INTERNATIONAL CIVIL AVIATION ORGANIZATION

FINAL REPORT

THE NINTH MEETING OF THE AERODROME OPERATIONS AND PLANNING SUB-GROUP (AOP/SG/9)

BANGKOK, THAILAND, 30 JUNE TO 4 JULY 2025

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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INTRODUCTION

1. Meeting

1.1 The Ninth Meeting of the Aerodrome Operations and Planning Sub-Group (AOP/SG/9) was held in Bangkok, Thailand from 30 June to 4 July 2025.

2. Attendance

2.1 114 participants from 20 Member States, 1 Special Administrative Regions and 3 International Organizations attended the meeting.

2.2 The List of Participants is placed at **Attachment 1** to the Report.

3. Opening of the meeting

3.1 Dr. Punya Raj Shakya, Regional Officer/AGA, ICAO Asia and Pacific Office welcomed the delegates to AOP/SG/9.

4. Election of Chairperson and Vice-Chairperson

4.1 The Secretariat informed the Meeting that AOP/SG/9 Meeting needs to elect new Chairperson and Vice-Chairperson of Sub-Group as Mr. Jaehong Jung decided to step back from Chairperson's post and Mr. Mahyuddin Bin Sajuri had already served for two terms of four years as Vice-Chairperson of the Sub-Group since 2017. Therefore, the Secretariat requested the Members of the Sub-Group to propose nominations for Chairperson and Vice-Chairperson.

4.2 Ms. Aminath Shiznee, Senior Aerodrome Inspector of Maldives Civil Aviation Authority proposed a nomination of Mr. Darren Angelo, Manager Aerodromes Operations, Civil Aviation Safety Authority (CASA), Australia for the post of Sub-Group's Chairperson which was supported by Bhutan, India, Fiji, Lao PDR, Malaysia, Mongolia, New Zealand, Singapore, Philippines, Sri Lanka, Thailand and Vietnam. Similarly, for the post of Vice-Chairperson of the Sub-Group Mr. Ratu Maibulu Laliqavoka, Senior Aerodrome Inspector, Civil Aviation Authority of Fiji proposed a nomination of Mrs. Song Shaohua, Deputy Director General, Shanghai Safety Oversight Bureau of CAAC East China Regional Administration which was supported by Australia, Bhutan, Hong Kong, China, Lao PDR, Maldives, Malaysia, Mongolia, Pakistan, Philippines, Singapore and Thailand. As there were no other nominations for Chairperson and Vice-Chairperson, Mr. Darren Angelo from Australia and Mrs. Song Shaohua from China were unanimously elected as Chairperson and Vice-Chairperson of the AOP/SG for four-year term.

5. Officers and Secretariat

5.1 Mr. Darren Angelo and Mrs. Song Shaohua, the Chairperson elect and Vice-Chairperson elect of AOP Sub-Group presided over the Meeting and thanked the delegates for electing them as Chairperson and Vice-Chairperson of the Sub-Group for the four-year term and expressed appreciation for the tremendous support they received from Members of the Sub-Group.

5.2 Dr. Punya Raj Shakya, Regional Officer/AGA, ICAO Asia/Pacific Office, was the Secretary of the Meeting.

6. Language and Documentation

6.1 The working language of the meeting and all documentation was in English. There were 34 Working Papers, 12 Information Papers and 4 Presentations considered by the Meeting. The List of Papers is included at **Attachment 2** to this Report.

7. Draft Conclusions, Draft Decisions, Conclusions and Decisions of AOP/SG – Definition

7.1 The AOP/SG recorded its actions in the form of Draft Conclusions, Draft Decisions Conclusions and Decisions within the following definitions:

a) **Draft Conclusions** deal with matters that, according to APANPIRG Terms of Reference, require the attention of States, or action by the ICAO in accordance with established procedures;

b) **Draft Decisions** deal with the matters of concern only to APANPIRG and its contributory bodies; and

c) **Conclusions** of the AOP/SG deal with matters of a purely technical or operational nature, which APANPIRG had delegated authority to AOP/SG to act upon; and

d) **Decisions** of the AOP/SG relate solely to matters dealing with the internal working arrangements of the AOP/SG.

8. List of Draft Conclusions, Conclusions, Draft Decisions and Decisions

1) **Conclusion AOP/SG/9 – 1:** Workshop on Transposition of Annex 14 SARPs into National Aerodrome Standards

2) **Conclusion AOP/SG/9 – 2:** Clarification of Clause Interpretations in ICAO Annex 14 Volume I

3) **Conclusion AOP/SG/9 – 3:** Tolerance on marking of wind direction indicator's circular band, and runway and taxiway edge lights

4) **Conclusion AOP/SG/9 – 4:** Provision of Graphical Illustrations for the Placement of Signs in ICAO Design Manual (Doc 9157), Part 4 Visual Aids

5) **Conclusion AOP/SG/9 – 5:** Review of Switch-over time requirements for Outer Part (from 300 – 900 m) of the CAT II/III Approach Lighting System

6) **Conclusion AOP/SG/9 – 6:** Guidance on Transposition of Annex 14 SARPs into National Standards

7) **Draft Conclusion AOP/SG/9 – 7:** Runway Surface Condition Assessment – Adoption of Technology

8) **Conclusion AOP/SG/9 – 8:** Guideline for Runway Classification

9) **Conclusion AOP/SG/9 – 9:** ICAO Asia/Pacific Wildlife Hazard Management Workshop

10) **Draft Conclusion AOP/SG/9 – 10:** Acknowledgement of Wildlife Strike as one of the High-Risk Category of Occurrences (HRCs) for Asia and Pacific Regions

9. Terms of Reference of APANPIRG AOP/SG

9.1 The Terms of Reference of AOP/SG approved by APANPIRG/26 (Bangkok 7 to 10 September 2015) includes inter alia the following:

The Objectives of the AOP/SG are to:

1) ensure the continuous and coherent development of the AOP parts of the Asia/Pacific Regional Air Navigation Plan (APAC ANP) in a manner that is consistent with ICAO SARPs, the Global Air Navigation Plan and the Global Aviation Safety Plan;

2) facilitate the implementation of AOP services identified in the APAC ANP, Aviation System Block Upgrade (ASBU) priority modules and Asia/Pacific Seamless ATM Plan elements using the project management principles where appropriate;

3) review, identify and address deficiencies that impede the implementation or provision of efficient AOP services in the Asia and Pacific Regions.

Deliverables to meet the Objectives:

*1) Progress report to be **submitted** to APANPIRG addressing the AOP/SG deliverables (listed in 2-6 below);*

*2) AOP parts of the ASIA/PAC ANP to be **reviewed** and, as necessary, amendment proposals **prepared** to update the APAC ANP to reflect changes in the operational and global requirements;*

*3) Level of implementation of AOP service to be **monitored** and, as necessary, **facilitated** to support the effective implementation of ASBU priority modules and Asia/Pacific Seamless ATM Plan elements;*

*4) Air navigation deficiencies in the field of AOP to be **identified** and, where necessary, appropriate corrective action **proposed** and the development and implementation of action plans by States to resolve identified deficiencies **facilitated**;*

*5) Air navigation deficiencies in the field of AOP (as listed in the APANPIRG database) to be **reviewed** and, as necessary, **updated** to reflect the current situation;*

6) *AOP environmental initiatives are consistently identified and progressed; and report outcomes from AOP environmental initiatives;*

*7) Draft Conclusions and Decisions to be **formulated** relating to matters in the field of AOP that come within the scope of the APANPIRG work plan.*

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Agenda Item 1: Adoption of Provisional Agenda

1.1 The Provisional Agenda (WP/01) was adopted by the meeting without any amendment.

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Agenda Item 2: Review Outcome of Relevant Meetings

Action Items from 59th Conference of Directors General of Civil Aviation Asia and Pacific Regions (WP/02)

2.1 AOP/SG/9 reviewed all Actions Items of the Fifty-Ninth Conference of Directors General of Civil Aviation Asia and Pacific Regions (DGCA/59, 14 - 18 October 2024, Cebu, Philippines) and noted the following Action Items related to AOP matters:

1) Action Items 59/6 & 59/9 under Agenda Item 3: Aviation Safety;
2) Action Item 59/9 under Agenda Item 6: Economic Development of Air Transport;
3) Action Item 59/24 under Agenda Item 6: Economic Development of Air Transport;
4) Action Items 59/32 & 33 under Agenda Item 7: Aviation and Environment; and
5) Action Item 59/41 under Agenda Item 9 – Updates.

2.2 All materials including DPs, IP, Presentations and DGCA/59 Action Items were posted on ICAO APAC Website at https://www.icao.int/APAC/Pages/2024-DGCA-59.aspx.

2.3 AOP/SG/9 reminded States/Administrations to take necessary actions in accordance with 59th DGCA Conference Action Items.

2.4 AOP/SG/9 noted that Japan had already disseminated DGCA/60 invitation letter to 47 States, 15 International Organizations, ICAO High Level Officials and Directors and already created DGCA/60 Website (https://dgca60.mlit.go.jp/).

Relevant Outcomes of APANPIRG/35 (WP/03)

2.5 AOP/SG/9 noted two Conclusions adopted by APANPIRG/35 related to AOP field and the follow up actions taken by ICAO APAC Office on those Conclusions:

1) Conclusion APANPIRG/35/2: Regional Guidance for Design and Operations of Altiports; and

2) Conclusion APANPIRG/35/3: ICAO Asia-Pacific WHM Go-Team Assistance Mission Programme Document.

2.6 AOP/SG/9 also noted challenges identified in AOP field and priorities assigned for 2025 work programme.

2.7 AOP/SG/9 noted that the Workshop on Transposition of Annex 14 SARPs into National Aerodrome Standards was conducted on 17 February 2025 in Langkawi, Malaysia in conjunction with the Seventh Meeting of the Asia/Pacific Aerodrome Design and Operations Task Force. AOP/SG/9 further noted that "Asia/Pacific Workshop: Implementation of New ICAO Annex 14 Volume I SARPs on Obstacle Limitation Surfaces" would be conducted in ICAO APAC Office, Bangkok on 2 – 5 September 2025. For this purpose, the ICAO APAC Office had already circulated to States/Administration the State Letter Ref.: T 11/5.7 – AP074/25 (AGA) dated 6 June 2025 requesting to nominate participants to attend the workshop.

2.8 In response to the query on the possibility to attend the workshop online, the Secretariat informed the Meeting that the ICAO APAC Office would positively consider it and informed the States to send nomination of the online participants as well.

2.9 ACI informed the Meeting that "ACI Asia Pacific & Middle East and airsight" would organize an exclusive ACI Safety Webinar on "OLS new requirements" for ACI members and associates; however, the ACI also invited States CAAs and aerodrome operators to join this webinar. The Webinar would be conducted on Wednesday, 9 July 2025 at 1500-1630hrs Hong Kong Time (UTC/GMT +8). Please use this LINK to register the Webinar which would be disseminated to AOP/SG Focal Person in due course.

Actions on AOP/SG/8 Conclusions and Decisions (WP/04)

2.10 AOP/SG/9 noted that the follow up actions taken by ICAO APAC Office on 4 Conclusions and 3 Decisions of AOP/SG/8 had been completed 100 %.

Relevant Outcomes of ATM/SG/12 and AAITF/20 (WP/05)

2.11 AOP/SG/9 noted the outcomes of the Twelfth Meeting of the Air Traffic Management Sub-Group of APANPIRG (ATM/SG/12) and related meetings, including the Twentieth Meeting of the ICAO Aeronautical Information Services (AIS) – Aeronautical Information Management (AIM) Implementation Task Force (AAITF/20), which addressed matters relevant to aerodrome operations. Notably, Subject Matter Experts (SMEs) from AOP/SG participated in the APAC Common SWIM Aeronautical Information Services Ad Hoc Group, contributing to the regional harmonisation of AIXM standards. These efforts were acknowledged as a key step toward developing a SWIM-compliant environment, and AOP/SG/9 recognised the importance of continued collaboration.

2.12 Following its establishment as per Decision AAITF/19-3, the Ad Hoc Group had held five meetings and recommended the use of AIXM 5.1.1 and dual message exchange patterns (Publish/Subscribe and Request/Reply). The Ad Hoc Group also reviewed and proposed initial sets of SWIM information services, including aerodrome, airspace, digital NOTAM, ATIS, and SAR, though the latter was marked for future consideration. These recommendations were submitted to SWIM TF/10 for alignment with ongoing regional developments, and the Ad Hoc Group 's Terms of Reference (TOR) were endorsed.

2.13 AOP/SG/9 agreed that, in order to facilitate more detailed discussions on the messages and questions raised by IFALPA, India, and others concerning aerodrome and runway conditions, it would be necessary the Subject Matter Experts (SMEs) from the AOP/SG to participate in this Ad Hoc Group. The ICAO Secretariat invited participation from AOP/SG in the Ad Hoc Group, and subsequently India and Japan expressed its intention to participate. Several other States (Malaysia, Singapore and Thailand) indicated that internal coordination would be undertaken, and they would subsequently inform the Secretariat of their decision regarding participation.

Outcomes of CNS SG/29 (WP/29)

2.14 AOP/SG/9 reviewed the outcomes of the Twenty-Ninth Meeting of the Communications, Navigation and Surveillance Sub-group (CNS SG/29), with particular attention given to the work undertaken by the Tenth Meeting of the System Wide Information Management Task Force (SWIM TF/10) on the development of the APAC Common SWIM Information Services. AOP/SG/9 noted the progress made in defining initial service categories and establishing a regional framework to support future SWIM implementation across the Asia Pacific Region.

2.15 AOP/SG/9 acknowledged the contributions made by various APANPIRG Contributory Bodies, including MET SG/28, FF-ICE/2, MET/IE WG/23, and SURICG/10 in reviewing and updating initial set of APAC Common SWIM Information Services. It was also noted that the services lacking sufficient detail would be excluded from the initial version, with the intention to include them in future updates.

2.16 AOP/SG/9 noted that CNS SG/29 had endorsed the publication of the first version of the APAC Common SWIM Information Services (Appendix A to AOP/SG/9 – **WP/29**). AOP/SG/9 also noted that CNS SG/29 would submit the finalized list to APANPIRG/36 for formal adoption.

2.17 AOP/SG/9 invited States/Administration to continue reviewing operational requirements related to AOP field and communicate any updates to the ICAO Secretariat. AOP/SG/9 agreed to contribute its input for finalization of the APAC Common SWIM Aeronautical Information services related to AOP field through the APAC Common SWIM Aeronautical Information Services Ad Hoc Group.

Outcomes of COSCAP-SEA Steering Committee Meeting (WP/33)

2.18 The Chief Technical Advisor of COSCAP-SEA provided information on its 2025–2026 Annual Work Plan approved by the 22nd Steering Committee Meeting (SCM/22) of the COSCAP-SEA, held in Manila in June 2025 including its capacity-building activities through courses/ workshops and on-site support aligning with ICAO's USOAP-CMA, GASP, AP-RASP, and the Beijing/Delhi Ministerial Declaration.

2.19 The Annual Work Plan included several aerodrome-focused activities, such as a workshop on new SARPs for Obstacle Limitation Surfaces (OLS) in September 2025, a Wildlife Management Workshop in October 2025, a Ground Handling Workshop in October 2025, and an Aerodrome Certification Workshop in the first quarter of 2026.

2.20 In response to Pakistan's query regarding notification of courses/workshops, the Chief Technical Advisor clarified that Member States receive notifications via email to DGCA offices and focal points, while non-members would be informed through their respective COSCAP CTAs. Notifications would typically issue at least three months in advance, and upcoming activities would be posted on the ICAO APAC website under the 'Meetings' webpage.

RASG-APAC/14 Meeting Outcomes (IP/02)

2.21 IP/02 provided information about the outcomes of the Fourteenth Meeting of the RASG-APAC (Bangkok, Thailand, 28 - 29 November 2024) which had adopted 10 Decisions.

2.22 The Report of the RASG-APAC/14 and the 2024/2025 RASG-APAC Work Programme can be accessed through https://www.icao.int/APAC/Meetings/Pages/2023-RASG-APAC14.aspx.

Asia Pacific Ministerial Declaration on Civil Aviation (Delhi)(IP/07)

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

Report of the Twelfth PIRG and RASG Regional Coordination Meeting (IP/08)

2.24 IP/08 summarized the outcomes of the 12th coordination meeting between APANPIRG & RASG-APAC held on 27 November 2025 in the hybrid format.

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Agenda Item 3: Regional Reporting

Asia/Pacific Seamless ANS Plan Update (WP/06)

3.1 AOP/SG/9 noted that the Thirty-Fifth Meeting of APANPIRG (APANPIRG/35) adopted the Version 4.0 of the Asia/Pacific Seamless Air Navigation Services (ANS) Plan, reflecting the urgency to modernise ANS across the region. This plan sets priorities for the implementation of ASBU Blocks 0, 1, and 2. However, discrepancies in the priority designations of NAVS Block 0 elements were identified between Version 4.0 and the decisions of the CNS SG.

3.2 To resolve these discrepancies, the ICAO Secretariat raised the issue at the GBAS/SBAS Implementation Task Force (ITF/7) and CNS SG/29. GBAS/SBAS ITF/7 recommended maintaining Priority 2 for GBAS and SBAS due to limited availability in some States, while ABAS and Navigation Monitoring (MON) were upgraded to Priority 1 due to their broader applicability and criticality, particularly considering increasing concerns around GNSS interference. The ITF also proposed disaggregating the NAVS Block 0 elements into individual priorities rather than treating them as a single set.

3.3 Based on these outcomes, CNS SG/29 endorsed the revised prioritisation. The Secretariat agreed to reflect these changes in a corrigendum to the Asia/Pacific Seamless ANS Plan Version 4.0. The corrigendum would be submitted to APANPIRG/36 for endorsement and subsequently uploaded to the ICAO APAC Regional Office website. The Seamless ANS Reporting Tool would also be updated accordingly.

3.4 The Secretariat informed AOP/SG/9 that, as 2025 being an Assembly year and an update to the Global Air Navigation Plan (GANP) would be expected, updates to various regional documents, including the Seamless ANS Plan, would take place from 2026 onwards in alignment with the revised GANP.

3.5 AOP/SG/9 had no particular comments on the matter and agreed to the proposed amendments to the Seamless ANS Plan as presented by the Secretariat.

Asia/Pacific Air Navigation Plans (WP/07)

3.6 AOP/SG/9 noted the structure of the Asia/Pacific Air Navigation Plans and procedures for their amendments. There were three Volumes of Asia/Pacific ANP which could be accessed at https://www.icao.int/APAC/Pages/APAC-eANP.aspx.

Amendment of ANP Volume I, Table AOP I-1 and ANP Volume II, Table AOP II-1

3.7 A template of the Proposal for the Amendment to the APAC ANP Volume I and II could be accessed at https://www.icao.int/APAC/Pages/APAC-eANP.aspx.

3.8 AOP/SG/9 noted that **355** out of **384** aerodromes used for international operations in Asia and Pacific Regions had been listed in Asia/Pacific Region ANP Volume I as of 25 June 2024 (**286** in 2024).

3.9 **Appendix A1** to this Report provided the list of aerodromes yet to be registered in the APAC ANP by Asia Pacific States/Administrations.

3.10 AOP/SG/9 urged States to take note of *Conclusion APANPIRG/33/1* and initiate and send proposals to ICAO APAC Office for amendment to APAC ANP Volume I, Table AOP I-1 and ANP Volume II, Table AOP II-1, as necessary, particularly by States/Administrations identified in **Appendix A1** to the Report of AOP/SG/9.

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Agenda Item 4: Provision of AOP in the Asia/Pacific Region

Report on the Sixth Meeting of the Asia/Pacific Aerodrome Design and Operations Task Force (AP-ADO/TF/6) (WP/08)

4.1 AOP/SG/9 reviewed the Report of the Sixth Meeting of the Asia/Pacific Aerodrome Design and Operations Task Force (AP-ADO/TF/6, 18 - 21 February 2025, Aloft Hotel, Langkawi, Malaysia). The full report of the meeting was posted on the ICAO APAC Office website and could be accessed at: https://www.icao.int/APAC/Meetings/Pages/2025-Workshop-on-Transposition-of-Annex-14-SARPs-and-AP-ADO-TF-6-Meeting.aspx.

Outcomes of the Workshop on Transposition of Annex 14 SARPs into National Aerodrome Standards

4.2 The Workshop on Transposition of Annex 14 SARPs into National Aerodrome Standards was conducted on 17 February 2025 in Langkawi, Malaysia in conjunction with the AP-ADO/TF/9 Meeting.

4.3 AOP/SG/9 reviewed the following **9** key takeaways of the Workshop endorsed by AP-ADO/TF/6:

1) Global uniformity will facilitate and improve air navigation; and this uniformity is achieved by integrating the SARPs into the national legal framework and practices of the Contracting States and by implementing them in a timely manner for the safety, regularity and efficiency of air navigation worldwide.

2) Annex 14, Volume I contains minimum SARPs (specifications) for aerodrome design and operations.

3) States may have different procedures and processes for rule making, including the assessment of applicability taking into account different considerations. However, in transposing new or amended SARPs into the national regulations, the primary consideration should be given to safety.

4) Implementation of ICAO Annex 14 Recommendations is important in the interest of aviation safety.

5) The ultimate responsibility of ensuring aviation safety rests with States. Articles 37 and 38 mandate systematic management of differences. Through digital transformation, transitioning to Electronic Filling of Differences (EFOD) streamlines compliance processes, which supports harmonization and enhances aviation safety worldwide.

6) Engage key stakeholders (civil aviation authorities, airport operators, airlines, air navigation service providers, and industry representatives) from the outset. Involve/include/consult industry experts and professional bodies for technical input and adaptation. Consider institutionalizing or establishing governance bodies with appropriate stakeholders (e.g. Aviation Safety Advisory Panel and Technical Working Groups).

7) Explain the scope and impact of the new regulations (the potential operational, economic, and environmental impact of transposing Annex 14). Consider the use of online tools and establishing open channels (e.g., Consultation Hub/Online webinars) for feedback and regular updates.

8) In parallel, develop guidance materials to support buy-in, compliance, and timeliness of implementation. Organize workshops, seminars, and training for regulators, airport operators, and industry stakeholders.

9) Safety risk assessment is crucial for both states and airport operators to find practical solutions to address deviations without compromising safety.

4.4 AOP/SG/9 adopted the following Conclusion formulated by AP-ADO/TF/6:

<table>
<tr><td colspan="3">Conclusion AOP/SG/9 - 1 (Draft Conclusion AP-ADO/TF/6 – 1): Workshop on Transposition of Annex 14 SARPs into National Aerodrome Standards</td></tr>
<tr><td colspan="2">What: That, key takeaways of the Workshop on Transposition of Annex 14, Volume I, SARPs into National Aerodrome Standards be circulated to Asia/Pacific States/Administrations for information and published on the APAC Website at eDocuments Webpage.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: For transparency and to be noted by States/Administrations.</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
<tr><td>When: 4-Jul-25</td><td colspan="2">Status: Adopted by Subgroup</td></tr>
<tr><td colspan="3">Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ ICAO HQ ☐Other: XXXX</td></tr>
</table>

Obstacle Limitation Surfaces: Safety Oversight Program for Controlling Obstacle in the Vicinity of an Aerodrome

4.5 AP-ADO/TF/6 noted the concern raised by Malaysia regarding the need for further deliberation on Airport Service Manual (Doc 9137), Part 6, Control of Obstacle, clause 2.2.4, where it was identified that the ultimate responsibility for limitation and control of obstacles must, in practice, rest with the airport operator.

4.6 AOP/SG/9 noted that discussion was held at AP-ADO/TF/6 to ascertain whether the limitation and control of obstacles must rest with the airport operator as mentioned in the clause above, and whether this should include areas beyond the airport boundaries. For instance, the role of limitation and control of obstacles included actions that required the ability to give authorizations for development, whether it should be a government or privately owned project, and such impact should be under the purview of the State. Thus, in the matter of best practices, only obstacles within the airport boundaries should fully be the responsibility of the airport operator.

4.7 AP-ADO/TF/6 invited States/Administration to share their practice and experience on the surveillance of obstacles in the vicinity of an aerodrome, and any enforcement procedures.

Establishment of a Minimum Conspicuity Standard for Runway Markings in ICAO Annex 14, Volume I

4.8 AP-ADO/TF/6 noted the proposal submitted by Malaysia for the establishment of measurable conspicuity standards for aerodrome runway markings in ICAO Annex 14, Volume I to enhance safety and visibility. Malaysia also suggested introducing minimum retro-reflectivity thresholds — 100 mcd/m²/lx for runway markings (dry) and 70 mcd/m²/lx (wet), alongside coverage area requirements, ensuring that at least 50% of a marking's original visibility being maintained. These standards would provide objective evaluation criteria, enabling regulators and aerodrome operators to assess marking effectiveness consistently. Additionally, standardizing conspicuity requirements would

promote proactive maintenance strategies, encouraging timely repainting, cleaning, and material improvements to sustain visibility in varied operational conditions.

4.9 The proposed measurable standards aimed to enhance runway safety, reduce risks associated with low visibility operations, and mitigate potential runway incursions or navigational errors.

4.10 AOP/SG/9 noted that AP-ADO/TF/6 had agreed to form a small working group to be led by Malaysia and supported by India, Thailand, Vietnam and ACI to develop measurable conspicuity standards for runway and taxiway markings to provide aerodrome operators and regulators with clear, objective criteria for evaluating marking effectiveness and included in the AP-ADO/TF Task List as Task 6/1.

Clarification of Clause Interpretations in ICAO Annex 14 Volume I

4.11 AP-ADO/TF/6 discussed on ICAO Annex 14 Volume I Clause 5.2.2.6 regarding "Form and Proportions of Numbers and Letters for Runway Designation Marking" and Clauses 5.4.3.32 and 5.4.3.34 (c) regarding the term "location taxiway".

4.12 AP-ADO/TF/6 noted that the "Form and Proportions of Numbers and Letters for Runway Designation Marking" (Clause 5.2.2.6), which lacks clear guidance on gap dimensions for combinations of the number "1" with other numbers wider than 3.0 meters, as well as for combinations where the numbers are 3.0 meters or wider. AP-ADO/TF suggested ICAO provide visual guidance for both cases and standardize the gap dimension to 2.2 meters for the second case.

4.13 The second clause involves the term "location taxiway," used in clauses 5.4.3.32 and 5.4.3.34 (c). AP-ADO/TF/6 concluded that there was no ambiguity regarding the "location taxiway" as stated in Clause 5.4.3.32 of ICAO Annex 14 Volume I. However, ICAO HQs would investigate if any amendment would be required to provide more clarity on this clause.

4.14 AOP/SG/9 adopted the following Conclusion formulated by AP-ADO/TF/6:

<table>
<tr><td colspan="3">Conclusion AOP/SG/9 – 2 (Draft Conclusion AP-ADO/TF/6 – 2): Clarification of Clause Interpretations in ICAO Annex 14 Volume I</td></tr>
<tr><td colspan="2">What: That, AP-ADO/TF/6 – WP/08 be forwarded to ICAO Air Navigation Bureau for its review of specification 5.2.2.6 (Figure 5 -3) and consideration of the recommendation as proposed in the WP/08.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: To avoid confusion and provide clear guidance on gap between combination of any two numbers and number and letter as illustrated in Figure 5 – 3 of Annex 14, Volume I</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
<tr><td>When: 04 July 2025</td><td colspan="2">Status: Adopted by Subgroup</td></tr>
<tr><td colspan="3">Who: ☒Sub groups ☐APAC States ☒ICAO APAC RO ☒ICAO HQ ☐Other: XXXX</td></tr>
</table>

Tolerance in Aerodrome Physical Characteristics and Addressing Inconsistencies in ICAO Annex 14 Volume I

4.15 AP-ADO/TF/6 discussed on Malaysia's proposal to address the acceptable tolerances in the visual aids of aerodromes (Markings, Runway and Taxiway Edge Lights and Wind Direction Indicator's Circular Band), with the goal of enhancing operational efficiency without compromising safety or performance standards taking references from ICAO annex 14, Volume I SARPs, FAA and UK CAA Standards.

4.16 Key discussions and recommendations included:

1) Markings: AP-ADO/TF supported adopting a ±5% tolerance for runway and taxiway markings, referencing both the ICAO Aerodrome Design Manual Part 4 in comparison with FAA guidelines. This tolerance was recommended to improve safety, operational efficiency and regulatory compliance.

2) Aeronautical Ground Lights:

- Runway Edge Lights: Proposal for reviewing the permissible tolerance for runway edge light spacing to enhance operational safety taking into consideration of ICAO SARPs, with additional analysis based on the requirements outlined in CAA UK CAP168 Licensing of Aerodromes and FAA 150/5340-30J on Design and Installation Details for Airport Visual Aids. This analysis provided a comparative perspective on spacing and installation criteria for runway edge lights, for improving safety, particularly under low-visibility conditions.
- Taxiway Edge Lights: Similar to runway edge lights, it was recommended to conduct the further study on taxiway edge light spacing. FAA Advisory Circular 150/5340-30J specified the spacing for taxiway edge lights, which is determined based on the taxiway configuration to ensure better compliance with international standards.

3) Wind Direction Indicator's Circular Band: Malaysia suggested a ±5% tolerance for the circular band of wind direction indicators to maintain consistency and minimize disruptions caused by construction or maintenance activities.

4.17 AOP/SG/9 adopted the following Conclusion formulated by AP-ADO/TF/6:

<table>
<tr><td colspan="3">Conclusion AOP/SG/9 – 3 (Draft Conclusion AP-ADO/TF/6 – 3): Tolerance on marking of wind direction indicator's circular band, and runway and taxiway edge lights</td></tr>
<tr><td colspan="2">What: That, AP-ADO/TF/6 – WP/09 be forwarded to ICAO Air Navigation Bureau for its review and consideration of the tolerance in the design and implementation of the marking of wind direction indicator's circular band, and runway and taxiway edge lights.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: To ensure compliance with international standards, improve operational safety and optimize the effectiveness of lighting systems in guiding aircraft especially during low-visibility conditions.</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
<tr><td>When: 04 July 2025</td><td colspan="2">Status: Adopted by Subgroup</td></tr>
<tr><td colspan="3">Who: ☒Sub groups ☐APAC States ☒ICAO APAC RO ☒ICAO HQ ☐Other: XXXX</td></tr>
</table>

Potential Misinterpretation on the Terms "Defined Runway and Taxiway Pavement Edges to the Near Side of Sign"

4.18 AP-ADO/TF/6 discussed on the potential misinterpretation of the term "from the defined runway and taxiway pavement edges to the near side of sign" in ICAO Annex 14 Volume I, Table 5-5. The ambiguity in defining the reference point for sign placement has led to inconsistencies among airport designers, aerodrome operators, and regulatory bodies, potentially affecting safety and compliance.

4.19 AP-ADO/TF/6 discussed the implications of different interpretations, including challenges for pilots, safety risks, regulatory non-compliance, and additional costs for airports needing to relocate mispositioned signs. Case studies from Malaysian airports illustrated the impact of these inconsistencies.

4.20 To address this, Malaysia proposed that ICAO provide clearer guidance, including graphical illustrations, to ensure uniform understanding and compliance across airports. AP-ADO/TF/6 was invited to consider the issue and provide additional guidance.

4.21 AOP/SG/9 adopted the following Conclusion formulated by AP-ADO/TF/6:

<table>
<tr><td colspan="3">Conclusion AOP/SG/9 – 4 (Draft Conclusion AP-ADO/TF/6 – 4): Provision of Graphical Illustrations for the Placement of Signs in ICAO Design Manual (Doc 9157), Part 4 Visual Aids</td></tr>
<tr><td colspan="2">What: That, AP-ADO/TF/6 – WP/10 be forwarded to ICAO Air Navigation Bureau for inclusion of the Graphical illustrations of the placement of the signs in ICAO Design Manual (Doc 9157), Part 4 Visual Aids.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: To enhance clarity and support more consistent application of the requirement across the globe.</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
<tr><td>When: 04 July 2025</td><td colspan="2">Status: Adopted by Subgroup</td></tr>
<tr><td colspan="3">Who: ☒Sub groups ☐APAC States ☒ICAO APAC RO ☒ICAO HQ ☐Other: XXXX</td></tr>
</table>

Addressing Glare Issues from Solar Panels at Airport Terminal

4.22 AOP/SG/9 noted that AP-ADO/TF/6 had discussed the need to develop guidance materials specifically addressing glare risks from solar panels and encouraged States to share best practices and lessons learned from implementing solar panels at airports.

4.23 AOP/SG/9 also noted that AP-ADO/TF/6 had agreed to form a Small Working Group consisting of subject matter experts from Malaysia (Lead), India, Philippines and Sri Lanka to develop a regional guidance on the assessment and mitigation of glare and glint from solar panels installed at or in the vicinity of the aerodrome and included in AP-ADO/TF Task List as Task 6/2. It was also suggested to invite Singapore for their contribution to this task.

Significance of Frangibility Requirements for Navigational Aids on the Runway Strip and RESA

4.24 AP-ADO/TF/6 discussed the significance of frangibility requirements for navigational aids installed on runway strips and Runway End Safety Areas (RESA).

4.25 AP-ADO/TF/6 encouraged all certified and registered aerodromes to remove or correct the non-frangible hazards from the runway and taxiway strip and RESA.

4.26 AOP/SG/9 noted that AP-ADO/TF/6 had agreed to develop regional guidance to provide interrelationship between ICAO Annex 10 Volume I, ICAO Annex 14 volume I and Aerodrome Design Manual (DOC. 9157) Part 6 for visual and non-visual aids installation on runway and taxiway strips and RESA. This Task would be conducted by Nepal (Lead), Fiji (TBC), India and China.

4.27 AP-ADO/TF/6 noted Wellington International Airport GP and ILS Localizer huts were built underground due to the land constraints at the Airport.

Review Options of Standardizing the Approach Lighting Circuit Design against the Switch Over Time Requirements to Ensure the Operational Requirements are met with respect to Precision Approach Cat II/III Operations

4.28 AP-ADO/TF/6 discussed on the existing switch over time requirements for the approach lighting system for precision approach CAT II/III as per Annex 14, Volume I, Table 8-1. The present concern of dividing the approach lighting system into two parts as inner approach (first 300 m) and outer approach (from 300 – 900 m), while the interleaving circuits for the inner/outer approach areas combined controls the entire section. Hence, separate switchover times for the inner and outer approach was not practically possible was fundamentally agreed by the Task Force Meeting.

4.29 AP-ADO/TF discussed two options to review and take the action appropriately.

4.30 As in general, the airport usually operates in CAT I and CAT II/III conditions. With this option, even in CAT I conditions the switch-over time would be one second. Even in CAT II/III operations, the entire approach lighting system would be with one second switch over time, opting a better situation in terms of safety of the operations. Option 1 of providing switch over time for entire approach lighting system was supported by Nepal considering the technical difficulties to achieve separate switchover times for the inner and outer parts of the approach lighting system.

4.31 Option 2 of providing separate circuits for other parts of approach lighting system from 300 – 900 m to meet the existing ICAO provisions was estimated to cost a huge amount and also not advisable owing to the technical aspects as these might lead to disturbance in the visual field.

4.32 AOP/SG/9 adopted the following Conclusion formulated by AP-ADO/TF/6:

Conclusion AOP/SG/9 – 5 (Draft Conclusion AP-ADO/TF/6 – 5): Review of Switch-over time requirements for Outer Part (from 300 – 900 m) of the CAT II/III Approach Lighting System	
What: That, AP-ADO/TF/6 – WP/13 be forwarded to ICAO Air Navigation Bureau for review of switch-over time requirements for outer part (from 300 – 900 m) of the CAT II/III Approach Lighting System by Visual Aids Working Group.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical

Why: As separate switchover times for the inner and outer parts of the approach lighting system was not practically possible.	Follow-up: ☐ Required from States
When: 04 July 2025	Status: Adopted by Subgroup
Who: ☒Sub groups ☐APAC States ☒ICAO APAC RO ☒ICAO HQ ☐Other: XXXX	

Managing Safety Risks to a Live Aerodrome under a Mega Airfield Expansion Project: Experience from the Hong Kong International Airport Three-Runway System Project

4.33 AP-ADO/TF/6 noted the successful experiences of Hong Kong International Airport (HKIA) in ensuring safety at a live aerodrome during their mega airfield expansion project in transforming the airport from a Two-Runway System to a Three-Runway System.

4.34 AP-ADO/TF/6 also noted the efforts of Hong Kong, China in managing safety risks to the live operations of the HKIA throughout various stages of construction using a multi-pronged approach, which included physical segregation between operational and non-operational areas, provision of unambiguous visual aids, advanced operational planning, and close communication with stakeholders.

Addressing Aiming Point Marking Issues on a 30-Meter-Wide Runway

4.35 AP-ADO/TF/6 discussed the issue of overlapping of aiming point and runway side stripe markings on 30-meter-wide runways, which could create misleading visual cues for pilots during landings, especially in low visibility.

4.36 In order to mitigate/eliminate the risk associated, India proposed that the width and lateral spacing between the inner edges of the aiming point marking should be in accordance with the runway width and where a touchdown zone marking is provided, as it was done for runway threshold marking. Further it was mentioned that as per FAA AC No. 150/5540-1M the Aiming Point marking for a narrower runway i.e. (100 feet or 30.5m width), there is 0.9 m clearance on each side of the Aiming Point marking.

4.37 AP-ADO/TF/6 suggested India to conduct a survey with pilots operating at aerodromes with 30 m wide runways regarding any issues/difficulty they have faced in identifying aiming point marking during landing due to overlapping of these markings at 30 m wide runway and present the outcomes of the survey at the next Meeting of the Task Force in 2026.

4.38 The Secretariat expressed the need to examine if pilots could still see the 0.9 m gap, if provided, between the runway aiming point marking and runway side stripe marking from air while on final approach for landing. It was also discussed whether an addition to the Footnote of the Table 5-1 of Annex 14, Volume I with the text such as “The later spacing may be reduced at runways with 30 m width” would solve the issue after India would present the outcomes of the survey as per paragraph above.

The Use of Term “As Far as Practicable” in Annex 14 Volume I SARPs

4.39 AP-ADO/TF/6 discussed the challenges and risks posed by the phrase "as far as practicable" in ICAO Annex 14 Volume I. While intending to offer flexibility in implementing SARPs, the texts “as far as practicable" could create confusion that could result in inconsistent application and compliance.

4.40 The Secretariat informed the Meeting that historically the texts “as far as practicable and/or wherever practicable” were used in ICAO Annex 14, Volume I SARPs for flexibility in their implementation by States with aerodromes located/ or to be built in places with difficult topographical challenges (mountainous areas, close to sea, etc.) and should be used by States to interpret in good faith.

4.41 AOP/SG/9 noted that AP-ADO/TF/6 agreed to form a SWG consisting of SMEs from Nepal (Lead) supported by Australia, Malaysia, Welington International Airport (New Zealand) and Pakistan to develop a generic guidance for circumstances/situations where the phrase “as far as practicable and/or wherever practicable” would be needed for flexibility of the implementation of SARPs based on experiences and best practices of APAC States from different geographical regions and decided to add into the AP-ADO/TF Task List as Task 6/3.

Provision of Guidance Material for Assessing the Risk associated with the Non-Aeronautical Ground Lights within the Aerodrome and addressing the same appropriately

4.42 AP-ADO/TF/6 discussed on the practical approach towards reducing the risks associated with the non-aeronautical ground lights while understanding the glare concepts and different possibilities of glare. The Task Force also discussed the methods to reduce the common sources of glare or discomfort due to non-aeronautical ground lights.

4.43 As glare is variable dependent on several conditions, practical approach of identifying the risk index would be more appropriate. The risk assessment methodology of the glare was proposed and discussed for airports to try and revert for understanding the effectiveness and further refining the risk assessment process for the benefit of the airports.

4.44 Nepal, Australia and Pakistan also emphasized the necessity to addressing the risks associated with the non-aeronautical ground lights and expressed the need for guidance on this issue.

4.45 The Secretariat suggested India to further refine on the guidance on this issue and discuss it under Task 5/4 of AP-ADO/TF Task List within SWG consist of Republic of Korea (Lead) supported by India, Nepal and Thailand and present to SWG Meeting.

4.46 Australian Examples on “Zone requirements for lighting” provided by the CASA, Australia was sent to the SWG through the Secretariat for review and reference for developing the regional guidance.

Guidance Material on the Transposition of Annex 14 SARPs

4.47 AP-ADO/TF/6 reviewed the Draft Guidance on Transposition of ICAO Annex 14 SARPs into National Standards developed by the SWG led by Malaysia and supported by Australia, Thailand and ACI which aims to promote a risk-based approach for adapting Annex 14 SARPs and includes examples from several Asia/Pacific States on best practices.

4.48 The guidance document was structured into 17 Chapters and 1 Appendix covering general information, proposals for new SARPs, industry engagement, adoption of SARPs, regulatory development, and notification procedures. It was developed for reference to APAC States, and adaption with proper customisation, if they have yet to develop one for them.

4.49 AP-ADO/TF/6 endorsed the draft guidance material and recommended for submission to AOP/SG/9 for approval. APAC States and industry would be invited to provide feedback after its publication on ICAO APAC Website at e-Documents after approval by AOP/SG/9.

4.50 AOP/SG/9 agree to adopt the following Conclusion formulated by AP-ADO/TF/6:

<table>
<tr><td colspan="3">Conclusion AOP/SG/9 – 6 (Draft Conclusion AP-ADO/TF/6 – 6): Guidance on Transposition of Annex 14 SARPs into National Standards</td></tr>
<tr><td colspan="2">What: That,

a) the Guidance Material on Transposition of Annex 14 SARPs into National Standards (Appendix A2 to the Report of AOP/SG/9) be adopted and published on the ICAO APAC website; and

b) APAC States and industry be invited to provide feedback after its publication on ICAO APAC Website.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: For reference by APAC States/Administrations.</td><td colspan="2">Follow-up: ☒Required from States</td></tr>
<tr><td>When: 04 July 2025</td><td colspan="2">Status: Adopted by Subgroup</td></tr>
<tr><td colspan="3">Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other: XXXX</td></tr>
</table>

Asia Pacific Regional Guidance on Strength Assessment and Classification of Unpaved and Grassed Runway Surfaces

4.51 AP-ADO/TF/6 reviewed the draft "Asia/Pacific Guidance on Strength Assessment and Classification of Unpaved and Grassed Runway Surfaces" (Appendix C to the Report of the AP-ADO/TF/6) developed by Papua New (Lead) Guinea, Australia, New Zealand and Nepal under AP-ADO/TF Task List 5/5 and noted that the Final Draft of the Guidance Material would be expected to be completed by December 2025 and the SWG would present to the next Meeting of the Task Force.

Task List of AP-ADO/TF

4.52 AP-ADO/TF/6 reviewed and updated the task list as provided in Appendix D to the Report of the AP-ADO/TF/6.

USOAP-CMA AUDIT Experience Sharing by CAAC AGA Team

4.53 AP-ADO/TF/6 noted China's experience of 2024 USOAP-CMA audit conducted by ICAO and lessons learned. AP-ADO/TF/6 also noted that China achieved an EI score of 94.7% in AGA area. The overall EI score of the USOAP-CMA audit for China was 90.19%.

Report on the Seventh Meeting of Asia/Pacific Aerodrome Assistance Working Group (AP-AA/WG/7) (WP/09)

4.54 AOP/SG/9 reviewed the Report of the Seventh Meeting of the Asia/Pacific Aerodrome Assistance Working Group (AP-AA/WG/7, Bangkok, Thailand from 27 to 30 May 2025). The full report of the meeting was posted on the ICAO APAC Office website and could be accessed at https://www.icao.int/APAC/Meetings/Pages/2025-AP-AA-WG-7.aspx.

Rescue & Fire Fighting Requirements for Small Airports

4.55 AP-AA/WG/7 noted that Fiji has been facing the challenges in implementation of the Rescue and Fire Fighting Service (RFFS) requirements in line with the ICAO Annex 14 Standards and Recommended Practices (SARPs) mainly for its (11) domestic aerodromes serviced by Twin Otter (DHC 6) and BN-2 Islander aircraft (Aerodrome Category 1 and 2 for RFF) on Visual Meteorological Conditions (VMC) due to their low number of movements as most of these aerodromes having only one schedule flight a week.

4.56 The domestic aerodrome requirements in Fiji were based on the ICAO Annex 14, Volume I and enforced by the State's Civil Aviation Authority of Fiji through the Standard Documents – Aerodromes (SD-AD) applicable to all certified aerodromes. This posed a challenge to the 11 government domestic aerodromes administered by Fiji Airports in implementing the RFF requirements commensurate with the critical aircraft type.

4.57 While Fiji has been practicing partial implementation of rescue and firefighting services (RFFS) requirements for these Category 1 and 2 aerodromes, utilizing a tractor with a trailer loaded with portable fire extinguishers was considered as an acceptable means of compliance to replace a fully loaded RFFS vehicle.

4.58 Considering the Australia and New Zealand practices using risk based approach of not mandating Rescue and Firefighting Services for Aerodrome Category 1 - 2 aerodromes, Fiji recommended that a review of the RFFS requirements be considered for Aerodrome Category 1 – 2 with such a low movement, with an aim to strike a balance between flight safety and the economical sustainability of the aerodrome operator in providing this service.

4.59 Maldives supported the recommendation to form a small working group to further assess the requirement. The US, New Zealand (Wellington Airport), Solomon Islands and Philippines shared their interest to be part of the small working group. This task is added to the Task List of the AP-AA/WG.

The Challenges and Implemented Measures for the Certification of Military Aerodromes Used for Civilian Operations

4.60 AA-AP/WG/7 noted the challenges in certifying military aerodromes that were used for civil aviation in Malaysia due to differing regulatory standards between military and civil aviation, the absence of mandatory certification requirements for military aerodromes, complex and layered decision-making structures and restricted access to operational information due to confidentiality constraints. These factors collectively posed significant obstacles in aligning military aerodrome operations with international civil aviation requirements.

4.61 In response to these challenges, Malaysia implemented measures aimed at enhancing inter-agency coordination and regulatory compliance. These included the establishment of Memorandums of Understanding (MoUs) to define roles and responsibilities and the implementation of regular stakeholder engagements through mechanisms such as Runway Safety Team (RST) meetings. These efforts facilitated improved communication, expedited decision-making and strengthened the oversight framework.

4.62 AA-AP/WG/7 encouraged APAC States/ Administrations to share their respective best practices and experiences in engaging with military authorities, with the goal of promoting regional consistency and enhancing the safety of joint-use aerodromes.

Runway Surface Condition Reporting – Adoption of Technology

4.63 AP-AA/WG/7 noted the regulatory challenges faced by New Zealand in adopting technology solutions to assist in assessment of runway surface conditions as part of the GRF implementation.

4.64 In Annex 14 Volume I, within the definition for "Runway Surface Conditions" under Note 3 "WET runway" is defined as "A runway surface is covered by a visible dampness or water up to and including 3mm deep within the intended area of use." The definition had subsequently been adopted in a variety of stakeholder documents including acknowledgement within airline operating manuals.

4.65 Although technology solutions could provide an equal of better safety performance outcome in certain complex operational or environmental conditions, the definition of a "WET runway" currently, by inference, indicates that such runway condition assessments must be based upon "visual" observation which might not be able to be achieved practically or effectively in a timely manner for rain related events. Allowing States to consider technology solutions as an acceptable alternative means of compliance would assist in enhancing safety and providing greater opportunity for the adoption of GRF.

4.66 AP-AA/WG/7 noted that the automated system installed at Wellington International Airport provides measurement of the runway condition minute by minute relaying this information in GRF format directly to the control tower. This approach was supported by the stakeholders (airlines), however its practical use was restrained, as such condition reporting was not conducted visually and hence unable to be officially approved by the regulator given the present definition of WET.

4.67 AP/AA-WG/7 suggested gathering information about other APAC airports utilising automation to assist in the runway condition assessment process and that this be appraised at the upcoming AOP/SG/9 Meeting.

4.68 AOP/SG/9 endorsed the following Draft Conclusion formulated by AP-AA/WG/7 for further consideration by APANPIRG/36:

<table>
<tr><td colspan="3">Draft Conclusion AOP/SG/9 – 7 (Draft Conclusion AP-AA/WG/7 – 1) : Runway Surface Condition Assessment – Adoption of Technology</td></tr>
<tr><td colspan="2">What: Restricting assessment of runway surface conditions to visual means only, especially for DRY or WET conditions restricts the introduction of technology and automation to assist airport operators to meet the performance and safety outcomes desired. ICAO is requested to facilitate States to consider the use of technology and automation methods as an alternative acceptable means of compliance, to assist aerodrome operators in the assessment of runway surface conditions.</td><td>Expected impact:
☒ Political / Global
☐ Inter-regional
☒ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td colspan="2">Why: Technology and automation can equally meet the performance and safety outcomes desired in assessing runway surface conditions for reporting in global reporting format</td><td>Follow-up: ☐Required from States</td></tr>
<tr><td>When: 26-Nov-25</td><td colspan="2">Status: Draft to be adopted by APANPIRG</td></tr>
<tr><td colspan="3">Who: ☐Sub groups ☐APAC States ☐ICAO APAC RO ☒ICAO HQ ☐Other: XXXX</td></tr>
</table>

4.69 It was also discussed that the use of technology and automation methods as an alternative acceptable means of compliance for the assessment of runway surface conditions could possibly be mentioned in ICAO Circular 355 - Assessment, Measurement and Reporting of Runway Surface Conditions.

AP-AA/WG Task List

4.70 AOP/SG/9 noted that AP-AA/WG/7 had reviewed and updated the AP-AA/WG Task List, and 6 new tasks had been added to the list.

Practices, Experience and Challenges for the Safety Oversight of Ground Handling Services in Malaysia

4.71 AP-AA/WH/7 noted the challenges in implementing effective practices, gaining operational experience and strengthening the safety oversight of ground handling services in Malaysia. Despite the essential role that ground handling played in ensuring the safe, efficient and seamless functioning of air transport, Malaysia continued to face significant obstacles including a shortage of qualified personnel, lack of direct enforcement authority and difficulties in coordinating oversight efforts across multiple stakeholders.

4.72 To address those challenges, Malaysia advocated for comprehensive capacity-building initiatives, including targeted training programs aimed at enhancing the competency of Ground Handling Service Providers (GHSPs) and regulatory personnel. Fostering closer inter-agency collaboration to ensure consistent and effective enforcement of ground handling safety standards, Malaysia aimed to strengthen regulatory compliance and promoting a proactive safety culture to elevate the overall quality and reliability of ground handling operations.

Guideline for Runway Classification

4.73 AP-AA/WG/7 reviewed the guideline for runway classification developed and presented by Thailand using Annex 14, Volume I, other relevant Annexes and manuals. While Annex 14, Volume I defined non-instrument and instrument runways, the definitions being vague and interpreted differently by States — some classifying runways based on installed equipment, others on actual operational use. This inconsistency might lead to varied applications of aerodrome standards, affecting runway design elements such as runway strip dimensions, obstacle limitation surfaces (OLS), and visual aids. It might impact other Annexes including Annex 4 (Charts), Annex 6 (Aircraft Operations), Annex 10 (Aeronautical Telecommunications) and Annex 19 (Safety Management).

4.74 The draft "Guideline for Runway Classification" was thoroughly reviewed by the Experts from India, Pakistan and Thailand to incorporate any missing information and provide more clarity before incorporating it as Appendix G to the Final Report of AP-AA/WG/7. The standardized guideline would promote global harmonization, enhance safety, and ensure consistent application of Annex 14 Volume I provisions.

4.75 AOP/SG/9 adopted the following Conclusion formulated by AP-AA/WG/7:

<table>
<tr><th colspan="2">Conclusion AOP/SG/9 – 8 (Draft Conclusion AP-AA/WG/7 – 2): Guideline for Runway Classification</th></tr>
<tr><td>What: That, the Guideline for Runway Classification provided in Appendix B to the AOP/SG/9 Report be circulated to States/Administrations and published on the ICAO APAC eDocuments Webpage under AGA Heading.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: To address ambiguities and inconsistent interpretation of runway classification criteria in Annex 14 Volume I, and to promote global harmonization, enhanced safety, and consistent implementation of aerodrome design standards.</td><td>Follow-up: ☒Required from States</td></tr>
</table>

When: 4-Jul-25	Status: Adopted by Subgroup
Who: ☒Sub groups ☐APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:	

Report on the Seventh Meeting of the Asia/Pacific Wildlife Hazard Management Working Group (AP-WHM/WG/7) (WP/10)

4.76 AOP/SG/9 reviewed the Report of the Seventh Meeting of the Asia/Pacific Wildlife Hazard Management Working Group (AP-WHM/WG/7) held in Pokhara, Nepal from 7 to 9 May 2025. The full report of AP-WHM/WG/7 provided on ICAO APAC Office website at: https://www.icao.int/APAC/Meetings/Pages/2025-AP-WHM-WG-7.aspx.

Update from Fourteenth Air Navigation Conference (An-Conf/14) and Working Paper on Flight Safety and Wildlife Hazard Management

4.77 AP-WHM/WG/7 noted the key focus points of the AN-Conf - WP/54 which highlighted the proposal to task the existing Aerodrome Design and Operation Panel (ADOP) WHM Expert Group (EG) supplemented by additional expertise or formulate a new Task Force to develop a best-practice guide similar to ICAO Flight Safety and Volcanic Ash Manual (Doc 9974).

Outcomes of the ICAO Asia/Pacific Wildlife Hazard Management Workshop

4.78 ICAO Asia/Pacific Wildlife Hazard Management (WHM) Workshop was conducted on 5 – 6 May 2025 in Pokaha, Nepal.

4.79 AP-WHM/WG/7 reviewed the key takeaways of the workshop presented by AAWHG and prepared jointly by the Moderators and Speakers of the Workshop as follows:

1) Governance and oversight frameworks at State level should facilitate a practical/workable and relevant WHM programme, across all aviation disciplines (aerodromes, aircraft operations, Air Navigation Services (ANS)).

2) Understanding of the ecology of the hazard (wildlife) allows consideration and implementation of preventive and escalation/reactive controls.

3) Knowledge of the extent of the threat posed by the hazard of wildlife is critical to enable the key risk stakeholders (aircraft operators) to make key risk-informed decisions and allow the support/enabling elements such as airports and ANSPs to minimise the extent of the threat, manage the residual exposure and accurately communicate systemically.

4) Wildlife hazards and the associated risks, whilst unique in being biologically based are but one of the numerous such risks in aviation (such as meteorology and volcanic ash, as examples), hence consistent and replicable consideration as per Annex 19 is essential.

5) Stakeholder engagement and communication including foundational knowledge of the hazard/threat/risk including training and competency is essential. This includes off-airport/non-aviation parties such as land-use planners, local authorities, adjacent communities.

6) The nature of wildlife hazards is dynamic and evolving hence foundational knowledge of the subject appropriate for the particular stakeholder (i.e. an aerodrome wildlife control unit versus a pilot versus an ATC versus management) is essential.

7) The establishment of a relevant scaled (size and complexity) WHM programme and associated documentation (plan) is necessary. The programme and associated plan must reflect the reality of what takes place at the aerodrome and must be kept 'living' (subject to assurance and continuous improvement).

8) Data including proactive (surveys) and reactive (strikes) in a format that is actionable and accessible to the widest stakeholder cross-section is necessary.

4.80 AOP/SG/9 adopted the following Conclusion formulated by AP-AA/WG/7:

Conclusion AOP/SG/9 – 9 (Draft Conclusion AP-WHM/WG/7 – 1): ICAO Asia/Pacific Wildlife Hazard Management Workshop	
What: That, key takeaways of the ICAO Asia/Pacific Wildlife Hazard Management Workshop be circulated to Asia/Pacific States/Administrations for information and consideration and published on the ICAO APAC Website eDocuments Webpage.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: For harmonised and more effective mitigation of wildlife hazards by States/Administrations.	Follow-up: ☒Required from States
When: 4-Jul-25	Status: Adopted by Subgroup
Who: ☒ Sub groups ☒ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other: XXXX	

Progress of the ICAO Bird Strike Information System (IBIS)

4.81 AP-WHM/WG/7 noted the progress of the ICAO Bird Strike Information System (IBIS), with two initiatives proposed to ICAO in 2000: updating the IBIS manual (Doc 9332) which had not been revised in over 30 years and enhancing international data access and sharing. The goal was to improve global aviation safety by enhancing member State reporting of wildlife/aircraft strike incidents and improving pathways to that data. The job card ADOP.015.03 was formalized in 2021, with a deadline extended to Q4 2023 due to COVID-19. The Wildlife Hazard Management Expert Group (WHMEG) had focused on aiding member States with strike report submissions and data collection, analysis, and utilization.

4.82 Since 2022, ICAO initiated improvements in IBIS database management, including updating the IBIS Focal Points list and developing a new Excel Template (based on ECCAIRS format) for standardized data collection. These efforts have resulted in improved data quality and reduced processing time and increased total number of reports.

4.83 AP-WHM/WG/7 also noted that five new chapters were developed for the new IBIS Manual, providing comprehensive guidance for member States on strike report collection, data management, quality control, and analysis. The new IBIS Manual was planned to be published in Q2 2025.

4.84 AP-WHM/WG/7 noted that the deadlines for the completion of the second initiative to enhance international data access was Q4 2024 with the target for implementation in Q4 2025.

Regional Standardised WHM Capacity Building Initiatives for Improved Aviation Safety

4.85 AP-WHM/WG/7 agreed to develop a standardised Wildlife Hazard Management (WHM) workshop programme aligned with ICAO Annex 14, Volume I, which would be delivered by WHM Experts during ICAO APAC WHM Go-Team missions. The workshop would address key knowledge gaps in ecology, habitat management, risk assessment, and technology, building capacity among regulators, aerodrome staff, airlines, and ANSPs. By ensuring consistent and effective WHM practices across the region, the programme would directly support ICAO's safety and risk mitigation objectives.

4.86 This initiative was included in the Task List of the AP-WHM/WG as a new task to develop a standardized Workshop programme package by the Expert Group.

ICAO USOAP CMA and AGA Findings in WHM

4.87 AP-WHM/WG/7 had noted APAC average WHM EI in AGA area was 56.57 % as compared to the global average of 63.25% as of April 2025.

4.88 AP-WHM/WG/7 had encouraged APAC States/Administrations with EI less than 80% in WHM related PQs to put more resources and efforts to improve EI to meet the 75% of GASP target; and to approach respective COSCAPs, PASO or ICAO APAC Office, if State(s) require assistance in WHM.

Wildlife Strike – A Safety Concern

4.89 AP-WHM/WG/7 noted that India, Indonesia, Nepal and Philippines have identified wildlife Strike as one of the National High-Risk Category of Occurrences (N-HRCs) in their respective National Aviation Safety Plan (NASP) due to the significant risk posed by the presence of wildlife in and around the aerodromes.

4.90 ICAO Bird Strike Information System (IBIS) wildlife strike analysis report for the year 2016-2021, indicates a significant increase in the wildlife strike reports in the APAC region as compared to the report received in the year 2008-2015.

4.91 Based on the analysis of the wildlife strike data of Asia and Pacific States, wildlife strikes may be included as other Regional HRCs (R-HRCs) in the Asia-Pacific Regional Aviation Safety Plan, so that a risk-based approach could be adopted in managing safety at the regional-level through collaboration between regional aviation stakeholders in a coordinated manner. Additionally, AP-WHM/WG/7 acknowledged the need to elevate the issue to the appropriate level and to facilitate the sharing of information and best practices among the Asia Pacific Region.

4.92 AOP/SG/9 endorsed the following Draft Conclusion formulated by AP-WHM/WG/7 for further consideration by APANPIRG/36 and coordination with RASG-APAC:

Draft Conclusion AOP/SG/9 – 10 (Draft Conclusion AP-WHM/WG/7 – 2): Acknowledgement of Wildlife Strike as one of the High-Risk Category of Occurrences (HRCs) for Asia and Pacific Regions

What: Acknowledging that wildlife strike is a widespread concern affecting States in the Asia Pacific region, and some States in Asia Pacific Region have already identified wildlife Strike as one of the National High-Risk Category of Occurrences (N-HRCs) in their National Aviation Safety Plan (NASP): a) Wildlife Strikes should be considered to identify as one of the Regional HRCs (R-HRCs) in the Asia-Pacific Regional Aviation Safety Plan; and b) take up the concern of wildlife strike to the appropriate forum of ICAO for seeking additional Safety Enhancement Initiatives as mitigation measures for all APAC States/Administrations.	Expected impact: ☒ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: For harmonised application and enhancing safety at or in the vicinity of aerodromes.	Follow-up: ☒Required from States
When: 26-Nov-25	Status: Draft to be adopted by PIRG
Who: ☒ Sub groups ☒ APAC States ☒ ICAO APAC RO ☒ ICAO HQ ☐ Other: XXXX	

Task List of AP-WHM/WG

4.93 AOP/SG/9 noted that AP-WHM/WG/7 had identified seven new tasks to be carried out and delivered by the WHM Expert Group from States and International Organizations in coming years.

Certification of Aerodromes in the Asia/Pacific Region (WP/11)

Status on Certification of Aerodromes in Asia Pacific States

4.94 AOP/SG/9 noted that out of **384** aerodromes used for international operations in Asia and Pacific Regions **353** aerodromes have been certified as of 27 June 2025 corresponding to **91.93 %** progress.

4.95 The status of certified aerodromes used for international operations ("int'l aerodromes") in different Sub Regions of Asia/Pacific Region is illustrated in the Table 1 below:

Aerodromes	**North Asia (5 States & 2 SARs)**	**South East Asia (11 States)**	**South Asia (8 States)**	**Pacific (15 States & 8 OTs)**
Total Number of Int'l Aerodromes **[384]**	146	96	74	68
Number of Certified Int'l Aerodromes **[353]**	143	89	61	60

Aerodromes	North Asia (5 States & 2 SARs)	South East Asia (11 States)	South Asia (8 States)	Pacific (15 States & 8 OTs)
Number of Int'l Aerodromes yet to be certified [31]	**3**	**7**	**13**	**8**
States with Int'l Aerodromes yet to be certified (number and percentage of aerodromes yet to be certified) **[12 States, 31 Aerodromes, 8.07%]**	1) China (3, 3%)	1) Brunei Darussalam (1, **100%**), 2) Lao PDR (3, **75%**) 3) Malaysia (1, **5%**) 4) Thailand (1, **10%**), 5) Timor-Leste (1, **50%**)	1) Afghanistan (4, **100%**) 2) India **(9, 21%)**	1) Kiribati (2, **100%**) 2) Micronesia (Federal States of) (4, **100%**), 3) Nauru (1, **100%**), 4) Tuvalu (1, **100%**)

Table 1 – Status of certified aerodromes used for international operations in Sub Regions of Asia/Pacific Region

4.96 The list of aerodromes used for international operations in Asia/Pacific Region which are yet to be certified is in **Appendix C**.

Publication of the Status of Certification of Aerodromes in AIP

4.97 States / Administrations that have yet to publish the status of certification of aerodromes in AIP AD 1.5 are provided in Table 2.

States	North Asia (5 States & 2 SARs)	South East Asia (11 States)	South Asia (8 States)	Pacific (15 States & 8 OTs)
Status of Certification of aerodromes not listed in AD 1.5/ or AD 1.5 missing in AIP	--	1) Brunei Darussalam	1) Afghanistan	1) Kiribati 2) Nauru 3) Tuvalu 4) Marshall Is. 5) Micronesia (Federated States of) 6) Palau
Total (8 States)	**0 State**	**1 State**	**1 State**	**6 States / OTs**

Table 2 – Status of AIP AD 1.5 in Sub Regions of Asia/Pacific Region

4.98 The following States published the status of the Certification of Aerodromes in other Section of AD in AIP as below:

1) Solomon Islands - AD 1.1, 1.1.5
2) US Territories (American Samoa, Guam and Norther Mariana Islands) – AD 2.6.

4.99 *Asia Pacific Regional Guidance on Aeronautical Information Publication – AD 1.5 Status of Certification of Aerodromes* approved by AOP/SG/4 (Video Teleconference, 10 – 13 November 2020) and published by ICAO Asia and Pacific Office, Bangkok on ICAO APAC Website eDocuments under AGA heading (https://www.icao.int/APAC/Pages/eDocs.aspx) may be referred by States/Administrations for this purpose.

4.100 AOP/SG/9 urged States to provide periodic updates on the progress of the certification of aerodromes as well as the publication of the status of the certification in AIP AD 1.5 to the ICAO APAC Office.

4.101 States that had published the status of certification of aerodromes in other Sections of AD were encouraged to publish in AD 1.5 to align with the AIP template as recommended in Appendix 2 to PANS-AIM (Doc 10066).

Aerodrome Licensing for The Three-Runway System of The Hong Kong International Airport (WP/12)

4.102 Marking a significant milestone in the development of the Hong Kong International Airport (HKIA), the Three-Runway System (3RS) operations were commissioned on 28 November 2024, upon the issuance of the aerodrome licence covering the 3RS operations by the Civil Aviation Department of Hong Kong, China to the Airport Authority Hong Kong.

4.103 Hong Kong, China shared their experience and best practices in the aerodrome licensing process for the 3RS of the HKIA. This mega airfield expansion project involved the reconfiguration of runway and associated taxiway systems, which took place adjacent to live airfield areas of an operational airport. The existing aerodrome licensing regulatory framework of Hong Kong, China and its regulatory oversight on the aerodrome operations under the Interim Two-Runway System were also explained.

4.104 AOP/SG/9 recognized the efforts of the Civil Aviation Department of Hong Kong, China on the aerodrome licensing of the 3RS while maintaining the safe operations of the airport.

The New Decontamination and Rescue Facility at The Hong Kong International Airport (WP/13)

4.105 The Decontamination and Rescue Facility at the Hong Kong International Airport (HKIA) represents a significant advancement in Hong Kong's emergency response infrastructure. As part of the new Three-Runway System (3RS), this facility, launched in 2024, was the world's first decontamination facility located within an airport's restricted area, designed to effectively manage chemical, biological, radiological, and nuclear (CBRN) threats.

4.106 The paper highlighted the efforts of the Hong Kong Fire Services Department (HKFSD) in developing this cutting-edge facility and the sharing of professional training programs to enhance global readiness in the fields of ARFF and handling CBRN incidents.

4.107 AOP/SG/9 acknowledged the critical role of the HKFSD in bolstering emergency response capabilities at the HKIA, ensuring the airport's readiness to address CBRN threats while maintaining public safety and operational continuity.

ICAO USOAP CMA and AGA Findings (WP/14)

4.108 The USOAP CMA Activity Plan, which was issued as an Electronic Bulletin and posted on ICAO-NET twice a year, lists the scheduled USOAP CMA activities and can be accessed at ICAO secure portal (https://soa.icao.int/USOAPLibrary/Library.aspx).

4.109 Table 3 below provides details of the USOAP CMA Activities conducted/ or planned for APAC States (see EB 2025/2 dated 21 January 2025 - Attachment A) in 2025:

Dates (2025)	States			
	ICVM	Audit	Off-site validation	SSP Implementation Assessment
12 to 24 Mar 2025		Philippines [Postponed at the request of the State]	—	—
9 to 16 Apr 2025	Papua New Guinea [Completed]			
4 to 11 Jun 2025	Cambodia [Completed]		—	—
11 to 23 Jun 2025		Maldives [Completed]		
9 to 21 Jul 2025		New Zealand	—	—
27 Aug to 8 Sep 2025		Thailand		

Table 3: USOAP CMA activities conducted/planned in 2025 for APAC States

ICAO USOAP CMA results in AGA Area

4.110 The APAC Average AGA EI scores in all 8 Critical Elements derived from ICAO's iSTARS from 2017 to 2025 are shown in the Table 4.

	APAC average EI in AGA (in %)	Critical Elements (CEs) – AGA Area							
		CE-1	CE-2	CE-3	CE-4	CE-5	CE-6	CE-7	CE-8
June 2025 (AOP/SG/9)	***62.16*** *[Global Average **64.20**]* *168 (2017 PQs)→143 (2020 PQs)*	62.5 (1→2)	68.23 (28→21)	62.86 (7→ 7)	45.78 (7→ 7)	65.73 (20→14)	64.34 (64→ 51)	60.62 (31→ 32)	48.39 (10→9)
June 2024 (AOP/SG/8)	***60.73*** *[Global Average **63.06***	63.89	67.22	61.32	42.33	63.98	63.21	58.97	46.59
June 2023 (AOP/SG/7)	***61.20*** *[Global Average **62.43**]*	65.28	67.45	61.61	41.61	64.29	63.58	60.18	46.60
June 2022 (AOP/SG/6)	***60.97*** *[Global Average 63.37]*	72.22	71.53	61.61	40.88	67.46	64.28	57.14	45.69
June 2021 (AOP/SG/5)	***61.43*** *[Global Average 62.72]*	75.00	71.33	62.56	41.40	68.04	64.51	58.16	46.96
Oct. 2020 (AOP/SG/4)	*61.41* *[Global Average 62.65]*	75.00	68.64	64.44	42.73	58.61	63.26	58.11	38.42
June 2019 (AOP/SG/3)	*60.52* *[Global Average 61.59]*	75.68	66.80	62.13	42.30	58.14	63.87	58.87	39.77
June 2018 (AOP/SG/2)	*57.87* *[Global Average 59.5]*	68.57	65.78	55.71	38.18	49.60	60.45	53.01	~~51.13~~ [Error]
May 2017 (AOP/SG/1)	***56.29*** *[Global Average 57.99]*	68.57	63.3	53.65	33.17	51.9	59.78	55.2	39.44

Table 4: APAC Average AGA EI scores in all 8 Critical Elements
[Source: iSTARS 4.0 - PQ Tester]

4.111 The list of APAC States with EIs in AGA area is provided in **Appendix D** to the Report of AOP/SG/9.

4.112 AOP/SG/9 noted as below:

1) 18 APAC States having their EI in AGA area less than 60%;

2) 4 APAC States having their EI in AGA area more than 60% to less than 75%; and

3) 17 States have their EI in AGA area more than or equal to 75%

4.113 AOP/SG/9 urged 22 States with EI less than 75% to put more resources and efforts to enhance their EI and meet the 75% Global Aviation Safety Plan (GASP) 2023-2025 (Doc 10004) target and encouraged States to approach respective COSCAPs, Pacific Aviation Safety Office (PASO) or ICAO APAC Office if they require assistance in their preparation for USOAP CMA activity.

4.114 AOP/SG/9 also encouraged States to attend the ICAO USOAP CMA Workshop which would be conducted for Asia and Pacific States from 11 to 13 Nov 2025 in Bangkok, Thailand.

4.115 AOP/SG/9 reminded States to take following action on USOAP CMA On-line Framework (OLF):

1) continuous update of the compliance checklist/EFOD and SAAQ;

2) submission of the Corrective Action Plans (CAPs) on the USOAP CMA OLF, and inform the ICAO Regional Office when complete and ready for review; and

3) implementation of the CAPs and complete the self-assessment of the PQs on the OLF, including uploading the evidence documents, to report the progress on the OLF, and inform the ICAO Regional Office when complete and ready for validation.

USOAP CMA Protocol Questions – 2024 EDITION (WP/15)

4.116 AOP/SG/9 noted that the 2024 Edition of the AGA Protocol includes 153 PQs, with eleven new PQs (8.901–8.941) added regarding SMS, one PQ (8.149) excluded due to similarity with PQ 8.148, and three PQs (8.147, 8.381, 8.387) revised for clarity. Additionally, two PQs (8.005, 8.113) were revised for clarity including instructions for auditors, and nine PQs had their references reviewed.

4.117 The 2024 Edition of the USOAP CMA PQs would be applicable for USOAP CMA activities starting from 1 July 2025.

4.118 The SMS and SSP-related PQs would have an undetermined status and would not affect the effective implementation (EI) scores of States, as reflected on the OLF, until they were audited. A dedicated EI score for SSP would be provided separately once this area has been audited.

Addressing Gaps between ICAO Annex 14 Volume I and STOLport Manual (DOC 9150) (WP/18)

4.119 Presented by Malaysia, the WP/18 examined the inconsistencies and lack of clarity between ICAO Annex 14, Volume I and the STOLport Manual (Doc 9150), particularly in relation to the definition, categorization, and design standards of STOLports affecting the planning, certification, and regulatory oversight of such facilities.

4.120 A key issue raised was the absence of a formal and consistent definition of STOLports in both Annex 14 and Doc 9150. The paper also sought a clarification on whether Code Number 2 and Code Letter C aerodromes could be classified as STOLports. Moreover, differences in design specifications between the two documents had led to uncertainty regarding the applicable standards.

4.121 Annex 14, Volume I explicitly stated that its provisions shall not apply to STOLports, noting that specific standards would be developed in the future.

4.122 Given that Doc 9150 provided only advisory guidance and open to interpretation, and with Annex 14 lacking dedicated SARPs for STOLports, the paper recommended that ICAO:

- Clearly define STOLports, including clarification on the applicability to Code 2/C aerodromes.
- Develop formal SARPs for STOLports under Annex 14, or
- Provide clear guidance on how to apply Annex 14 in conjunction with Doc 9150 to support consistent implementation across States.

4.123 India and New Zealand supported the AOP/SG/9-**WP/18** and as suggested by AOP/SG/9, Malaysia in coordination with India and New Zealand would prepare a joint paper for further deliberation and discussion at the Seventh Meeting of the Asia/Pacific Aerodrome Design and Operation Task Force in 2026.

Developing Aerodrome Personnel Competencies and Capacity Development Programmes in Malaysia (WP/19)

4.124 WP/19 discussed the importance of developing aerodrome personnel competencies in Malaysia, highlighting the proactive steps taken by Malaysia Airports Holdings Berhad (MAHB) through its training arm, Malaysia Airports Academy (MAA). Given the complex nature of aerodrome operations, the paper emphasized the need for competency-based training and continuous professional development, aligned with ICAO standards and national aviation regulations. MAA, with its five specialized schools covering aviation security, fire & rescue, engineering, operations, and management serves as a central platform to enhance workforce skills through over 600 training sessions annually, attracting participants both locally and from across the Asia-Pacific Region.

4.125 The paper further outlined MAA's structured approach to training, including the development of internal training modules tailored to specific job roles, guided by ICAO and CAAM frameworks. This ensured that aerodrome personnel remain adaptable, knowledgeable, and compliant with regulatory changes and technological advancements. In addition to standardized courses, MAA also offers customized programs to meet the unique needs of different organizations. The paper concluded by encouraging regional collaboration and knowledge-sharing with other APAC training institutions to build a stronger, more competent airport workforce across the region.

ICAO HQ Update on AGA Matters (IP/03)

4.126 IP/03 provided information related to aerodrome activities carried out recently in the Airport Operations and Infrastructure section, Air Navigation Bureau, ICAO Montreal.

Collaboration among ICAO and Other Safety Partners and Various Platforms for Assistance to States in AGA Area (IP/04)

4.127 IP/04 summarized the initiatives taken by ICAO to provide technical assistance to Asia Pacific States in AGA area through various platforms from 2015 to 2025.

Maldives' ICAO USOAP CMA Audit Experience - From Planning to Lessons Learned (IP/09)

4.128 Presented by Maldives, IP/09 provided a comprehensive overview of their structured and strategic preparations for the ICAO Universal Safety Oversight Audit Programme – Continuous Monitoring Approach (USOAP CMA), conducted from 11 to 23 June 2025.

4.129 The paper outlined key preparatory actions, including early planning, the formation of a dedicated national coordination team, technical assistance engagements with ICAO COSCAP-SA and EASA, and targeted capacity-building initiatives for inspectors, alongside audit awareness programs for stakeholders. Particular emphasis was placed on the effective handling of Protocol Questions (PQs), ensuring that each PQ was supported by legal references, documented procedures, inspector guidance materials, and evidence of actual implementation. Evidence management was a central focus, with documentation systematically uploaded to the ICAO Online Framework (OLF) in advance, demonstrating the benefits of early and well-organized evidence submission.

4.130 Key takeaways and focus areas from the industry visit were also shared, covering critical operational domains such as rescue and firefighting services, airport emergency planning, airfield ground lighting, wildlife hazard management, and physical runway inspections.

4.131 The paper highlighted the value of mock audits in identifying documentation gaps, enhancing team readiness, and building confidence well before the actual audit. It further emphasized the importance of regulatory alignment and continuous collaboration with aerodrome operators, which

proved essential in harmonizing expectations, improving audit responsiveness, and fostering a strong sense of shared accountability. The Maldives' experience offered valuable insights for other States preparing for ICAO audits, highlighting how early planning, inter-agency coordination, well-organized evidence management, and active industry engagement contribute to effective audit readiness.

Experience Sharing by Pakistan in Aerodrome Ground Aids (AGA) Area of ICAO USOAP CMA Full Scope Audit and ICAO Coordinated Validation Mission (ICVM) (IP/11)

4.132 Presented by Pakistan, IP/11 shared the experience in Aerodrome Ground Aids (AGA) Area of ICAO Universal Safety Oversight Audit Programme (USOAP) Continuous Monitoring Approach (CMA) during Full Scope Audit as well as ICAO Coordinated Validation Mission (ICVM). The IP/11 outlined various initiatives taken by Pakistan for review of AGA Area Protocol Questions (PQs) and highlighted Pakistan's approach towards planning, preparation and coordination of all ICAO USOAP CMA and ICVM related activities.

4.133 The paper also noted that Pakistan CAA fully utilized the review guidance provided with each PQ and the guidance outlined in the ICAO Doc 9735 to comprehend audit requirements and prepared CAPs based on the Critical Element of each PQ. The ICVM was conducted in Pakistan from 5 to 12 June 2024. After the ICVM overall Effective Implementation (EI) of Pakistan was 84.41 percent whereas EI of AGA area was 80.16 percent.

4.134 AOP/SG/9 appreciated and thank the Maldives and Pakistan for sharing their experience on audit preparation and lessons learned from the ICAO USOAP CMA Audits of their respective States.

Intersection Take-off Holding Position Indicator - Concept (PPT/03)

4.135 India shared the results of a study conducted at Kempegowda International Airport Bengaluru, India focusing on the development and implementation of an Intersection Take-Off Holding Indicator concept to enable aircraft to stop as close as possible to runway holding position on intersection taxiways without causing runway incursion.

4.136 The presentation proposed day/night guidance solutions to ensure safe alignment and clearance for departing aircraft during intersection take-offs leveraging the sidewise visibility from the cockpit. The parameters considered a Code 4F runway and taxiway, which the proposal could be scaled up for runways in other categories such as Code 4E etc.

4.137 AOP/SG/9 suggested India to prepare a working paper on this issue consulting with airlines pilots and present to the next meeting of the AP-ADO/TF for detailed discussion.

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Agenda Item 5: State's/Aerodrome Operator's update and best practices

Singapore's Collaborative Approach to Enhancing Runway Safety Through the Changi Airport Runway Safety Team (CRST) (WP/16)

5.1 Presented by Singapore, WP/16 shared on the importance of runway safety through collaboration and knowledge-sharing among stakeholders through the establishment of Runway Safety Teams (RSTs).

5.2 The Changi Runway Safety Team (CRST) exemplified this coordinated approach in mitigating risks and enhancing operational safety regarding runway operations. Using a structured and adaptive framework, the CRST addressed runway safety challenges through the Changi Runway Safety Action Plan (CRSAP). The CRST identified priority areas based on hazard assessments and data analysis drawn from the safety systems of participating stakeholders, enabling holistic and data-driven decision-making. Once these priority areas were identified, the CRST developed risk mitigation strategies and implemented initiatives under accountable leadership. This structured and transparent approach ensured that safety measures were not only well-intentioned but also effectively executed. By further incorporating global best practices such as the Global Action Plan for the Prevention of Runway Incursions (GAPPRI) into the CRSAP framework, the CRST reinforced the value of collective learning as a strategic tool for improving runway operations at Singapore Changi Airport.

5.3 Singapore also highlighted the importance of continuous improvements by regularly reviewing and updating the CRSAP to ensure its relevance. It employed tools such as the RST Set-Up Checklist to assess the programme for potential gaps and identify areas for improvement. This approach institutionalised learning and reinforced the robustness of the runway safety framework in addressing emerging runway safety challenges.

5.4 WP/16 encouraged member States to collaborate by sharing and exchanging their best practices and challenges encountered in their Runway Safety Programme.

Runway Safety and Runway Safety Team (WP/17)

5.5 The Secretariat presented WP/17 highlighting the ICAO requirements and guidance on establishment of the RST at aerodromes. The paper also discussed the benefits in availing ICAO Runway Safety Go-Team assistance by States and airports in the area of runway safety.

5.6 In response to State Letter Ref.: T 11/5.13.2 – AP111/24 (AGA) dated 3 September 2024 on the RST Questionnaire, the following **Eigh**t States had submitted the completed questionnaire to ICAO APAC Office:

1) Hong Kong, China;
2) Nepal;
3) New Zealand;
4) Pakistan;
5) Philippines;
6) Republic of Korea;
7) Singapore; and
8) Thailand.

5.7 AOP/SG/9 noted that out of **384** aerodromes used for international operations in Asia/Pacific Region, only **208** aerodromes established the RST (**Appendix E**).

5.8 AOP/SG/9 reminded States to response to the ICAO APAC State Letter Ref.: T 11/5.13.2 – AP111/24 (AGA) dated 3 September 2024 by revised deadline of **31 December 2025**.

5.9 China shared their experience and importance in the establishment of the RST and emphasized in the personnel training to enhance runway safety.

5.10 Australia shared its ongoing efforts in the development of national legislation to align with PANS-Aerodromes, and developed Runway Safety Team guidance - AC 139.C-22 v1.0 - Runway safety teams. Australia also shared its experiences with the National Runway Safety Group, monitoring local runway safety teams and managing strategic runway safety programs within Australia, and highlighted the benefits of Local Runway Safety Teams for works planning and management.

Practical Exploration of Integrated Construction and Operation Model in The New Airport Construction Project (WP/20)

5.11 Presented by China, WP/20 highlighted the potential risks and challenges of the new airport's transition and commissioning from the perspective of the airport operation unit. Taking Xiamen New Airport as an example, it introduced the practical exploration of the airport operation unit in the integrated construction and operation model.

5.12 WP/20 aimed to pay attention to the operational safety risks that new airports might bring and actively promoted the application of the delegation management model to ensure the safe operation of airports.

Airport Equipment Certification Management System in China (WP/21)

5.13 Presented by China, WP/21 shared airport equipment certification management system in China. China had established a strict standard certification and access system for airport equipment. WP/21 analyzed the potential safety impacts of various types of airport equipment, and challenges posed by technical development.

5.14 WP/21 emphasized an importance on the safety management of airport equipment, for ensuring the stable operation and the safety development of civil aviation airports in Asia-Pacific Region.

5.15 Pakistan supported the working paper and informed the AOP/SG that Ground Handling Service Providers (GHSPs) within the country are currently certified by Pakistan Airports Authority (Aerodrome Operator) under the Aerodrome Safety Management System (SMS) framework. However, to further strengthen the safety of ground operations at aerodromes, Pakistan is now working on mechanisms for direct regulatory oversight of GHSPs by the Pakistan Civil Aviation Authority (PCAA).

5.16 Australia highlighted the importance of additional controls on airport equipment and shared their efforts within Australia to work with ground handlers, airlines, airports (including airlines association) as part of the collaborative safety model.

Ground Handling Safety: End-of-Life Management for Ground Support Equipment (GSE) (WP/22)

5.17 Presented by Malaysia, WP/22 addressed critical elements and challenges in managing ground handling safety, specifically focusing on Ground Support Equipment (GSE) at Kuala Lumpur International Airport (KLIA). It highlighted the importance of proper GSE management due to aging equipment and the absence of a defined End-of-Life Vehicle (ELV) policy. The paper reviewed current practices, risks associated with aging GSE, lifespan considerations for safety and efficiency, and the necessity for collaborative efforts to improve ground handling safety through a strategic approach to GSE management.

5.18 KLIA faced significant challenges with its GSE, including 40% of motorized units being over 11 years old leading to environmental hazards, increased accident risks, operational inefficiencies, and escalating maintenance costs. In response, KLIA had implemented a robust end-of-life strategy focusing on comprehensive inspections, proactive maintenance, timely decommissioning, and environmentally responsible recycling. Short-term measures included a 24-hour GSE enforcement team, a penalty framework for non-compliance, cleaning charges for spills, and organized parking initiatives to enhance safety and compliance.

5.19 Long-term strategies involved workshops and engagement to foster collaboration, national policy development to formalize age limits for GSE, and a phased replacement plan prioritizing modern, eco- friendly equipment. A key initiative was the Electric Vehicle (EV) Masterplan, aiming for a sustainable transition to electric GSE with coordinated charging infrastructure and aligned operational policies.

5.20 WP/22 concluded by emphasizing a strategic balance of immediate actions and long-term planning, strong collaboration among stakeholders, and KLIA's vision to set a benchmark for GSE management across Malaysia, ensuring safety, efficiency, and sustainability.

5.21 ACI supported WP/21 and WP/22 and suggested any APAC States to present their papers to the next meeting of Asia/Pacific Regional Aviation Safety Team (APRAST) for awareness of SMS application in Ground Handling Services from aerodrome operation safety perspective incorporating best practices from other APAC States.

Implementation of Global Reporting Format (GRF) for Runway Surface Conditions in Malaysia (WP/23)

5.22 Malaysia shared its experiences in the implementation of the ICAO Global Reporting Format (GRF) for Runway Surface Conditions in Malaysian Airports. The implementation date effective on 4 November 2021, consisted of framework formation and stakeholders' engagement.

5.23 Via framework formation, Malaysia established internal readiness through briefings, gap analysis, SOP development, integration of the Runway Condition Assessment Matrix (RCAM), and formulating specialized training through Certified Runway Inspector Course. Malaysia enrolled stakeholder engagement through collaboration between the Civil Aviation Authority of Malaysia (CAAM), aerodrome operators, airlines, and Air Traffic Control (ATC) through workshops, simulations, and coordinated procedures.

5.24 By implementation of GRF, it led to improved runway safety and reporting efficiency, and alignment with ICAO and national standards.

Enhanced Global Reporting Format for Assessing and Reporting Runway Surface Conditions (GRF) (WP/24)

5.25 AOP/SG/9 noted that **18** States/Administrations from Asia and Pacific Regions (13 States/Administrations in 2024) published procedures for assessment and reporting of runway condition in AIP as of June 2025 as shown in Table 5-1 below:

No.	States/Administrations	Procedures for assessment and reporting of runway condition report 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** 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	China	√	AD 1.2, 2 Runway Surface Condition Assessment and Report (AIP, 22 Feb 2024)
4	Hong Kong SAR	√	AD 1.2, 2 Runway Surface Condition Assessment and Reporting, and Snow Plan (AIP, 20 Feb 2025)
5	India	√	AD 1.2, 2 Runway Surface Condition Assessment and Report (AIP, 22 Feb 2024)
6	Japan	√	AD 1.2, 2.1. SNOWTAM (AIP, 24 Feb. 2022)
7	Malaysia	√	AD 1.2, 3 Runway Surface Condition Assessment and Report (AIP, 31 Dec 2024)
8	Maldives	√	AD 1.2, 2. Snow Plan, 2.1 Runway Surface Condition Assessment and Reporting (AIP, 25 May. 2023)
9	Mongolia	√	AD 1.2, 3. Runway condition assessment and reporting (AIP, 14 Nov. 2024)
10	New Zealand	√	AD 1.2, 2. Snow Plan, 2.1 Runway Surface Condition Assessment and Reporting (AIP, 09 Feb. 2024)

No.	States/Administrations	Procedures for assessment and reporting of runway condition report in AIP	Section of AIP
11	Pakistan	√	AD 1.2.2 Assessment and Reporting of Runway Surface Condition/Snow Plan (AIP, 20 March 2025)
12	Philippines	√	AD 1.2, 2. Snow plan, 2.1 – 2.4 (AIP AD 1.2 dated 31 October 2024)
13	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)
14	Singapore	√	AD 1.1, 6 Runway Surface Condition Assessment and Reporting (AIP, 02 Dec. 2021)
15	Sri Lanka	√	AD 1.2, 2 Snow Plan, 2.1 Runway Surface Condition Assessment and Reporting, (AIP, 21 Mar. 2024)
16	Thailand	√	AD 1.2, 3. Runway Surface Condition Assessment and Reporting (AIP, 18 May 2023)
17	USA	√	ENR 1.1, 11. Runway Condition Reports (AIP, 16 July 2020)
18	Viet Nam	√	AD 1.2, 2. Runway Surface Condition Assessment and Reporting at the Airports of Viet Nam (AIP, 30 Nov. 2022)

Table 5-1: States/Administration that have published procedures for assessment and reporting of runway condition report in AIP

5.26 AOP/SG/9 encouraged States/Administrations that had yet to implement the methodology for assessment and reporting of runway condition to implement GRF at the earliest possible opportunity and publish the procedures for assessment and reporting of runway condition report in AIP under “AD 1.2, 2 Snow plan”.

Disabled Aircraft Removal (WP/28)

5.27 Presented by Japan, WP/28 discussed and introduced the importance of clarifying the roles of aircraft operators and airport operators in disabled aircraft removal plans and Japan's latest initiatives in this area with reference to concerning ICAO SARPs revision.

5.28 Japan introduced the review of its regulations conducted by a domestic study group meeting, which was attended by stakeholders including airport operators and aircraft operators. Based on the review in the study group, seven points of the domestic standards were revised, and guidance was prepared to strengthen the measures related to the removal of disabled aircraft. In this review, the domestic standard defines three categories of removal operations (Aircraft debugging, Aircraft

recovery, Aircraft salvage), the review of items to be included in airport operator's removal plan including removal work plans submitted by aircraft operators, and necessary items for airport operators to substitute removal work. In addition, several airports in Japan had sequentially deployed recovery tools and conducted training using actual aircraft.

5.29 The United States informed AOP/SG that the collaborative work by ICAO and ACI World is underway in updating Airport Services Manual (Doc 9137), Part 5 Removal of Disabled Aircraft acknowledged that the disabled aircraft recovery is complex, and the recovery kits are not available at every airport.

5.30 AOP/SG/9 also acknowledged the need of the periodic training on disabled aircraft removal.

5.31 Australia provided its reference to the guidance on Disabled Aircraft recovery: AC 139.C-20 v1.0 - Disabled aircraft removal

Implementation of New Pavement Rating System ACR-PCR at Certified Airports (IP/12)

5.32 Pakistan presented IP/12 detailing the implementation of the new pavement rating system, ACR-PCR, at certified aerodromes, which became applicable on 28 November 2024. During the transition period, Pakistan adopted the "using aircraft experience" method and accordingly updated relevant data in the Aeronautical Information Publication (AIP) – specifically sections AD 2.8 and 2.12 of all nineteen certified aerodromes.

5.33 IP/12 outlined the limitations associated with the "using aircraft experience" method and discussed the challenges encountered while transitioning from the previous ACN-PCN method to the ACR-PCR method. Additionally, to enhance the application of the new ACR-PCR methodology, the paper presented Pakistan's future plan to adopt the "technical evaluation" method.

5.34 At the request of the Secretariat, the US agreed to support a workshop on "Aerodrome Pavement Design and Evaluation incorporating ACR/PCR Method of Determining Pavement Strength" tentatively in February 2026 in ICAO APAC Office.

5.35 China would share their methodology of pavement design and evaluation including ACR/PCR Method at AOP/SG/10.

5.36 On the invitation of ICAO MID, ACI APAC & MID presented a compilation of best practices of ACR-PCR implementation shared at AOP/SG/8 meeting by China, Malaysia & Republic of Korea at the ICAO MID ASPIG/7 meeting. It was noted that the sharing was particularly impactful, as it not only addressed challenges and solutions relevant to the originating region but also provided valuable insights for States in MID region.

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Agenda Item 6: Air Navigation Deficiencies in AOP Field

Status of Air Navigation Deficiencies in AOP Field (WP/25)

6.1 The status of Air Navigation Deficiencies in the AOP field endorsed by APANPIRG/35 (Bangkok, Thailand, 25 to 27 November 2024) with updates provided by **Brunei Darussalam, Fiji, Lao PDR, Nauru, Nepal, Philippines, Samoa** and **Thailand** placed in **Appendix F** to the AOP/SG/9 Report.

Note:- Appendix F was updated with one new deficiency identified and proposed by Fiji with respect to RWY 02 CAT 1 Approach Lighting System (HIALS) at Nadi International Airport.

Resolution of Air Navigation Deficiency related to the Certification of Aerodromes used for International Operations and Publication of their Status in AIP AD 1.5

6.2 **Thailand** certified Surat Thani International Airport (VTSB) and issued the Aerodrome Certificate on 18 December 2024. **Malaysia** certified Labuan Airport on 1 March 2025. Diosdado Macapagal International Airport (**Philippines**) was provided with the permanent aerodrome certificate on 22 January 2025. As the deficiencies related to the certification of three aerodromes were resolved, AOP/SG/9 recommended for removal from the list of the Air Navigation Deficiencies in AOP field for consideration by APANPIRG/36. However, there were nil updates on the deficiencies related to the Publication of the Status of the Certification of Aerodromes in AIP. The status of the deficiencies remained the same as updated by APANPIRG/35.

6.3 The updated list of Air Navigation Deficiencies in the AOP field for submission to APANPIRG/36 for its consideration is provided in **Appendix F** to the AOP/SG/9 Report.

AOP Focal Points

6.4 For effective and efficient communications between States / Administrations and ICAO APAC Office on AOP matters, including but not limited to the resolution of Air Navigation Deficiencies in the AOP field, AOP/SG maintained contact details of AOP Focal Points. The list of AOP Focal Points provided in **Appendix G**.

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Agenda Item 7: Airport Environmental Initiatives

Climate Adaptation Guidance and Tools for Airports (WP/26)

7.1 WP/26 presented by Airports Council International (ACI) Asia-Pacific & Middle East, highlighted the increasing operational risks faced by airports from extreme weather events. It was emphasized that a clear global mandate exists for action, driven by the scientific consensus from the Intergovernmental Panel on Climate Change (IPCC) and the policy objectives of the COP28 Global Goal on Adaptation. The paper noted that this mandate was amplified by strong demand from member airports, with over 60% seeking technical support to enhance their climate resilience.

7.2 In response, ACI had launched the "Study on Climate Adaptation Approach for APAC & MID Airports," a comprehensive 18-month initiative to empower airports by developing a suite of complimentary, practical tools. The initiative was a significant collaborative effort, with 59 airport operators representing 223 airports already committed.

7.3 AOP/SG/9 noted the needs of climate resilience at airports and their surrounding ecosystems and invited States to encourage their airports to actively support and engage with the ACI Study and its complimentary tools to strengthen aviation preparedness and long-term resilience.

7.4 The Secretariat informed AOP/SG that ICAO's Committee on Aviation Environmental Protection (CAEP), Working Group 2 (WG/2) had developed guidance on Climate Risk Assessment, Adaptation, and Resilience for aviation organisations. This guidance outlined steps for conducting climate change risk assessments and adaptation planning, identified key vulnerabilities, and offered a menu of adaptation options for aviation stakeholders. It was intended for use by airports, aircraft operators, and air navigation service providers (ANSPs) globally, and could also be applied at the national level by States. The guidance was adaptable to diverse organisational and national contexts and available on the ICAO website since 2022 (https://www.icao.int/environmental-protection/Pages/Climate-Change-Climate-Risk-Assessment,-Adaptation-and-Resilience.aspx).

Airports Efforts for Net Zero Carbon Emission Goal (IP/05)

7.5 IP/05 presented by ACI Asia-Pacific & Middle East, provided an update on the tangible efforts of the region's airports towards the global net-zero carbon emission goal. The presentation framed the context of this work, noting the industry's responsibility and the widespread regional ambition, while identifying the "Action Gap" between high-level pledges and detailed implementation roadmaps.

7.6 To address this gap, ACI supported its members through a suite of key initiatives: the **Airport Carbon Accreditation** programme, which now had 115 accredited airports in the region; the **Net Zero Roadmap Programme**, which provided a hands-on plan for airports to decarbonize; and the **Green Airports Recognition** programme, which celebrated and shared best practices in sustainability.

7.7 AOP/SG/9 acknowledged that airports in the Asia-Pacific and Middle East regions had made significant and proactive contributions towards the global net-zero carbon emission goal.

7.8 AOP/SG discussed on the potential issue of solar glare from on-airport solar farm installations or in the vicinity of the airport, a topic highlighted in the Green Airports Recognition examples. ACI acknowledged this as an important operational and safety consideration, noting that glint and glare safety assessment is a standard part of the feasibility and planning process for such projects, with established mitigation strategies available. Several members provided examples of installation of the solar panels at or in the vicinity of the airport conducting appropriate risk assessment and mitigation measures, for example, putting antiglare coating on solar panels.

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Agenda Item 8: Airport Innovation Technology

The Intelligent and Sustainable Development Trends of Airport Planning and Design (WP/27)

8.1 China shared their active engagement in exploration and practice, widely adopting innovative approaches such as digital site selection, Building Information Modeling (BIM) technology, air-ground integrated design, remote air traffic control towers, "Zero-Carbon Airports", "Modification and Recycling of Waste Soil", and "Sponge City" design.

8.2 WP/27 advocated countries in the Asia-Pacific Region to focus on emerging trends in airport planning and design by sharing relevant case studies, analyzing the achieved outcomes, and addressing the encountered challenges. It further encouraged collaborative research efforts to advance the intelligent and sustainable development of airports across the Asia-Pacific.

Requirement of Passable Guidance Regarding Light-Emitting Diodes (LEDS) based Aeronautical Ground Lighting (AGL) System Installation and Maintenance in ICAO Documents (WP/34)

8.3 Pakistan presented WP/34 and indicated that most of the Greenfield and Brownfield airports were opting for LED AGL instead of conventional incandescent and tungsten halogen lights. The WP/34 also highlighted a few operational limitations of LEDs while used in AGL Systems and proposed publication of dedicated guidance on installation and maintenance of solid-state technology-based LED AGL systems in ICAO Design and Maintenance Documents for Visual Aids and Electrical Systems.

8.4 The WP/34 further highlighted that States, where Original Equipment Manufacturer (OEM) of compliant LED AGL fixtures not locally available, the Aerodrome Operators in such States must import the AGL fixtures / spares which may involve foreign exchange rate anomalies, extra duties/taxes and logistical expenditures, etc. thus, increasing per unit cost of AGL fixture/spare enormously. The WP/34 also noted LED being the future of AGL, the Global guidance is essential for safe, reliable, and cost-effective implementation.

8.5 AOP/SG/9 suggested Pakistan to present this paper at the next meeting of the AP-ADO/TF for detailed discussion.

The Application of FOD Detection Equipment on Airport Pavement (IP/06)

8.6 China had conducted a comprehensive analysis of the safety risks and operational challenges associated with FOD detection equipment. CAAC had developed targeted solutions and established standards and certification systems for FOD detection devices, which mitigated potential safety risks during equipment deployment ensuring the reliability and efficiency of these systems in practical applications.

Unified Total Airside Management (UTAM) at IGI Airport, Delhi (IP/10)

8.7 Unified Total Airside Management (UTAM) is an advanced digital platform developed by Delhi International Airport Limited (DIAL) under GMR Airports to streamline and optimize all airside operations. It integrated real-time data from multiple sources—including aircraft movements, Ground Service Equipment (GSE), and airside vehicles—to provide a centralized and dynamic view of ongoing operations. By continuously monitoring activities from touchdown through turnaround and take off, UTAM supports predictive analytics, operational decision-making and performance tracking

across all stakeholders, including airport operators, ground handlers airlines, and ATC. Its integration with APOC and Business Intelligence systems ensures timely alerts, improved situational awareness and rapid issue resolution.

8.8 UTAM's benefits extend beyond operational efficiency. It contributed to greater safety through speed and path compliance monitoring for GSE, enhances environmental sustainability by reducing delays and auxiliary power unit usage and aligns with international aviation standards such as those of ICAO and DGCA. Additionally, the platform supports Collaborative Decision-Making (CDM), optimizes gate and stand usage and ensures transparency across stakeholders. In essence, UTAM is not just a monitoring system—it is a strategic infrastructure backbone for modern, scalable, and sustainable airport operations.

Airport Resilience and Efficiency Through Digital Twin (PPT/04)

8.9 Presented by India, this paper advocated for the integration of **Digital Twin (DT)** technology in airport operations to enhance **resilience, efficiency, and safety** in the post-COVID era of rising air traffic.

8.10 Key points included:

- **Digital Twins**, when combined with **AI and block chain**, offer real-time simulation, predictive maintenance, operational optimization, and immersive training.
- DTs improve decision-making, **cyber security**, and enable risk-free scenario testing.
- Applications span **passenger flow, aircraft turnaround, runway usage, and ground operations**, with real-time monitoring and automated alerts.
- They also support **Collaborative Decision Making (CDM)** and **System-Wide Information Management (SWIM)** through centralized data lakes and dashboards.
- DTs offer **immersive training environments** and help simulate and mitigate **cyber threats** using real-world data and generative AI.

8.11 The paper requested for consideration to recognize DTs as critical to efficiency, safety, and training and suitable updates in relevant **SARPs** and manuals (Annexes 11, 14, 15, 19; Docs 9854, 10039) to support DT/AI integration to promote **secure**, **standardized, open data-sharing frameworks** and Upskill the workforce under the **NGAP initiative** to handle DTs and digital tools effectively.

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Agenda Item 9: Any other business

Asia Pacific Generic Guidance Materials and Custodian (WP/30)

9.1 The Secretariat presented a list of Generic Guidance Materials (GGMs) developed by various Working Groups and Task Forces of AOP/SG and published on the ICAO APAC Website under eDocuments as approved by AOP/SG and APANPIRG.

9.2 The paper also proposed to rearrange some of the GGMs developed by Small Working Groups and update the details of the custodians identified earlier by Working Groups and Task Force.

9.3 The updated list (Attachments A to C) is provided in **Appendix H** (Procedure for periodic review and update of the Asia/Pacific Generic Guidance Materials in the area of Aerodromes and Ground Aids) to the AOP/SG/9 Report.

Briefing – Capacity Development and Implementation Activities (PPT/01)

9.4 The Secretariat presented PPT/01 highlighting the ICAO's implementation support policy with a focus on effective implementation of ICAO policies, plans, SARPS and guidance materials by the member States. The presentation outlined on the portfolio of ICAO CDI Bureau ranging from project management, provision of expertise, aviation training and procurement.

9.5 The short-term ICAO solution covered training activities in aviation management, air navigation services, aerodrome, flight safety and safety management, aviation environment, aviation security, facilitation, air transport, training competency development and aviation law. The mid-term solution of CDI proposal was on implementation package (iPack) that offered solutions in the form of standardized bundle of implementation support composed of subject matter experts, guidance material, training and tools. The long-term solution to the aviation community as offered by the CDI was on aeronautical studies, planning, airport development, aerodrome ORAT and certification and provisioning of equipment.

9.6 The Secretariat invited member States and aviation community to reach out to the ICAO APAC Regional Office for any support in all areas of civil aviation for holistic solutions at an international standard.

Trainair Plus Programme (PPT/02)

9.7 The Secretariat presented an ICAO TRAINAIR PLUS Program (TPP) with its historic evolution. The PPT/02 explained the process of TPP membership and highlighted about the capacity development functions of TPP members. The PPT/02 also highlighted the benefits associated with ICAO TRAINAIR PLUS. The presentation also focused on the ICAO training catalogue with the following key highlights:

1) Continuous portfolio expansion through the TRAINAIR PLUS Programme (TPP) Network of Members;

2) Available portfolio of over 547 training packages catering to the needs of civil aviation training worldwide;

3) Covering 10 strategic training areas, and all ICAO languages supporting the implementation of ICAO SARPs.

4) ICAO training calendar with more than 700 sessions delivered every year.

5) Multiple formats: instructor led both in-person and virtual deliveries, self-paced online delivery.

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Agenda Item 10: AOP/SG Task List

APANPIRG AOP Sub-Group TOR & Task List (WP/31)

10.1 The meeting reviewed and updated the AOP/SG Task List presented by the Secretariat and placed at **Appendix I** to the AOP/SG/9 Report.

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Agenda Item 11: Provisional Agenda, Date and Venue for the Next Meeting

Provisional Agenda, Date and Venue of Next Meeting (WP/32)

11.1 AOP/SG/9 reviewed the draft agenda proposed by the Secretariat and agreed on the following Provisional Agenda for AOP/SG/10:

DRAFT PROVISIONAL AGENDA

Agenda Item 1:	Adoption of Provisional Agenda
Agenda Item 2:	Review Outcome of Relevant Meetings
Agenda Item 3:	Regional Reporting – Asia Pacific Air Navigation Plan – Asia Pacific Seamless ANS Plan
Agenda Item 4:	Provision of AOP in the Asia/Pacific Region – Reports of Working Group/Task Force Meetings – Planning, ~~&~~ Design, & Construction/Modernization of Aerodromes – Certification and Operations of Aerodromes – Capacity Development and Trainings – NGAP Initiatives in AGA Area
Agenda Item 5:	State's/Aerodrome Operator's update and best practices on: - ACR-PCR Method of Reporting Aerodrome Pavement Bearing Strength - Runway surface condition assessment and reporting - Runway safety programme including the establishment of runway safety team - Airport master plan - Safety management oversight of ground handling services - Implementation of SMS - Transition from the old to the new OLS system
Agenda Item 6:	Air Navigation Deficiencies in AOP field
Agenda Item 7:	Airport Environmental Initiatives
Agenda Item 8:	Airport Innovation and Technology
Agenda Item 9:	Any other business
Agenda Item 10:	AOP/SG TOR & Task List
Agenda Item 11:	Provisional Agenda, Date and Venue for the Next Meeting

11.2 The Tenth Meeting of the AOP/SG would be held in June/July 2026 with a duration of 5 days. The venue would be ICAO APAC Office, Bangkok. The State willing to host the Ninth Meeting of the AOP/SG may communicate to ICAO APAC Office.

Closing of the meeting

11.3 Mr. Darren Angelo, Chairperson of the AOP/SG, expressed his sincere gratitude to all members, observers, and attendees for their active and invaluable contributions to the meeting. Recognizing the significant time, travel, and resources required for participation, he kindly requested that appreciation from the AOP/SG be conveyed to the respective organizations of all participants. Mr. Angelo also extended his thanks to all speakers for their excellent papers, presentations, and insightful input throughout the meeting. He expressed appreciation to Airports of Thailand, with support from the Civil Aviation Authority of Thailand, for organizing the visit to Suvarnabhumi International Airport on Thursday, 3 July 2025. He also acknowledged "Super Terminal Expo" for sponsoring lunch, and CAAT/Bangkok Airways for providing coffee break catering. He once again thanked all AOP/SG members for electing him as Chairperson of the Sub-Group and expressed his honor in leading and facilitating its meetings over the next four years. Mr. Angelo also conveyed his appreciation to Vice Chairperson Mrs. Song Shaohua for her outstanding support during the meeting, and to the ICAO Secretariat, Dr. Punya Raj Shakya, Ms. Mantana (Program Assistant), as well as the IT, administrative, and other ICAO staff for their excellent support in facilitating the event.

11.4 Mrs. SONG Shaohua, Vice-Chairperson of the AOP Sub-Group, expressed her heartfelt appreciation to all member States for their outstanding contributions to AOP/SG/9. With professionalism and a pragmatic approach, the Sub-Group engaged in in-depth discussions, shared advanced technical expertise, exchanged innovative ideas, and demonstrated the collective wisdom, strong support, close collaboration, and sense of responsibility of the aviation community in the Asia-Pacific region. She also extended special thanks to Mr. Darren Angelo, Chairperson of AOP/SG/9; Dr. Punya Raj Shakya, representing the Secretariat; and the Chairpersons of AP-ADO/TF, AP-AA/WG, and AP-WHM/WG, for their exceptional contributions to the success of the Meeting.

11.5 Australia, China, India, Lao PDR, Malaysia, Pakistan, the Philippines, Sri Lanka, Viet Nam, the United States, and ACI expressed their sincere appreciation to Dr. Punya Raj Shakya for his invaluable contributions to the work of the AOP Sub-Group and its Contributory Bodies since the First AOP/SG Meeting in 2017. His continued technical assistance and guidance to Asia/Pacific States in the AGA domain have significantly enhanced States' safety oversight capabilities in aerodrome operations and improved the effective implementation of USOAP in the AGA area. As Dr. Shakya approaches retirement, the AOP/SG extended their best wishes for a fulfilling and well-deserved retirement.

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