



ICAO

The Fifth Meeting of the Aerodromes Operations and Planning Sub-Group (AOP/SG/5)

Video Teleconference, 29 June to 2 July 2021

Agenda Item 4: Provision of AOP in the Asia/Pacific Region
 – **Reports of Working Group/Task Force Meetings**

REPORT ON THE SECOND MEETING OF THE ASIA/PACIFIC AERODROME DESIGN AND OPERATIONS TASK FORCE (AP-ADO/TF/2)

(Presented by Chairperson of AP-ADO/TF)

SUMMARY

This paper presents the Report of the Second Meeting of the Asia/Pacific Aerodrome Design and Operations Task Force (AP-ADO/TF/2).

This paper relates to –

Strategic Objectives:

A: Safety – Enhanced global civil aviation safety

B: Air Navigation Capacity and Efficiency – Increase Capacity and improve efficiency of the global civil aviation system

1. INTRODUCTION

1.1 The Second Meeting of the Asia/Pacific Aerodrome Design and Operations Task Force (AP-ADO/TF/2) was held as a video teleconference on 26 - 29 January 2021. AP-ADO/TF/2 was attended by 62 participants from 13 Member States and 3 International Organizations.

1.2 The full report of the meeting is posted on the ICAO APAC Office website and can be accessed through the following link:

<https://www.icao.int/APAC/Meetings/Pages/2021-AP-ADO-TF2.aspx>.

1.3 The **Attachment A** to this Paper provides a Summary Report of the AP-ADO/TF/2 Meeting for review by the AOP/SG/5.

1.4 Appendices referred in this Working Paper and **Attachment A** carry the same Appendix numbers as those in the Report of the Meeting for easy reference.

2. DISCUSSION

AP-ADO/TF/2

2.1 There were 13 Working Papers, 5 Information Papers and 2 Presentations considered by the Meeting.

2.2 Some important discussions of the AP-ADO/TF/2 Meeting are summarized as below:

Asia/Pacific Seamless ANS Plan (WP/03)

2.3 AP-ADO/TF/2 noted that the objective of the *Asia/Pacific Seamless Air Navigation Service (ANS) Plan V3.0* was to facilitate Asia/Pacific seamless ANS operations by developing and deploying ATM solutions capable of ensuring safety and efficiency of air transport throughout the APAC region. The *Plan* provided a framework for a transition to a seamless ANS environment, in order to meet future performance requirements. The *Plan* can be downloaded from ICAO APAC Website:

<https://www.icao.int/APAC/Documents/edocs/Asia%20Pacific%20Seamless%20ANS%20Plan.pdf>

2.4 AP-ADO/TF/2 further noted that the Preferred Aerodrome/Airspace and Route Specification (PARS) Phase II in Aerodrome Operations had an expected implementation date of 7 November 2019. It had been developed for aerodrome operations in the areas of (1) aerodrome management and coordination services; (2) facilities to optimize runway capacity; and (3) Airport Collaborative Decision Making (A-CDM) system. Full details were contained in paragraph 7.1-7.3 of the *Plan*.

2.5 Prior to implementation, each State should verify the applicability of PARS by analysis of safety, ATM capacity requirements to meet current and forecast traffic demand, efficiency, predictability, cost effectiveness and environment to meet the expectations of stakeholders. The PARS elements would be either: a) not applicable; or b) already implemented; or not implemented.

2.6 AP-ADO/TF/2 urged States / Administrations to consider the implementation of PARS Phase II in Aerodrome Operations as contained in paragraph 7.1-7.3 of the *Asia/Pacific Seamless ANS Plan*.

Proposed Amendments, Adoption and Approval of Amendments to Annex 14 and PANS-Aerodromes (Doc 9981) (WPs 04, 05, 06 & 07)

2.7 AP-ADO/TF/2 noted information on:

- adoption of amendment 15 to Annex 14 — *Aerodromes, Volume I — Aerodrome Design and Operations* related to:
- proposal to amend Annex 6 Parts I, II, III, Annex 14, Volume I and PANS-OPS, Volume III, relating to offshore alternates, rescue and fire fighting for general aviation;
- approval of Amendment 3 to *Procedures for Air Navigation Services—Aerodromes* (PANS—Aerodromes, Doc 9981), which became applicable on 5 November 2020, except for amendments related to pavement rating which would become applicable on 28 November 2024; and
- adoption of Amendment 9 to Annex 14 – *Aerodromes, Volume II – Heliports*, which became applicable on 5 November 2020.

2.8 AP-ADO/TF/2 noted the following important dates related to Amendment 15:

	Provisions	Notify any disapproval by	Notify any difference and compliance by	Applicable on
a)	Provisions related to: (i) accommodation of aeroplanes with folding wing tips; and (ii) improvements to selected physical characteristics and visual aids.	20 July 2020	5 October 2020	5 November 2020
b)	Provisions related to airport master plan	20 July 2020	3 October 2022	3 November 2022
c)	Provisions related to pavement rating	20 July 2020	28 October 2024	28 November 2024

Pavement Construction in Altiports in Nepal (WP/12)

2.9 This paper presented the pavement designs of the altiports in Nepal, using an FAA publication on *Structural Design of Pavements for Light Aircraft*. With the designs, the pavement conditions were found satisfactory in general, although some pavement distresses due to construction defects or weathering effect were identified.

2.10 AP-ADO/TF/2 agreed to carry out further study on recommended minimum pavement thickness for altiports for inclusion as example in the *Draft Regional Guidance for the Design and Operations of Altiports*.

Draft Regional Guidance for the Design and Operations of Altiports (WP/13)

2.11 This working paper presented the preliminary draft on the *Regional Guidance for the Design and Operation of Altiports* prepared by Nepal and collaborated by Bhutan and India. The following was included in the draft:

- a) Table of Content;
- b) Determination of Runway Length for Altiports;
- c) Sample Runway Profile for Altiports; and
- d) Obstacles Limitation Surface (OLS) for Altiports.

2.12 A comparison table on the requirements for physical characteristics, OLS, visual aids among ICAO Annex 14, Volume I, *Instruction Technique sur les Aérodrômes Civils (ITAC)* by DGAC France and practices by CAA Nepal was also provided for the further development of the *Regional Guidance*.

2.13 AP-ADO/TF/2 noted that the following documents were identified as potential references for the development of the *Regional Guidance*:

- a) ICAO Annex 14 – *Aerodromes*, Volume I – *Aerodrome Design and Operations*;
- b) ICAO STOLPORT Manual (Doc 9150);
- c) ICAO Aerodrome Design Manual (Doc 9157), Part 1 – *Runways*;
- d) [FAA AC 150/5325-4B](#): *Runway Length Requirements for Airport Design*, Chapter 2 *Runway Length for Small Airplanes*;
- e) [FAA AC 150/5220-22B](#): *Engineered Materials Arresting Systems (EMAS) for Aircraft Overruns*;
- f) [CASA CAAP 92A-1\(0\)](#): *Guidelines on Aerodromes intended for Small Aeroplanes conducting RPT Operations*;
- g) ITAC, DGAC France;
- h) *Minimum Safety Requirements for Temporary / Unlicensed Aerodromes*, DGCA India; and
- i) *Flight Operations Requirements Aeroplane*, Appendix 9: *STOL Field Clearance Requirements*, CAA Nepal

2.14 AP-ADO/TF/2 agreed that the drafting of the *Regional Guidance* should proceed forward with the materials presented in the WP/12.

2.15 The meeting was informed that there were three aerodromes in Fiji with runway longitudinal slopes of 5 to 10%, similar to altiports in Nepal.

Task List of AP-ADO/TF (WP/09)

2.16 The task list of AP-ADO/TF was updated by the meeting and available at **Appendix A**.

Terms of Reference (WP/10)

2.17 AP-ADO/TF/2 noted that its TOR stated that the Task Force should last until September 2021. In the meantime, the current COVID-19 pandemic had reorganized priorities among States and Administrations, and the travel restrictions current implemented by States and Administrations had rendered face-to-face meeting impossible.

2.18 AP-ADO/TF/2 recognised that there was a need to allow additional time to complete the tasks assigned to this Task Force, as well as to provide flexibility in the mode of meetings. Opportunity was also taken to amend the name of “Asia/Pacific Seamless ATM Plan”, as it was renamed to “Asia/Pacific Seamless ANS Plan” with version 3.0 in November 2019, and to make some minor editorial changes.

2.19 AP-ADO/TF/2 endorsed the following Draft Decision to be considered by AOP/SG/5:

Draft Decision AP-ADO/TF/2-1: TOR of AP-ADO/TF	
What: That, the Terms of Reference of the Asia/Pacific Aerodrome Design and Operations Task Force be amended as in Appendix B of the Report of AP-ADO/TF/2.	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: To allow additional time to complete the tasks and to provide flexibility in the mode of meetings amid the current pandemic.	Follow-up: <input type="checkbox"/> Required from States
When: 29-Jan-21	Status: Draft to be adopted by Subgroup
Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: AP-ADO/TF	

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) review the Summary Report on the Second Meeting of AP-ADO/TF;
- b) review the Draft Decision presented in paragraph 2.18 for adoption by the Meeting; and
- c) discuss any relevant matters as appropriate.

Summary Report of AP-ADO/TF/2

HISTORY OF THE MEETING

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INTRODUCTION

1. Meeting

1.1 The Second Meeting of Asia/Pacific Aerodrome Design and Operations Task Force (AP-ADO/TF/2) was held as a video teleconference from 26 to 29 January 2021.

2. Attendance

2.1 62 participants from 13 Member States and 3 International Organizations attended the meeting.

3. Documentation

3.1 There were 13 Working Papers, 5 Information Papers and 2 Presentations considered by the Meeting.

Adoption of Provisional Agenda

1.1 The Provisional Agenda was adopted by the Meeting without amendment.

- Agenda Item 1: Review Outcome of Relevant Meetings
- Agenda Item 2: Planning, Design and Construction of Aerodromes
- Agenda Item 3: Regional Air Navigation Plan, Part II, Tables AOP I-1 & II-1
- Agenda Item 4: ICAO USOAP Findings and AOP Air Navigation Deficiencies
- Agenda Item 5: AP-ADO/TF Task List
- Agenda Item 6: Any Other Business
- Agenda Item 7: Provisional Agenda, Date and Venue for the Next Meeting

Agenda Item 1: Review Outcome of Relevant MeetingsRelevant Outcomes of AOP/SG/4 (WP/01)

1.1 WP/01 provided a summary of the outcomes of the Fourth Meeting of the Aerodromes Operations and Planning Sub-group (AOP/SG/4, video teleconference, 10 – 13 November 2020).

1.2 AP-ADO/TF/2 also noted the following Conclusion adopted by AOP/SG/4:

Conclusion AOP/SG/4-2 (AOPC SWG/4-1): Asia/Pacific Regional Guidance on Aerodrome Operations Personnel Competency Requirement Framework

That, the Asia/Pacific Regional Guidance on Aerodrome Operations Personnel Competency Requirement Framework provided in **Appendix B** to the **AOP/SG/4** Report be adopted and published on the ICAO APAC website.

Relevant Outcomes of APANPIRG/31 (WP/02)

1.3 WP/02 provided a summary of the outcomes of the 31st Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/31, video teleconference, 14 – 16 December 2020).

1.4 AP-ADO/TF/2 noted the following Conclusions adopted by APANPIRG/31 regarding Enhanced Global Reporting Format for Assessing and Reporting Runway Surface Conditions (GRF) and Runway Safety Team:

Conclusion APANPIRG/31/5 (AOP/SG/4-10): GRF Implementation Action Plan Template

That,

- a) The GRF Implementation Action Plan Template contained in **Appendix B** to Report on Agenda Item 3.1 be uploaded to ICAO APAC Website for reference by States / Administrations; and
- b) States / Administrations are requested to make reference to the GRF Implementation Action Plan Template and submit their own action plans to ICAO APAC Office by **28 February 2021**.

Conclusion APANPIRG/31/6 (AOP/SG/4-11): Runway Safety Team

That, States/Administrations to urge operators of aerodromes used for international operations to:

- a) establish runway safety teams (RSTs) in accordance with PANS-Aerodromes (Doc 9981) and ICAO RST Handbook; and
- b) participate in the ICAO RST Survey to register their RSTs.

1.5 On aerodrome design matters, AP-ADO/TF/2 noted the following Conclusion adopted by APANPIRG/31 subsequent to endorsement by AOP/SG/4:

Conclusion APANPIRG/31/7 (AOP/SG/4-13): Holding Bays and Multiple Entrance Taxiways

That, the ICAO HQ be invited to consider to:

- a) Review Figure 2-2 of ICAO Aerodrome Design Manual (Doc 9157), Part 2 *Taxiways, Aprons and Holding Bays* to tally with SARPs of runway-holding position marking and actual aircraft operations; and
- b) Review the current SARPs in Annex 14, *Aerodromes – Volume I, Aerodrome Design and Operations* to cater for the design of multiple entrance taxiways.

1.6 AP-ADO/TF/2 noted that the issue of holding bays and multiple entrance taxiways, as shown in the above Conclusion, and an issue with rapid exit taxiway (RET) design was discussed in Aerodrome Design Working Group (ADWG) meeting on 16-18 November 2020. The RET design issues was discussed in AOP/SG/4 (video teleconference, 10 – 13 November 2020). Full details were available in WP/23 and the final report of AOP/SG/4.

Agenda Item 2: Planning, Design and Construction of AerodromesAsia/Pacific Seamless ANS Plan (WP/03)

2.1 AP-ADO/TF/2 noted that the objective of the *Asia/Pacific Seamless Air Navigation Service (ANS) Plan V3.0* was to facilitate Asia/Pacific seamless ANS operations by developing and deploying ATM solutions capable of ensuring safety and efficiency of air transport throughout the APAC region. The *Plan* provided a framework for a transition to a seamless ANS environment, in order to meet future performance requirements.

2.2 The *Seamless ANS Plan* was expected to be implemented in several phases. No phase, nor any element, was binding on any State, but should be considered as a planning framework. The *Seamless ANS Plan* itself was therefore guidance material. The implementation dates of Preferred Aerodrome/Airspace and Route Specification (PARS) Phase II and Preferred ANS Service Levels (PASL) items align with the GANP Block 1 implementation.

2.3 AP-ADO/TF/2 noted that **PARS Phase II** in Aerodrome Operations had an expected implementation date of 7 November 2019. It had been developed for aerodrome operations in the areas of (1) aerodrome management and coordination services; (2) facilities to optimize runway capacity; and (3) Airport Collaborative Decision Making (A-CDM) system. Full details were contained in paragraph 7.1-7.3 of the *Plan*.

2.4 Prior to implementation, each State should verify the applicability of PARS by analysis of safety, ATM capacity requirements to meet current and forecast traffic demand, efficiency, predictability, cost effectiveness and environment to meet the expectations of stakeholders. The PARS elements would be either:

- a) not applicable; or
- b) already implemented; or
- c) not implemented.

2.5 AP-ADO/TF/2 urged States / Administrations to consider the implementation of **PARS Phase II** in Aerodrome Operations as contained in paragraph 7.1-7.3 of the *Asia/Pacific Seamless ANS Plan*.

Adoption of Amendment 15 to Annex 14, Volume I (WP/04)

2.6 WP/04 presented information on the adoption of Amendment 15 to Annex 14 — *Aerodromes, Volume I — Aerodrome Design and Operations*.

2.7 The main features of the proposed amendments were as follows:

- a) provisions related to airport master planning for the expansion of existing and construction of new airports to cater for the rapid growth of air transport;
- b) accommodation of aeroplanes with folding wing tips;
- c) a new methodology for reporting pavement strength;
- d) improvements to selected physical characteristics and visual aids used at aerodrome with the objectives of enhancing safety; and
- e) capacity and efficiency.

2.8 The amendment to the aerodrome operational management consists essentially the inclusion of notes to the specifications stemming from the amendment to the *Procedures for Air Navigation Services (PANS) – Aerodromes* (Doc 9981) as a result of the introduction of new chapters on aerodrome operational management.

2.9 AP-ADO/TF/2 noted the following important dates related to Amendment 15:

	Provisions	Notify any disapproval by	Notify any difference and compliance by	Applicable on
a)	All provisions except item b) and c)	20 July 2020	5 October 2020	5 November 2020
b)	Provisions related to airport master plan	20 July 2020	3 October 2022	3 November 2022
c)	Provisions related to pavement rating	20 July 2020	28 October 2024	28 November 2024

Proposed Amendments to Annex 6 Parts I, II, III, Annex 14 Volume I and PANS-OPS, Volume III (WP/05)

2.10 WP/05 presented information on a proposal to amend Annex 6 Parts I, II, III, Annex 14, Volume I and PANS-OPS, Volume III, relating to offshore alternates, rescue and fire fighting for general aviation and guidance arising from the Fifth and Sixth Meetings of the Flight Operations Panel (FLTOSP/5 and 6).

2.11 The proposal would exclude GA from the fire fighting provisions in Annex 14 — *Aerodromes, Volume I — Aerodrome Design and Operations*. Some States interpreted the current text to mean that all aerodromes, regardless of size and type of operations, must have dedicated RFF facilities. For small, exclusively GA aerodromes, this created a major burden and had resulted in the restriction of operating hours or even closure of the aerodrome.

2.12 AP-ADO/TF/2 noted that States and Administrations were requested to provide comments on the proposals to ICAO HQ no later than 19 March 2021, and that the proposed amendment was envisaged for applicability on 3 November 2022.

Approval of Amendment 3 to PANS-Aerodromes (WP/06)

2.13 WP/06 presented information on the approval of Amendment 3 to *Procedures for Air Navigation Services–Aerodromes* (PANS–Aerodromes, Doc 9981), which became applicable on 5 November 2020, except for amendments related to pavement rating which would become applicable on 28 November 2024.

2.14 Amendment 3 to the PANS-Aerodromes (Doc 9981) contained provisions related to the development of eight new chapters for inclusion in Doc 9981 regarding day-to-day aerodrome operational management arising from the PANS-Aerodromes Study Group (PASG) in coordination with the Secretariat and the Aerodrome Design and Operations Panel (ADOP) and consequential amendments related to aerodrome specifications arising from ADOP/3. The eight new chapters were:

- a) training;
- b) inspections of the movement area;
- c) work in progress;
- d) foreign object debris control;
- e) wildlife hazard management;

- f) apron safety;
- g) runway safety; and
- h) airside vehicle driver permit scheme and vehicle/equipment safety requirements.

2.15 AP-ADO/TF/2 noted that the content of this amendment might require an amendment of the Universal Safety Oversight Audit Programme (USOAP) continuous monitoring approach (CMA) protocol questions (PQs) in the area of aerodrome operations. The existing PQs might need to be amended or new PQs may be required. This would be assessed during the next amendment cycle of the PQs.

Adoption of Amendment 9 to Annex 14, Volume II (WP/07)

2.16 WP/07 presented the adoption of Amendment 9 to Annex 14 – *Aerodromes*, Volume II – *Heliports*, which became applicable on 5 November 2020. The main features of the proposed amendments were as follows:

- a) Heliport physical characteristics;
- b) Visual aids;
- c) Rescue and firefighting; and
- d) Modification to several associated definitions.

2.17 As part of Amendment 9, paragraph 6.2.1.1 contains an embedded date of 1 January 2023 which relates to rescue and firefighting provisions.

Pavement Construction in Altiports in Nepal (WP/12)

2.18 Presented by Nepal, this paper presented the pavement designs of the altiports in Nepal, using an FAA publication on *Structural Design of Pavements for Light Aircraft*. With the designs, the pavement conditions were found satisfactory in general, although some pavement distresses due to construction defects or weathering effect were identified.

2.19 The following criteria were adopted in the calculation of minimum pavement thickness for altiports:

- a) Subgrade CBR as 4%;
- b) Traffic data in 2018 of Simikot Airport (VNST), i.e. 13,900 annual aircraft departures with Cessna C208 (5%), Dornier 228 (35%), DHC-6 (35%) and Let-410 (25%); and
- c) Pavement design life as 20 years.

2.20 Based on the above criteria and using a pavement thickness design software *FAARFIELD* developed by FAA, this paper recommended the minimum pavement thickness for altiports as follows:

- a) Asphalt wearing course: 50 mm;
- b) P-208 crushed aggregate equivalent base course: 150 mm; and
- c) P-154 uncrushed aggregate equivalent sub-base course: 200 mm.

2.21 AP-ADO/TF/2 noted that the runway pavement of Lukla Airport was first paved in 2000 and no overlay was performed since then. Nepal had the plan to perform pavement overlay in 2021/22. In the meantime, Jomson Airport was first paved in 2000 and had its first overlay in 2019. Nepal further shared that there had been some accidents and incidents at Lukla Airport, but they were not related to pavement issues.

2.22 AP-ADO/TF/2 agreed that the above recommendations be studied and included in the *Draft Regional Guidance for the Design and Operations of Airports*.

Challenges and Safety Management during Extension of Runway and Construction of RESA in the vicinity of Operational Runway: A Case of Tribhuvan International Airport, Kathmandu, Nepal (IP/02)

2.23 Presented by Nepal, this information paper introduced efforts made to safely execute the construction works for the extension of runway and construction of RESA in the vicinity of operational runway, including replacement of the existing Precision Approach Lighting System (PALS), at Tribhuvan International Airport (TIA), Kathmandu.

2.24 While jet blast would need to be considered during runway works, in the context of TIA, it was not a major issue as there were very few flights during the pandemic.

Overview of Advisory Circular on Engineered Material Arresting Systems (EMAS) for Aircraft Overruns (IP/03)

2.25 Presented by United States, this information paper introduced FAA standards for the design, installation, and maintenance of EMAS in runway safety areas (RSA, similar to Runway End Safety Area - RESA). The IP highlighted applicability considerations and safety benefits in lowering risk to non-standard RSA conditions and other local area conditions.

2.26 China commented that EMAS had been an effective alternative measure to the full-length RESA, installed in seven aerodromes in China and being planned in seven other aerodromes. China expressed its will to provide EMAS technical support to States and aerodromes together with United States. In this connection, China urged ICAO to develop and publish guidance materials on EMAS for its uniform application.

2.27 United States supplemented that the minimum length of the EMAS was 600 ft (approximately 183 m) whereas the FAA requirement on RSA was 1,000 ft (approximately 305 m). As for the scenario of aircraft undershoot, while there was no similar case occurred in United States, United States advised that EMAS used specially designed concrete base that should be able to cope with undershoot. It was also added that most damages to EMAS were caused by aircraft taxiing or vehicles running on it accidentally.

2.28 AP-ADO/TF/2 noted that ICAO Annex 14, Volume I required that a length of 60 m (standard) runway strip be provided beyond the end of runway / stopway, and another 90 m (standard) / 240 m (recommendation) RESA be provided beyond the end of runway strip. Some aerodromes had been facing difficulties in meeting the standards, i.e. 60 m plus 90 m = 150 m from runway / stopway end. United States supplemented that there were some aerodromes installed with non-standard EMAS with less than 600 ft (183 m) in length.

Overview of Advisory Circular on Operational Safety on Airports During Construction (IP/04)

2.29 Presented by United States, this information paper introduced the guidelines for the continuous safe operations of aerodromes during construction activities within the movement areas. The IP highlighted the general content of Advisory Circular, AC150/5370-2; titled *Operational Safety on Airports during Construction*, and the fact that safety must not be compromised. Most importantly, the aerodrome operator should be able to develop a safety plan to mitigate risk during project construction.

Corrective Action Plan for RESA in Phuket International Airport (PPT/02)

2.30 AP-ADO/TF/2 noted Thailand's presentation on the corrective action plan (CAP) to provide runway end safety area in Phuket International Airport (VTSP). The CAP would include permanent displacement of threshold, runway extension, cancellation of stopway, reduction of landing distance available in one landing direction and the realignment of visual aids.

2.31 On the issue of drainage within runway strip, United States advised the meeting that a smooth surface should be provided within the runway strip by either providing drainage cover or relocation of the drainage beyond runway strip.

Agenda Item 3: Regional Air Navigation Plan, Part II, Tables AOP I-1 & II-1Asia/Pacific Air Navigation Plan (WP/08)

3.1 The paper presented the structure of the *Asia/Pacific Air Navigation Plan* (APAC ANP) and the procedures for the amendment of the *Plan*.

3.2 There were 239 international aerodromes listed in APAC ANP Volume I. However, the number of international aerodromes used for international operations in Asia/Pacific Region has increased and reached to approximately 342 based on information gather from Doc 7910 (Location Indicator), States Aeronautical Information Publication (AIP), CAA Websites and ICAO Missions.

3.3 Recognizing that many aerodromes used for international operations or aerodromes under construction or planned for international operations in Asia/Pacific Region were not included in APAC ANP Volume I, Table AOP I-1 and ANP Volume II, Table AOP II-1, and it was utmost important that information to be included in Tables AOP I-1 and Table AOP II-1 be accurate and current for regional planning of the other air navigation services, AP-ADO/TF/2 recalled that AOP/SG/3 (Bangkok, Thailand, 24-26 June 2019) adopted the following Conclusion:

Conclusion AOP/SG/3-1: Proposal for Amendment of Asia/Pacific ANP Volume I, Table AOP I-1 and ANP Volume II, Table AOP II-1

That,

Many aerodromes used for international operations or aerodromes under construction or planned for international operations in Asia/Pacific Region were not included in APAC ANP Volume I, Table AOP I-1 and ANP Volume II, Table AOP II-1. It is also important that information included in Tables AOP I-1 and Table AOP II-1 are accurate and current for regional planning of the other air navigation services.

States are urged to:

- a) review the aerodromes listed in **APAC ANP Volume I, Table AOP I-1**;
- b) review the **ANP Volume II, Table AOP II-1** for the list of facilities and services to be provided by the State concerned at each aerodrome that is listed in **Table AOP I-1**;
- c) initiate and send to ICAO APAC Office proposals for amendment of **APAC ANP Volume I, Table AOP I-1** and **ANP Volume II, Table AOP II-1** in accordance with the template provided in **Appendix A** to the AOP/SG/3 Report, if their international aerodromes are not listed in **Table AOP I-1** or require any amendments to update the information provided in **Tables AOP I-1 and AOP II-1**.

3.4 AP-ADO/TF/2 noted that, in 2020, the ICAO APAC Office processed proposals for amendments of APAC ANP Volumes I and II from Bangladesh, Indonesia, Lao PDR, Malaysia, Maldives, Myanmar, Nepal, Philippines, Thailand, Timor-Leste and Viet Nam. In addition, proposals from Australia and New Zealand were being processed.

3.5 AP-ADO/TF/2 urged States to take note of **Conclusion AOP/SG/3-1**, and initiate and send proposals for amendment of APAC ANP Volume I, Table AOP I-1 and ANP Volume II, Table AOP II-1, as necessary.

Agenda Item 4: ICAO USOAP Findings and AOP Air Navigation DeficienciesImplementation of Requirements for Certification of Aerodromes in the Asia Pacific Region (IP/05)

4.1 This Information Paper presented ICAO Annex 14, Volume I requirements on certification of aerodromes, progress made by APAC States in this area, and relevant update to the AOP Air Navigation Deficiencies.

4.2 AP-ADO/TF/2 noted that the APANPIRG AOP Air Navigation Deficiency List was available through the following documents:

- a) APANPIRG/31 [WP/14 – Status of Air Navigation Deficiencies in the Asia/Pac Region](#); and
 - b) Report of [APANPIRG/31](#).
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Agenda Item 5: AP-ADO/TF Task ListDraft Regional Guidance for the Design and Operations of Altiports (WP/13)

5.1 This working paper presented the preliminary draft on the *Regional Guidance for the Design and Operation of Altiports* prepared by Nepal and collaborated by Bhutan and India. The following was included in the draft:

- a) Table of Content;
- b) Determination of Runway Length of Altiports;
- c) Sample Runway Profile for Altiports; and
- d) Obstacles Limitation Surface (OLS) for Altiports.

5.2 A comparison table on the requirements of physical characteristics, OLS, visual aids among ICAO Annex 14, Volume I, *Instruction Technique sur les Aérodomes Civils* (ITAC) by DGAC France and practices by CAA Nepal was also provided for the further development of the *Regional Guidance*.

5.3 AP-ADO/TF/2 noted that the following documents were identified as potential references for the *Regional Guidance*:

- a) ICAO Annex 14 – *Aerodromes*, Volume I – *Aerodrome Design and Operations*;
- b) ICAO STOLPORT Manual (Doc 9150);
- c) ICAO Aerodrome Design Manual (Doc 9157), Part 1 – *Runways*;
- d) [FAA AC 150/5325-4B](#): *Runway Length Requirements for Airport Design, Chapter 2 Runway Length for Small Airplanes*;
- e) [FAA AC 150/5220-22B](#): *Engineered Materials Arresting Systems (EMAS) for Aircraft Overruns*;
- f) [CASA CAAP 92A-1\(0\)](#): *Guidelines on Aerodromes intended for Small Aeroplanes conducting RPT Operations*;
- g) ITAC, DGAC France;
- h) *Minimum Safety Requirements for Temporary / Unlicensed Aerodromes*, DGCA India; and
- i) *Flight Operations Requirements Aeroplane, Appendix 9: STOL Field Clearance Requirements*, CAA Nepal

5.4 AP-ADO/TF/2 agreed that the drafting of the *Regional Guidance* should proceed forward with the materials presented in this working paper. The details on the task were discussed under WP/09.

5.5 The meeting was informed that there were three aerodromes in Fiji with runway longitudinal slopes of 5 to 10%, similar to altiports in Nepal.

Task List of AP-ADO/TF (WP/09)

5.6 The task list of AP-ADO/TF was updated by the meeting and available at **Appendix A**.

Agenda Item 6: Any Other Business

Terms of Reference (WP/10)

6.1 AP-ADO/TF/2 noted that its TOR stated that the Task Force should last until September 2021. In the meantime, the current COVID-19 pandemic had reorganized priorities among States and Administrations, and the travel restrictions current implemented by States and Administrations had rendered face-to-face meeting impossible.

6.2 AP-ADO/TF/2 recognised that there was a need to allow additional time to complete the tasks assigned to this Task Force, as well as to provide flexibility in the mode of meetings. Opportunity was also taken to amend the name of “Asia/Pacific Seamless ATM Plan”, as it was renamed to “Asia/Pacific Seamless ANS Plan” with version 3.0 in November 2019, and to make some minor editorial changes.

6.3 AP-ADO/TF/2 endorsed the following Draft Decision to be considered by AOP/SG/5:

Draft Decision AP-ADO/TF/2-1: TOR of AP-ADO/TF	
What: That, the Terms of Reference of the Asia/Pacific Aerodrome Design and Operations Task Force be amended as in Appendix B of the Report of AP-ADO/TF/2.	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: To allow additional time to complete the tasks and to provide flexibility in the mode of meetings amid the current pandemic.	Follow-up: <input type="checkbox"/> Required from States
When: 29-Jan-21	Status: Draft to be adopted by Subgroup
Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: AP-ADO/TF	

From Airport Collaborative Decision Making to Total Airport Management (PPT/01)

6.4 The concept of Airport Collaborative Decision Making (A-CDM) had now been deployed at most major airports in Europe. A-CDM was designed to allow the airport stakeholders an increased situational awareness relating to flight progress and to permit an increased quality of information sharing with the EUROCONTROL Network Manager.

6.5 AP-ADO/TF/2 noted that the research focus in Europe had now shifted towards Total Airport Management (TAM). TAM was designed to take a more holistic view of the airport processes, specifically including the passengers and baggage as well as operating over a longer timeframe than A-CDM. The presentation introduced the key concepts of both A-CDM and TAM which were at the heart of the current research initiatives taking place in Europe.

6.6 AP-ADO/TF/2 also noted the APAC Seamless ANS Plan, covered in WP/03, and the Aviation System Block Upgrades (ASBU) Elements about A-CDM contained in Global Air Navigation Plan (GANP). EUROCONTROL's TAM would cover Block 1 (ACDM-B1/1: Airport Operation Plan and ACDM-B1/2: Airport Operations Centre) and Block 2 upgrades (ACDM-B2/1: TAM) under A-CDM. The Secretariat reminded States that Block 2 upgrades had been started in 2019 and targeted for completion in 2025.

Agenda Item 7: Provisional Agenda, Date and Venue for the Next MeetingProvisional Agenda, Date and Venue of Next Meeting (WP/11)

7.1 AP-ADO/TF/2 reviewed the draft agenda proposed by the Secretariat and agreed on the following Provisional Agenda for the AP-ADO/TF/3:

AP-ADO/TF/3**PROVISIONAL AGENDA**

- Agenda Item 1: Review Outcome of Relevant Meetings
- Agenda Item 2: Planning, Design and Construction of Aerodromes
- Agenda Item 3: Regional Air Navigation Plan, Part II, Tables AOP I-1 & II-1
- Agenda Item 4: AP-ADO/TF Task List
- Agenda Item 5: Any other business
- Agenda Item 6: Provisional Agenda, Date and Venue for the Next Meeting

7.2 The next AP-ADO/TF Meeting would be held in January/February 2022 for three to five days. The venue proposed was ICAO APAC Office, Bangkok, unless a State/Administration is willing to host the meeting. State/Administration interested to host the meeting was requested to contact the Secretariat. The venue of the meeting will be communicated to States/Administrations through ICAO APAC Invitation Letter for AP-ADO/TF/3 Meeting.

7.3 Dr. Somchanok, Chairperson of AP-ADO/TF thanked the members for their contribution and cooperation to the Meeting. The Chairperson also thanked Mr Steven Ka Ho Pang, RO/AGA for his exemplary service to AP-ADO/TF since its first meeting.

AP-ADO/TF TASK LIST
(updated in AP-ADO/TF/2)

	ACTION ITEM/PLANNED ACTIVITIES	RESPONSIBLE PARTY	TIME FRAME	STATUS	REMARKS
1/1	Identify experts in various AOP fields and maintain a database for the Asia/Pacific Region	States – nomination of experts Secretariat – maintaining database	Continuous	Open	From TOR
1/2	Draft regional guidance for the design and operations of: altiports and small aerodromes in constrained environment	India – lead Nepal, Thailand, USA to assist	March 2020	Open	From AP-ADO/TF/1 AP-ADO/TF/2 WP/13
	(a) Altiports; and	Nepal to lead; assisted by China, Fiji, India	December 2021	Ongoing	Modified in AP-ADO/TF/2
	(b) Aerodromes in Constrained Environment	India to lead; assisted by China, Indonesia, Nepal, United States	December 2021	Ongoing	Modified in AP-ADO/TF/2
1/3	- Study and discuss aerodrome SARPs and guidance materials related to aerodrome planning, design and operations including PANS-Aerodromes; and - Provide expert advice and clarification to APAC States on any issues related to the implementation of the requirement specified in the SARPs and guidance materials.	States	Continuous	Open Ongoing	From TOR 1 st sub-item: AP-ADO/TF/2 WP/05, WP/06, IP/02, IP/03 & IP/04

	ACTION ITEM/PLANNED ACTIVITIES	RESPONSIBLE PARTY	TIME FRAME	STATUS	REMARKS
1/4	<ul style="list-style-type: none"> - Review and discuss AOP parts of the Asia/Pacific ANP and Seamless ANS Plan; and - Formulate amendment proposals to the APAC ANP Table AOP I - 1 and Table AOP II – 1 as necessary. 	States and Secretariat	Continuous	Open Ongoing	<p>From TOR</p> <p>1st sub-item: AP-ADO/TF/2 WP/03 & WP/08</p>
2/1	Conduct seminars / workshops for aerodrome regulatory and aerodrome operator staff in APAC Region	<p>China – GRF Implementation</p> <p>India – GRF Implementation</p> <p>Thailand (Airports of Thailand) – GRF Implementation</p> <p>United States – GRF Implementation</p>	<p>Q3-Q4 2021</p> <p>Q3-Q4 2021</p> <p>Q3-Q4 2021</p> <p>Q4 2021 - Q1 2022</p>	Open	<p>The seminars/ workshops for GRF implementation will involve all stakeholders e.g. CAA, airports, airlines, ANSP, etc.</p> <p>Winter operations are covered by China and United States</p>

Appendix B to Report of AP-ADO/TF/2

Asia/Pacific Aerodrome Design and Operations Task Force (AP-ADO/TF)

TERMS OF REFERENCE

(Amendment Proposed by AP-ADO/TF/2 in highlight)

Objective:

The main purpose of the AP-ADO/TF is to achieve some specific deliverables of the AOP/SG through the systematic works of the Task Force.

Scope of works:

To meet the above objective the AP-ADO/TF shall carry out the following tasks:

- (1) **Study and discuss** aerodrome SARPs and guidance materials related to aerodrome planning, design and operations including PANS-Aerodromes and provide expert advice and clarification to APAC States on any issues related to the implementation of the requirement specified in the SARPs and guidance materials.
- (2) **Review and discuss** AOP parts of the Asia/Pacific ANP and Seamless ATM ANS Plan and formulate amendment proposals to the APAC ANP Table AOP I - 1 and Table AOP II – 1 as necessary.
- (3) **Review** provisions of facilities and services at international aerodromes specified in AOP Table of ANP through monitoring the following information published in the AIP and other official documents of the States:
 - Obstacle limitation surfaces;
 - visual aids;
 - rescue and firefighting services and emergency planning;
 - ~~measurement~~ assessment and reporting of the runway surface condition;
 - preventive maintenance programme;
 - runway safety programme including establishment of a runway safety team at international aerodromes.
- (4) **Assist in conducting** seminars/workshops/trainings for the aerodrome regulatory and aerodrome operator staff in APAC region;
- (5) **Identify** experts in various AOP fields and **maintain** Asia/Pacific database;
- (6) **Participate** in ICAO's activities/initiatives in aerodromes, if necessary.

Composition: The Task Force is composed of subject matter experts nominated by APAC States/Administrations and International Organization satisfying the criteria:

- (1) Minimum 3 years of experience in Aerodrome Regulatory functions of CAA or in Aerodrome Operations at international airports or in the International Organizations;
- (2) Familiar with Annex 14 and its guidance materials, GANP, GASP, APAC Seamless ATM ANS Plan, APAC ANP; and
- (3) The nominated expert would continue to be a member for a minimum of three consecutive years.

Additional membership could be invited from other regions, if required.

Working Methods: The Task force will hold at least one face-to-face meeting a year. Video teleconference may be held in lieu of face-to-face meeting when travel restrictions are in place. The work would be carried out through electronic correspondences and web conference as far as practicable.

Time frame: The tenure of the Task Force would be ~~three years (until September 2021)~~ last until September 2023.