INTERNATIONAL CIVIL AVIATION ORGANIZATION

FINAL REPORT

THE EIGHTH MEETING OF THE AERODROME OPERATIONS AND PLANNING SUB-GROUP (AOP/SG/8)

BANGKOK, THAILAND, 15 TO 19 JULY 2024

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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ATTACHMENTS TO THE REPORT

INTRODUCTION

1. Meeting

1.1 The Eighth Meeting of the Aerodrome Operations and Planning Sub-Group (AOP/SG/8) was held in Bangkok, Thailand from 15 to 19 July 2024.

2. Attendance

2.1 117 participants from 18 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 Mr. Tao Ma, Regional Director, ICAO Asia and Pacific Office welcomed the delegates to AOP/SG/8. The full text of his speech is placed at **Attachment 2** to the Report.

3.2 Mr. Jaehong Jung, Chairperson of AOP/SG welcomed the members and delivered his opening remarks.

4. Officers and Secretariat

4.1 Mr. Jaehong Jung, Chairperson of AOP/SG presided over the meeting. Dr. Punya Raj Shakya, Regional Officer/AGA, ICAO Asia and Pacific Office, was the Secretary of the Meeting and assisted by Mr. Witsarut Chinwipat, AGA Officer.

5. Language and Documentation

5.1 The working language of the meeting and all documentation was in English. There were 27 Working Papers, 20 Information Papers and 2 Presentation considered by the Meeting. The List of Papers is included at **Attachment 3** to this Report.

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

6.1 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.

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

<table>
<tr><td colspan="3">Conclusion AOP/SG/8-1 (Draft Conclusion AP-ADO/TF/5 – 1): Inconsistency Requirements in ICAO Annex 14 Volume I (Taxiway Centerline Marking, Threshold Marking, Taxiway Transverse Stripe, Pavement Edge Flushing, and Precision Approach Lighting)</td></tr>
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<tr><td>Why: States to establish clear standard and recommended practices (SARPs) on Taxiway Centerline Marking, Threshold Marking, Taxiway Transverse Stripe, Pavement Edge Flushing, and Precision Approach Lighting for enhancing safety and efficiency.</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
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<tr><td>Why: To protect the interest of the airports and the aviation regulator for ensuring the 4C’s compliance of the AGL system.</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
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Conclusion AOP/SG/8-3 (Draft Conclusion AP-ADO/TF/5 – 3): Review on the Requirement of the Runway Guard Lights Provision when Stop Bars are available and Recommendations on the Stop Bar Operation Sequence Timings	
What: That, ICAO Visual Aids Working Group is requested to review AP-ADO/TF/5 – **WP/09** (**Appendix D** to the Report of AOP/SG/8) for consideration of recommendations made in the AP-ADO/TF/5 – **WP/09** in Section 5.1 b) and c) regarding runway guard lights.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To enhance runway safety through operations of runway guard lights as part of effective runway incursion prevention measures in all visibility or weather conditions.	Follow-up: ☐Required from States
When: 19-Jul-24	Status: Adopted by Subgroup
Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☒ICAO HQ ☐Other: XXXX	

Draft Conclusion AOP/SG/8-4 (Draft Decision AP-ADO/TF/5 – 4): Regional Guidance for Design and Operations of Altiport	
What: That, Regional Guidance for Design and Operations of Altiport (**Appendix E** to the Report of AOP/SG/8) developed by AP-ADO/TF and endorsed by AOP/SG/8 be forwarded to Air Navigation Bureau.	Expected impact: ☒ Political / Global ☐ Inter-regional ☒ Economic ☐ Environmental ☒ Ops/Technical
Why: To submit the Draft Regional Guidance for review by the Ad hoc Working Group formed under Aerodrome Design and Operation Pannel (ADOP) to develop the Global Guidance on Design and Operations of Altiports.	Follow-up: ☐Required from States
When: 27-Nov-24	Status: To be adopted by PIRG
Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☒ICAO HQ ☐Other: XXXX	

Decision AOP/SG/8-5 (Draft Decision AP-AA/WG/6 – 1): Generic Aerodrome SMS Evaluation Tool and Guidance	
What: that, the Generic Aerodrome SMS Evaluation Tool (**Appendix F** to the Report of AOP/SG/8) be made available on the ICAO Asia/Pacific Regional Office Website for reference by States/Administrations.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To provide CAA inspectors and the aerodrome operators with a more comprehensive set of guidelines for the evaluation of Aerodrome Safety Management System.	Follow-up: ☐Required from States
When: 19-Jul-24	Status: Adopted by Subgroup
Who: ☒Sub groups ☐APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other: AP-AA/WG	

Conclusion AOP/SG/8-6 (Draft Conclusion AP-AA/WG/6 – 02): Framework for Monitoring the Establishment and Implementation of Runway Safey Team (RST) at aerodromes in APAC States	
What: That, the "Framework for Monitoring the Establishment and Implementation of Runway Safey Team (RST) at aerodromes in APAC States" provided in **Appendix G** to the Report of AOP/SG/8 be circulated to States/Administrations for their response. The Framework be also published on the ICAO APAC eDocuments Webpage under AGA Heading.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To gather the information from the States/Administrations on the establishment and operation of the RST at aerodromes.	Follow-up: ☒ Required from States
When: 19-Jul-24	Status: Adopted by Subgroup
Who: ☒ Sub groups ☒ APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other: AP-AA/WG/6	

Decision AOP/SG/8-7 (Draft Decision AP-AA/WG/6 – 3): Updated List of Asia/Pacific Generic Guidance Materials Developed by the AP-AA/WG with Details of the Custodians	
What: That, the ***Attachment A*** to the *Procedure for periodic review and update of the Asia/Pacific Generic Guidance Materials* (**Appendix H** to the Report of the AOP/SG/8) be published on the ICAO APAC Website at eDocuments Webpage under the AGA heading.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To incorporate in the list the ICAO Asia-Pacific Generic Aerodrome SMS Evaluation and Guidance and with updated details of the custodian of the GGMs.	Follow-up: ☐Required from States
When: 19-Jul-24	Status: Adopted by Subgroup
Who: ☒Sub groups ☐APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other: AP-AA/WG	

Draft Conclusion AOP/SG/8-8 (Draft Conclusion AP–WHM/WG/6–1): ICAO Asia-Pacific WHM Go-Team Assistance Mission Programme Document	
What: That • States with needs to enhance WHM be encouraged and invited to host WHM Go-Team Assistance Mission; • The ICAO Asia/Pacific WHM Go Team Assistance Mission Programme Document presented in **Appendix I** to the Report of AOP/SG/8 for consideration by APANPIRG/35; and • After approval by APANPIRG/35 the ICAO Asia/Pacific WHM Go Team Assistance Mission Programme Document be included as an Appendix to the ICAO Asia/Pacific WHM Go-Team Methodology and published on the ICAO APAC Website.	Expected impact: ☒ Political / Global ☐ Inter-regional ☒ Economic ☐ Environmental ☒ Ops/Technical
Why: To assist States in WHM	Follow-up: ☒Required from States
When: 27-Nov-24	Status: Draft to be adopted by PIRG
Who: ☒Sub groups ☒APAC States ☐ICAO APAC RO ☐ICAO HQ ☐Other: XXXX	

<table>
<tr><td colspan="3">Decision AOP/SG/8-9 (Draft Decision AP-WHM/WG/6 – 2): Updated List of Asia/Pacific Generic Guidance Materials Developed by the AP-WHM/WG with Details of the Custodians</td></tr>
<tr><td colspan="2">What: That, the Attachment B to the Procedure for periodic review and update of the Asia/Pacific Generic Guidance Materials (Appendix H to the Report of the AOP/SG/8) be published on the ICAO APAC Website at eDocuments Webpage under the AGA heading after adoption by APANPIRG/35 the ICAO Asia-Pacific Wildlife Hazard Management Go-Team Assistance Mission Programme Document.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: To incorporate in the list the ICAO Asia-Pacific Wildlife Hazard Management Go-Team Assistance Mission Programme Document with updated details of the custodian of the GGMs.</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
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</table>

8. Terms of Reference of APANPIRG AOP/SG

8.1 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 58th Conference of Directors General of Civil Aviation Asia and Pacific Regions (WP/02)

2.1 AOP/SG/8 reviewed all Actions Items of the Fifty-Eighth Conference of Directors General of Civil Aviation Asia and Pacific Regions (DGCA/58, 15 - 19 October 2023, Dhaka, Bangladesh) related to AOP matters.

Discussion Paper	Action Item	Description
Agenda Item 3: Aviation Safety		
DP/3/03	58/4	To ensure efficient and safe ground operations and prevent incidents and accidents, the Conference: a) Encouraged States/Administrations, International Organizations, Industries and Safety Partners to share their best practices, technologies, and procedures related to aircraft handling, apron management and ground support equipment for enhancing safety Standards; and b) Requested ICAO to continue assistance to the States/Administrations through Guidance Material, seminars, workshops, and training on Runway safety and Wildlife Hazard Management.
DP/3/19 DP/4/11	58/15	To facilitate the safe and efficient deployment of autonomous vehicles (AVs) at the airside, the Conference encouraged: a) States/Administrations to share the experience and information about AV trials and operations at the airside; and b) ICAO to consider the development of guidance materials and/or SARPs, as necessary.
DP/3/20	58/16	Noting the efforts in strengthening and supporting the safety management of ground handling in the region, the Conference encouraged States/Administrations and industry stakeholders to share their activities and challenges in the safety management of ground handling.
Agenda Item 6: Economic Development of Air Transport		
DP/6/06	58/33	To support safe, secure, efficient, and sustainable mobility solutions and harmonised standards, certifications, policy and framework to regulate the Advanced Air Mobility (AAM) sector, the Conference encouraged States/Administrations to consider AAM operations in airport master planning, undertake dialogue between all relevant stakeholders, and participate in the first ICAO Advanced Air Mobility Symposium (AAM 2024) from 9 to 12 September 2024, in Montreal, Canada.
Agenda Item 7: Aviation and Environment		
DP/7/05	58/36	To reduce operation and maintenance costs, improve the safety and efficiency of operations, and reduce environmental impacts associated with implementing approach lighting systems at airports in mountainous and waterfront locations, the Conference encouraged States/Administrations to consider implementing the prefabricated approach lighting system bridge and suggested that ICAO refer the paper to the Visual Aids Working Group of Aerodrome Design and Operations Panel (ADOP) for consideration.

Agenda Item 9: Updates		
DP/9b/01	58/43	The Conference encouraged States/Administrations to collaborate and work towards achieving the commitments of the Beijing Declaration and share implementation status with the ICAO Asia-Pacific Office to further report to the Second Asia Pacific Ministerial Conference on Civil Aviation in India in 2024.

2.2 All materials including DPs, IP, Presentations and DGCA/58 Action Items were posted on ICAO APAC Website at https://www.icao.int/APAC/Meetings/Pages/DGCA57.aspx.

2.3 The AOP/SG/8 Meeting reminded States/Administrations to take necessary actions in accordance with 58th DGCA Conference Action Items.

2.4 Philippines informed that they have already disseminated DGCA/59 invitation letter to 47 States, 15 International Organizations, ICAO High Level Officials and Directors and already created DGCA/59 Website (https://dgca59.ph/).

Relevant Outcomes of APANPIRG/34 and APAC Action Plan (WP/03)

2.5 AOP/SG/8 reviewed and noted the follow up actions taken by ICAO APAC Office on the **4** Conclusions (*Runway Turn Pad Design and Marking, ICAO Asia-Pacific Aerodrome Assistance Go-Team Methodology, ICAO Asia/Pacific WHM Go-Team Methodology, Update of Information in APANPIRG Air Navigation Deficiencies Reporting Form*) adopted by the Thirty-Fourth Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/34, Hong Kong, China, 11 to 13 December 2023) related to AOP/SG.

Actions on AOP/SG/7 Conclusions and Decisions (WP/04)

2.6 AOP/SG/8 reviewed and noted the follow up actions taken by ICAO APAC Office on 8 Decisions (*Proposal for Amendment to AP-ADO/TF's TOR, Asia and Pacific Generic Aerodrome Enforcement Policy and Procedures Manual, Asia - Pacific Generic Aerodrome Exemptions Policy and Procedures Manual, Amendments to Generic Aerodrome Inspector Handbook, Proposal for Amendment to AP-AA/WG's TOR, Updated List of Asia/Pacific Generic Guidance Materials Developed by the AP-AA/WG with Details of the Custodians, Proposal for Amendment to AP-WHM/WG's TOR and Adoption of Annex 14 Recommendations as National Standards*) adopted by the AOP/SG/7 Meeting, Bangkok, Thailand from 3 to 6 June 2023.

Relevant Outcomes of ATM/SG/11, ATFM/SG/14, AAITF/19 and ICAO APAC/MID ATM Contingency Planning Workshop (WP/05)

2.7 The Secretariat presented the outcomes of the Eleventh Meeting of Air Traffic Management Sub-Group of APANPIRG (ATM/SG/11, Singapore, 02 to 06 October 2023), the Fourteenth Meeting of Air Traffic Flow Management Steering Group (ATFM/SG/14, Bangkok, Thailand, 22 to 26 April 2024), the Nineteenth Meeting of the Aeronautical Information Services (AIS) – Aeronautical Information Management (AIM) Implementation Task Force (AAITF/19, Bangkok, Thailand, 10 to 13 June 2024) and the ICAO APAC/MID ATM Contingency Planning Workshop (Bangkok, Thailand, 25 to 27 June 2024)

2.8 The Secretariat of ATM/SG informed AOP/SG/8 of the establishment of the Performance Management Data Analytics Ad hoc Group to establish the proposed data analysis framework to establish performance analysis capabilities to support enhancement to ATM performance. AOP/SG/8 was also informed of the Trajectory-Based Operations (TBO) related activities, including the regional TBO demo held in 2023.

2.9 AOP/SG Chair emphasized that for successful TBO (Trajectory-Based Operations) implementation, airports must provide real-time data on aircraft positions and gate assignments. Infrastructure upgrades to support SWIM and FF-ICE are essential. Establishing Airport Operations Centers (APOCs) will enhance coordination through A-CDM and TAM, improving air traffic efficiency and contributing to ICAO's environmental goals.

2.10 AOP/SG/8 noted that AAITF/19 agreed to the following Decision:

Decision AAITF/19-3: Establish APAC Common SWIM Aeronautical Information Services Ad hoc Group

That, AAITF establishes the APAC Common SWIM Aeronautical Information Services Ad hoc Group.

2.11 As airport operation-related information would need to be exchanged through SWIM, the AOP/SG/8 was invited to participate in the APAC Common SWIM Aeronautical Information Services Ad hoc Group to discuss the proposed business functionality of APAC Common SWIM Aeronautical Information Services by SWIM TF.

2.12 India expressed willingness to join the APAC Common SWIM Aeronautical Information Services Ad hoc Group and they would get back to the Secretariat for final confirmation after consulting with the relevant Authority in India.

RASG-APAC/13 Meeting Outcomes (IP/02)

2.13 IP/02 provided information about the outcomes of the Thirteenth Meeting of the RASG-APAC (Hong Kong, China, 18-19 December 2023) and noted that the RASG-APAC/13 had adopted 10 Decisions.

2.14 The Report of the RASG-APAC/13 and the 2023/2024 RASG-APAC Work Programme could be accessed through https://www.icao.int/APAC/Meetings/Pages/2023-RASG-APAC13.aspx.

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Agenda Item 3: Regional Reporting

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

3.1 AOP/SG/8 was briefed on the progress update of the Asia/Pacific Seamless Air Navigation Services (ANS) Plan, V4.0 which would be submitted to APANPIRG/35 for review and approval.

3.2 AOP/SG/8 noted that the last review of the Seamless Plan was conducted in 2019, in the same year as the last major update of the GANP. Phase III of the Performance Improvement Plan of the Seamless Plan was expected to be implemented by 03 November 2022, and Phase IV by 25 November 2025.

3.3 Draft Seamless ANS Plan V3.2.2 to Point of Contacts (POC) for feedback from States was shared in April 2024. Deadline for feedback from States by email was 10th June 2024. In response, only four States/Administrations provided feedback. In addition, the deadline for reporting of APAC Seamless ANS Plan V3.0 implementation by States through APAC Seamless ANS Reporting Tool Portal was 31st May 2024 for which only six States submitted implementation status through the portal.

3.4 AOP/SG/8 was informed that the current draft version of the Plan required further consultation both with APAC States/Administrations (through their nominated focal points) and APANPIRG Sub-Groups before it could be considered ready for APANPIRG endorsement.

3.5 Update of the Draft Seamless ANS Plan to include feedback from States and analysis of Seamless ANS Plan implementation was in progress. It was added that with the lack of enough data, it was not possible to present an adequate analysis of the status of implementation of the operational requirements in APAC region as recommended in the APAC Seamless ANS Plan.

3.6 The States/Administrations were urged to submit the Seamless ANS Plan implementation Status and provide feedback on the draft Seamless ANS Plan V 3.2.2 through the respective POCs at the earliest.

3.7 In response to India query on the change management process for considering new elements to be included in the Plan, it was clarified that the implementation agency should follow standard risk assessment process.

Asia/Pacific Air Navigation Plans (WP/07)

3.8 AOP/SG/8 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

3.9 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.

3.10 AOP/SG/8 noted that **286** out of **370** aerodromes used for international operations in Asia and Pacific Regions had been listed in Asia/Pacific Region ANP Volume I as of 25 June 2024 (**282** in June 2023).

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

3.12 AOP/SG/8 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 A** to the Report of AOP/SG/8.

3.13 The Secretariat explained that only one critical aircraft type should be shown in the *"Remarks Column of the Table AOP II – 1"*, if that aircraft is used to determine aerodrome reference code (RC), RFF category and pavement strength (all three elements). Otherwise, different critical aircraft types need to be shown for different elements, e.g., one critical aircraft type for RC and/or pavement strength and another critical aircraft type for RFF category.

3.14 Australia informed that they had initiated coordination among aviation authorities for resolving an outstanding issue on finalization of Table AOP II-1 for submission to ICAO APAC Office a proposal for an amendment to APAC ANP Volume II.

3.15 In response to query on airport planning time horizon for the facilities and services to be provided by the State concerned at each aerodrome that were listed/to be listed in Table AOP II-1 of the APAC ANP, the Secretariat clarified that it should be sufficient to consider airport planning for 5 - 10 years as Airport Master Plan is generally reviewed in 5 -7 years interval.

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

Report on the Fifth Meeting of the Asia/Pacific Aerodrome Design and Operations Task Force (AP-ADO/TF/5) (WP/08)

4.1 AOP/SG/8 reviewed the Report of the Fifth Meeting of the Asia/Pacific Aerodrome Design and Operations Task Force (AP-ADO/TF/5, 30 January - 2 February 2024, Wanasawan Meeting Room, Mae Fah Luang University, Chiang Rai, Thailand). 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/AP-ADO-TF-5.aspx.

Inconsistency Requirement in ICAO Annex 14 Volume I

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

<table>
<tr><td colspan="3">Conclusion AOP/SG/8-1 (Draft Conclusion AP-ADO/TF/5 – 1): Inconsistency Requirements in ICAO Annex 14 Volume I (Taxiway Centerline Marking, Threshold Marking, Taxiway Transverse Stripe, Pavement Edge Flushing, and Precision Approach Lighting)</td></tr>
<tr><td colspan="2">What: That, ICAO HQ should be consulted on the inconsistency in and conflicting ICAO Annex 14 Volume I requirements (Taxiway Centerline Marking, Threshold Marking, Taxiway Transverse Stripe Marking, Pavement Edge Flushing, and Precision Approach Lighting) identified in AP-ADO/TF/5-WP/06 (Appendix B to the AP-ADO/TF/5 Report) for further deliberation at the respective Working Groups (such as, Visual Aids Working Group and Aerodrome Design Working Group).</td><td>Expected impact:
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☐ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: States to establish clear standard and recommended practices (SARPs) on Taxiway Centerline Marking, Threshold Marking, Taxiway Transverse Stripe, Pavement Edge Flushing, and Precision Approach Lighting for enhancing safety and efficiency.</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
<tr><td>When: 19-Jul-24</td><td colspan="2">Status: Adopted by Subgroup</td></tr>
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Safety Risk Warnings Related to the Temporary Ramp of the Runway Pavement Overlay

4.3 AP-ADO/TF/5 had noted China's experience in runway overlay project where they had embedded the foot of the temporary ramp with a longitudinal slope of 1% into the existing pavement through milling into grooves. This method enhanced the stability of the temporary ramp and reduced the risk of FOD.

4.4 Regarding China's proposal to the ICAO for the revision of the longitudinal slope of the temporary ramp to 1%, some States participating at AP-ADO/TF/5 had expressed that they need to consult with their aerodrome operators and more research on this subject.

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

4.5 AP-ADO/TF/5 had noted the critical importance of monitoring color shift characteristics in Aeronautical Ground Lighting (AGL) systems, especially with the adoption of Solid State Lighting (LED) technology.

4.6 Acknowledging the benefit in including colour in the national requirements (as recommendations) to protect the interest of the airports and the regulator for ensuring the 4C's (Configuration, Colour, Candelas and Coverage) compliance of the AGL system, AOP/SG/8 adopted the following Conclusion formulated by AP-ADO/TF/5 regarding suggested amendment to 10.5.3 to 10.5.5 of Annex 14, Volume I for inclusion of the colour measurement:

<table>
<tr><td colspan="3">Conclusion AOP/SG/8-2 (Draft Conclusion AP-ADO/TF/5 – 2): Proposal for Amendment to 10.5.3 to 10.5.5 of Annex 14, Volume I for inclusion of the colour measurement</td></tr>
<tr><td colspan="2">What: That, ICAO Visual Aids Working Group is requested to review AP-ADO/TF/5 – WP/08 (Appendix C to the Report of AP/SG/8) regarding suggested amendment to 10.5.3 to 10.5.5 of Annex 14, Volume I for inclusion of the colour measurement.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: To protect the interest of the airports and the aviation regulator for ensuring the 4C's compliance of the AGL system.</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
<tr><td>When: 19-Jul-24</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>

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

4.7 AP-ADO/TF/5 had reviewed the need for runway guard lights and the dependency of the stop bar lighting under different operational conditions. As per ICAO Annex 14, Volume I SARPs, the runway guard lights are required to be provided where stop bars are not installed when Runway Visual Range (RVR) is less than 550 meters.

4.8 AP-ADO/TF/5 had discussed the stop bar operations functioning with timer operations. During a specific phase when stop bar is OFF and the taxiway centreline lights (TCLs) after the runway holding position are ON and this state would continue to function for a period of 30 sec to 90 sec, in which the runway holding position could not be identified clearly when RVR conditions are less than 550 m. In such conditions, considering the operational and safety requirements, the airports may require to install runway guard lights in addition to the stop bars.

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

4.10 Noting that AP-ADO/TF/5 had recommended to send the AP-ADO/TF/5 – **WP/09** to ICAO HQs Visual Aids Working Group for further deliberation, AOP/SG/8 adopted the following Conclusion formulated by AP-ADO/TF/5:

<table>
<tr><td colspan="3">Conclusion AOP/SG/8-3 (Draft Conclusion AP-ADO/TF/5 – 3): Review on the Requirement of the Runway Guard Lights Provision when Stop Bars are available and Recommendations on the Stop Bar Operation Sequence Timings</td></tr>
<tr><td colspan="2">What: That, ICAO Visual Aids Working Group is requested to review AP-ADO/TF/5 – WP/09 (Appendix D to the Report of AOP/SG/8) for consideration of recommendations made in the AP-ADO/TF/5 – WP/09 in Section 5.1 b) and c) regarding runway guard lights.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: To enhance runway safety through operations of runway guard lights as part of effective runway incursion prevention measures in all visibility or weather conditions.</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
<tr><td>When: 19-Jul-24</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>

Open-Air Storm Water Conveyance in Runway Strip

4.11 As per ICAO Annex 14, Volume I SARPs and ADM (Doc 9157), Part 1 the open-air drains should be designed and constructed as far as possible away from the runway. Though the information was given in the Note -1 of Recommendation 3.4.16, the note itself did not constitute as a part of the recommendation. Therefore, the application of the Note-1 had been left to the judgement of the aerodrome planners.

4.12 AP-ADO/TF/5 had noted that in the FAA advisory circular: AC150/5300-13B it was mentioned that *"location of ditch, swale, or headwall depends on the site condition but in no case within the limits of runway safety area (RSA)"*. The width of the RSA, as specified in Appendix G of the AC150/5300-13B was 500 feet (152m).

4.13 Analysis of the runway excursion data collected for extended period of time revealed that 10 % veer-offs had gone beyond the graded portions of the runway strip, and few veering-off aircraft had covered up to 152 m and on a rare occasion up to 210 m.

4.14 As the consequences of runway excursions (runway veer-offs) might lead to undesirable consequences especially due to the presence of ill-designed and/ or injudicious location of such open-air storm water conveyance system, AP-ADO/TF/5 had discussed the need for specifying the distance of open-air storm water conveyance from runway centerline and guidance for CAA for such assessment and inclusion in their national regulations, and guidelines for risk assessment and mitigation for existing open-air storm water conveyance unable to comply with the regulations.

4.15 AP-ADO/TF/5 had noted that the Republic of Korea regulations required open air drains to be constructed beyond the non-graded portion of the runway strips and expressed the need for States to develop Policy and Procedures for accepting non-compliances based on safety risk assessment.

Application of Ultra-high Gravity wall in Altiports with High Fill Slope

4.16 AP-ADO/TF/5 had noted China's experience in the application of ultra-high gravity wall in high fill slope engineering of China. Taking Wulong airport as the example, a gravity retaining wall, with 132.1m in length and maximum of 48.92 m in height, was constructed with reinforced concrete. The ultra-high gravity wall and the corresponding foundation were calculated with numerical simulation, and the deformation monitoring on-site was calculated. The results of the deformation monitoring demonstrated the applicability of the ultra-high gravity wall in the high fill slope engineering.

4.17 AP-ADO/TF/5 had encouraged other APAC States to share their experience and difficulties in the treatment of the high fill slope.

Draft Regional Guidance for Design and Operations of Altiports

4.18 AP-ADO/TF/5 had reviewed in detail the Draft Regional Guidance for Design and Operations of Altiport which was prepared by the participating States (China, Fiji, India, Indonesia and Nepal (lead)) of the AP-ADO/TF.

4.19 AOP/SG/8 endorsed the following Draft Conclusion formulated by AP-ADO/TF/5 for consideration by APANPIRG/35:

<table>
<tr><td colspan="3">Draft Conclusion AOP/SG/8-4 (Draft Decision AP-ADO/TF/5 – 4): Regional Guidance for Design and Operations of Altiport</td></tr>
<tr><td colspan="2">What: That, Regional Guidance for Design and Operations of Altiport (Appendix E to the Report of AOP/SG/8) developed by AP-ADO/TF and endorsed by AOP/SG/8 be forwarded to Air Navigation Bureau.</td><td>Expected impact:
☒ Political / Global
☐ Inter-regional
☒ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: To submit the Draft Regional Guidance for review by the Ad hoc Working Group formed under Aerodrome Design and Operation Pannel (ADOP) to develop the Global Guidance on Design and Operations of Altiports.</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
<tr><td>When: 27-Nov-24</td><td colspan="2">Status: To be adopted by PIRG</td></tr>
<tr><td colspan="3">Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☒ICAO HQ ☐Other: XXXX</td></tr>
</table>

Digital Auxiliary Technology for Airport Site Selection

4.20 AP-ADO/TF/5 had noted that a digital auxiliary technology had been widely applied in China since 2018 for the site selection of hub airports represented by Foshan New Airport and Chongqing New Airport, and for the site selection of non-hub airport represented by Enshi Airport, Baicheng Airport, Jinzhai Airport, etc.

4.21 Traditional empirical airport site selection had some problems which contributed to long and subjective site selection cycle. By using digital auxiliary technology, the analyzed data were much larger, more comprehensive, more detailed, and more rapid, which had improved the science, comprehensiveness and accuracy of site selection, and significantly shortened site selection cycle.

4.22 AP-ADO/TF/5 had encouraged other APAC States/Administrations to share their experience in using digital auxiliary technology for airport site selection.

Task List of AP-ADO/TF

4.23 AP-ADO/TF/5 had reviewed and updated the task list provided in **Appendix G** to the Report of the AP-ADO/TF/5.

4.24 AOP/SG/8 noted that the *Workshop on Aerodrome Pavement Design and Evaluation including ICAO ACR-PCR Method of Reporting Pavement Strength* was conducted on 7 - 9 February 2024 at ICAO APAC, Bangkok, Thailand with the support provided by US FAA.

Enhancing Aviation Safety and Efficiency: Recommendation for Foreign Object Debris Detection Systems (FODDS)

4.25 AP-ADO/TF/5 had noted that Association of Asia Pacific Airlines (AAPA) advocated the widespread adoption of Foreign Object Debris Detection Systems (FODDS) at major airports, emphasizing its proven benefits with mature technology.

4.26 FODDS, utilizing radar technology, enhances safety, reduces operational disruptions, and offers cost savings. FODDS should be promoted as standard equipment at airports with over 100,000 annual aircraft movements, recognizing their maturity and close to two decades of successful implementation.

4.27 ACI had stated that while their association did not support mandating the installation of FODD for airports of all sizes, it did recommend that all airports, regardless of size and traffic density, should put in place an FOD management programme.

The Adoption of Annex 14 Recommended Practices as National Standards

4.28 Airports Council International (ACI) had raised the issue of some regulators having the tendency of adopting ICAO Recommended Practices of Annex 14 as national standards without an adequate assessment of safety benefits. Examples of such practice were given including mandating a 240 m RESA intended for Code 3 and 4 aerodromes at smaller aerodromes. This would divert limited financial and human resources to expensive infrastructure works that could otherwise be invested in useful safety enhancements, such as training and facilities improvements.

4.29 AP-ADO/TF/5 had recommended that States should consider consultation with aerodrome operators on the enactment of ICAO Annex 14 Recommended Practices as national standards and on proposed amendments to Annex 14 SARPs.

4.30 AP-ADO/TF/5 had agreed to develop a regional guidance material and organize workshop on the transposition of Annex 14 SARPs and organize workshop for States and aerodrome operators to share experience in the AGA audit area of USOAP CMA and included as a new task in its Task List.

4.31 After the approval of the DG CAA, Pakistan would confirm to take a lead in organizing a workshop for States and aerodrome operators to share experience in the AGA audit area of USOAP CMA (Task 5/3 of AP-ADO/TF refers).

Guidance on Risk Assessment for Lights with the Hazardous Effects

4.32 AP-ADO/TF/5 had noted the need for guidance material to protect flight operations at airports from the potential hazards posed by non-aeronautical ground lights due to the rapid development of airport economic zones and hinterland complexes, coupled with the proliferation of high-intensity lighting devices such as LEDs and renewable power structures.

4.33 AP-ADO/TF/5 had also noted that the Republic of Korea had been developing the risk assessment method, which includes three key evaluation indicators: Disability glare, Object recognition, and Identification interference.

4.34 AP-ADO/TF/5 had agreed to develop guidelines for the Asia-Pacific region to protect flight operations at airports from the potential hazards posed by non-aeronautical ground lights and included it as a new task in its Task List.

Enhancing Aviation Safety and Efficiency: Recommendations for a More Risk Based Approach with Bird Strikes and Runway Closures

4.35 Association of Asia Pacific Airlines (AAPA) had shared an avenue to enhance aviation safety and efficiency concerns, emphasizing the benefits of an enhanced use of a risk-based approach in determining runway closures arising from reported bird strikes. These measures were essential for minimizing disruptions, ensuring passenger safety, and enhancing overall airport operations. This enhanced aviation safety and efficiency emphasized the benefits of a risk-based approach to determine runway closures after bird strikes. This was essential for minimal disruptions, passenger safety, and improved airport operations.

4.36 As per the request of the Secretariat, AAPA had attended and presented the paper (*Enhancing Aviation Safety and Efficiency: Recommendations for a More Risk Based Approach with Bird Strikes and Runway Closures*) to the Sixth Meeting of the Asia and Pacific Wildlife Hazard Management Working Group (AP-WHM/WG/6) held on 14 – 17 May 2024 in the ICAO APAC Office, Bangkok.

Report on the Sixth Meeting of Asia/Pacific Aerodrome Assistance Working Group (AP-AA/WG/6) (WP/09)

4.37 AOP/SG/8 reviewed the Report of the Sixth Meeting of the Asia/Pacific Aerodrome Assistance Working Group (AP-AA/WG/6, Bangkok, Thailand from 2 to 5 April 2024). 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/2024-AP-AA-WG-6.aspx.

Generic Aerodrome SMS Evaluation Tools and Guidance

4.38 During the AP-AA/WG/5 meeting, a new task was introduced with the aim of developing generic guidance for evaluating Aerodrome SMS. In a collaborative effort, Thailand, Australia, and Maldives jointly worked on developing a Generic Aerodrome SMS Evaluation Tool and Guidance.

4.39 AOP/SG/8 reviewed the Generic Aerodrome SMS Evaluation Tool and Guidance developed by the AP-AA/WG and adopted the following Decision formulated by AP-AA/WG/6:

Decision AOP/SG/8-5 (Draft Decision AP-AA/WG/6 – 1): Generic Aerodrome SMS Evaluation Tool and Guidance	
What: that, the Generic Aerodrome SMS Evaluation Tool (**Appendix F** to the Report of AOP/SG/8) be made available on the ICAO Asia/Pacific Regional Office Website for reference by States/Administrations.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To provide CAA inspectors and the aerodrome operators with a more comprehensive set of guidelines for the evaluation of Aerodrome Safety Management System.	Follow-up: ☐Required from States
When: 19-Jul-24	Status: Adopted by Subgroup
Who: ☒Sub groups ☐APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other: AP-AA/WG	

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

4.40 AP-AA/WG/6 had reviewed the Framework with RST questionnaires developed by the Secretariat. AOP/SG/8 noted that AP-AA/WG/6 had invited the participating States to provide comments/feedback on the RST questionnaire for its improvement before submission to the AOP/SG/8. AP-AA/WG/6 had agreed to formulate a new task to study the feedback received from the participating States and to improve and finalize the RST questionnaire by the end of May 2024 by the group of States volunteered to contribute to this new task.

4.41 The RST questionnaire, finalized by the participating States within the given deadline and attached in **Appendix G** to the Report of AOP/SG/8.

4.42 AOP/SG/8 adopted the following Conclusion formulated by AP-AA/WG/6:

Conclusion AOP/SG/8-6 (Draft Conclusion AP-AA/WG/6 – 02): Framework for Monitoring the Establishment and Implementation of Runway Safey Team (RST) at aerodromes in APAC States	
What: That, the "Framework for Monitoring the Establishment and Implementation of Runway Safey Team (RST) at aerodromes in APAC States" provided in **Appendix G** to the Report of AOP/SG/8 be circulated to States/Administrations for their response. The Framework be also published on the ICAO APAC eDocuments Webpage under AGA Heading.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To gather the information from the States/Administrations on the establishment and operation of the RST at aerodromes.	Follow-up: ☒ Required from States
When: 19-Jul-2024	Status: Adopted by Subgroup
Who: ☒ Sub groups ☒ APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other: AP-AA/WG/6	

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

The Requirements of Runway Side Stripe Marking & Taxi Side Stripe Marking

4.44 AP-AA/WG/6 had acknowledged the significance of runway side stripe markings and taxi side stripe markings, while also addressing the challenges encountered by Aerodrome Operators in meeting these requirements.

4.45 AP-AA/WG/6 had noted the information shared by Malaysia and encouraged member States to share the relevant best practices on this matter. The AP-AA/WG would discuss in its next Meeting whether it would be required to develop a regional guidance for cases whereby the aerodrome does not have runway side stripe marking and taxi side stripe marking after having shared State's best practices and experiences in the next Meeting.

AP-AA/WG Task List

4.46 AOP/SG/8 noted that AP-AA/WG/6 had reviewed and updated the AP-AA/WG Task List, and 5 new tasks had been added to the list.

Asia Pacific Generic Guidance Materials (GGMs) and Custodian

4.47 AOP/SG/8 noted that the AP-AA/WG/6 Meeting had reviewed and updated the list of GGMs developed by the AP-AA/WG including the ICAO Asia-Pacific Generic Aerodrome SMS Evaluation and Guidance presented at AP-AA/WG/6 Meeting.

4.48 AOP/SG/8 adopted the following Decision formulated by AP-AA/WG/6:

<table>
<tr><td colspan="3">Decision AOP/SG/8-7 (Draft Decision AP-AA/WG/6 – 3): Updated List of Asia/Pacific Generic Guidance Materials Developed by the AP-AA/WG with Details of the Custodians</td></tr>
<tr><td colspan="2">What: That, the Attachment A to the Procedure for periodic review and update of the Asia/Pacific Generic Guidance Materials (Appendix H to the Report of the AOP/SG/8) be published on the ICAO APAC Website at eDocuments Webpage under the AGA heading.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: To incorporate in the list the ICAO Asia-Pacific Generic Aerodrome SMS Evaluation and Guidance and with updated details of the custodian of the GGMs.</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
<tr><td>When: 19-Jul-24</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: AP-AA/WG</td></tr>
</table>

Report on the Sixth Meeting of the Asia/Pacific Wildlife Hazard Management Working Group (AP-WHM/WG/6) (WP/10)

4.49 AOP/SG/8 reviewed the Report of the Sixth Meeting of the Asia/Pacific Wildlife Hazard Management Working Group (AP-WHM/WG/6) held in Bangkok, Thailand from 14 to17 May 2024. The full report of AP-WHM/WG/5 provided on ICAO APAC Office website at: https://www.icao.int/APAC/Meetings/Pages/2024-AP-WHM-WG-6.aspx.

Innovative Techniques for Mitigating Wildlife Hazards at Airports

4.50 The World Birdstrike Association (WBA) had presented the adoption of innovative meaningful techniques to mitigate wildlife hazards at airports, particularly bird/wildlife strikes. Airports need a comprehensive, meaningful data-driven approach to assess and rank risks and patterns from different species, utilising appropriate and suitable technologies for monitoring wildlife, analysing historical incident data, and understanding seasonal and behavioral patterns. By implementing innovative deterrents, habitat management, and improved communication, airports can significantly reduce wildlife hazards and enhance aviation safety. Airports were encouraged to integrate these technologies/techniques into their programmes to maximise the effectiveness of monitoring and reporting systems

4.51 AP-WHM/WG/6 had acknowledged that a wildlife hazard study should be conducted at the planning stage of any new airport and emphasized the requirement of continuous monitoring of wildlife data and continuous update of an airport WHM Plan due to the changes in the habitat. AP-WHM/WG/6 had encouraged airports to submit case histories of successful initiatives, which would be compiled and shared to promote knowledge exchange and innovation in airport management.

ICAO Asia-Pacific Wildlife Hazard Management Go-Team Methodology

4.52 AOP/SG/8 noted that at AP-WHM/WG/5, the Working Group had agreed to develop a WHM Go-Team Assistance Mission Programme (Task 5/5) via the AP-WHM/WG Terms of Reference (Second Amendment to AP/WHM-WG ToR) approved by AOP/SG/7. The Assistance Mission Programme/Template for States, known as the ‘Wildlife Hazard Management Go-Team’ approach, was designed for adoption and use by States within the ICAO Asia-Pacific Region. It specifically provided a templated timeline for a 1-week Go-Team mission, supplemented by pre-and post-mission activities and elements. The WHM Go-Team approach focussed particularly on the establishment of national WHM committees and a national WHM programme.

4.53 Australia, India, Thailand, ACI and WBA had developed the Wildlife Hazard Management (WHM) Go-Team Mission Programme Document to attach to the Asia/Pacific WHM Go-Team Methodology which was approved by APANPIRG/34 in December 2023 as per recommendation of AOP/SG/7 in July 2023.

4.54 AOP/SG/8 endorsed the following Draft Conclusion formulated by AP-WHM/WG/6 for further consideration by APANPIRG/35:

<table>
<tr><td colspan="4">Draft Conclusion AOP/SG/8-8 (Draft Conclusion AP–WHM/WG/6–1): ICAO Asia-Pacific WHM Go-Team Assistance Mission Programme Document</td></tr>
<tr><td colspan="3">What: That
• States with needs to enhance WHM be encouraged and invited to host WHM Go-Team Assistance Mission;
• The ICAO Asia/Pacific WHM Go Team Assistance Mission Programme Document presented in Appendix I to the Report of AOP/SG/8 for consideration by APANPIRG/35; and
• After approval by APANPIRG/35 the ICAO Asia/Pacific WHM Go Team Assistance Mission Programme Document be included as an Appendix to the ICAO Asia/Pacific WHM Go-Team Methodology and published on the ICAO APAC Website.</td><td>Expected impact:
☒ Political / Global
☐ Inter-regional
☒ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why:</td><td>To assist States in WHM</td><td>Follow-up:</td><td>☒Required from States</td></tr>
<tr><td>When:</td><td>27-Nov-24</td><td>Status:</td><td>Draft to be adopted by PIRG</td></tr>
<tr><td>Who:</td><td colspan="3">☒Sub groups ☒APAC States ☐ICAO APAC RO ☐ICAO HQ ☐Other: XXXX</td></tr>
</table>

ICAO USOAP CMA and AGA Findings in WHM

4.55 AP-WHM/WG/6 had noted APAC average WHM EI in AGA area was 50.26 % as compared to the global average of 61.83% as of April 2024.

4.56 AP-WHM/WG/6 had encouraged APAC States/Administrations with EI less than 75% in WHM related PQs to allocate more resources and efforts to improve EI to meet the 75% of GASP target by 2024; and to approach respective COSCAPs or ICAO APAC Office, if State(s) require assistance in WHM.

Asia Pacific Guidance Materials and Custodian

4.57 As AOP/SG/8 endorsed the ICAO Asia-Pacific Wildlife Hazard Management Go-Team Assistance Mission Programme Document (**Appendix I** to the Report of AOP/SG/8) developed by the AP-WHM/WG after approval by APANPIRG/35 in November 2025, it would be required to be included in the List of the GGMs as **Attachment B** of the **Appendix H** (Procedure for periodic review and update of the Asia/Pacific Generic Guidance Materials) to the Report of AOP/SG/8.

4.58 AP-WHM/WG/6 Meeting had unanimously agreed that Australia would be the custodian of the ICAO Asia-Pacific Wildlife Hazard Management Go-Team Assistance Mission Programme Document.

4.59 AOP/SG/8 adopted the following Decision formulated by AP-WHM/WG/6:

<table>
<tr><td colspan="3">Decision AOP/SG/8-9 (Draft Decision AP-WHM/WG/6 – 2): Updated List of Asia/Pacific Generic Guidance Materials Developed by the AP-WHM/WG with Details of the Custodians</td></tr>
<tr><td colspan="2">What: That, the Attachment B to the Procedure for periodic review and update of the Asia/Pacific Generic Guidance Materials (Appendix H to the Report of the AOP/SG/8) be published on the ICAO APAC Website at eDocuments Webpage under the AGA heading after adoption by APANPIRG/35 the ICAO Asia-Pacific Wildlife Hazard Management Go-Team Assistance Mission Programme Document.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: To incorporate in the list the ICAO Asia-Pacific Wildlife Hazard Management Go-Team Assistance Mission Programme Document with updated details of the custodian of the GGMs.</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
<tr><td>When: 19-Jul-24</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: AP-AA/WG</td></tr>
</table>

Enhancing Aviation Safety and Efficiency: Recommendations for a more Risk Based Approach with Bird Strikes and Runway Closures

4.60 AP-WHM/WG/6 had noted the benefits of an enhanced use of a risk-based approach in determining runway closures arising from reported bird strikes. These measures were essential for minimizing disruptions, ensuring passenger safety, and enhancing overall airport operations.

IBIS Focal Points for Asia and Pacific States

4.61 AP-WHM/WG/6 had noted and urged States to review the list of the IBIS Focal Points of Asia Pacific States (**Appendix E** to the Report of AP-WHM/WG/6) and provide additional contact details, if any, for inclusion in the list.

AP-WHM/WG TOR and Task List

4.62 AOP/SG/8 noted that AP-WHM/WG/6 had reviewed and updated the AP-WHM/WG Task List and added 4 new tasks to the list.

4.63 Information on Australian Aviation Wildlife Hazard Group Forum, to be hosted in Melbourne Australia between 13 August to 15 August is available at URL: AAWHG 2024 Forum.

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

Status on Certification of Aerodromes in Asia Pacific States

4.64 AOP/SG/8 noted that out of **370** aerodromes used for international operations in Asia and Pacific Regions **337** aerodromes have been certified as of 25 June 2024 corresponding to **91.08%** progress.

4.65 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 **[370]**	140	96	67	67
Number of Certified Int'l Aerodromes **[337]**	137	87	54	59
Number of Int'l Aerodromes yet to be certified [33]	**3**	**9**	**13**	**8**
States with Int'l Aerodromes yet to be certified (number and percentage of aerodromes yet to be certified) **[12 States, 33 Aerodromes, 8.92%]**	1) China (3, 3%)	1) Brunei Darussalam (1, **100%**), 2) Lao PDR (3, **75%**) 3) Malaysia (2, 11%) 4) Thailand (2, 20%), 5) Timor-Leste (1, **50%**)	1) Afghanistan (4, **100%**) 2) India **(9, 24%)**	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

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

Publication of the Status of Certification of Aerodromes in AIP

4.67 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

States	North Asia (5 States & 2 SARs)	South East Asia (11 States)	South Asia (8 States)	Pacific (15 States & 8 OTs)
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

4.68 The following States have 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.

4.69 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).*

4.70 *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.

ICAO USOAP CMA and AGA Findings (WP/12)

4.71 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).

4.72 In 2023, **2 CMA** audits (including 1 focused audit), **1 ICVM** and **1 SSPIA** were conducted in Asia and Pacific Regions as shown in Table 3.

Dates (2022)	States			
	ICVM	**Audit**	**Off-site validation**	**SSP Implementation Assessment**
14 to 26 Jun 2023		Papua New Guinea	—	
30 Aug to 11 Sep 2023			—	Australia
5 to 7 Sep 2023; 12 to 19 Sep 2023		Australia (Focused Audit)	—	
2 to 9 Oct 2023	Cambodia		—	

Table 3: USOAP CMA activities conducted in 2023 in APAC States

4.73 In 2024, two audits and one ICVM have been completed and USOAP CMA audit is due for Bangladesh from 15 to 27 Oct 2024 as shown in the Table 4 below:

Dates (2024)	States			
	ICVM	Audit	Off-site validation	SSP Implementation Assessment
16 to 30 April 2024		China [Completed]	—	—
15 to 27 May 2024		Viet Nam [Completed]	—	—
05 to 12 Jun 2024	Pakistan [Completed]		—	—
15 to 27 Oct 2024		Bangladesh		

Table 4: USOAP CMA activities conducted/planned in 2024 for APAC States

4.74 ICAO conducted the USOAP CMA Workshop for Asia and Pacific States from 30 April to 02 May 2024 in APAC Office, Bangkok, Thailand. Over 150 participants, comprising 84 on-site and over 80 online participants attended the workshop, representing 24 APAC Member States.

4.75 Following USOAP CMA Activities have been planned for 2025 in APAC States (see EB 2024/12 dated 4 July 2024 - Attachment B):

Dates (2025)	States			
	ICVM	Audit	Off-site validation	SSP Implementation Assessment
8 to 20 Jan 2025		Thailand	—	—
4 to 16 Feb 2025		Maldives	—	—
12 to 24 Mar 2025		Philippines	—	—
4 to 11 Jun 2025	Cambodia		—	—
9 to 21 Jul 2025		New Zealand	—	—

Table 5: USOAP CMA activities planned in 2025 for APAC States

ICAO USOAP CMA results in AGA Area

4.76 The APAC Average AGA EI scores in all 8 Critical Elements derived from ICAO's iSTARS from 2017 to 2024 are shown in the Table 6.

	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 2024 (AOP/SG/8)	***60.73*** *[Global Average **63.06**]* *168 (2017 PQs)→143 (2020 PQs)*	63.89 (1→2)	67.22 (28→21)	61.32 (7→ 7)	42.33 (7→ 7)	63.98 (20→14)	63.21 (64→ 51)	58.97 (31→ 32)	46.59 (10→9)
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 6: APAC Average AGA EI scores in all 8 Critical Elements
[Source: iSTARS 4.0 - PQ Tester]

4.77 AOP/SG/8 noted that there was still a lower EI score (APAC average AGA EI and its corresponding CEs) for **June 2024** compared to EI data for **June 2021** despite of improvement in EI by some States that had received USOAP CMA activities. This could be primarily due to adjustment of the EI because of the reduction of AGA PQs from 168 (2017 AGA PQs) to 143 (2020 AGA PQs) numbers (please refer to AOP/SG/8-**IP/05** for USOAP CMA Protocol Questions – 2020 Edition).

4.78 EIs in AGA Area derived from iSTARS4 USOAP Data Table for Asia and Pacific States are provided in **Appendix K** to the Report of AOP/SG/8.

4.79 APAC States with AGA EI Scores more than or equal to 75% are shown in the Table 7 below.

S. No.	State's USOAP EI in AGA Area **(More than or equal to 75%)**		
	Source: iSTARS 4.0, USOAP DATA TABLE (Date: 17 June 2024)		
	State	USOAP EI (In Per Cent)	Remarks
1	Australia	87.29	12-19/09/2023, Focus Audit
2	Bhutan	78.10	7-16/08/2018, ICVM
3	Brunei	80.34	17/02-01/03/2007, CMA Audit

S. No.	State's USOAP EI in AGA Area **(More than or equal to 75%)**		
	Source: iSTARS 4.0, USOAP DATA TABLE (Date: 17 June 2024)		
	State	USOAP EI (In Per Cent)	Remarks
4	China	88.19	20/03-03/04/2007, CMA Audit
5	DPR Korea	84.38	26/05-04/06/2008, CMA Audit
6	Fiji	76.15	27/08-04/09/2019, ICVM
7	India	92.68	09-16/11/2022, ICVM
8	Japan	92.24	14-23/06/2010, CMA Audit
9	Lao PDR	75.00	21-27/04/2015, ICVM
10	Maldives	79.63	16-22/06/2014, ICVM
11	Mongolia	88.18	28/06-07/07/2010, CMA Audit
12	New Zealand	80.17	05-15/12/2016, CMA Audit
13	Rep. of Korea	98.26	13-22/05/2008, CMA Audit
14	Singapore	100.00	16-19/11/2021, Virtual ICVM
15	Sri Lanka	91.67	25/10-04/11/2010, CMA Audit

Table 7: State’s with USOAP EI (more than or equal to 75%) in AGA Area

4.80 APAC States with AGA EI Scores more than 60% but less than 75% are shown in the Table 8 below.

S. No.	State's USOAP EI in AGA Area **(More than 60% to less than 75%)**		
	Source: iSTARS 4.0, USOAP DATA TABLE (Date: 17 June 2024)		
	State	USOAP EI (In Per Cent)	Remarks
1	Bangladesh	64.22	19-27/09/2017, ICVM
2	Indonesia	69.23	10-18/10/2017, ICVM
3	Myanmar	63.16	100-21/12/2018, CMA Audit
4	Nepal	67.74	13-25/04/2022, CMA Audit
5	**Pakistan**	70.63	29/11-10/12/2021, CMA Audit

Table 8: State’s with USOAP EI (more than 60% but less than 75%) in AGA Area

4.81 APAC States with AGA EI Scores less than or equal to 60% are shown in the Table 9 below.

S. No.	State's USOAP EI in AGA Area **(Less than or equal to 60%)**		
	Source: iSTARS 4.0, USOAP DATA TABLE (Date: 17 June 2024)		
	State	USOAP EI (In Per Cent)	Remarks
1	Afghanistan	18.75	02-16/12/2019, Documentation-base Audit
2	Cambodia	57.02	10-21/12/2018, CMA Audit
3	Cook Islands	—	USOAP Activity not conducted in AGA Area
4	Kiribati	—	USOAP Activity not yet conducted
5	Malaysia	47.90	29/09-30/10/2020, Off-site Validation Activity
6	Marshall Islands	9.17	25-28/05/2010, CMA Audit
7	Micronesia	0.92	13-17/12/2010, CMA Audit
8	Nauru	5.71	03-03/03/2008, CMA Audit
9	Palau	7.34	22-26/11/2010, CMA Audit
10	Papua New Guinea	57.60	14-26/06/2023, CMA Audit
11	Philippines	45.87	30/05/08/06/2017, ICVM
12	Samoa	58.56	11-16/02/2010, CMA Audit
13	Solomon Islands	14.42	27/03/2014, Off-site Validation Activity
14	Thailand	49.59	14-21/05/2019, ICVM
15	Timor Leste	24.30	07-10/12/2010, CMA Audit
16	Tonga	27.52	18-27/11/2019, ICVM
17	Tuvalu	—	USOAP Activity not yet conducted
18	Vanuatu	21.82	18-27/11/2019, ICVM
19	**Viet Nam**	54.95	15-21/06/2016, ICVM

Table 9: State’s with USOAP EI (less than or equal to 60%) in AGA Area

4.82 As per above analysis conducted by ICAO APAC Office, it was revealed the following results:

1) 19 APAC States have their EI in AGA area less than 60%;

2) 5 APAC States have their EI in AGA area more than 60% to less than 75%; and

3) 15 States have their EI in AGA area more than or equal to 75%

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

4.83 The following actions required from States through USOAP CMA OLF:

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

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

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

Report of Small Working Group (SWG) for Task 5/2 of Asia/Pacific Aerodrome Design and Operations Task Force (AP-ADO/TF) on Organizing Workshop on The Transposition of Annex 14 SARPS into National Standards (WP/13)

4.84 Malaysia presented the report of the Small Working Group (SWG) for Task 5/2 of the Asia/Pacific Aerodrome Design and Operations Task Force (AP-ADO/TF) on organizing workshop on the Transposition of Annex 14 SARPs into National Standards. The purpose of the workshop is to disseminate good practices in the transposition of Annex 14 Volume 1 SARPs, in particular Recommended Practices, into national regulatory requirements for aerodrome operators so as to maximise the safety performance of aerodrome operations.

4.85 The workshop is planned to be organized on 17 February 2025 in conjunction with the Sixth Meeting of the Asia/Pacific Aerodrome Design and Operation Task Force (AP-ADO/TF/6) on 18 – 21 February 2025 in Malaysia, tentatively in Langkawi.

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

4.87 The Republic of Korea expressed their willingness to contribute to the workshop by nominating speakers to share their experiences and practices.

4.88 In response to query, whether other ICAO Regional Office had developed any guidance on transposition of Annex 14 SARPs to National Aerodrome Standards, ACI provided the reference to the *"Twenty-First Meeting of the CAR/SAM Regional Planning and Implementation Group"* held in Santo Domingo, from 14 to 17 November 2023, where they had discussed the issue and concluded that "*States/Territories should implement a process for conducting regulatory impact analysis when adopting ICAO Recommended Practices related to aerodromes as national regulations*". Conclusion GREPECAS/21/16 refers:
(https://www.icao.int/NACC/Documents/Meetings/2023/GREPECAS21/00-GREPECAS21-DraftReport.pdf).

Strategies for Hazardous Lights in Evolving Airport Environments (WP/14)

4.89 Presented by the Republic of Korea, the WP/14 highlighted the need to address safety risks posed by new lighting technologies as airports transform into multifunctional complexes. High-intensity LED lights, digital displays, and renewable energy structures such as solar panels are becoming more prevalent, presenting new challenges for aviation safety.

4.90 The Republic of Korea developed a comprehensive risk assessment methodology focusing on three key criteria: disability glare, object recognition, and identification interference. This methodology categorized risks into three levels—intolerable, tolerable, and acceptable—facilitating effective risk management. The current regulations, initially qualitative, have now been transformed into a more quantitative and systematic approach.

4.91 Additionally, Australia's case study was introduced, illustrating their regulatory approach to managing hazardous lights near airports. Australian regulations require evaluation of installations that exceed specified lighting intensity limits or include reflective surfaces like solar panels.

4.92 India informed AOP/SG/8 that they have been also facing challenges with hazardous lighting around airports. Underscoring the global relevance of this issue. This topic would be further delivered in detail in the next AP-ADOTF6 meeting.

4.93 Australia provided reference to their practices on "National Airport Safeguarding Framework" [National Airports Safeguarding Framework principles and guidelines | Department of Infrastructure, Transport, Regional Development, Communications and the Arts]. Guideline E is focused upon lighting in the vicinity of aerodromes and is intended to provide guidance to land use authorities who are typically faced with approving or rejecting such proposals.

4.94 IFALPA thanked the Republic of Korea and Australia for highlighting this issue, and stressed the importance to continuously monitor lights in the vicinity of the airport which could be hazardous to the flight safety.

Obstacle Limitation Surface Requirements for Smaller Airports (WP/15)

4.95 Presented by Fiji, WP/15 shared the challenges faced by the eleven (11) aerodromes classified as non-instrument Code 1 runways.

4.96 The domestic aerodrome requirements in Fiji are based on the ICAO Annex 14 which are enforced by the State's Civil Aviation Authority through the Fiji Standard Documents – Aerodromes (SD-AD) that are required to be complied by Certified Aerodromes. This posed a challenge to the 11 domestic aerodromes managed and operated by Fiji Airports to comply with the Obstacle Limitation Surfaces (OLS) requirements.

4.97 The Fiji SD-AD OLS requirement for Code 1 non-instrument runway specifies that the following surfaces shall be established, i.e.:

- Approach surface,
- Transitional surface,
- Inner horizontal surface, and
- Conical surface.

4.98 However, Fiji Airports have maintained the OLS for the approach and take-off surface areas without maintaining the other OLS surfaces, as the local communities rely on to maintain a resilient and sustainable livelihood planting trees, such as coconut trees, pine trees, and other crops around the airports due to the land size of islands where all eleven domestic airports are located.

4.99 AOP/SG/8 encouraged member States to share their practices or alternate means in complying with ICAO OLS requirements for Code 1 non-instrument aerodromes for discussion in detail in the AP-ADO/TF/6 in 2025.

Rescue & Fire Fighting Requirements for Small Airports (WP/16)

4.100 Presented by Fiji, WP/16 shared the challenges faced by the eleven (11) aerodromes (aerodrome reference code 1) mainly serviced by Twin Otter (DHC 6) and Islander (BN2) aircraft on Visual Meteorological Conditions (VMC) only.

4.101 While the domestic aerodrome requirements in Fiji were based on the ICAO Annex 14 and being enforced by the State's Civil Aviation Authority of Fiji through the Standard Documents – Aerodromes (SD-AD) that were required to be complied with by Certified Aerodromes. This posed a challenge to the 11 government domestic aerodromes administered by Fiji Airports in implementing the RFF requirements commensurate with the above aircrafts (Aerodrome Category 1 & 2 for RFF).

4.102 While Fiji had practiced partial implementation of rescue and firefighting services (RFFS) requirements for 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 RFF vehicle.

4.103 While acknowledging the contribution of sharing practices of Australia, New Zealand, and other States, further deliberation on this issue would be beneficial at the AP-ADO/TF/6 in 2025.

Integration of Advanced Air Mobility elements with existing heliports - Challenges and Way Forward (WP/21)

4.104 Presented by Hong Kong, China, WP/21 discussed the challenges and way forward for integrating Advanced Air Mobility (AAM) elements with existing heliports and called for the development of new SARPs for vertiports which are essential infrastructure for supporting AAM-related technologies, including eVTOL aircraft operations.

4.105 AOP/SG/8 noted the rapid development of AAM-related technologies with the potential to revolutionize urban transportation in a city, bringing about an increase in demand for vertiports around the world. The integration of AAM elements with existing heliports would present both challenges and opportunities, requiring suitable consideration of regulatory, infrastructure, and community-related factors.

4.106 Airports Council International (ACI) informed the Meeting that they had published a policy brief to set forth the ACI's positions and key policy statements on the integration of AAM into the airport environment. It was also mentioned that the Vertiport Design Subgroup under the Heliport Design Working Group at ICAO HQ had been in discussion for new SARPs for vertiports.

4.107 AOP/SG/8 was informed that ICAO's First Advanced Air Mobility Symposium (AAM 2024) would take place from 9 to 12 September 2024, in Montréal, Canada with the theme "*Advanced air mobility (AAM) global harmonization and interoperability: Challenges and opportunities*".

Tolerance in Physical Characteristics of Aerodrome (WP/25)

4.108 Presented by Malaysia, WP/25 discussed tolerance studies and proposed deviations in aerodrome physical characteristics, emphasizing the importance of Annex 14 guidelines for maintaining safe and consistent operations. These guidelines would help regulatory authorities and aerodrome operators manage acceptable deviations, balancing practical design variations with safety and efficiency.

4.109 The permissible deviations and tolerances in aerodrome physical characteristics that require deliberation include:

(1) markings - Annex 14 Volume I Chapter 5 specifies the colors, dimensions, and spacing for all movement area markings, such as runway and taxiway center lines, threshold and side stripe markings, runway holding position markings, and various apron markings.

(2) aeronautical ground light - Annex 14 mandates uniform spacing of runway edge lights, with a maximum interval of 60 meters for instrument runways and 100 meters for non-instrument runways. Irregular spacing can result from construction, maintenance, or design flaws. The UK CAA CAP168 specifies a spacing of 60 meters ± 6 meters for runways up to 50 meters wide, with closer spacing for wider runways as needed.

(3) wind Directional Indicator Circular Band - Annex 14 advises that wind direction indicators should have a circular band with a 15-meter diameter and 1.2-meter width. Variations of 3-5% larger are observed due to construction or maintenance, requiring clarification on acceptable tolerances.

(4) location Distances for Taxiing Guidance Signs - Clarification is needed to define "pavement edge" in Annex 14, which specifies distances from taxiway and runway edges to signs based on aerodrome code. It must be determined if this measurement starts from the outer side stripe markings or the pavement's furthest edge.

4.110 AOP/SG/8 agreed that the detailed discussion on these issues should be held in AP-ADO/TF/6 including the tolerance on spacing of runway centreline lights.

ICAO HQ Update on AGA Matters (IP/03)

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

Comprehensive Wildlife Hazard Management (IP/04)

4.112 Incheon International Airport's wildlife hazard management program included a team of experienced personnel conducting daily inspections and monthly ecological surveys to mitigate bird strikes and animal intrusions while protecting biodiversity. Key measures include nest removal, bird deterrents, rodenticide application, and collaborative efforts to capture harmful animals, ensuring high standards of aviation safety and ecological balance.

USOAP CMA Protocol Questions – 2020 Edition and State Safety Programme Implementation Assessment (IP/05)

4.113 IP/05 introduced the 2020 edition of the Protocol Questions (PQs) of the ICAO Universal Safety Oversight Audit Programme Continuous Monitoring Approach and integration of State Safety Programme Implementation Assessment (SSPIAs) into traditional USOAP CMA activities (C-DEC 225/7 refers). The integrated methodology to conduct USOAP activities including SSPIAs had been planned to be officially launched in 2025.

ICAO Initiatives to Assist States in AGA Area (IP/06)

4.114 IP/06 summarized the initiatives taken by ICAO to provide technical assistance to Asia Pacific States in AGA area through various platforms from 2015 to 2024.

Enhanced Global Reporting Format for Assessing and Reporting Runway Surface Condition (GRF) (IP/07)

4.115 IP/07 presented the updated status of GRF implementation by Asia and Pacific States. 15 States had informed ICAO APAC that they had implemented GRF in 2021; however, only 13 States from Asia and Pacific Regions have published procedures for assessment and reporting of runway condition report in AIP as of 22 March 2024.

4.116 China informed the Secretariat that they have published the procedure for assessment and reporting of runway surface conditions and issue of SNOWTAM and provided a copy of AIP (with effective date of 15 January 2023) as evidence.

Seaplane Operations in the Maldives (IP/15)

4.117 Presented by Maldives, IP/15 provided an overview of seaplane operations in the Maldives, detailing the certification and licensing procedures for water aerodromes and landing sites. As a widely dispersed archipelago heavily reliant on tourism, Maldives depends significantly on seaplanes to connect Velana International Airport with remote resort islands. These operations are crucial for overcoming challenges posed by adverse weather conditions, particularly during the south westerly monsoon season, thereby facilitating efficient inter-island travel.

4.118 IP/15 explored the historical evolution of seaplane operations, outlined the regulatory framework, talked about the main base of seaplane operations at Velana International Airport and its water aerodrome with multiple runway system that had been a positive impact for timely transportation.

4.119 The paper also discussed significant safety concerns and mitigation measures, air traffic control strategies, and outlined criteria for selecting suitable landing sites. It also addressed to mitigate environmental impact, and infrastructure costs associated with seaplane operations. With Velana International Airport serving as the central hub, the paper analyzed challenges arising from high demand, airspace management issues, and economic factors impacting the region. Emphasizing ongoing efforts, the paper underscored the importance of ensuring safe, sustainable, and efficient transportation across the seaplane operations in the Maldives.

4.120 AOP/SG/8 emphasized the significance of the Asia-Pacific water aerodrome guidelines having become global standards. The Chair expressed gratitude to everyone who contributed to making these guidelines a global standard.

Challenges in Emergency Response and RFFS for Seaplane Operations (IP/16)

4.121 Maldives presented an overview of the Challenges faced in the provision of Emergency Response & Rescue and Firefighting at Velana International Airport (VIA), the main hub of seaplane operations in the Maldives, and the remote locations where seaplane operations being conducted.

4.122 The paper also discussed the regulatory framework, especially MCAR 138 Part C requirements for the Emergency Response Plan (ERP), establishment of the appropriate response time, conducting appropriate emergency exercises and the timely training that needs to be conducted for Seaplane Handling Agents at remote locations designated as seaplane landing sites.

4.123 The paper highlighted the challenges experienced with regards to access to accident sites, with special emphasis on remote sites, area of responsibility when multiple jurisdictions are at play, communication issues between responding agencies, equipment requirements for both the main base of operations and remote locations, provision of medical care at remote sites, environmental concerns during aircraft salvage operations, rescue operations in adverse weather conditions, fuel

facility management, with specific emphasis on response times and both the main hub and remote locations and finally drills and simulations for the upkeep of the emergency response.

The Airport Master Plan Designing (IP/17)

4.124 Presented by India, IP/17 shared an overall concept for long-term development of Airports Authority of India (AAI) airports through airport master plan.

4.125 Airport master plan document provides a road map for efficiently meeting aviation demand through the foreseeable future while preserving the flexibility necessary to respond to changing industry conditions. Airport Master Plan is a critical planning tool for determining the future requirements of an airport and provides a vision for realizing its ultimate potential. The primary purpose is to establish an orderly development concept to guide the airport's short, medium, and long-term measures and assist airport management and stakeholders in making informed decisions.

4.126 The AAI's Master Plans prepared for a total of 118 airports represent a comprehensive strategy aimed at fostering sustainable growth, enhancing connectivity, and supporting economic development through strategic infrastructure investments. These plans are instrumental in shaping India's aviation future, ensuring it remains resilient and dynamic in meeting the demands of the 21st century

Preparation for ICAO USOAP CMA Audit in Viet Nam –Lessons Learned (PPT/01)

4.127 Civil Aviation Authority of Vietnam (CAAV) shared lessons learned during the preparation for the USOAP CMA Audit which conducted in Viet Nam on 15 - 27 May 2024. The Audit official report would be expected to be out around next month; however, as per the preliminary result presented during Audit closing meeting, AGA had got good EI score. The lessons came from both regulator (CAAV) and aerodrome operator (Airport Cooperation of Vietnam – ACV) are:

(1) **Early preparation**: Vietnam triggered the action plan right after the ICVM in 2016. Civil Aviation Authority of Vietnam (CAAV) requested TA mission from ICAO APAC to Vietnam early 2018. To follow up this TA mission, CAAV team sent to ICAO APAC in the same year to work with ICAO AGA expert on necessary corrective action plan (CAP) and come-up with preparation roadmap for possible coming audit. The roadmap started from update documents, inspectors training to aerodromes re-certification then carrying-out surveillance plan with clear enforcement policy.

(2) **International cooperation**: COSCAP-SEA and CAT missions conducted in Vietnam from 2018-2024. The missions played a crucial role in helping CAAV to review the progress and make sure the things moving on the right direction. The advice/idea from experts have been taken into CAAV's consideration and action.

(3) **Mock Audit**: The Mock Audit conducted in April 2024 under the arrangement from COSCAP-SEA helped CAAV to confirm the understanding of PQs requirements, technique to respond to PQs, evidence to show to PQs and operator's preparation for industry visit.

(4) **Commitment from leaders**: The commitment for safety as the top priory of aviation activities by Transport Minister and Director General of CAAV during the opening meeting was highly appreciated by audit team.

4.128 Airports Corporation of Vietnam (ACV) presented on the preparation process leading to the USOAP-CMA AUDIT industry visit at Noi Bai International Airport and the lessons learned afterward:

(1) The industry visit is an important part of the USOAP-CMA AUDIT as it reflects the implementation of State's regulation.

(2) Airport operators should start preparation and develop action plans early.

(3) Strict adherence to the maintenance plans and inspections should be conducted regularly up to the date of the audit to make sure that the action plan has been implemented and to detect any issues that may arise. Airport operators to ensure completion of corrective action plan before date of audit.

(4) Airport operators should make sure that all stakeholders at the airport are aware of the audit.

(5) Arrangement for the Mock Audit was very beneficial and encouraged.

(6) During the industry visit, apart from the PQs which mentioned "Check during industry visit", auditors could request to check for additional information (for Noibai International Airport, auditor requested to check the Bird and Wildlife Control Program).

(7) The industry visit was very fast paced; answers and evidences (records) should be presented to the auditor almost immediately. To be able to do so, files/documents/proof of work should be arranged (either digitally or by hard copies) in a logical manner.

4.129 AOP/SG/8 was informed that Viet Nam has adapted most of the APAC Regional Guidance Materials for the establishment of the regulatory framework for safety oversight of aerodromes and were very useful.

4.130 AOP/SG/8 noted the crucial role of the active support from the Minister. The AOP/SG/8 highlighted that the Minister's involvement and backing were essential in achieving these positive results. Additionally, AOP/SG/8 noted the strengthened regional and international cooperation with ICAO and the collaborative efforts of The Airports Corporation of Vietnam (ACV) with the airport authorities.

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Agenda Item 5: Air Navigation Deficiencies in AOP Area

Status of Air Navigation Deficiencies in AOP Field (WP/17)

5.1 AOP/SG/8 reviewed the list of Air Navigation Deficiencies in the AOP field endorsed by APANPIRG/34.

5.2 AOP/SG/8 noted that 6 States including Bangladesh, China, Nepal, Thailand, Timor-Leste and Viet Nam provided updates on their Air Navigation Deficiencies in the AOP field.

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

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

5.4 The following four aerodromes used for international operations in India were added in the list of the Air Navigation Deficiency in AOP Field based on the AD 1.3 & 1.5 of eAIP India effective from 13 June 2024 as they were not certified yet:

a) GORAKHPUR (VEGK);

b) HINDAN (VIDX);

c) JODHPUR (VIJO); and

d) VISAKHAPATNAM (VOVZ)

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

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

5.6 Considering the progress made by States in resolving deficiencies related to the certification of aerodromes and publication of the status of certification of aerodromes in AIP AD 1.5 it was recommended that above deficiencies be removed from APANPIRG Air Navigation Deficiency List in AOP Field (**Appendix L**). However, AOP/SG/8 recommended to add in the List of the air Navigation Deficiencies four uncertified aerodromes from India and submit to APANPIRG/35 for consideration.

5.7 The updated *List of Air Navigation Deficiencies in AOP Field* placed at **Appendix L** to the Report.

5.8 The updated *List of AOP Focal Points* placed at **Appendix M** to the Report.

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Agenda Item 6: Airport Environmental Initiatives

Elimination of Single Use-Plastic and Biodiversity Management at Airports (WP/20)

6.1 ACI with WP/20 shared good practices at airports in the region in sustainable waste management and preserving biodiversity which were themes of the 2023 and 2024 edition of its annual Green Airport Recognition programme. The practices promoted were aimed at helping airports to reduce wastes produced during airport operations, especially those that were to be sent to landfills; and to preserve biodiversity all the while without compromising aerodrome safety in particular in the area of wildlife hazard control.

6.2 The Republic of Korea and India expressed support to the paper and ACI's initiative in promoting good practices in waste management and preserving biodiversity. The Republic of Korea also shared their experience in waste management, for example in the recycling of construction waste; and encouraged other States to share and adopt good practices in waste management.

6.3 ICAO HQ thanked ACI for the working paper and briefly introduced the work of CAEP, in particular the work of Working Group 2 (Airports and Operations) under CAEP. The working group had produced an eco-airport toolkit and was expected to add two new guidance documents to the toolkit in 2025, including one on the preservation of biodiversity. The meeting was encouraged to make use of the toolkit and promote biodiversity in the region.

6.4 On the reduction of single use plastic, ICAO HQ informed the meeting that the Green Airport Seminar held in February 2024 in Athens discussed the reduction of use of plastic in aviation activities and that a recording of the seminar was available for free online on ICAO TV.

6.5 India also shared their experience in the segregation of waste at Bangalore airport and commented that States and Industry should collaborate to seek sustainable alternatives to plastic in aviation.

Effective Airport Noise Management for Harmonious Coexistence (IP/08)

6.6 The Republic of Korea's proposal on effective airport noise management reflected the Asia-Pacific region's strong commitment to environmental issues. This initiative included comprehensive measures such as the installation of soundproofing and air conditioners, subsidies for electricity bills, and resident support projects, alongside noise impact assessments and low-noise flight procedures. These efforts aimed to enhance the quality of life for residents around airports and contribute significantly to sustainable development.

6.7 ACI expressed support to the Republic of Korea's paper and appreciation for their efforts in noise management.

Green Initiatives at Cochin International Airport (IP/18)

6.8 Presented by India, IP/18 shared Cochin International Airport's journey to become the world's first fully solar-powered airport and pioneering sustainable aviation. Starting with a 12 MWp solar power plant in 2015, the capacity had expanded to over 50 MWp. The project included ground-mounted, rooftop and floating solar panels significantly reducing airport's carbon footprint by offsetting around 75,000 metric tons of CO2 annually. Beyond solar power, CIAL had initiated additional green energy projects, including the Arippara Hydroelectric Project and the construction of a green hydrogen plant. The airport also implemented comprehensive energy and water conservation plans such as upgrading to LED lighting, utilizing rainwater harvesting systems and encouraging the use of electric vehicles. These initiatives ensured energy independence and cost savings while setting a global example of environmental stewardship and sustainable development in the aviation industry.

6.9 ACI congratulated India's effort in promoting the use of solar panels at and in the vicinity of airports. ACI advised the AOP/SG/8 Meeting that it had signed an MOU with the International Solar Alliance to increase the deployment of solar panels at airports worldwide. ACI also encouraged the States and aerodrome operators to make use of the ACI "Airport Solar PV Implementation Guidance Document" available for free download at ACI's *website* .

6.10 The Republic of Korea supported the green initiatives presented by India in IP/18 at Cochin International Airport, recognizing the shared commitment to sustainability and innovation in aviation. Incheon Airport planned to establish a 15 MW solar power complex, expected to produce 387 GWh of renewable energy by 2044, reducing greenhouse gas emissions by up to 180,000 tons. This underscored Korea's dedication to sustainable energy and environmental stewardship.

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Agenda Item 7: Airport Innovation and Technology

Improving the Quality and Efficiency of Airport Construction with Digital Building Technology (WP/22)

7.1 China shared their experience in the application of digital technology by China's civil aviation sector in the entire airport construction lifecycle, including site selection, design, and construction using Building Information Modelling (BIM) technology, which had enhanced the intelligence level of airport construction.

7.2 AOP/SG/8 promoted the application of digital construction technology for airport construction and encouraged member States/Administrations, industries, and research institutions worldwide to initiate multinational collaborative projects to drive technological innovation and foster knowledge sharing and gradually establishing industry standards.

7.3 The Republic of Korea supported WP/22.

7.4 AOP/SG/8 noted that this year's progress is truly impressive, as the focus has expanded beyond last year's emphasis on airport site selection to now include design, construction, operation, and maintenance through the application of digital technology. AOP/SG/8 also emphasized the need for a state-led digital platform to support these advancements and ensure the standardization of all airports.

Baggage Handling Systems Optimization and Automation (IP/09)

7.5 Incheon International Airport had maintained a low mishandled baggage rate of 2 per million, with only 154 mishandled bags recorded over the past five years. To sustain this achievement post-completion of the phase 4 construction project, the airport planned to introduce optimization tools and automation processes for the Baggage Handling System (BHS). The integration and operation of the current and new systems are progressing smoothly. The goal was to implement a fully automated system using robots to enhance service quality further.

Digital Apron Tower: Transforming Airport Operations (IP/10)

7.6 Presented by the Republic of Korea, IP/10 introduced a cutting-edge Digital Apron Tower system currently being deployed at Incheon International Airport, which enhanced traditional apron control towers with advanced technologies such as AI, AR, voice recognition, and video recognition. This integration aimed to improve situational awareness and decision-making for air traffic controllers by providing a panoramic view, gate-specific monitoring, and a real-time digital twin of the airport. The system would be implemented in two phases: the first phase focusing on the 2nd Apron Control Tower, and the second phase expanding to the entire airside. This initiative, which aimed to enhance aircraft surveillance, minimize human errors, and improve overall air traffic control services, sets a new standard in airport operations.

7.7 Hong Kong, China provided an update on the implementation status of the Digital Apron and Tower Management Systems (DATMS) at the Hong Kong International Airport. Phase 1 of DATMS was commissioned in July 2022 to support the operation of North and South Runway. Phase 2 of the system is underway with the target for commissioning in 2024 to support the Three Runway System operations.

Initial Study on Airport Operation Innovation (IP/11)

7.8 Airports, with their large onsite workforces, are particularly vulnerable to human error, and the shortage of skilled staff following pandemic outbreaks has increased safety incidents and security concerns. To address these challenges, the Korea Transport Institute (KOTI), in collaboration

with the Ministry of Land, Infrastructure, and Transport, airport operators, ground handling service providers, and innovative startups, is conducting integrated research to enhance airport safety and efficiency by transforming operations through digitalization and automation. This initial study outlines goals, key focus areas, and implementation phases.

7.9 The Republic of Korea Civil Aviation Authority (CAA), in collaboration with the Korea Transport Institute (KOTI), has been conducting a study to enhance airport safety and efficiency through digitalization and automation to address the increased safety incidents and security concerns due to the shortage of skilled staff following the COVID-19 pandemic. By utilizing advanced technologies such as artificial intelligence (AI), the Internet of Things (IoT), and big data analytics, the study aimed to implement autonomous driving, robotics, and biometric systems to maximize operational efficiency. Key focus areas included ground handling and cargo terminals, airport operations, and passenger services. The implementation phases were divided into short-term, medium-term, and long-term goals, with an emphasis on creating sustainable and energy-efficient airport operations.

Penalty Point System for Vehicle & Equipment (IP/19)

7.10 India shared Bangalore International Airport's (BIAL) experience in establishing a penalty points system for ground service equipment (GSE) and vehicles at Kempegowda International Airport Bengaluru to encourage and ensure strict adherence to safe practices while giving the individual an option to improve. The process took more than two years to implement.

7.11 Since the implementation of the GSE penalty system in January 2024, the serviceability standards of the vehicles and equipment operating in the airside had shown improving trend. While it was not an easy task to introduce the new system, BIAL had implemented effective change management to ensure adaptability of all the stakeholders. This included extensive discussions, soft launch in January 2023, confidence-building measures and demonstration of possible advantages which could be derived out of the system.

7.12 AOP/SG/8 commended the innovative approach that promotes a safety culture and ensures effective vehicle and equipment maintenance management, particularly for GHSP. Additionally, Singapore and the Republic of Korea also noted that suspensions from work could place a burden on other employees, and there might be issues with avoiding the suspension by implementing it on off-duty days.

The Digi Yatra Journey (IP/20)

7.13 Considering the growth projections and its direct impact on passenger journey, Airports Authority of India (AAI) had adapted the key initiative to reimagine air travel in India looking beyond the conventional "build a bigger Airport to manage more Passengers" to look for innovation and technology for better and cost-effective solutions. One of the key adaptations in this direction was "The Digi Yatra" which intended to give a seamless, contact-less, hassle-free and paperless journey experience to every air traveler in India. Using a cutting-edge Identity Management and "Face recognition" technologies, it aimed to simplify the passenger processes at various check points at the airport right from terminal entry gate, check-in/bag drop, security check and boarding gates.

7.14 ACI expressed appreciation for China, ROK and India's sharing of their successful experience in applying innovative technologies in airport design, construction and operations.

7.15 ACI also announced that ACI had launched an annual award programme to encourage innovation in aerodrome safety. The purpose of the programme was to recognize airport operators for their efforts and achievements in promoting safety culture and safety management, and devising innovative, cost-effective solutions to safety problems. The theme of the 2024 edition of the award was "safety promotion". Airport operators were encouraged to submit papers to ACI by the end of

November 2024. The papers would then be evaluated by a panel of judges based on the effectiveness in solving the safety problem, innovativeness and applicability at other airports. Sitting on the panel of judges would be the Regional Directors of ICAO APAC and ICAO MID, and the Director General of ACI APAC & MID. The first award would be given at the ACI regional assembly in Delhi in April 2025. The meeting was encouraged to find out more about the award programme by searching online for "ACI Asia-Pacific & Middle East Safety Recognition Award".

7.16 AOP/SG/8 commended the initiative for passenger service innovation and emphasized addressing these challenges. Cooperation among stakeholders such as airlines, customs, immigration authorities, and other government agencies is crucial, especially for data sharing and security issues, to successfully implement a project like Digi Yatra.

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Agenda Item 8: AOP/SG Task List

APANPIRG AOP Sub-Group Task List (WP/18)

8.1 The meeting reviewed and updated AOP/SG Task List presented by the Secretariat and placed at **Appendix N**.

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Agenda Item 9: Any other business

Implementation of Evaluating the Airport Pavement Bearing Strength by ACR-PCR Software in China (WP/23)

9.1 Presented by China, WP/23 introduced the methodology of conducting the ACR-PCR calculation in China, as well as the procedures of how to use the CAAC-PCR software developed by CAAC and Tongji University. Key features of this software included both technical evaluation and experience evaluation, making convenient for users who could hardly find the input parameters of pavements.

9.2 CAAC had implemented this software in multiple airports and then comparing the results with other similar software to reveal the reliability of this software. Also, the PCR calculation of asphalt pavement would be integrated into this software once it would be ready.

9.3 AOP/SG/8 noted that China would make their software available on the CAAC Website for reference by other member States of Asia/Pacific Region. Australia thanked China for sharing their methodology of conducting the ACR-PCR calculation using the CAAC-PCR software developed by CAAC and Tongji University for rigid pavement.

Challenges and Coping Strategies for the Adjustment of Airport Surface Intensity Report (WP/24)

9.4 China shared the challenges encountered by them during transition of the reporting airport pavement bearing strength from ACN-PCN method to the ACR-PCR method. Civil Aviation Administration of China (CAAC) had completed all the preparation and testing work for this task and approaching the final stage of reporting all the paperwork associated with this task.

9.5 The paper suggested States/Administrations to conduct this work as early as possible and encouraged to use the technical evaluation. Acknowledging that the ACR being the basis for PCR calculation, ICAO was advised to request the aircraft manufacturers to publish their aircraft ACR to facilitate the member States/Administrations to move forward on this task.

The Airport Characteristic of C919 (WP/26)

9.6 Presented by China, WP/26 shared the development of C919 aircraft, the first jet type trunk liner independently developed by China, and its characteristics for airport compatibility assessment study.

9.7 The paper invited Asia/Pacific States to pay attention to C919 operational requirements into the design and operation processes of airports, in anticipation that Asia Pacific States would be the main service users of C919. In addition, ICAO was advised to incorporate C919 characteristics for airport design into the relevant ICAO Document, including Aerodrome Design Manual (Doc 9157).

9.8 Member States were encouraged to conduct the airport compatibility assessment ahead and requested to provide feedback to CAAC to help C919 manufacturer to obtain information of airport and ground support equipment service environment of member States.

Supply and Use of Information on Earthquakes (WP/27)

9.9 The Secretariat presented WP/27 regarding an issue raised by Indonesia at the Twenty-eighth Meeting of the Meteorology Sub-Group (MET SG/28) concerning the supply and use of information on earthquakes that adversely affect airports and their facilities.

9.10 AOP/SG/8 noted that Indonesia had informed MET SG/28 about its experience and practice in integrating earthquake and tsunami information into aerodrome warnings to ensure the safety of aerodrome and flight operations. Indonesia's integrated system relay information to aircraft in flight and other aviation stakeholders on tsunami and destructive earthquakes that adversely affect airports and their facilities.

9.11 While the aerodrome warning being used by the meteorological service provider to give concise information on tsunami, when destructive earthquakes occur but tsunami are not expected, Indonesia's system also enables the meteorological service provider to use sirens and audio announcements to convey information on earthquakes. In both scenarios, Indonesia's system enables information concerning the tsunami or earthquake hazard to be distributed using NOTAM.

9.12 Indonesia highlighted the absence of ICAO provisions that specifically refer to the supply and use of information on earthquakes that adversely affect airports and their facilities.

9.13 While ICAO provisions for aerodrome warnings (ICAO Annex 3 provisions, together with the *APAC Regional Guidance on Aerodrome Warnings for Tsunami – Appendix to AOP/SG/8 – WP/27 refers*) enable States to give concise information (to operators, flight crew members and air traffic services units) on tsunami which may adversely affect aircraft on the ground, including parked aircraft, and the aerodrome facilities and services, the criteria for issuance of aerodrome warnings do not include earthquakes.

9.14 MET SG/28 had noted that the ICAO provisions above do not pertain to the responses (to tsunami aerodrome warning information) by the users (i.e., operators, flight crew members, air traffic services units, search and rescue services units, airport managements and others concerned with the conduct or development of international air navigation). Furthermore, apart from the ICAO provisions mentioned above, MET SG/28 was not aware of guidance for the air traffic management and airport communities that specifically refers to the supply and use of information on tsunami or earthquakes that adversely affect airports and their facilities.

9.15 The above information was provided to AOP/SG/8 as per ACTION MET SG/28-27.

Strategies for Implementing ACR-PCR (IP/12)

9.16 Presented by the Republic of Korea, IP/12 highlighted the key changes in the new method included all aircraft and actual operating conditions, calculation of pavement thickness using Cumulative Damage Factor (CDF) and elastic analysis, and expression of pavement strength through Aircraft Classification Rating (ACR) and Pavement Classification Rating (PCR). In the case of Incheon International Airport, pavement strength evaluation was conducted using the FAARFIELD program, analyzing annual takeoff and landing counts and pavement characteristics. This evaluation was carried out in stages, from phase 1 to phase 4 of construction, resulting in pavement strength values that take into account various aircraft types and expected traffic volumes. Through this strategy, to enhance the safety and efficiency of airport operations, the Republic of Korea collaborated with ICAO, member States, and industry stakeholders, aiming for efficient and accurate system implementation

9.17 AOP/SG/8 emphasized the need to establish specific criteria for re-evaluating the PCR if there are significant changes in traffic, in order to ensure sustainability under Aerodrome Design Manual (DOC 9157), Part 3, 1.1.2, the concept of the ACR-PCR method.

Global Aviation Industry Trends (IP/13)

9.18 IP/13 offered crucial insights into the resilience and future outlook of the aviation industry post-COVID-19 pandemic. The increase in passenger and cargo transport was encouraging. For the Asia-Pacific Region, there was a need to focus on securing human resources, enhancing aviation

security, reducing carbon emissions through sustainable aviation fuel (SAF), adopting advanced technologies, and strengthening supply chains.

Implementation Roadmap and Challenges in Malaysia's Transition From ACN-PCN to ACR-PCR System for Aerodrome Pavement Bearing Strength (IP/14)

9.19 Malaysia Airports Holdings Berhad (MAHB) had developed a two-phase migration plan for transitioning to the ACR-PCR system across its 22 airports:

(1) Phase I: Declaration using Aircraft Experience (U) - 2024
(Facilitated by Subject-Matter Expert and internal committee members utilizing the ICAO ACR ver1.4 software)

(2) Phase II: Declaration using Technical Evaluation (T) - 2024-2028
(Conducted by external parties, pavement expert to evaluate pavement design and conduct on-site non-destructive test and using FAARFIELD Software)

9.20 The implementation process included establishing a task force team, training and awareness team members, collecting and validating data, updating documentation, collaborative validation sessions with Civil Aviation Authority of Malaysia and planning for technical evaluations.

9.21 The migration from the ACN-PCN to ACR-PCR pavement strength reporting entailed significant challenges, such as adapting to new methodologies, ensuring project compliance, and managing resource-intensive data collection. The transition also required effective coordination, overcoming financial constraints, and addressing technical limitations in existing software and equipment.

Smart Airport Access Control and Runway Safety Solution with AI (PPT/02)

9.22 Golden Wealth shared challenges of existing Access Control System and FOD Detection System and proposed solutions powered by AI Technology. It emphasised on Digital Identity with Facial Recognition technologies which enhanced Airport safety and provided ease of access for Airport Staffs/ Contractors ensuring work in safe environment.

9.23 Using existing CCTV system and integrated with AI technology could facilitate Airport security control and identifying abandon bags or missing person in efficient manners.

9.24 For runway safety, FOD system with continuous AI learning, greatly improves accuracy and minimize false alerts. In addition, the solution helped knowledge retention and overcoming complicated environment in operation and maintenance. While the solution was designed with scalable architecture, one FOD system could accommodate for small or large airport with multiple runways.

9.25 Effective Smart Airport Access Control and AI enabled FOD detection were crucial for airport and flight safety, operation efficiency and sustainable for operation continuity.

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Agenda Item 10: Provisional Agenda, Date and Venue of Next Meeting

Provisional Agenda, Date and Venue of Next Meeting (WP/19)

10.1 AOP/SG/8 reviewed the draft agenda proposed by the Secretariat and agreed on the following Provisional Agenda for AOP/SG/9:

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 of Aerodromes – Certification and Operations of Aerodromes – Capacity Development and Trainings
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 – Development and Implementation of WHM Programme
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 Task List
Agenda Item 11:	Provisional Agenda, Date and Venue for the Next Meeting

10.2 The Ninth Meeting of the AOP/SG would be held in June/July 2025 with a duration of 5 days. The venue would be ICAO APAC Office, Bangkok. State willing to host the Ninth Meeting of the AOP/SG may communicate to ICAO APAC Office.

10.3 ACI proposed adding "Development and Implementation of WHMP" to Agenda Item 5 of the provisional agenda of the next meeting, in view of ICAO APAC State Letter AN 3/3 -AP014/23 (AGA) issued in January 2023, that urged States to develop a State Action Plan for the establishment and implementation of WHMP in accordance with a template developed by WHM-WG and to execute the plan by 2026. The meeting discussed and agreed to the proposal.

Closing of the meeting

10.4 Mr. Jaehong Jung, Chairperson of AOP/SG expressed appreciation for the persistent active contributions to the Meeting highlighting the comprehensive discussions on safety, environment and digital innovation. Remarkable efforts in post-pandemic recovery were noted with significant progress in overcoming challenges and achieving growth. Commending the progress since the last Meeting, the Chair looked forward to the deliverables for the next Meeting and concluded by wishing everyone an enjoyable remaining time in Bangkok and thanking all participants for their hard work.

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