1, 5. Assessment and Reporting of Runway Surface Condition
6	Republic of Korea	√	AD 1.2, 2. Snow Plan, Runway Surface Condition Assessment and Reporting, 2. Runway surface condition assessment and reporting (AIP, 09 Feb. 2023)
7	Singapore	√	AD 1.1, 6 Runway Surface Condition Assessment and Reporting
8	Sri Lanka	√	AD 1.1, 7. Runway Surface Condition Assessment and

No.	States/Administrations that have implemented GRF	Procedures for assessment and reporting of runway condition report and issuance of SNOWTAM in AIP	Section of AIP
			Reporting, 7.2. Responsibility (AIP, 26 Jan. 23)
9	Thailand	√	AD 1.2, 3. Runway Surface Condition Assessment and Reporting (AIP, 18 May 2023)
10	USA	√	ENR 1.1, 11. Runway Condition Reports (AIP, 16 July 2020)
11	Viet Nam	√	AD 1.2, 2. Runway Surface Condition Assessment and Reporting at the Airports of Viet Nam (AIP, 30 Nov. 2022)
12	India	√	AD 1.2, 1. Runway Condition Assessment and Reporting (AIP supplement 88/2023, 29 June 2023)

Table 8: States/Administrations that have published procedures for assessment and reporting of runway surface conditions and issuance of SNOWTAM in AIP.

7.5 States that had already published procedures for assessment and reporting of runway condition report and the issuance of SNOWTAM in other sections of AIP were invited by AOP/SG/7 to consider changing it to AD 1.2.2 Snow Plan.

7.6 Noting that the matter of defining a new AIP Section (AD 1.2.3) would need to be discussed by the AIS-AIM Implementation Task Force (AAITF), the meeting supported the proposal. Singapore highlighted that the inclusion of a new section AD 1.2.3 would require a rewording of relevant headers.

GRF Implementation Progress in the Pacific.

7.7 The Pacific Aviation Safety Office (PASO) provided AOP/SG/7 with an outline of Pacific activities related to the implementation of the GRF. An observation was included to the effect that the GRF process could be improved to better align with the operating environment in States where runways were affected only by water (as opposed to snow, ice, sand, etc.,), and States with low volumes of traffic or only turbo-prop or smaller aircraft that gained no benefit from the GRF coding.

AIS – AIM Implementation Task Force Outcomes (WP/39)

7.8 Outcomes from the Eighteenth Meeting of the ICAO AIS – AIM Implementation Task Force (AAITF/18, Bangkok, Thailand, 19 to 23 June 2023) were provided to the meeting.

7.9 AAITF/18 had reviewed APANPIRG Air Navigation Deficiencies in the AIS/AIM field. No new deficiencies had been identified since APANPIRG/33. Bhutan had provided evidence supporting the removal of the recorded WGS-84 deficiency.

7.10 Nine 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). The list AIS/AIM-related deficiencies as reviewed by AAITF/18 was included in WP/9 under Agenda Item 4.

7.11 The meeting was again reminded of the ongoing, deep concern about poor quality management of aeronautical information in the APAC Region, and the apparent lack of organizational priority for this safety-critical obligation of all States.

7.12 An update was provided on the status of implementation of the performance expectations of the *APAC Regional Plan for Collaborative AIM*, which were expected to be implemented in in three phases: Phase I (immediately), Phase II (07 November 2019) and Phase III, (27 November 2025).

7.13 Japan and Singapore had reported implementation of all Phase I elements. Only Singapore reported implementation of all Phase II elements. **Figures 12** and **13** illustrated overall regional implementation of Phases I and II; approximately 58% for Phase I and 42% for Phase II (56% and 40% respectively in 2022). Combined progress towards implementation of Phases I and II was 51% (50% in 2022).

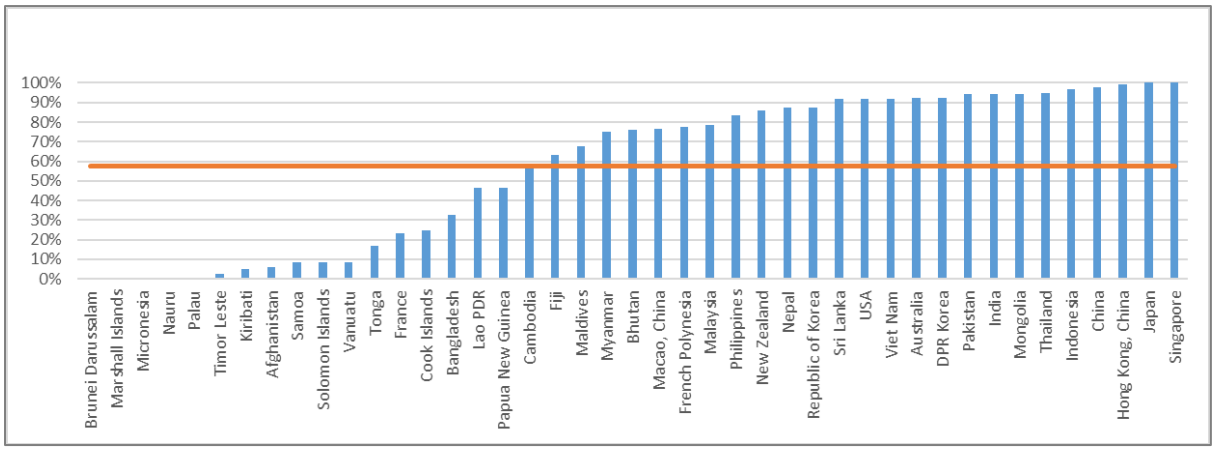

Figure 12: Regional Phase I Implementation Progress (updated 7 June 2023)

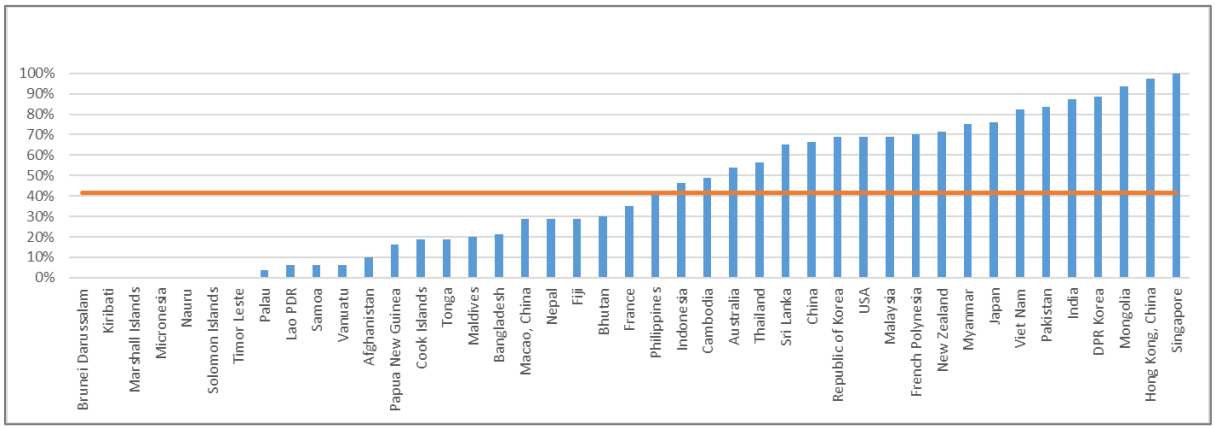

Figure 13: Regional Phase II Implementation Progress (updated 7 June 2023)

7.14 The meeting was invited to note that these results continue to represent poor regional progress, particularly when recalling that the Phase I performance expectations reflect ICAO Standards and Recommended Practices (SARPS) in Annex 15 *Aeronautical Information Services* that have been applicable in Annex 15 for several decades.

7.15 IFAIMA, in collaboration with the Secretariat, had provided a regional analysis of NOTAM proliferation. The meeting was reminded of the relevant ICAO provisions in Annex 15 *Aeronautical Information Services* and ICAO Doc 10066 *Procedures for Air Navigation Services – Aeronautical Information Management* (PANS-AIM).

7.16 As of 01 May 2023, a total of 6110 NOTAMs were active in the APAC Region. 353 (5.8%) of these were *old* (i.e. more than three months but less than one year), and 620 (10.1%) were *very old* (one year or more).

Airline Feedback on NOTAMs

7.17 IATA presented airline feedback on NOTAM quality, using examples from both the APAC Region and elsewhere, and identified issues that needed addressing.

7.18 It was noted that, in spite of the ICAO global campaign on NOTAM proliferation, the practice of repeatedly issuing NOTAMR continued globally although this was seen to have improved in the APAC Region. Examples were also provided of inconsistent NOTAM text and incorrect abbreviations, omission of runway identifiers in runway closure information, inappropriate reference to AIP page numbers instead of instrument flight procedure identifiers, unclear information, references in NOTAM to AIP pages that do not conform with the ICAO-mandated AIP structure and format, publication in NOTAM of major changes to AIP (required to be published in AIP Amendment under the AIRAC process), and the need for use of ICAO designators for aircraft types/models due to the significant variance in in physical dimension within a type range.

7.19 IATA noted that 64% of APAC Administrations were now compliant with the requirement to issue a checklist of NOTAMs, including checklist of AIP SUPs, and encouraged the remaining Administrations to comply with the mandatory procedure[6].

7.20 IATA further advised the meeting that the use of the words *trial* or *trial operations* had legal implications for some aircraft operators, which would decline to use a facility or procedure that was under trial. It was acknowledged that trial operations may be used for gathering safety related data prior to full implementation.

Notification for NOTAM Service Disruption

7.21 Japan proposed recommended actions to be taken for service disruption when the International NOTAM Office (NOF) was temporarily unable to distribute aeronautical information, especially NOTAMs, to other NOFs to which NOTAMs were distributed, based on Annex 15 paragraph 2.2.4. Discussion of Japan's working paper prompted the AAITF/18 meeting to hold an ad hoc workshop to develop regional guidance for notification of NOTAM service disruption.

7.22 The meeting agreed to the following Conclusion drafted by AAITF/18:

Conclusion ATM/SG/11-6: Asia/Pacific Regional Guidance for Contingency Planning and Response to NOTAM Service Disruption

That, The Asia/Pacific Regional Guidance for Contingency Planning and Response to NOTAM Service Disruption at **ATM/SG/11 WP/39 Attachment B** be adopted, and uploaded to the ICAO Asia/Pacific Regional Office website.

[6] ICAO Doc 10066 Procedures for Air Navigation Services – Aeronautical Information Management (PANS-AIM) 5.2.1.4.4 and 5.2.5.3

Asia/Pacific Region ICARD Update

7.23 ICAO had provided an update to AAITF/18 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.

7.24 A revised, simplified data collection spreadsheet was provided for consideration by the meeting, which agreed to the following Conclusion:

Conclusion ATM/SG/11-7: Revised 5LNC Data Collection Spreadsheet

That, the revised 5LNC Data Collection Spreadsheet (version 2.0) provided in **ATM/SG/11 WP/39 Attachment D** be made available on the ICAO Asia/Pacific Regional Office website, to replace the existing.

Preliminary Review of Guidance Manual for AIS in the Asia/Pacific Region

7.25 IFAIMA, in collaboration with the Secretariat, had provided AAITF/18 with a review of the *Guidance Manual for Aeronautical Information Services in the Asia/Pacific Region*. The Guidance Manual had been developed in 2001 by the AIS Automation Task Force (AATF), and first published in 2002 after incorporation of the *Common Operating Procedures for the Asia/Pacific Automated AIS System*. The Guidance Manual was last updated in 2016.

7.26 Taking into account the availability of new and updated global ICAO guidance documents, the AAITF/18 agreed that the regional Guidance Manual be retired. A proposed update of the Asia/Pacific Regional Plan for Collaborative AIM and the APAC Operating Procedures for Aeronautical Dynamic Data (OPADD) included consequential amendments arising from the agreed retirement of the Guidance Manual, updates of a number of superseded items, and editorial amendments. The meeting agreed to the following Conclusions:

Conclusion ATM/SG/11-8: Consolidation of Regional AIM Guidance Material

That,

1. noting the availability of updated SARPS and PANS in Annex 15 and Doc 10066, and global guidance material in ICAO Docs 8126, 9839 and 9991; and
2. subject to incorporation in the Asia/Pacific Plan for Collaborative Aeronautical Information Management of regional guidance on selection principles and selection processes for AIS personnel extracted from the Guidance Manual for Aeronautical Information Services in the Asia/Pacific Region:

   The Guidance Manual for Aeronautical Information Services in the Asia/Pacific Region be withdrawn, and the Asia/Pacific Plan for Collaborative Aeronautical Information Management Version 3.0 at **ATM/SG/11 WP/39 Attachment E** be uploaded to the Asia/Pacific Regional Office website, to replace the existing.

Conclusion ATM/SG/11-9: Revised APAC OPADD

That, the revised Operating Procedures for AIS Dynamic Data Version 4.1 at **ATM/SG/11 WP/39 Attachment F** be uploaded to the Asia/Pacific Regional Office website, to replace the existing.

Preliminary Review of APAC ANP Vol II

7.27 A review of the Asia/Pacific Regional Air Navigation Plan (APAC ANP) Vol. II had been conducted by IFAMA, in collaboration with the Secretariat.

7.28 Part VII of APAC ANP Vol II complemented the provisions in ICAO SARPS and PANS related to AIS/AIM and aeronautical charts. It contained dynamic plan elements related to the assignment of responsibilities to States for the provision of AIS/AIM facilities and services within a specified area in accordance with Article 28 of the Convention on International Civil Aviation (Doc 7300), and mandatory requirements related to the AIS/AIM facilities and services to be implemented by States in accordance with regional air navigation agreements.

7.29 The meeting agreed to the following Conclusion:

Conclusion ATM/SG/11-10: Update of APAC ANP Vol II Part VII

That, States are urged to provide all required information for inclusion in APAC ANP Vol II Part VII Tables AIM II-1 and AIM II-2 to the ICAO Asia/Pacific Regional Office by not later than 28 February 2024, for inclusion in a joint PfA to the ANP to be prepared by ICAO.

Future Direction of AAITF

7.30 A briefing on the history and progress of AAITF had been provided to the AAITF/18 meeting, together with proposed changes to its operations that were under consideration by the Secretariat. A total of 32 meetings of AAITF and its predecessor groups, the AIS Automation Task Force (AATF) and AIS Implementation Task Force (AITF) had been held since the formation of AATF in 1994.

7.31 Information was provided on progress in areas that could indicate the success or otherwise of AAITF, and regional engagement in its work, for the ten year period 2014 to 2023:

7.32 Noting the very slow progress in AIS/AIM implementation and deficiency resolution, the Secretariat had proposed that consideration be given to holding AAITF meetings once per two years. Taking into consideration the importance of AIS to the safety and regularity of aviation, the AAITF/18 meeting did not support a reduced frequency of AAITF meetings.

7.33 AAITF/18 had reviewed the AAITF Terms of Reference. The meeting agreed to the following Draft Decision for consideration by APANPIRG:

Draft Decision ATM/SG/11-11: Update AAITF TOR

That, the updated AAITF TOR at **ATM/SG/11 WP/39 Attachment G** be adopted.

Asia/Pacific Search and Rescue Update (WP/40)

7.34 The Eighth Meeting of the Asia/Pacific Regional Search and Rescue Work Group (APSAR/WG/7) was held in Bangkok, Thailand, from 22 to 25 May 2023.

ICAO Update on the LADR

7.35 The Location of an Aircraft in Distress Repository (LADR) would support the Autonomous Distress Tracking (ADT) Standards in Annex 6 Part I. 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.

7.36 ICAO would issue a State Letter once a deployment date for the LADR was confirmed. The State Letter would inform States how their Rescue Coordination Centres (RCCs) could subscribe to both OPS CTRL and LADR, and remind them to ensure that Air Navigation Service Providers (ANSPs) and aircraft operators also subscribed. The new ICAO Doc 10165 – *GADSS Manual* should be published later in 2023, and would provide greater detail on how stakeholders would work together using the LADR.

7.37 It was also stressed in APSAR/WG/8 discussion that there were no fundamental changes to existing SAR alerting and coordination procedures between Air Traffic Service Units (ATSUs) and RCCs complying with the provisions of Annex 11 and Annex 12. ATSUs would receive ADT notifications distributed by the LADR and then take steps to assess the information and notify the RCC, in the same way that other incidental information or reports of in-flight emergencies were handled.

7.38 Cospas-Sarsat presented information on deployment of Emergency Locator Transmitters – Distress Tracking (ELT(DT)s), developed to support GADSS. Noting the postponement of the ICAO requirement for ADT equipage to 1 January 2025, the meeting was informed that several major aircraft manufacturers had indicated they anticipated delivering aircraft equipped with ELT(DT)s as early as March 2023. ELT(DT)s would activate according to a number of criteria, in most cases requiring a SAR response if not corrected. However, their design had been engineered to have a very low false alarm rate, especially when compared to ELTs. If an ELT(DT) was triggered in flight it was likely to be an authentic alert. The four primary activation triggers were:

- Unusual attitude;
- Unusual speed;
- Collision with terrain or water; or
- Total loss of thrust/propulsion on all engines.

Asia/Pacific Regional Readiness for Autonomous Distress Tracking

7.39 Noting the outcomes of the GADSS workshop held in conjunction with APSAR/WG/7 in 2022, APSAR/WG/8 was informed of the checklist of considerations for ADT (**ATM/SG/11 WP/40 Attachment A**) which had been circulated in State Letter (APAC) AP128/22 (ATM) on 13 September 2022 in order to survey APAC Administrations on their readiness for ADT. Responses to the survey indicated the majority of APAC Administrations were not ready for ADT. The majority had not yet developed procedures for the response to ADT notifications or ELT(DT) alerts, and had not conducted training of relevant SAR, ATS or aircraft operator personnel to understand such notifications and alerts.

7.40 APSAR/WG/8 agreed that a modified survey should be circulated to remind States of the need to act now to prepare for the receipt of ELT(DT) alerts and notifications, and to gauge any improvement in State readiness.

iPhone Emergency Satellite Communications and Automatic Crash Detection Function – Impact on SAR and ANS Units

7.41 APSAR/WG/8 was provided with an overview of new capabilities on certain smartphones that could impact SAR and ATSUs. In 2022 Apple had released a software update to enable its iPhone 14 users to text emergency services when out of cellular and Wi-Fi coverage. Android smartphones would have a similar capability in late 2023. The iPhone 14 offered ‘emergency SOS’ via satellite to send text messages to emergency services, and automatic ‘crash detection’ using local cellular connection or Wi-Fi calling with an internet connection via the Apple Watch or iPhone.

7.42 The new capabilities in these smartphones and the growing number of commercial satellite systems and devices which could provide the communications network were examples of disruptive communications alerting systems that SAR services would face from new devices that were not properly regulated or interfaced with reliable and standardized message distribution systems. However, SAR services must be adaptable and make use of credible technology used by persons in distress. The meeting was informed that SAR services must adapt and evolve as new technology offered the potential to improve their performance. However, such technology and devices were often not properly regulated or interfaced with reliable message distribution systems. These new capabilities fell under the responsibility of national authorities to regulate and guide the functional design of the equipment and its operation to provide consistent and common capability for users and to ensure SAR services were not negatively impacted.

Regional SAR Plan Implementation Status

7.43 **Figure 14** illustrates the implementation status of the performance expectations of the SAR Plan as at 23 August 2023.

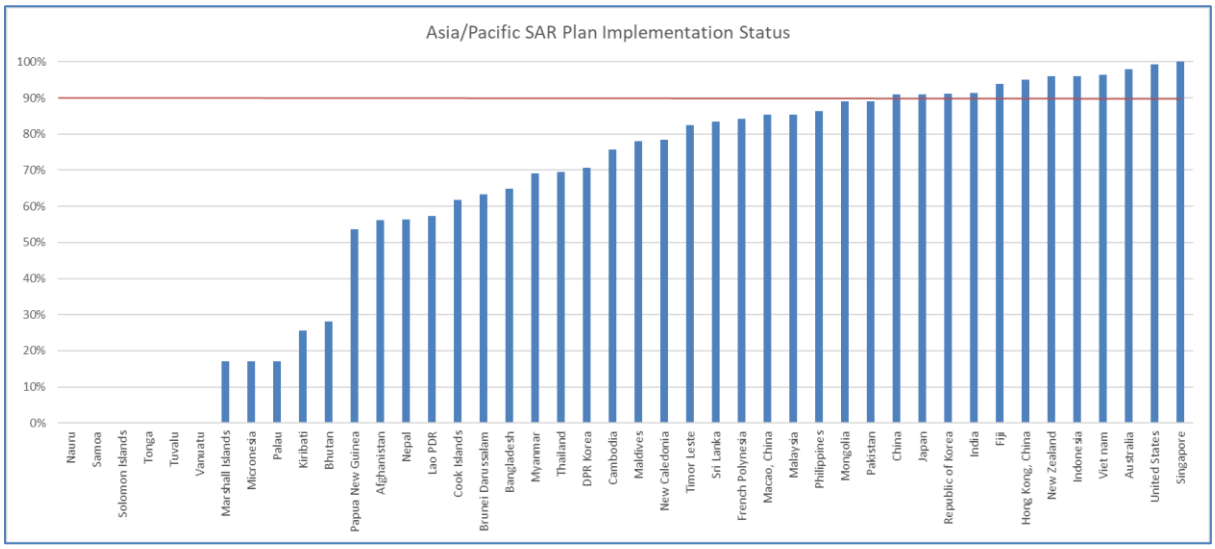

Figure 14: Asia/Pacific SAR Plan Implementation Status as at 23 August 2023

7.44 Regional policy established that States below 90% implementation would be considered to have an APANPIRG ANS Deficiency recorded for SAR implementation. Since APSAR/WG/7 (2022), there were no changes. 12 Administrations that had reported implementation of 90% or more:

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

APANPIRG ATM and Airspace Safety Deficiencies in the SAR Field

7.45 The following deficiency had been deleted from the list by APANPIRG/33:

- SAR Capability
  - Fiji

7.46 There were no deficiency deletions proposed for consideration by APSAR/WG/8.

7.47 The following new Deficiency had been added to the list by APANPIRG/33:

- SAR Capability
  - Tuvalu

Tuvalu became a member State of ICAO in 2017. No SAR implementation status reports had been received from Tuvalu.

7.48 Deficiencies remain listed for the following Asia/Pacific Administrations:

Afghanistan, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, Macao China, Cook Islands, DPR Korea, French Polynesia, Kiribati, Lao PDR, Malaysia, Maldives, Marshall Islands, Micronesia, Mongolia, Myanmar, Nauru, Nepal, New Caledonia, Pakistan, Palau, Papua New Guinea, Philippines, Samoa, Solomon Islands, Sri Lanka, Thailand, Timor-Leste, Tonga, Vanuatu.

7.49 The updated list of deficiencies was provided in **Appendix C to the Report**.

Outcomes from MET SG/27 Relevant to ATM/SG (WP/41)

7.50 ICAO presented the outcomes from Twenty-Seventh Meeting of the Meteorology Sub-Group of APANPIRG (MET SG/27) and its contributory bodies relevant to ATM/SG, including discussion related to the Seminar session on recent developments in MET, ICAO Meteorological Information Exchange Model (IWXXM), APANPIRG air navigation deficiencies, Regional guidance material, and Future work program.

7.51 MET SG/27 considered the tentative schedule for MET/R WG/13 – 22-26 April 2024, in conjunction with ATFM/SG/14 and including a MET/ATM Seminar.

APAC use cases and user requirements for SWIM-based MET information services supporting ATFM (WP/42)

7.52 MET/R WG Ad-hoc Group presented recent updates on their work, seeking feedback comments from ATM experts. The document would be a living reference under regular review by the ad-hoc group, and the use cases could be expanded and improved with known events. It was expected that the reference document would assist in the development of appropriate MET information services to meet the operational needs of ATFM in the APAC Region.

Introduction of Online NOTAM Service in Hong Kong China (IP/19)

7.53 Information provided on further enhancement of the AIS provided by the Aeronautical Information Management Centre (AIMC) of Hong Kong China to the aviation industry especially to our aviation community. The new online NOTAM system Architecture were introduced as well as the Hong Kong AIS website to access all current Hong Kong NOTAM, including SMOWTAM.

7.54 The meeting was reminded that the convenient accessibility to the most updated NOTAM had significantly enhanced the situation awareness of airline operators.

Updates on APAC Regional Guidance for Tailored MET Information and Services to Support ATM Operations (IP/23)

7.55 ICAO presented updates to the *Asia/Pacific Regional Guidance for Tailored Meteorological Information and Services to Support Air Traffic Management Operations*, enhancing the contents related to improvement process of the meteorological (MET) information and services including post operational analysis on the effect of tailored MET information on ATM decisions. The updates were approved by the MET SG/27 in September 2023.

Agenda Item 8: Any Other Business

Outcomes of a Series of ATM-Related Webinars for the APAC Region (WP/43)

8.1 In an effort to facilitate the implementation of new technologies that align with the ICAO Aviation System Block Upgrades (ASBU) strategies and the Asia-Pacific Seamless ANS plan expectations, ICAO organized a series of webinars for the APAC region to promote the understanding and discussion on three innovative topics with the objective that no State should be left behind. The webinars not only facilitated communication among APAC stakeholders but also provided a global outlook for enhancing technological exchanges in relevant fields.

8.2 The paper presented the key outcomes of the:

- Unmanned Aircraft Systems – Remotely Piloted Aircraft Systems Implementation/Regulation Webinar for the APAC Region (Video Teleconference, 9-10 May);
- Enhanced Wake Turbulence Separation Webinar for the APAC Region (Video Teleconference, 27 June 2023); and
- Free Route Airspace webinar for the APAC Region (Video Teleconference, 29 August 2023).

8.3 The meeting was invited to note that from the experience of the series of webinars, compared with an online discussion, on-site workshops with in-person interaction could be better to promote knowledge exchange.

Overflight Approvals and Air Defence Clearance (ADC) Numbers (WP/44)

8.4 IATA highlighted the challenges arising from current practice for providing overflight clearance (OVFC) permissions and Air Defence Clearances (ADCs), as well as States' incorrectly applying fees for the right to overfly which was not compliant with ICAO guidelines.

8.5 The paper proposed possible solution such as "File and Fly" process used by Eurocontrol and some States in Africa & Middle East. This involved simply approving via acceptance of the flight plan submission. An alternative method for facilitation of OVFC permission was for States to implement an automatically generated overflight permit for airline requests through an online portal or dedicated email address.

8.6 The meeting noted that a parallel, identical Discussion Paper had been submitted to the 58th Conference of Directors General of Civil Aviation of the Asia/Pacific Region (DGCA/58), which would be held in Dhaka, Bangladesh, commencing 15 October 2023. While the meeting did not support the Draft Conclusion in this WP, it was noted that an Action Item would be proposed for consideration at DGCA/58, where matters of policy were discussed.

Western Sydney International Airport Development (IP/20)

8.7 Australia presented information on the development of Western Sydney International Airport, Australia's newest International Airport located 44 kilometers from the Sydney central business district and 41 kilometers from Sydney (Kingsford Smith) Airport. Operations were planned to commence in late 2026. Initially built with one runway, ATS would be provided by an Approach Unit and Aerodrome Services using a digital aerodrome solution; the first controlled aerodrome in Australia without a physical ATC tower. Furthermore, there would be full surveillance coverage utilizing ADS-B, radar and an advanced surface movement guidance and control system.

Briefing on Interval Management (IP/21)

8.8 Singapore provided a summary of the concept of Interval Management (IM), a tactical spacing tool enabled by ADS-B IN. It consisted of a set of ground and flight deck capabilities used in combination by air traffic controllers and flight crews to more efficiently achieve a precise interval between aircraft in a stream of traffic. The paper further explained the benefits, applicable standards and future works on ICAO guidance material relating to IM.

Improving English Radiotelephony Communication Efficiency Under Non-Routine Situations (IP/22)

8.9 The meeting was briefed on the requirements of ICAO concerning radiotelephony communication and called to attention the necessity and importance of improving English radiotelephony communication efficiency under non-routine (emergency) situations. IATA planned to cooperate with Air Traffic Management Bureau (ATMB) of Civil Aviation Administration of China (CAAC) and Civil Aviation University of China (CAUC) to develop a manual concerning phraseologies or recommended practices under common emergency situations and recommended a scenario-based training method for air traffic controllers and pilots using English as a second language.

ATM Point of Contact Update (WP/45)

8.10 The List of ATM Points of Contact was circulated to all registered ATM/SG/11 participants for update.

Agenda Item 9: Update the ATM Task List

APANPIRG ATM Sub-Group Terms of Reference and Task List (WP/46)

9.1 The ATM/SG Terms of Reference (TOR) were presented for review by the meeting.

9.2 The ATM/SG Task List was reviewed by the meeting, and is provided in **Appendix D to the Report**.

Agenda Item 10: Date and venue for the next meeting

ATM/SG/12

10.1 The tentative timeframe and venue for ATM/SG/12 was September - October 2024, at the Asia/Pacific Regional Office in Bangkok, Thailand.

Closing

10.2 The Chair thanked meeting participants for their valuable work.

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List of Participants

	STATE/NAME		TITLE/ORGANIZATION
1.	**AUSTRALIA (2)**		
	1.	Mr. Brad Parker	Manager CNS/ATM Civil Aviation Safety Authority **AUSTRALIA**
	2.	Mr. Chris Kumar	ATS Specialist Lead Airservices Australia **AUSTRALIA**
2.	**BHUTAN (2)**		
	3.	Mr. Kencho Tshering	AIS/PANS-OPS Officer Bhutan Civil Aviation Authority **BHUTAN**
	4.	Mr. Karma Yonten	ATCO/AIS National Air Navigation Services Company (NANSC) **BHUTAN**
3.	**BRUNEI DARUSSALAM (2)**		
	5.	Mr. Mohamad Fauzi Mohamad Sidek	Acting Deputy Director of Civil Aviation Department of Civil Aviation of Brunei Darussalam **BRUNEI DARUSSALAM**

	STATE/NAME		TITLE/ORGANIZATION
	6.	Mr. Hafizul bin Haji Abdul Hamid	Search and Rescue Officer Department of Civil Aviation, Brunei Darussalam **BRUNEI DARUSSALAM**
4.		**CAMBODIA (2)**	
	7.	Mr. Sivarak Chutipong	Director of Technical Development Cambodia Air Traffic Services **CAMBODIA**
	8.	Mr. Nov Bunkong	Manager of Procedure Design & Airspace Development Cambodia Air Traffic Services **CAMBODIA**
5.		**CHINA (5)**	
	9.	Mr. Jun Wang	Senior Officer of ATC Division Air Traffic Management Bureau Civil Aviation Administration of China **CHINA**
	10.	Mr. Fan Ling	Manager of the General office of Shanghai APP East China Regional Air Traffic Management Bureau of CAAC **CHINA**
	11.	Mr. Yaxi Shen	ATFM ATMB of CAAC **CHINA**

	STATE/NAME		TITLE/ORGANIZATION
	12.	Mr. Qi Ouyang	Airspace Office Assistant Middle South Regional Air Traffic Management Bureau, Civil Aviation of China **CHINA**
	13.	Mr. Liu Yonggang	Deputy Director, Airspace Planning Office Air Traffic Management Bureau, China **CHINA**
6.	**HONG KONG, CHINA (5)**		
	14.	Mr. Tommy AU YEUNG	Assistant Director-General (Air Traffic Management) Civil Aviation Department, Hong Kong **HONG KONG, CHINA**
	15.	Ms. Sarah WONG	Senior Evaluation Officer Civil Aviation Department, Hong Kong **HONG KONG, CHINA**
	16.	Ms. Natalie KWOK	Evaluation Officer Civil Aviation Department, Hong Kong **HONG KONG, CHINA**
	17.	Ms. Grace WONG	En-route Supervisor Civil Aviation Department, Hong Kong **HONG KONG, CHINA**

	STATE/NAME		TITLE/ORGANIZATION
	18.	Ms. Michelle SIU	Electronics Engineer Civil Aviation Department, Hong Kong **HONG KONG, CHINA**
7.	**MACAO, CHINA (2)**		
	19.	Mr. CHIU Kuan Hou, Bryan	Safety Officer Civil Aviation Authority - Macao, China **MACAO, CHINA**
	20.	Mr. HU Gaohong, Hoover	Senior Head of ATS Division Macau International Airport Co. Ltd. **MACAO, CHINA**
8.	**FIJI (3)**		
	21.	Ms. Alisi Lewenikorolevu Namoro	Senior Air Navigation Services Inspector Civil Aviation Authority of Fiji (CAAF) **FIJI**
	22.	Mr. Anthony Finau Gonerogo	Air Navigation Services Inspector – ATM/SAR Civil Aviation Authority of Fiji **FIJI**
	23.	Mr. Elimeleki Navula	CONTROLLER STANDARDS/SAR – ATM Fiji Airports **FIJI**

	STATE/NAME		TITLE/ORGANIZATION
9.	**FRANCE (1)**		
	24.	Mr. Fabien Lemoine	Head of operations New Caledonia ANSP Direction Générale de l'Aviation Civile (DGAC) **FRANCE**
10.	**INDIA (5)**		
	25.	Mr. Moosa Thudhathifanuge	Executive Director (ATM-ASM) Airports Authority of India **INDIA**
	26.	Mr. Asit Kumar Sinha	Joint General Manager (ATM-ASM) Airports Authority of India **INDIA**
	27.	Mr. Indu Shekhar	Joint General Manager (ATM) Airports Authority of India **INDIA**
	28.	Ms. Nima Lama	Joint General Manager (ATM) Airports Authority of India **INDIA**
	29.	Mr. Sanjay Verma	AGM (ATM) Airports Authority of India **INDIA**

	STATE/NAME		TITLE/ORGANIZATION
11.	**INDONESIA (8)**		
	30.	Ms. Dina Yunita	Deputy Director of Air Navigation Operation DGCA Indonesia, Directorate of Air Navigation **INDONESIA**
	31.	Mr. Nur Said Eko Nugroho	Air Navigation Inspector (ATS) DGCA Indonesia, Directorate of Air Navigation **INDONESIA**
	32.	Ms. Meutia Fithri	International Cooperation Senior Officer DGCA Indonesia, Directorate of Air Navigation **INDONESIA**
	33.	Mr. Rachmat Widiyana	ATFM & CDM Planning Manager AirNav Indonesia **INDONESIA**
	34.	Mr. M. Inwan Nuddin	APP-TWR Manager AirNav Indonesia **INDONESIA**
	35.	Mr. Otty Rusinarsetyo	Chief of Section for International Cooperation Bureau of Legal Affairs and Cooperation National Search and Rescue Agency of Republic of Indonesia (BASARNAS) **INDOENSIA**

	STATE/NAME		TITLE/ORGANIZATION
	36.	Ms. Ayu Aulia Wijayati	International Cooperation Analyst National Search and Rescue Agency of Republic of Indonesia (BASARNAS) **INDOENSIA**
	37.	Ms. Riska Masita	International Cooperation Analyst National Search and Rescue Agency of Republic of Indonesia (BASARNAS) **INDOENSIA**
12.	**JAPAN (2)**		
	38.	Mr. Takayuki Harada	Director, Air Traffic International Affairs Office Japan Civil Aviation Bureau (JCAB) Ministry of Land, Infrastructure, Transport and Tourism of Japan **JAPAN**
	39.	Ms. Kyoko Sato	Special Assistant to the Director Air Navigation Services Planning Office Air Traffic International Affairs Office Air Navigation Services Planning Division Air Navigation Services Department Japan Civil Aviation Bureau (JCAB) Ministry of Land, Infrastructure, Transport and Tourism of Japan **JAPAN**

	STATE/NAME		TITLE/ORGANIZATION
13.	**LAO PDR (2)**		
	40.	Mr. Sohnsacksit Khamkeo	Director of Air Navigation Standards Division Department of Civil Aviation of Lao People's Democratic Republic **LAO PDR**
	41.	Mr. Amphone Thanasin	Deputy Chief of Vientiane ACC Lao Air Navigation Services (LANS) **LAO PDR**
14.	**MALAYSIA (4)**		
	42.	Mr. Mohamad Yusri Bin Mohamed Ali	Assistant Director Air Navigation Services and Aerodrome Civil Aviation Authority of Malaysia **MALAYSIA**
	43.	Ms. Norhayati Binti Abdul Rahim	Senior Assistant Director Air Navigation Services and Aerodrome Civil Aviation Authority of Malaysia **MALAYSIA**
	44.	Mr. Khairul A'amali Bin Ismail	Director of Air Navigation Services Training Division Civil Aviation Authority of Malaysia **MALAYSIA**

	STATE/NAME		TITLE/ORGANIZATION
	45.	Mr. Mior Adli Bin Mior Sallehhuddin	Head of Planning Air Navigation Services Safety Division Civil Aviation Authority of Malaysia **MALAYSIA**
15.	**MALDIVES (1)**		
	46.	Mr. Moosa Shahid Hussain	Associate GM, ATS Maldives Airports Company Ltd **MALDIVES**
16.	**MONGOLIA (2)**		
	47.	Mr. Ider Nyamdavaa	Manager Air Navigation Department National Civil Aviation Center Civil Aviation Authority of Mongolia **MONGOLIA**
	48.	Mr. Turbayar Erdene-ochir	Air Navigation Services Department Civil Aviation Authority of Mongolia **MONGOLIA**
17.	**NEPAL (2)**		
	49.	Mr. Sitaram Bhandari	Director, ATM Department Civil Aviation Authority of Nepal (CAAN) **NEPAL**

	STATE/NAME		TITLE/ORGANIZATION
	50.	Mr. Mukesh Raj Dahal	Manager Civil Aviation Authority of Nepal (CAAN) **NEPAL**
18.	**NEW ZEALAND (2)**		
	51.	Mr. John McKinlay	Senior Technical Specialist Aeronautical Services Civil Aviation Authority of New Zealand **NEW ZEALAND**
	52.	Mr. Edmund Heng	Technical Specialist Aeronautical Services Civil Aviation Authority of New Zealand **NEW ZEALAND**
19.	**PAKISTAN (2)**		
	53.	Mr. Muhammad Imran	Senior JD (ATS) Pakistan Civil Aviation Authority **PAKISTAN**
	54.	Mr. Muhammad Asif	Sr. Deputy Director (ATM) Pakistan Civil Aviation Authority **PAKISTAN**
20.	**PHILIPPINES (1)**		
	55.	Ms. Jessica Adeline D. Jamero	Department Manager III Air Traffic Control and Airspace Management Department Air Traffic Service Civil Aviation Authority of the Philippines **PHILIPPINES**

	STATE/NAME		TITLE/ORGANIZATION
21.	**REPUBLIC OF KOREA (4)**		
	56.	Mr. Huho HA	Deputy Director, ICAO and Global Partnerships Korea Office of Civil Aviation Ministry of Land, Infrastructure and Transportation **REPUBLIC OF KOREA**
	57.	Ms. Hyein JUNG	Deputy Director, Air Traffic Division, Korea Office of Civil Aviation, Ministry of Land, Infrastructure and Transport **REPUBLIC OF KOREA**
	58.	Mr. Kyutae Kim	Assistant Director Air Traffic Division, Korea Office of Civil Aviation, Ministry of Land, Infrastructure and Transport **REPUBLIC OF KOREA**
	59.	Ms. Kyunghee Joo	Assistant Director, Incheon Area Control Center, Air Traffic Management Office **REPUBLIC OF KOREA**
22.	**SINGAPORE (22)**		
	60.	Mr. Kong Beng Kuah	Director (Special Project) Civil Aviation Authority of Singapore (CAAS) **SINGAPORE**

	STATE/NAME		TITLE/ORGANIZATION
	61.	Mr. Vincent HWA	Director of Air Traffic Services (ATS) Civil Aviation Authority of Singapore (CAAS) **SINGAPORE**
	62.	Mr. Hermizan Jumari	Deputy Director (Planning) Civil Aviation Authority of Singapore (CAAS) **SINGAPORE**
	63.	Mr. Victor TAN Yong Meng	Air Traffic Controller Civil Aviation Authority of Singapore (CAAS) **SINGAPORE**
	64.	Mr. Joseph Lim	Senior Air Traffic Control Manager Civil Aviation Authority of Singapore (CAAS) **SINGAPORE**
	65.	Mr. HO Wei Sean	Civil Aviation Authority of Singapore (CAAS) **SINGAPORE**
	66.	Ms. Carol Teo	Head (Data Science) Civil Aviation Authority of Singapore (CAAS) **SINGAPORE**
	67.	Ms. PEY Yin Yin	Head (Operations Analysis) Civil Aviation Authority of Singapore (CAAS) **SINGAPORE**

	STATE/NAME		TITLE/ORGANIZATION
	68.	Ms. Daphne CHEONG	Analyst Civil Aviation Authority of Singapore (CAAS) **SINGAPORE**
	69.	Mr. Skyler TAN	Senior Data Scientist Civil Aviation Authority of Singapore (CAAS) **SINGAPORE**
	70.	Mr. HO Wee Sin	Deputy Director Civil Aviation Authority of Singapore (CAAS) **SINGAPORE**
	71.	Ms. Qi Chen	Principal Engineer Civil Aviation Authority of Singapore (CAAS) **SINGAPORE**
	72.	Mr. Magnus TEO	Civil Aviation Authority of Singapore (CAAS) **SINGAPORE**
	73.	Ms. Meijing Choo	Head (ATM-AP) Civil Aviation Authority of Singapore (CAAS) **SINGAPORE**
	74.	Ms. Nursyaza Shonilia BINTE SALEH	Senior Air Traffic Control Officer (Air Traffic Management - Asia Pacific) Civil Aviation Authority of Singapore (CAAS) **SINGAPORE**

	STATE/NAME		TITLE/ORGANIZATION
	75.	Ms. Noorain Kamal	AIM Specialist Civil Aviation Authority of Singapore (CAAS) **SINGAPORE**
	76.	Mr. Firdaus Roslee	Assistant Manager, Aeronautical Information Services (AIS) Civil Aviation Authority of Singapore (CAAS) **SINGAPORE**
	77.	Ms. NABILAH Mashhur Ali	Civil Aviation Authority of Singapore (CAAS) **SINGAPORE**
	78.	Ms. Chrys TANG	Airspace Policy Civil Aviation Authority of Singapore (CAAS) **SINGAPORE**
	79.	Ms. Isabella TAN	Manager, Airspace Policy Civil Aviation Authority of Singapore (CAAS) **SINGAPORE**
	80.	Mr. Clement HENG	Senior Air Traffic Control Manager (ATM - Development) Civil Aviation Authority of Singapore (CAAS) **SINGAPORE**
	81.	Mr. Han Chee Chew	Principal Air Traffic Control Manager (Air Traffic Management - South East Asia 2) Air Traffic Services Division **SINGAPORE**

	STATE/NAME		TITLE/ORGANIZATION
23.	**SRI LANKA (1)**		
	82.	Mr. M.A.K.Prasanna	Director Air Navigation Services, Civil Aviation Authority of Sri Lanka **SRI LANKA**
24.	**THAILAND (10)**		
	83.	Mr. Buntoeng Megchai	Manager of Flight Formalities Department The Civil Aviation Authority of Thailand **THAILAND**
	84.	Ms. Chalinthra Thanakankorn	Head of Search and Rescue Standards Division The Civil Aviation Authority of Thailand **THAILAND**
	85.	Ms. Penpicha Jitsamart	Air Traffic Standards Division Officer The Civil Aviation Authority of Thailand **THAILAND**
	86.	Ms. Achiraya Dechanuntasin	Air Traffic Standards Division Officer The Civil Aviation Authority of Thailand **THAILAND**
	87.	Mr. Sikarate Tarasak	Air Navigation Operations Planning Division Officer The Civil Aviation Authority of Thailand **THAILAND**

	STATE/NAME		TITLE/ORGANIZATION
	88.	Mr. Napatra Chuepan	Air Navigation Operations Planning Division Officer The Civil Aviation Authority of Thailand **THAILAND**
	89.	Mr. Bunpot Kujaphun	Director, Aeronautical Information and Flight Data Management Center Aeronautical Radio of Thailand Ltd. (AEROTHAI) **THAILAND**
	90.	Ms. Chananya Pinkaewprasert	Director, Network Operations Air Traffic Management Center Aeronautical Radio of Thailand Ltd. (AEROTHAI) **THAILAND**
	91.	Mr. Piyawut Tantimekabut	Air Traffic Management Network Manager Aeronautical Radio of Thailand Ltd. (AEROTHAI) **THAILAND**
	92.	Ms. Amornrat Jirattigalachote	Strategic Planning Manager (Engineering) Aeronautical Radio of Thailand Ltd. (AEROTHAI) **THAILAND**
25.	**UNITED STATES (6)**		

	STATE/NAME		TITLE/ORGANIZATION
	93.	Mr. Shayne Campbell	Senior Air Traffic Representative, Asia Pacific Federal Aviation Administration Air Traffic Organization, Mission Support **SINGAPORE**
	94.	Mr. Vern Payne	Manager, CDM and International Operations Federal Aviation Administration Air Traffic Control System Command Center (ATCSCC) **UNITED STATES**
	95.	Ms. Almira (Alma) Ramadani	Senior Air Traffic Representative, Asia Pacific Federal Aviation Administration Air Traffic Organization, Mission Support **UNITED STATES**
	96.	Ms. Midori Tanino	Global ATM Program Manager Federal Aviation Administration ATO International, Mission Support Services **UNITED STATES**
	97.	Mr. James P.M.P. Morimoto	Branch Chief, Ranges and Airspace United States Air Force Command Airspace Manager **UNITED STATES**
	98.	Mr. Paul Kim	Pilot United States Air Force **UNITED STATES**

	STATE/NAME		TITLE/ORGANIZATION
26.	**VIET NAM (8)**		
	99.	Mr. Nguyen The Hung	Director – Air Navigation Department The Civil Aviation Authority of Viet Nam **VIET NAM**
	100.	Mr. Ngo The Vinh	Director - Department of Safety - Quality Vietnam Air Traffic Management Corporation (VATM) **VIET NAM**
	101.	Mr. Nguyen Tien Giang	Deputy Director - Department of ATS Vietnam Air Traffic Management Corporation (VATM) **VIET NAM**
	102.	Ms. Ho Bich Phuong	Official – MAP-CHATS Division - VNAIC Vietnam Air Traffic Management Corporation (VATM) **VIET NAM**
	103.	Mr. Hoang Tuan Nam	Deputy Director - Air Traffic coordination & Flow Management Center - ATFMC Vietnam Air Traffic Management Corporation (VATM) **VIET NAM**

	STATE/NAME		TITLE/ORGANIZATION
	104.	Ms. Nguyen Thi An Thuy	Deputy Director - Area control center - Northern Air Traffic Services Company Vietnam Air Traffic Management Corporation (VATM) **VIET NAM**
	105.	Ms. Nguyen Hai Yen	Deputy Manager - ATS Division - Middle Air Traffic Services Company Vietnam Air Traffic Management Corporation (VATM) **VIET NAM**
	106.	Mr. Nguyen Tuan Anh	Director - Area control center - Southern Air Traffic Services Company Vietnam Air Traffic Management Corporation (VATM) **VIET NAM**
27.	**CANSO (1)**		
	107.	Mr. Poh Theen Soh	Director, Asia Pacific Affairs CANSO Civil Air Navigation Services Organization (CANSO) - Asia Pacific **SINGAPORE**
28.	**IATA (6)**		
	108.	Mr. Blair Cowles	Regional Director (Safety & Ops) OSS Asia-Pacific International Air Transport Association (IATA) **SINGAPORE**

	STATE/NAME		TITLE/ORGANIZATION
	109.	Mr. Diego Albert	Regional Assistant Director Operations, Safety and Security International Air Transport Association (IATA) **SINGAPORE**
	110.	Mr. Bin Hu	Manager, Operations, Safety & Security, North Asia International Air Transport Association (IATA) **CHINA**
	111.	Mr. George Chan	Regulatory Affairs Manager - Industry and Flight Operations IATA/Cathay Pacific Airways **CHINA**
	112.	Ms. Megan Yin	Senior Manager-Air Traffic System Asia Pacific United Airlines **CHINA**
	113.	Mr. Cheeseng Seow	Senior Manager Technical and Flight Services Singapore Airlines **SINGAPORE**
29.	**IFALPA (2)**		
	114.	Mr. Jaffar Hassan	EVP Asia and Pacific IFALPA **SINGAPORE**

	STATE/NAME		TITLE/ORGANIZATION
	115.	Captain Lee Choong Sub	Chairperson of AGE-ATS Committee Air Line Pilot Association of Korea **REPUBLIC OF KOREA**
30.	**ICAO (8)**		
	116.	Mr. Shane Sumner	Pacific Small Island Developing States (PSIDS) Liaison Officer ICAO Asia and Pacific Regional Office **THAILAND**
	117.	Mr. Hiroyuki Takata	Regional Officer, Air Traffic Management ICAO Asia and Pacific Regional Office **THAILAND**
	118.	Mr. Weng Kit Ying	Air Traffic Management Officer ICAO Asia and Pacific Regional Office **THAILAND**
	119.	Dr. Prakayphet Chalayonnawin	Programme Analysis Associate, Air Traffic Management ICAO Asia and Pacific Regional Office **THAILAND**
	120.	Mr. Lujiang Liu	FPP Manager ICAO Asia and Pacific Regional Office **THAILAND**

	STATE/NAME		TITLE/ORGANIZATION
	121.	Mr. Vijay Kumar	Regional Officer, PBN ICAO Asia and Pacific Regional Sub-Office **CHINA**
	122.	Mr. Zhi Feng Xu	Reginal Officer, Air Traffic Management (AOM) ICAO Asia and Pacific Regional Sub-Office **CHINA**
	123.	Dr. Hyuk Jin KWON	Reginal Officer, Air Traffic Management ICAO Asia and Pacific Regional Sub-Office **CHINA**

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LIST OF WORKING AND INFORMATION PAPERS

WORKING PAPERS

No.	Agenda Item	Subject	Presented by
01	1	Provisional Agenda	Secretariat
02	2	ATM/SG/10 and APANPIRG/33 Outcomes	Secretariat
03	3	ANS USOAP Update	Secretariat
04	3	Progress on APAC Seamless ANS Reporting Portal	Secretariat
05	3	Asia/Pacific Seamless ANS Plan Update	Secretariat
06	3	FIT-Asia and RASMAG Outcomes	Secretariat
07	3	Application of ATC Separation Minimums	Secretariat
08	3	Formation of Data Analytics Group to Establish ATM Performance Management in APAC	China, Indonesia, Japan, Malaysia, Singapore, Thailand, United States
09	4	ATM and Airspace Safety Deficiencies List	Secretariat
10	5	Regional Air Navigation Plan Update	Secretariat
11	5	Update on Response to Conclusion APANPIRG/33/5	Secretariat
12	5	Main Outcomes of CNS SG/27	Secretariat
13	5	Air Traffic Flow Management Steering Group Outcomes	Secretariat
14	5	Addressing of Flight Plans and Missing Departure (DEP) Messages	Secretariat
15	5	Asia/Pacific Unmanned Aircraft Systems Update	Secretariat
16	5	The Achievements and Future workplan of the APAC FPP	APAC Flight Procedure Programme Manager
17	5	Authorizations for PBN Operations	IATA
18	5	Fleet Equipage in Oceanic Airspace	India
19	5	Enhancing Operational Safety and Efficiency through use of Big Data Analytics on Missed Approach Data at Hong Kong International Airport	Hong Kong China
20	5	Progress Update of the ICAO Asia Pacific Flight and Flow Information for a Collaborative Environment (FF-ICE) Operational Requirements Small Working Group	China, Japan, New Zealand, Singapore, Thailand, and USA
21	5	Research and Practice of AMAN-DMAN-SMAN Integration in China	China
22	5	Progression of Free Route Operations (FRTO) in Asia Pacific (APAC) and Singapore's Efforts in Progressing FRTO	Singapore
23	5	Data-Driven Strategy for Establishing a Comprehensive and Standardized Training System across the Entire Career Cycle of Air Traffic Controllers	China

No.	Agenda Item	Subject	Presented by
24	5	Experience sharing for the Application of A-SMGCS Lighting Guidance at Beijing Daxing International Airport and Promoting Suggestions	China
25	5	Runway Safety Warning System Based on Sensor Network and Intelligent Video Surveillance in Prevention of Runway Incursions	China
26	5	Identification and Classification of Airport Hot Spots	China
27	6	SAIOSEACG Meeting Outcomes	Secretariat
28	6	The Asia/Pacific Region ATS Route Catalogue	Secretariat
29	6	North Pacific (NOPAC) Route System Redesign	United States and Japan
30	6	Regional ATM Contingency Planning and Contingency Operations Update	Secretariat
31	6	Proposal for Asia/Pacific Representatives' Collaboration on Enhancing Business Continuity Management (BCM) in ATM	China
32	6	Cadence's Contingency Planning Approaches	CANSO
33	6	Standardizing Pronunciation for 5LNCs	Japan
34	6	Operational Trial of 20NM Longitudinal Spacing on ATS Routes L642 and M771	Hong Kong China
35	6	Cooperative Measures to Increase Safety and Efficiency in the Airspace of the AKARA Corridor	Republic of Korea
36	6	Update on Progress of the Space Vehicle Launch and Re-entry Coordination Small Working Group	United States
37	6	Asia Pacific Traffic Information Broadcasts by Aircraft (TIBA) Frequency	Thailand
38	7	AOP Subgroup Outcomes	Secretariat
39	7	AIS – AIM Implementation Task Force Outcomes	Secretariat
40	7	Asia/Pacific Search and Rescue Update	Secretariat
41	7	Outcomes from MET SG/27	Secretariat
42	7	APAC use cases and user requirements for SWIM-based MET information services supporting ATFM	MET/R WG Ad-hoc Group
43	8	Outcomes of a Series of ATM-Related Webinars for the APAC Region	Secretariat
44	8	Overflight Approvals and Air Defence Clearance (ADC) Numbers	IATA
45	8	Air Traffic Management Points of Contact	Secretariat
46	9	APANPIRG ATM Sub-Group Terms of Reference and Task List	Secretariat

INFORMATION PAPERS

No.	Agenda Item	Subject	Presented by
01	1	Provisional List of Papers	Secretariat
02	2	APAC ANSP Committee Update	APAC ANSP Committee Secretariat
03	4	Datalink Performance Monitoring in Mumbai Flight Information Region	India
04	4	Update on Designation of Australian Restricted Areas in International Waters	Australia
05	4	Initiatives taken towards establishing ISO certified QMS at AIS	Sri Lanka
06	5	US Experience with Air Traffic Management (ATM)	United States
07	5	Continuous Descent Operations (CDO) Trial	Australia
08	5	ADS-C CDP Progress in Fukuoka FIR	Japan
09	5	The Progress of Domestic CPDLC Operation in Japan	Japan
10	5	The Long-Term Vision for the Future Air Traffic Systems of Japan (CARATS)	Japan
11	5	Implementation of Digital Tower Facilities at Hong Kong International Airport	Hong Kong China
12	5	Application of Time to Threshold Function	India
13	5	Implementation of 3NM Surveillance based Separation in Terminal Airspace of Kolkata	India
14	5	Modernization of ATM and Airspace Capacity Optimisation Initiatives within Colombo FIR	Sri Lanka
15	5	Fatigue Management of Air Traffic Controllers in India	India
16	5	AIDC Test between Mumbai and Muscat	India
17	5	Uniting the Strength of Innovation for Building a Seamless Sky - The Asia Pacific Region Innovation & Capacity Building Symposium 2023 (APICS 2023)	Hong Kong, China on behalf of the Organizing Committee of APICS 2023
18	6	20-NM Performance Based Longitudinal Separation (PBLS)	United States
19	7	Introduction of Online NOTAM Service in Hong Kong China	Hong Kong China
20	8	Western Sydney International Airport Development	Australia
21	8	Briefing on Interval Management	Singapore
22	8	Improving English Radiotelephony Communication Efficiency Under Non-Routine Situations	China and IATA
23	7	Updates on Asia/Pacific Regional Guidance for Tailored Meteorological Information and Services to Support Air Traffic Management Operations	MET SG

No.	Agenda Item	Subject	Presented by
24	5	Green ATM Operations	Japan and Singapore
25	3	Challenges in Acquiring a Service Agreement with the CRA for Problem Report (PR) Analysis in PBCS Implementation	Malaysia

FLIMSIES

No.	Agenda Item	Subject	Presented by
01	5	Data Link Service Progress in Guangzhou	China
02	8	Proposal on Improve the Existing Radio Communication Failure Procedures	China
03	5	Urban Air Mobility (UAM) and the Safe Operation of Air Traffic Management (ATM)	China
04	5	The Conops of Collaborative Multi-Constraint Conversion Program (CMCP+)-One CTOT Solution (OCS) on Conflicting ATFM Measures	China
05	5	Pilot Implementation of Point Merge at Area Control for Arrival Flows to Guangzhou Baiyun Airport	China
06	5	A Proposal on the New CONOPS Research Working Group	China
07	5	An Intelligent Auxiliary System for Airport Runway Surface Condition Assessment in China	China
08	5	Implementation and Trial Operations of Point Merge Arrivals at Beijing Capital International Airport	China
09	8	Leveraging Artificial Intelligence to Enhance Controller English Language Training in Non-English Speaking States	China

PRESENTATIONS

No.	Agenda Item	Subject	Presented by
01	6	SAIOSEACG Meeting Outcomes (WP/27)	Secretariat
02	6	The Asia/Pacific Region ATS Route Catalogue (WP/28)	Secretariat
03	6	Cadence’s Contingency Planning Approaches (WP/32)	CANSO
04	8	Outcomes of a Series of ATM-Related Webinars for the APAC Region (WP/43)	Secretariat
05	5	Air Traffic Flow Management Steering Group Outcomes (WP/13)	Secretariat
06	5	Uniting the Strength of Innovation for Building a Seamless Sky - The Asia Pacific Region Innovation & Capacity Building Symposium 2023 (APICS 2023) (IP/17)	Hong Kong, China on behalf of the Organizing Committee of APICS 2023

No.	Agenda Item	Subject	Presented by
07	6	Operational Trial of 20NM Longitudinal Spacing on ATS Routes L642 and M771 (WP/34)	Hong Kong China
08	6	Cooperative Measures to Increase Safety and Efficiency in the Airspace of the AKARA Corridor (WP/35)	Republic of Korea

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ATM and Airspace Safety Deficiencies List (Updated 5 October 2023)

	Deficiencies			**Corrective Action**		
States/facilities	**Description**	**Date first reported**	**Remarks**	**Executing body**	**Target date**	**Priority ****
	<u>WGS-84</u> Requirements of Paragraph 1.2.1 of Annex 15					
Afghanistan	WGS-84 - Not implemented	24/6/2014		Afghanistan	TBD	A
~~Bhutan~~	~~WGS-84 - Not implemented~~	~~2/7/1999~~	~~Data conversion completed, but not published~~	~~Bhutan~~	~~TBD~~	~~A~~
Brunei Darussalam	WGS-84 - Not implemented	24/6/2014		Brunei Darussalam	TBD	A
Marshall Islands	WGS-84 - Not implemented	24/6/2014		Marshall Islands	TBD	A
Micronesia	WGS-84 - Not implemented	24/6/2014		Micronesia	TBD	A
Nauru	WGS-84 - Not implemented		Conferring with consultant	Nauru	TBD	A
Palau	WGS-84 - Not implemented	24/6/2014		Palau	TBD	A
Samoa	WGS-84 - Not implemented	24/6/2014		Samoa	TBD	A
Vanuatu	WGS-84 – Not implemented	2/7/1999	Implemented at main airports	Vanuatu	1999	A
	<u>AIP Format</u> Requirements of Chapter 5 of Annex 15					
Kiribati	AIP Format - Not implemented	7/7/99	ATM/AIS/SAR/SG/18 (June 2009) was advised AIP in draft stage	Kiribati		A
Nauru	AIP Format - Not implemented	7/7/99	ATM/AIS/SAR/SG/18 (June 2008) was advised work soon to start	Nauru		A
	<u>AIS Quality Management System</u> Requirements of Paragraph 3.6.1 of Annex 15 Quality Management System - Not implemented					

	Deficiencies			Corrective Action		
States/facilities	**Description**	**Date first reported**	**Remarks**	**Executing body**	**Target date**	**Priority ****
Afghanistan	AIS Quality Management System - Not implemented	24/6/2014		Afghanistan	TBD	A
Bangladesh	AIS Quality Management System - Not implemented	24/6/2014		Bangladesh	TBD	A
Bhutan	AIS Quality Management System - Not implemented	24/6/2014		Bhutan	TBD	A
Brunei Darussalam	AIS Quality Management System - Not implemented	24/6/2014		Brunei Darussalam	TBD	A
Cambodia	AIS Quality Management System - Not implemented	24/6/2014		Cambodia	TBD	A
Kiribati	AIS Quality Management System - Not implemented	24/6/2014		Kiribati	TBD	A
Lao PDR	AIS Quality Management System - Not implemented	24/6/2014		Lao PDR	TBD	A
Maldives	AIS Quality Management System - Not implemented	24/6/2014		Maldives	TBD	A
Marshall Islands	AIS Quality Management System - Not implemented	24/6/2014		Maldives	TBD	A
Micronesia	AIS Quality Management System - Not implemented	24/6/2014		Micronesia	TBD	A
Myanmar	AIS Quality Management System - Not implemented	9/6/2016		Myanmar	TBD	A
Nauru	AIS Quality Management System - Not implemented	24/6/2014		Nauru	TBD	A
Nepal	AIS Quality Management System - Not implemented	24/6/2014		Nepal	TBD	A
Palau	AIS Quality Management System - Not implemented	24/6/2014		Palau	TBD	A

	Deficiencies			Corrective Action		
States/facilities	**Description**	**Date first reported**	**Remarks**	**Executing body**	**Target date**	**Priority ****
Philippines	AIS Quality Management System - Not implemented	24/6/2014		Philippines	TBD	A
Samoa	AIS Quality Management System - Not implemented	24/6/2014		Samoa	TBD	A
Solomon Islands	AIS Quality Management System - Not implemented	24/6/2014		Solomon Islands	TBD	A
Sri Lanka	AIS Quality Management System - Not implemented	9/6/2016		Sri Lanka	TBD	A
Timor-Leste	AIS Quality Management System - Not implemented	24/6/2014		Timor-Leste	TBD	A
Vanuatu	AIS Quality Management System - Not implemented	24/6/2014		Vanuatu	TBD	A
	Aeronautical Data Area of Responsibility - requirements of Paragraph 2.1.2 of Annex 2 to ensure that the provision of aeronautical data and aeronautical information covers its own territory and those areas over the high seas for which it is responsible for the provision of ATS					
Bangladesh	Aeronautical Data Promulgation Within the State's Area of Responsibility - Not implemented	29/03/2019 SAIOACG /9		Bangladesh	TBD	A
	Designation of Restricted Areas - requirements of Annex 2 (Definitions) to ensure that restricted areas are designated above the land areas or territorial waters of a State					

	Deficiencies			Corrective Action		
States/facilities	**Description**	**Date first reported**	**Remarks**	**Executing body**	**Target date**	**Priority ****
Australia	Designation of Restricted Areas Above the Land Areas or Territorial Waters of a State - Not implemented	29/03/2019 SAIOACG /9	Danger areas within international airspace that is part of a State's responsibility is acceptable	Australia	December 2022	A
India	Designation of Restricted Areas Above the Land Areas or Territorial Waters of a State - Not implemented	29/03/2019 SAIOACG /9	Danger areas within international airspace that is part of a State's responsibility is acceptable	India	TBD	A
	Airspace Classification Requirements of Paragraph 2.6 of Annex 11					
China	Airspace Classification - Not implemented	7/7/99	Difference to Annex 11 is published in AIP, China.	China	APANPIRG/19 updated, implementation planned by end 2010.	A
Macau, China	Airspace Classification - Not implemented	05/09/2018		Macau, China	TBD	A
Nauru	Airspace Classification - Not implemented	7/7/99		Nauru	TBD	A
Solomon Islands	Airspace Classification - Not implemented	7/7/99		Solomon Islands	TBD	A
	ATS Message Addressing Requirements of Doc 4444 PANS-ATM Section 11.4 (Message Types and their Application)		Note: the threshold for a Deficiency is 5% or more DEP messages reported to have not been sent, and where the analysed data provided evidence of a systemic (either systems or human factors) failure to send the message			

	Deficiencies			Corrective Action		
States/facilities	**Description**	**Date first reported**	**Remarks**	**Executing body**	**Target date**	**Priority ****
Maldives	DEP message transmission	09/08/2019	DEP messages inconsistently transmitted Conclusion APANPIRG/27/12 and ICAO correspondence	Maldives	TBD	A
	SAR capability: Requirements of Annex 12 as defined in the Regional Air Navigation Plan Volume II Part I – GENERAL PLANNING ASPECTS Section 3 SPECIFIC REGIONAL REQUIREMENTS, failure to reach 90% or more implementation of the Asia/Pacific SAR Plan					
Afghanistan	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/6 56%	Afghanistan	2019	U
Bangladesh	Asia/Pacific SAR Plan	17/05/2019	~~APSAR/WG/6 67%~~ APSAR/WG/8 65%	Bangladesh	2019	U
Bhutan	Asia/Pacific SAR Plan	6/07/2015	~~APSAR/WG/4 34%~~ APSAR/WG/8 28%	Bhutan	2019	U
Brunei Darussalam	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/4 63%	Brunei	2019	U
Cambodia	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 76%	Cambodia	2019	U
Cook Islands	Asia/Pacific SAR Plan	6/07/2015	~~APSAR/WG/5 44%~~ APSAR/WG/8 62%	Cook Islands	2019	U
DPR Korea	Asia/Pacific SAR Plan	6/07/2015	~~APSAR/WG/4 66%~~ APSAR/WG/8 71%	DPR Korea	2019	U
French Polynesia	Asia/Pacific SAR Plan	17/05/2019	~~APSAR/WG/5 82%~~ APSAR/WG/8 84%	French Polynesia	2019	U
Kiribati	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 26%	Kiribati	2019	U

	Deficiencies			Corrective Action		
States/facilities	**Description**	**Date first reported**	**Remarks**	**Executing body**	**Target date**	**Priority ****
Lao PDR	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 57%	Lao PDR	2019	U
Macau, China	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 85%	Macao, China	2019	U
Malaysia	Asia/Pacific SAR Plan	17/05/2019	~~APSAR/WG/7 76%~~ APSAR/WG/8 85%	Malaysia	2019	U
Maldives	Asia/Pacific SAR Plan	6/07/2015	~~APSAR/WG/6 71%~~ APSAR/WG/8 78%	Maldives	2019	U
Marshall Islands	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/5 17%	Marshall Islands	2019	U
Micronesia	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/5 17%	Micronesia	2019	U
Mongolia	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/5 73%	Mongolia	2019	U
Myanmar	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 67%	Myanmar	2019	U
Nauru	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Nauru	2019	U
Nepal	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/7 56%	Nepal	2019	U
New Caledonia	Asia/Pacific SAR Plan	17/05/2019	~~APSAR/WG/7 75%~~ APSAR/WG/8 78%	New Caledonia	2019	U
Pakistan	Asia/Pacific SAR Plan	17/05/2019	~~APSAR/WG/7 88%~~ APSAR/WG/8 89%	Pakistan	2019	U
Palau	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/5 17%	Palau	2019	U
Papua New Guinea	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/7 54%	Papua New Guinea	2019	U
Philippines	Asia/Pacific SAR Plan	6/07/2015	~~APSAR/WG/6 88%~~ APSAR/WG/8 86%	Philippines	2019	U
Samoa	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Samoa	2019	U
Solomon Islands	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Solomon Islands	2019	U
Sri Lanka	Asia/Pacific SAR Plan	17/05/2019	~~APSAR/WG/7 80%~~ APSAR/WG/8 83%	Sri Lanka	2019	U

	Deficiencies			Corrective Action		
States/facilities	**Description**	**Date first reported**	**Remarks**	**Executing body**	**Target date**	**Priority ****
Thailand	Asia/Pacific SAR Plan	17/05/2019	~~APSAR/WG/7 80%~~ APSAR/WG/8 82%	Thailand	20~~19~~25	U
Timor-Leste	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Timor-Leste	2019	U
Tonga	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 70%	Tonga	2019	U
Tuvalu	Asia/Pacific SAR Plan	28/05/2022	APSAR/WG/7 0%	Tuvalu	2024	U
Vanuatu	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Vanuatu	2019	U
	Non Provision of Safety-related Data Requirement of Paragraph 3.3.5.1 of Annex 11 (provision of data for monitoring the height-keeping performance of aircraft) and APANPIRG Conclusion 16/6 – Non Provision of safety related data by States					
Afghanistan	Non-provision of safety related data	12/07/2019	Failure to submit Kabul LHD data for January-December 2018 and 2020. Afghanistan had submitted data for the period January to July 2021, but no further LHD reports were received after August 2021.	Afghanistan	RASMAG/27	U
~~Brunei Darussalam~~	~~Non-provision of safety-related data~~	~~25/08/2022~~	~~Failure to submit RVSM approval status validation data for two consecutive years (2020, 2021)~~	~~Brunei Darussalam~~	~~RASMAG/28~~	~~U~~
	State Responsibility to comply with the Annex 6 Height-Keeping Monitoring Requirement Annex 6 Part I Section 7.2.9 (10th Ed.) and Part II Section 2.5.2.10 (9th Ed.)					
Afghanistan	Non-compliance with LTHM	RASMAG/	Remaining monitoring burden of 85%	Afghanistan	RASMAG24	A

	Deficiencies			Corrective Action		
States/facilities	**Description**	**Date first reported**	**Remarks**	**Executing body**	**Target date**	**Priority ****
	requirement (remaining monitoring burden more than 30%)	23	(RASMAG/26) MAAR informed ICAO that all known airframes in Afghanistan have complied with the monitoring requirement (November 2022). Deficiency retained due to the unknown status of the Afghanistan aeronautical authority responsible for ensuring monitoring is conducted.			
Pakistan	Non-compliance with LTHM requirement (remaining monitoring burden more than 30%)	RASMAG/ 22	Remaining monitoring burden of 61% (RASMAG/26)	Pakistan	RASMAG24	A
	Data Link Performance Monitoring and Analysis Requirements of Paragraph 2.28 and/or 3.3.5.2 of Annex 11 not met					
India	Post-implementation monitoring not implemented	13/07/2017	Performance monitoring and analysis was reported for the Chennai and Kolkata FIRs, but was not reported for the Mumbai FIR.	India	TBD	A
Maldives	Post-implementation monitoring not implemented	29/5/2015	Problem Reports not provided to CRA. Performance monitoring and analysis not reported to FIT.	Maldives	TBD	A

** Note: In accordance with the *APANPIRG Handbook - Asia/Pacific Supplement to the Uniform Methodology for the Identification, Assessment and Reporting of Air Navigation Deficiencies*, priority for Air Navigation Deficiencies is guided by the principle that a deficiency with respect to an ICAO Standard is accorded a "U" status, while a non-compliance with a Recommended Practice or a PANS is considered as "A" or "B" subject to additional expert evaluation. The final prioritization of deficiencies is the prerogative of APANPIRG.

ATM Sub Group of APANPIRG — TASK LIST

The priorities assigned in the list have the following connotation:

A = Tasks of a high priority on which work should be expedited; and
B = Tasks of a medium priority on which work should be undertaken as soon as possible but not to the detriment of Priority "A" tasks.

(Last update October 2023, amendments are shown in highlight)

ACTION ITEM & PRIORITY	DESCRIPTION	TARGET DATE	RESPONSIBLE PARTY	STATUS	REMARKS
18/8 **Priority A**	**<u>Identify and manage Deficiencies in the ATM, AIS and SAR fields</u>** a) Develop and maintain Deficiencies list, b) Identify unimplemented items in the ANP, c) Assist States to correct deficiencies, d) Promote timely resolution of safety-critical items identified by APANPIRG	ONGOING	**Functional Responsibility:** No specific working group established, all parties have responsibilities in this area (States, Users, International Organisations, Regional Office, ATMSG APANPIRG)	OPEN	

ACTION ITEM & PRIORITY	DESCRIPTION	TARGET DATE	RESPONSIBLE PARTY	STATUS	REMARKS
18/9 **Priority B**	**SAR Matters** Assist appropriate provision of SAR facilities, services and procedures within the Asia Pacific Region by: a) Periodic review of SAR facilities, services and procedures in the region, b) Encourage States to delegate or negotiate SAR services, c) Asia/Pacific SAR Plan Assessment be kept up to date and distributed to States for information and action., d) Asia/Pacific "Register of SAR Agreements" be kept up to date and distributed to States for information and action	ONGOING	States, Regional Office, APSARWG ATM/SG APANPIRG	OPEN	States to update the ATM/SG and APSAR/WG each year on SAR capability
22/1 **Priority B**	**Review and Update the Asia/Pacific Route Catalogue**	On-going	IATA, ATM Coordination Groups, ATM/SG	OPEN	
4/1	Analysis of ANSPs which failed to send Departure (DEP) messages, notify the States and raise deficiencies	ATM/SG/11	ICAO	~~Open~~ Completed	Some States were not Asia/Pacific so were just subject to notification

ACTION ITEM & PRIORITY	DESCRIPTION	TARGET DATE	RESPONSIBLE PARTY	STATUS	REMARKS
5/5	Phase 2 of the Alphanumeric Call Sign Project report to ATM/SG/7	ONGOING	IATA/States/ CANSO/ACI	Open	ATM/SG/10 WP/22 ATM/SG/9 update: ***Conclusion APANPIRG/31/11*** urged aerodrome operators, in coordination with CANSO and ACI, to consider a trial to identify and overcome barriers, with a view to developing a project for the APAC Region.
5/8	Follow-up on Mumbai/Mogadishu/Seychelles FIR route PfA	~~ATM/SG/11~~ SAIOSEAG/3	India, ICAO	Open	Coordinate with ICAO ESAF and States.
9/3	Follow up on Fukuoka/Khabarovsk FIR boundary discrepancy	~~2022~~ 2024(TBA)	ICAO	Open	~~ATM/SG/9 report 5.48~~ ~~Update 21/10/22: Meeting planned tentative November 2022.~~ Update 5/10/23: Meeting TBA
9/6	Consider sharing experience and lessons learned in implementation of enhanced wake turbulence separation	~~SAIOSEACG/1 ATM/SG/10~~ 2023	ICAO Hong Kong China Japan Republic of Korea	~~Open~~ Completed	ATM/SG/9 report 6.19 ~~ATM/SG/10 explore option of a workshop activity on ATM/SG/10 Day 4 afternoon~~ ATM/SG/10 report 5.78
9/7	Review Regional ATM Contingency Plan	~~ATM/SG/11~~ ATM/SG/12	ICAO/IATA Australia Nepal	Open	ATM/SG/9 report 6.57

ACTION ITEM & PRIORITY	DESCRIPTION	TARGET DATE	RESPONSIBLE PARTY	STATUS	REMARKS
9/10	Clarification of the effect on activity periods with the change from R areas to D areas in high seas airspace	SAIOSEACG/2	ICAO	~~Open~~ Closed	
10/1	Coordinate with Regional Monitoring Agencies to explore how best to gather data on mid-air collision (MAC) pre-cursor events such as Large Height Deviations, ACAS RAs, etc.	03 November 2022	ATM/SG - RASMAG Secretariat	~~Open~~ Completed	ATM/SG/10 report 2.3
10/2	Coordinate with the AGA, CNS and MET sections of the ICAO Asia/Pacific Regional Office to examine the need for any revision of document update cycles and implementation reporting dates.	03 November 2022	ICAO	~~Open~~ Completed	ATM/SG/10 report 3.15
10/3	Review correspondence from Bangladesh on WGS-84 Deficiency	03 November 2022	ICAO	~~Open~~ Completed	ATM/SG/10 report 4.9
10/4	Explore option of conducting a workshop on the classification of airspace, and seek information from States in order to compile guidance in the form of a checklist of considerations in determining airspace classification	~~ATM/SG/11~~ ATM/SG/12	ICAO, States? Nepal	Open	ATM/SG/10 report 5.66
10/5	Develop SEI (Alphanumeric Call Signs) for consideration for inclusion in the APAC RASP. Consider inclusion of related regional planning element in the Seamless ANS Plan	~~ATM/SG/11~~ ATM/SG/12	ICAO, RASG SEI WG	Open	ATM/SG/10 report 5.74
10/6	Assist AOP/SG in encouraging States to comply with requirements for publication of aerodrome certification status in AIP	AAITF/18	ICAO, AAITF	~~Open~~ Completed	ATM/SG/10 report 7.3

ACTION ITEM & PRIORITY	DESCRIPTION	TARGET DATE	RESPONSIBLE PARTY	STATUS	REMARKS
10/7	Conduct workshop on Safety Management and Positive Safety Culture in ATM	~~2023~~ 2024	USA (facilitator) Australia, Hong Kong China, India, Japan, Malaysia, Nepal, Other States? IATA, IFALPA, ICAO	Open	ATM/SG/10 report 8.6, 8.7
10/8	Arrange a meeting to discuss implementation of 20 NM longitudinal spacing on L642 M771	~~November 2022~~ 2024(TBA)	China, Hong Kong China, Singapore, Viet Nam ICAO	Open	Timing subject to administrative issues or restrictions
11/1	Coordinate with ICAO HQ for RPAS-specific separation under development	ATM/SG/12	ICAO	Open	ATM/SG/11 report 5.46
11/2	Encourage airspace users to equip ADS-C/CPDLC, RNP2/4 and RSP180 RCP240 capabilities in Indian oceanic airspace	ATM/SG/12	India, IATA	Open	ATM/SG/11 report 5.57 & 6.16
11/3	Examine the global practices and guidance for A-MAN, D-MAN, S-MAN and Extended A-MAN (X-MAN) integration and report to the ATM/SG/12	ATM/SG/12	ICAO	Open	ATM/SG/11 report 5.84
11/4	Conduct a workshop on Training for ATC	ATM/SG/12	ICAO (RSO)	Open	ATM/SG/11 report 5.96
11/5	Coordinate with the AGA section of the ICAO Asia/Pacific Regional Office on the possibility of conducting a workshop on the Aerodrome operation, including Runway Safety	ATM/SG/12	ICAO (RO/ATM and RO/AGA)	Open	ATM/SG/11 report 5.102

ACTION ITEM & PRIORITY	DESCRIPTION	TARGET DATE	RESPONSIBLE PARTY	STATUS	REMARKS
11/6	Participate in APICS 2023	APICS2023	States/Administrations and IOs	Open	ATM/SG/11 report 5.120
11/7	Provide NOPAC Route System Redesign information for BOBTFRG and SAIOSEAG	BOBTFRG/6	Japan, USA	Open	ATM/SG/11 report 6.18
11/8	Coordination with AAC WS3 on the CADENCE contingency OIS for use in desk-top exercise.	06 Oct 2023	CANSO, ICAO	Open	
11/9	Participate in the CADENCE's Contingency desk-top exercises	ATM/SG/12	Australia, CANSO, Japan, USA, Philippines, Singapore, New Zealand, Indonesia, Malaysia, IATA, ICAO	Open	ATM/SG/11 report 6.41
11/10	Coordinate with ICAO HQ on 5LNCs' pronunciation difference issue	ATM/SG/12	ICAO	Open	ATM/SG/11 report 6.46
11/11	Continue to improve AKARA airspace safety and efficiency through bilateral or if necessary multilateral meetings, and coordinate with the TWG secretariat if necessary.	ATM/SG/12	China, Republic of Korea	Open	ATM/SG/11 report 6.60 and 6.61
11/12	Conduct a face-to-face meeting of the SVLRC SWG and validation desk-top exercise	November 2023	ICAO (SVLRC SWG)	Open	ATM/SG/11 report 6.67
11/13	Coordinate with ICAO HQ on regional TIBA frequency and promulgation in the Regional Supplementary Procedures (Doc 7030)	ATM/SG/12	ICAO	Open	ATM/SG/11 report 6.75

ACTION ITEM & PRIORITY	DESCRIPTION	TARGET DATE	RESPONSIBLE PARTY	STATUS	REMARKS
11/14	Coordinate with ICAO HQ on the feasibility of AIP AD1.2.3	AAITF/19	ICAO	Open	ATM/SG/11 report 7.6
11/15	Review the updated APAC use cases and user requirements for SWIM-based MET information services supporting ATFM	ATFM/SG/14 and MET/R WG/13	States/ Administrations	Open	ATM/SG/11 report 7.52
11/16	Provide State Letters for: SVLRC SWG face-to-face meeting; FF-ICE ad hoc group; and Data Analytics ad hoc group	13 Oct 2023 (SVLRC) 31 Nov 2023	ICAO, FF-ICE ad hoc group, Data Analytics ad hoc group (Singapore)	Open	ATM/SG/11 report 3.62, 5. 76 & 6.67

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