APANPIRG/31 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target Date	Status as of 17 Nov. 2021	Action by ANC [AN-WP/9487 dated 11 February 2021]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
D 31/1 **A & B**	**Proposal for Amendment of APA-CDM/TF TOR**	That, the Terms of Reference (TOR) of Asia/Pacific Airport Collaborative Decision Making Task Force (APA-CDM/TF) be amended as in **Appendix A** to the Report on Agenda Item 3.1.	ICAO RO APAC States and Administrations	State Letter Notified APA-CDM/TF To note the TOR amendment.	29 January 2021 APA-CDM/TF/6 As soon as practicable	State Letter Ref.: AN 3/3-AP012/21 (AGA) dated 25 January 2021 Reported to APA-CDM/TF/6 Meeting COMPLETED	—
C 31/2 **A & B**	**Submission of Wildlife Strike Reports**	That, States are requested to submit wildlife strike reports to ICAO in the format of either ECCAIRS.e5f files or the standard ICAO ECCAIRS Excel-based form available at http://www.icao.int/ibis.	ICAO RO APAC States and Administrations	State Letter Action in accordance with the Conclusion.	29 January 2021 As soon as practicable	State Letter Ref.: AN 3/3 - AP013/21 (AGA) dated 25 January 2021 COMPLETED	—
C 31/3 **A & B**	**Wildlife Hazard Management Training**	That, States recognise the prioritised need for competent and trained personnel in aerodrome wildlife hazard management at regulatory and aerodrome operation levels.	ICAO RO APAC States and Administrations	State Letter Action in accordance with the Conclusion.	29 January 2021 As soon as practicable	State Letter Ref.: AN 3/3 - AP014/21 (AGA) dated 25 January 2021 COMPLETED	—

APANPIRG/31 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target Date	Status as of 17 Nov. 2021	Action by ANC [AN-WP/9487 dated 11 February 2021]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C 31/4 **A & B**	**Promotion of a Positive Safety Culture**	That, • States are encouraged to promote a positive safety culture in wildlife hazard management at regulatory and aerodrome operation levels; and • Reporting culture be considered in implementing aerodrome wildlife hazard management programmes.	ICAO RO APAC States and Administrations	State Letter Action in accordance with the Conclusion.	29 January 2021 As soon as practicable	State Letter Ref.: AN 3/3-AP015/21 (AGA) dated 25 January 2021 COMPLETED	—

APANPIRG/31 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target Date	Status as of 17 Nov. 2021	Action by ANC [AN-WP/9487 dated 11 February 2021]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C 31/5 **A & B**	**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**.	ICAO RO APAC States and Administrations	State Letter Action in accordance with the Conclusion.	29 January 2021 As soon as practicable, preferably by 28 February 2021	State Letter Ref.: AN 3/3 - AP016/21 (AGA) dated 25 January 2021 GRF Implementation Action Plan Template uploaded on APAC Website COMPLETED	—
C 31/6 **A & B**	**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.	ICAO RO APAC States and Administrations	State Letter Action in accordance with the Conclusion.	29 January 2021 As soon as practicable	State Letter Ref.: AN 3/3- AP017/21 (AGA) dated 25 January 2021 COMPLETED	—

APANPIRG/31 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target Date	Status as of 17 Nov. 2021	Action by ANC [AN-WP/9487 dated 11 February 2021]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C 31/7 **A & B**	**Holding Bay 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.	ICAO RO	IOM to HQ Review Figure 2-2 of Doc. 9157, Part 2. Review the current SARPs in Annex 14, *Aerodromes* – Volume I to cater for the design of multiple entrance taxiways.	29 January 2021 31 Dec. 2021	IOM Ref. : AN 3/3- AP-AGA0003/21 dated 25 January 2021 COMPLETED	To note and request the ADOP to review the APANPIRG/31 proposals related to Doc 9157 and Annex 14. **2.42 a) of the AN-WP/948:** The WG/SRP recommended to the ANC that this item be referred to the Aerodromes Design and Operations Panel (ADOP) for further consideration. **Status:** VAWG is undertaking this item.

APANPIRG/31 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target Date	Status as of 17 Nov. 2021	Action by ANC [AN-WP/9487 dated 11 February 2021]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C 31/8 **A & B**	**Alternative Safety Oversight Framework for Military Aerodromes undertaking Limited Civil International Operations**	That, recognizing: (1) certain military aerodromes in States are undertaking limited civil international operations; (2) certification of such aerodromes by civil aviation authorities may prove difficult; and (3) an alternative safety oversight framework may be appropriate in consideration of the low level of civil international operations at such aerodromes; ICAO HQ is invited to consider establishing an alternative safety oversight framework in lieu of certification for such military aerodromes.	ICAO RO	IOM to HQ Guidance on establishing an alternative safety oversight framework in lieu of certification for such military aerodromes.	29 January 2021 At the earliest possible.	IOM Ref.: A 3/3- AP-AGA0004/21 dated 25 January 2021 COMPLETED	To note (actions already ongoing. Paragraph 2.42.b refers) **Status: 2.42b) of the AN-WP/9487:** Total rewrite of Doc 9774 - Manual of Certification of Aerodromes - is underway to update its content and to align it with last amendment of PANS-Aerodromes, that manual will contain guidance related to certification on military aerodromes used for international operations.

APANPIRG/31 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target Date	Status as of 17 Nov. 2021	Action by ANC [AN-WP/9487 dated 11 February 2021]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
D 31/9 **A & B**	**Amend AAITF Terms of Reference**	That, the amended Terms of Reference for AAITF at **Appendix A to the Report on Agenda Item 3.**2 be adopted.	ICAO RO APAC States and Administrations	State Letter To note the TOR amendment.	29 January 2021 As soon as practicable	State Letter Ref.: T 3/10.0, T 3/10.1.6, T 3/ 10.1.17, T 3/15.1 -AP267/20 (ATM) dated 30 December 2020 COMPLETED	—

APANPIRG/31 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target Date	Status as of 17 Nov. 2021	Action by ANC [AN-WP/9487 dated 11 February 2021]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C 31/10 **A & B**	**Review of National Air Navigation Plans (NANPs)**	That, States should review their NANPs in accordance with a whole-of-government approach and the requirements of the Regional Air Navigation Plan to: (1) include airspace user consultation to determine post COVID-19 service provision levels and the related investment and expenditure required, including identifying temporary or permanent service provision modification to reduce operational costs; and (2) seek government support for their Air Navigation Service Providers (ANSPs) during the post-COVID-19 recovery.	ICAO RO APAC States and Administrations	State Letter Action in accordance with the Conclusion	29 January 2021 As soon as practicable	State Letter Ref.: T 3/10.0, T 3/10.1.6, T 3/ 10.1.17, T 3/15.1 -AP267/20 (ATM) dated 30 December 2020 COMPLETED	—

APANPIRG/31 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target Date	Status as of 17 Nov. 2021	Action by ANC [AN-WP/9487 dated 11 February 2021]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C 31/11 **A & B**	**Alphanumeric Call Sign Initiative**	Noting: 1) the extreme safety risks associated with pilot-ATC miscommunication and the number of Category D (ATC Loop Error) Large Height Deviations (LHDs); 2) APANPIRG Conclusion 27/15. ATMSG Conclusions 5-5 and 5-6 regarding the Asia Pacific Alpha Numeric Call-Sign (ANCS) call sign project; and 3) alphanumeric call signs were a well-established call sign confusion mitigation, that: leading Air Navigation Service Providers (ANSPs) and aerodrome operators, in coordination with CANSO and ACI, were urged to consider a trial to identify and overcome any barriers for the implementation of alphanumeric call signs, with a view to developing a project for the Asia/Pacific (APAC) Region.	ICAO RO APAC States and Administrations, CANSO and ACI	State Letter Action in accordance with the Conclusion	29 January 2021 As soon as practicable	State Letter Ref.: T 3/10.0, T 3/10.1.6, T 3/ 10.1.17, T 3/15.1 -AP267/20 (ATM) dated 30 December 2020 COMPLETED	—

APANPIRG/31 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target Date	Status as of 17 Nov. 2021	Action by ANC [AN-WP/9487 dated 11 February 2021]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C 31/12 **A & B**	**Target Year of CRV Implementation in APAC Region**	That, set and monitor 2021 as the target for CRV implementation for all ANSPs.	ICAO APAC RO APAC States and Administrations	State Letter Action in accordance with the Conclusion	29 January 2021	State Letter T 8/2.10 – AP002/21(CNS) dated 6 January 2021, Subject: Postpone the target year of CRV implementation from 2020 to end of 2021in APAC Region COMPLETED	—

APANPIRG/31 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target Date	Status as of 17 Nov. 2021	Action by ANC [AN-WP/9487 dated 11 February 2021]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C 31/13 **A & B**	**The Revised Regional Strategies on AMS and Datalink**	That, the revised Aeronautical Mobile Service (AMS) Strategy for the Asia/Pacific Region provided in **Appendix A** to the Report on Agenda Item 3.4 and the revised Strategy for Implementation of the Air-Ground Data Link in the Asia/Pac Region provided in **Appendix B** to the Report on Agenda Item 3.4 be adopted.	ICAO APAC RO APAC States and Administrations	Posted on ICAO APAC Website and State letter to notify States Action in accordance with the Conclusion	29 January 2021	Posted on ICAO APAC Website **State letter** to notify States by Ref.: T 8/4.1 - AP005/21 (CNS) dated 8 January 2021, subject: The Revised Regional Strategies on AMS and Datalink COMPLETED	—

APANPIRG/31 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target Date	Status as of 17 Nov. 2021	Action by ANC [AN-WP/9487 dated 11 February 2021]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C 31/14 **A & B**	**Mode S Forward Fit Equipage in APAC Region**	Regarding fitment of Mode S equipage, That, States/Administrations in APAC Region be strongly encouraged to mandate that registered aircraft with a maximum certified take-off mass exceeding 5 700 kg or having a maximum cruising true airspeed capability greater than 250 knots, with a date of manufacture on or after 1 January 2022 be equipped with Mode S avionics compliant with Enhanced Surveillance (EHS).	ICAO APAC RO APAC States and Administrations	State Letter Action in accordance with the Conclusion	29 January 2021	State Letter to notify states by Ref.: T 8/5.11 – AP003/21 (CNS) dated 6 January 2021. COMPLETED	—

APANPIRG/31 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target Date	Status as of 17 Nov. 2021	Action by ANC [AN-WP/9487 dated 11 February 2021]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C 31/15 **A & B**	**Addressing Human Factor Issues of ATSEP**	That, a) the States are encouraged to make reference and implement the recommendations made out of the IFATSEA study report *Factors adding stress and fatigue to ATSEP* provided in **Appendix R** to the CNS SG/24 Report for pro-active measures; b) States are also encouraged to join the small working group for finding the left-out gaps and in preparing the regional ATSEP human factor guidance material.	ICAO APAC RO APAC States and Administrations	Posted on ICAO APAC Website and State letter to notify States Action in accordance with the Conclusion	29 January 2021	Report posted on ICAO APAC Website under e-docs State letter issued to notify States Ref: T 3/9.9-AP022/21 (CNS) dated 26th January 2021subject Addressing Human Factor Issues of A TSEP Ad-hoc group formed on 05.04.2021 and Kick Off meeting held on 30 June 2021. COMPLETED	—

APANPIRG/31 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target Date	Status as of 17 Nov. 2021	Action by ANC [AN-WP/9487 dated 11 February 2021]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
D 31/16 **A & B**	**Updates to Terms of Reference and Work Plan of MET SG**	That, APANPIRG approve the updated terms of reference and work plan document for MET SG at the **Appendix A to the Report on Agenda Item 3.5**.	ICAO	Updated in APANPIRG documentation	Jan 2021	The Updated MET SG ToR incorporated in the APANPIRG Handbook COMPLETED	—
C 31/17 **A & B**	**0.25 Degree WAFS Hazard Data**	That SADIS user States urgently make the necessary systems changes to integrate the new 0.25 degree WAFS hazard data into their SADIS user systems and software	ICAO	State letter	Jan 2021	State Letter Ref.: T 4/3.8.2 – AP129/21 (MET), 15 July 2021 COMPLETED	—

APANPIRG/31 Conclusions/Decisions – Action Plan

C 31/18 **A & B**	**Implementation of IWXXM**	What: That, to support the dissemination by States of the required meteorological information in IWXXM GML form, in accordance with Amendment 79 to Annex 3, Member States/Special Administrative Regions, in particular those which host the designated APAC Regional OPMET Centres (ROCs) and Regional OPMET Databanks (RODBs), that have not already done so, urgently complete the necessary steps including the following: a) For the generation and dissemination of required meteorological information in IWXXM GML form to the local ROC to manage the onward dissemination within the Region, use only IWXXM Version 3 (or a later version); b) To support the exchange of IWXXM formatted data, implement the Air Traffic Services Message Handling System (AMHS) with File Transfer Body Part (FTBP) and the Interpersonal Message Heading Extension (IHE) and include support for AMHS message exchange of a maximum size of 4-MB for IWXXM formatted messages with maximum size of 2-MB for FTBP; c) To support the exchange of the required meteorological information in both IWXXM GML form and traditional alphanumeric code (TAC)	ICAO	State letter	Jan 2021	State Letter Ref.: T 4/3.2.5 – AP130/21 (MET), 15 July 2021 COMPLETED	—

APANPIRG/31 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target Date	Status as of 17 Nov. 2021	Action by ANC [AN-WP/9487 dated 11 February 2021]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		form, ensure there is adequate capacity in the operational Aeronautical Fixed Service (AFS) links; d) When ingesting FTBP messages, as a minimum, utilize appropriate malware and anti-virus precautions; and e) For any requirements States have for further technical assistance to achieve compliance with the Annex 3 requirements for disseminating meteorological information in IWXXM GML form and/or differences that exist between the national regulations or practices and the above Annex 3 provisions, inform ICAO via the appropriate channels.					

APANPIRG/31 Conclusions/Decisions – Action Plan

C 31/19 **A & B**	**Update of Information in APANPIRG Air Navigation Deficiencies Reporting Form**	That, 1) ICAO to update the APANPIRG Air Navigation Database to reflect the information as presented in **Appendices A to D** to Report on Agenda Item 4. 2) States/Administrations be urged to: a) establish action plan with defined target dates for resolution of deficiencies, update the status on the corrective action taken and report progress in the Reporting Form of Air Navigation Deficiencies identified in ATM and Airspace Safety, AOP, CNS and MET fields as detailed in **Appendices A to D** to the **WP/14**; and b) update contact details of a Focal Point to coordinate actions to resolve the Deficiencies.	ICAO RO APAC States and Administrations	State Letter & update the APANPIRG Air Navigation Database Action in accordance with the Conclusion.	29 January 2021 As soon as practicable	State Letter Ref.: AN 3/3 - AP018/21 (AGA) dated 25 January 2021 COMPLETED	—

APANPIRG/31 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target Date	Status as of 17 Nov. 2021	Action by ANC [AN-WP/9487 dated 11 February 2021]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C 31/20 **A & B**	**Evaluation of Combined APANPIRG and RASG-APAC Meeting**	Considering the postponement of the trial combined APANPIRG-RASG-APAC meeting to 2022 or later, the Meeting agreed that: a) The Chairpersons and Vice-chairpersons of APANPIRG and RASG-APAC utilize the considerations contained in **Appendix A to Report on Agenda Item 6** as well any other considerations received for the evaluation of the effectiveness of the trial combined meeting; b) In view of the current COVID-19 pandemic, the evaluation of the effectiveness of the combined meeting be postponed to 2022 or later; and c) A post-meeting survey possibly guided with content contained in **Appendix B to Report on Agenda Item 6** be conducted among the meeting delegates after the combined meeting.	ICAO RO	State Letter	29 January 2021	State Letter Ref.: AN 3/3 - AP019/21 (AGA) dated 25 January 2021 COMPLETED	—

— END —

Appendix B to the Report on Agenda Item 1B

Status of Outstanding Conclusions/Decisions up to APANPIRG 30 – Action Plan

Conclusion / Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date	Status as of 15 November 2021	Action by ANC
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C 28/19 A & B	**Amendment of the Management Service Agreement for CRV project (RAS14801)**	Recognizing that ICAO Technical Cooperation Bureau satisfactorily completed all the defined work items in the initial Management Service Agreement (MSA) and Project Document of RAS14801, that the required payments were settled, and that in end 2016, all the requirements of both parties have been fully completed and closed on record, That, i) all Pioneer States are encouraged to counter-sign the amended Pro Document provided in **Appendix D** to the Report on Agenda Item 3.4; ii) any Pioneer State not countersigning is entitled to get its share of the remaining fund balance back; and iii) a Pioneer State for which a direct CRV connection is not considered feasible in 2017 by the selected vendor is entitled to get its initial contribution in full.	ICAO APAC APAC States CRV Pioneer States	State Letter with amended Project Document of RAS14801 Other Actions in accordance with the Conclusion	~~July 2020~~ **December 2022**	20 April 2018 Concrete proposal for using unspent fund was discussed in CRV OG/4 and Member states/Administrations were required to provide their views. 10 May 2019 Based on the outcome of the survey, Decision CRV OG/6/3: the balance of MSA to be used for an independent assessment on the safety and security of the CRV. 23 April 2020 Further discussion planned for AFSSP WG 2020. AFSSP WG2020 postponed to 2021 due to COVID-19 and cancelled afterwards. 15 November 2021 • Internal discussion among CRV OG chairs, ACSICG chairs, CRV OG secretary, and ICAO TCB were done. • It was concluded that amended Pro document named as Appendix D in outstanding conclusion had expired time targets. • Therefore, further amendments necessary to the said Appendix D in terms of project duration and remaining fund to be modified and to be presented in the current TCB project document template. No significant changes in the technical clause approved in APANPIRG/28.	

Status of Outstanding Conclusions/Decisions up to APANPIRG 30 – Action Plan

Conclusion / Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date	Status as of 15 November 2021	Action by ANC
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
						• With further comments by CRV OG Chairs, if any on technical content, the ICAO TCB will submit new version of amended Pro document by 20 December 2021, which would be discussed in CRV OG/9 to be held from 25-27 January 2022. The outcome will be submitted for consideration of CNS SG/26. • The revised amended Pro Document proposed to be counter-signed by pioneer member states would be presented to APANPIRG/33. *(end of 2022)* **ONGOING**	

Status of Outstanding Conclusions/Decisions up to APANPIRG 30 – Action Plan

Conclusion / Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date	Status as of 15 November 2021	Action by ANC
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C 30/13 A & B	**Direct controller-pilot communication SATVOICE Trials**	That, States who are interested in direct controller-pilot communication (DCPC) SATVOICE services are encouraged to conduct DCPC SATVOICE trials to verify its performance.	ICAO APAC RO APAC States and Administrations	State Letter Action in accordance with the Conclusion	20 December 2019	Ref.: T 8/4.13 – AP141/19 (CNS) 18 December 2019 CLOSED	**AN-WP/9399 dated 6 March 2020:** To note developments related to potential performance of new generation satellite voice communications (SATVOICE) that could achieve better Required Communication Performance (RCP) standards than the current RCP 400/Vro.

Appendix B to the Report on Agenda Item 1B

Status of Outstanding Conclusions/Decisions up to APANPIRG 30 – Action Plan

Conclusion / Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date	Status as of 15 November 2021	Action by ANC
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C 30/14 A & B	**Asia/Pacific Regional Transition Plan for RNP APCH Chart Identification from RNAV to RNP**	Considering ICAO provided a guidance and template on transition planning for RNP approach chart identification, That, a) The Asia/Pacific Regional Transition Plan for RNP APCH Chart Identification from RNAV to RNP in **Appendix B** to the Report on Agenda Item 3.4 be adopted as a regional plan for RNP APCH chart identification transition; b) ICAO Regional Office coordinate with ICAO PBN Programme Office for the inclusion of the plan in the Global Dashboard for the progress monitoring; c) ICAO PBN Program Office to confirm that a global contingency plan has been developed and coordinated with all Regional Offices and with the major data houses; d) ICAO PBN Programme Office to provide an updated version of the Asia/Pacific Regional Transition Plan for RNP APCH Chart Identification from RNAV to RNP to ICAO Regional Office; e) ICAO Regional Office to publish the plan on the ICAO Regional Office website; and f) States develop their transition plan and implement the chart identification transition according to their designated slots.	ICAO APAC RO APAC States and Administrations	State Letter Action in accordance with the Conclusion	6 December 2019	Ref.: T 8/4.14 – AP125/19 (CNS) 13 November 2019 CLOSED	

— END —

DRAFT AMENDMENT -Terms of Reference

AIR TRAFFIC FLOW MANAGEMENT STEERING GROUP (ATFM/SG)

1. Having considered relevant documents such as the *Manual on Collaborative Air Traffic Flow Management* (Doc 9971), regional air traffic data and the Asia/Pacific Region city pairs and associated airspace and ATS routes and aerodromes experiencing the most significant traffic demand, and noting the Asia/Pacific Seamless ATM Plan provisions for structural airspace capacity increasing measures, develop an Asia/Pacific Regional ATFM Framework which addresses ATFM implementation and ATFM operational issues in the Asia/Pacific Region;

2. Identify, research and recommend appropriate guidance regarding:

   a. capacity assessment and adjustment mechanisms;

   b. regular review for all aerodromes and ATC sectors where traffic demand is expected to reach capacity, or is resulting in traffic congestion;

   c. mechanisms for ATFM and A-CDM data gathering, collation and sharing between States, International Organizations and ICAO, which may include;

      i. capacity assessments, including factors affecting capacity such as special use airspace status, runway closures and weather information;

      ii. traffic demand information which may include flight schedules, flight plan data, repetitive flight plan data as well as associated surveillance updates of flight status; and

      iii. ATFM Daily Plan;

   d. compliance by airspace and aerodrome users with ATFM and A-CDM measures; and

   e. any other guidance relevant to the Regional ATFM Framework and Asia/Pacific A-CDM Implementation Plan.

3. Maintain an overview of CDM/ATFM and A-CDM programs being conducted within the Region, with a view to facilitating their coordination and alignment, and to promote;

   a. harmonized procedures;

   b. Implementation of the performance expectations of the Regional ATFM Framework and Asia/Pacific A-CDM Implementation Plan;

   c. Interoperability of A-CDM with ATFM

4. Review the effectiveness of existing and planned ATFM and A-CDM programs in the Asia and Pacific Region, and make specific recommendations ~~regarding ATFM~~, including any adjacent airspace affecting the Asia and Pacific Regions, and research and recommend appropriate mechanisms for the on-going review of such programs.

5. The Group coordinates closely with other relevant bodies such as ~~the Airport Collaborative Decision-Making Task Force (APA-CDM/TF),~~ Airport Operations and Planning Sub-Group, the Meteorological Requirements Working Group (MET/R WG) and System-Wide Information Management Task Force (SWIM TF).

6. The Group reports to the ATM Sub-Group.

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TERMS OF REFERENCE

South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG)

1) The objective of the SAIOSEACG is to identify the need for, plan and implement Air Traffic Management (ATM) improvements in the Indian Ocean, South Asia and Southeast Asia areas.

2) To meet this objective, the Group shall:

    a. Promote and facilitate implementation of the provisions of ICAO Doc 7030 – *Regional Supplementary Procedures* and the *Asia/Pacific Regional Air Navigation Plan*, and the performance expectations of the *Asia/Pacific Seamless ANS Plan*, by:

        i. reviewing and recommending improvements to airspace and Air Traffic Services (ATS) route structures, in order to optimise safety and efficiency;

        ii. review and recommend improvements to ATS facilities such as communication and surveillance capability in support of flight operations; and

        iii. research and plan airspace and facility requirements based on future technologies, Performance-based Navigation (PBN) and other advanced capabilities;

    b. Assist SAIOSEACG Administrations in the development of action plans to rectify APANPIRG Air Navigation Service (ANS) Deficiencies.

    c. coordinate and collaborate with other APANPIRG groups and relevant technical groups from other ICAO regions as required; and

    d. form Small Working Groups as required to conduct specific ATM-related projects.

3) The SAIOSEACG reports to the Air Traffic Management Subgroup of APANPIRG (ATMSG).

SAIOSEACG comprises representatives from the following, but not limited to Afghanistan, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Hong Kong China, Macao China, India, Indonesia, Lao PDR, Malaysia, Maldives, Myanmar, Nepal, Pakistan, Papua New Guinea, Philippines, Singapore, Sri Lanka, Thailand, Timor-Leste, Viet Nam, CANSO, IATA, IFALPA and IFATCA.

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	State/Organization	ATN G/G Boundary Intermediate System (BIS) Router/AMHS	AMHS Vendors Selected	AIDC	ATM System selected to support AIDC and Associated ICD (Implementation Status of the Basic 5 message set supported)	Remarks
1	AFGHANISTAN					
2	AUSTRALIA	ATN tests were conducted. BIS Router and Backbone BIS Router and AMHS implemented. CRV operational since May 2019. AMHS over CRV with: Singapore, New Zealand, Fiji and USA AMHS over leased line with: South Africa Planning to migrate existing AFTN connections over leased line with Indonesia and PNG to AFTN over CRV (2021) prior to upgrading to AMHS over CRV (TBC) Extended AMHS with FTBP in support of IWXXM exchange in operation since Nov. 2020.	Frequentis Comsoft	AFTN/AMHS based AIDC Implemented between Brisbane and Melbourne. For neighbouring ANSP of Brisbane, AIDC implemented with Auckland, Nadi, Oakland, Port Moresby, Ujung Pandang For neighbouring ANSP of Melbourne, AIDC implemented with Johannesburg and Mauritius.		CPL and CDN exchange limited
	BANGLADESH	In Q1/2013, Bangladesh installed ATN/AMHS and BIS Router at Dhaka (VGHS) with User Agents at Chittagong (VGEG) and Sylhet (VGSY).	COMSOFT	Tentative date of implementation of AIDC is Q4 of 2023 with Kolkata and Yangon.		Implementation of AIDC is included in the "Modernization of CNS-ATM System of CAAB" project which is going on G2G agreement with French Government and likely to be implemented by the end of 2023.

3	BHUTAN	ATN/AMHS circuits, using IP over VPN, with Thailand (Bangkok) and India (Mumbai) commissioned in June and July 2017 respectively. IOT and POT with Mumbai completed on 27th June 2017. IOT and POT with Thailand completed on 2nd May 2017. TMC signing with both countries signed.	AEROTHAI'S AMHS System	Currently not applicable. If required in the future, will decide after CRV implementation.		
4	BRUNEI DARUSSALAM	ATN BIS Router planned for 2015 and AMHS planned for 2015				
5	CAMBODIA	BIS Router and AMHS installed. Cambodia (CATS) AMHS connected with Bangkok via VSAT IP link since 10 December 2013	AVITECH	AIDC function and capability made available. Ready for testing with neighbors ATS Facilities starting from 2017 and target date of implementation with Bangkok in 4Q2019	THALES which supports AIDC ICD Version 1.	
6	CHINA	ATN Router and AMHS including NCC deployed in 2008 which is being upgraded to support ATN/IPS with target date of completion in December 2013. The Beijing-Hong Kong AMHS link was put into operation in 2018; With Thailand was put into operation in Q12020	IN-HOUSE (Aero-Info Technologies Co., Ltd)	AIDC between some of ACCs within China has been implemented. AIDC between several other ACCs are being implemented. AIDC between Sanya and Hong Kong China put into operational use since 8 Feb 2007.	ATN Router and AMHS including NCC deployed in 2008 which is being upgraded to support ATN/IPS with target date of completion in December 2013. The Beijing-Hong Kong AMHS link was put into operation in 2018;	IN-HOUSE (Aero-Info Technologies Co., Ltd)

				With Thailand is completed POT, after sign the TMC circuit and was put into operation in Q12020	
	AMHS/ATN technical tests with Macau completed in 2009. Plan for ATN/AMHS implementation with Macao China is TBD.		AIDC between Dalian and Incheon implemented in Nov. 2016;		
	ATN/AMHS circuit with ROK has been put into operation since June 2011.			AMHS/ATN technical tests with Macau completed in 2009. Plan for ATN/AMHS implementation with Macao China in 2019.	
	ATN/AMHS tests with India has been put into operation since 2016.			ATN/AMHS circuit with ROK has been put into operation since June 2011.	
			AIDC between Sanya and Hong Kong China put into operational use since February 2007. (duplicate)		
	ATN and AMHS IOT with Mongolia is completed in May 2018. Plan for commissioning after POT completion in 2021			ATN/AMHS tests with India has been put into operation since 2016.	
	Connection tests with Nepal is TBD.		AIDC between Shanghai/Guangzhou and Tapei China put in to operational use since 2013.	ATN and AMHS IOT with Mongolia is completed in May 2018. Plan for commissioning after POT completion in 2021	
	AMHS testing with Japan was completed in March 2021.It will put into operation after TMC is signed.			Connection tests with Nepal is TBD.	
	AMHS testing with Russia in 2021.		AIDC between Dalian and Incheon put into operational use since October 2016.	with the Beijing - Japan AMHS link was put into operation in 2020.	
				AMHS testing with Russia in 2021	
			AIDC between Guangzhou and Hong Kong China put into operational use since May 2018.		
			OLDI between Shenyang and Khabarovsk put into operational use since Oct.2019.		

				AIDC between Kunming and Vientiane put into pre-operational trails since January 2021. AIDC technical test between Beijing ACC and Ulaanbaatar ACC conducted since 2018. Kunming/Yangon under test and progress since May 2017 AIDC technical test between Sanya ACC and Hanoi ACC conducted since 2019.		
7	HONG KONG, CHINA	**Manila / Philippines** CRV/AMHS circuit was put into operation in May 2019. **Beijing / China** CRV/AMHS circuit was put into operation in April 2021 Macao / China ATN/AMHS circuit was put into operation in December 2009. Wait for Macao to join CRV. **Bangkok / Thailand** ATN/AMHS circuit was put into operation use in 2014. Wait for Thailand to join CRV. **Fukuoka / Japan** CRV/AMHS circuit was put into operation in September 2020. **HoChiMinh / Vietnam** Currently on AFTN. Simple AMHS IOT was conducted in Dec 2019. Wait for Vietnam to join CRV. **Taibei** CRV/AMHS circuit was put into operation in June 2020.	COMSOFT	AFTN-based AIDC with Sanya put into operational use in Feb 2007. AIDC with Taibei put into operational use in Nov 2012. AIDC with Guangzhou put into operational use in May 2018. AIDC with Manila put in operational use in May 2019.	Raytheon ATM system Support AIDC ICD Version 3 commissioned in November 2016.	Already support exchange of IWXXM messages based on FTBP. Support of IHE is planned since November 2020.

8	MACAO, CHINA	ATN/AMHS interoperability test with Beijing commenced in March 2009. ATN/AMHS circuit with Hong Kong put into operational use in end Dec 2009. Upgrade of ATN/AMHS to support IPS and IWXXM planned with tentative target date of Q3 2021.	COMSOFT	[Not applicable for using AIDC, looking into the possible application between TWR and ACC/APP]		
9	COOK ISLANDS					
10	DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA	The ATN BIS Router and AMHS planned for in 2011.		With neighboring ACCs to be implemented		
11	FIJI ISLANDS	ATN BBIS IPS router and AMHS implemented over CRV for connection to USA in April, 2019 with Australia planned for June, 2019. . For connections with sub-regional centers: For New Caledonia using AMHS since 2017; For connection with Kiribati using UA/AMHS implemented in 2015.	COMSOFT	AFTN based AIDC implemented between Nadi/ Brisbane, Auckland and Oakland.	- Support and implemented AIDC messaging: ABI, EST, CPL, CDN, ACP, TOC, AOC with all three centers - AIDC ICD version 2.0 implemented with Auckland and Oakland. - AIDC ICD Version 1.0 implemented with Brisbane	B2B connection between Nadi AMHS and Brisbane AMHS planned for Q3, 2021 as backup for CRV.
12	FRANCE (French Polynesia Tahiti)	Planned for implementation of AMHS in 2022 (T1). Using IP with New Zealand since 2017.		Implementation of AIDC (based on Version 3) with adjacent centers (Oakland and Auckland) since 2009.	THALES EUROCAT for AIDC	Alternate routing for backup between Tahiti and Christchurch via Tahiti/New Caledonia IP link
13	INDIA	Dual stack ATN/IP router and AMHS implemented at Mumbai in 2011. Operational AMHS connections with Bangkok, Dhaka, Singapore, Kathmandu, Karachi implemented. With Beijing implemented in 2016;	COMSOFT	Initially-15-May-2017, AIDC implemented between Chennai and Kuala Lumpur with ABI and EST messages. India is currently using APAC AIDC ICD version 3. **A. Implementation within India:**	Mumbai: Raytheon Auto track-III Chennai- Raytheon Auto track-III + Delhi: INDRA Aircon Kolkata: INDRA Aircon	INDIA

	With Colombo implemented in May2017; With Bhutan implemented in July 2017; (IOT/POT) between Mumbai – Muscat is scheduled with mutual agreement between India & Oman between 0600-0900 UTC from 21.06.2021 onwards. IOT with Nairobi in September 2020 failed due to compatibility issues noticed at Nairobi, which has Thales system, Messages from Mumbai did not go out of the transmit queue. System software level compatibility problems need to be resolved by Nairobi taking the OEMs on board.		Testing & trials: I. At Delhi with: Ahmedabad, Varanasi, Nagpur II. At Chennai with: Mumbai, Kolkata, Trivandrum, Mangalore, Trichy, Hyderabad, Bengaluru III. At Kolkata with: Chennai, Nagpur, Varanasi, Guwahati IV. At Mumbai with: Chennai, Ahmedabad, Nagpur Operational: Chennai- Mumbai; Delhi-Nagpur; Delhi-Ahmedabad, Functional: Delhi-Varanasi, LOA to be signed shortly. **B: Implementation with Neighboring States:** The status on AIDC implementation with following ATSUs of neighboring FIRs is as under:	Bengaluru: SELEX Hyderabad: SELEX Ahmedabad: INDRA Aircon 2100 Nagpur: INDRA Aircon 2100 Varanasi: INDRA Aircon 2100 Guwahati: INDRA Aircon 2100 Trivandurm: INDRA Aircon 2100 Mangalore: INDRA Aircon 2100 Trichy: INDRA Aircon 2100 All these systems follow APAC AIDC ICD Ver 3.0 of 2007	

			I. **Chennai & Kuala Lumpur** (Malaysia) – ABI, EST successful. CDN is done with voice confirmation. TOC/AOC is implemented w.e.f. 1st Jan 2021. LOA signed on 26th May 2021 effective from 1st June 2021. II. **Chennai & Male (Maldives)** –Trails have been successful. LOA in process. Safety Assessment conducted on 9th April 2021 for implementation III. **Chennai & Colombo** (Sri Lanka) - Colombo in process to address the syntax errors in ABI. Thereafter, trails will be conducted. LOA in progress. IV. **Chennai & Yangon** (Myanmar) – Trials commenced in January 2018. Issues of incorrect reference number in Counter CDN from Yangon persists. Yangon has intimated that, they will inform Chennai for conducting the Test, as soon as they are ready V. **Mumbai & Male (Maldives)** – Safety Assessment conducted on 9th April 2021 for implementation. Final LOA to be signed shortly. **VI. Mumbai & Mogadishu** - Successful trials conducted in March 2021. Minor adaptation system issues with Mogadishu automation system identified. Resolution awaited from Mogadishu. **VII Mumbai & Muscat** - Successful trials conducted in March 2021. System issues with Muscat's automation system identified. Resolution awaited from Muscat ATCAS vendor		

			VIII. **Ahmedabad & Karachi (Pakistan)** – Automatic message exchange (e.g. ABI, EST) happens for most of the East bound flights between Karachi & Ahmedabad. Karachi Automation system not generating auto ACP message in response of EST messages. Pakistan is currently doing technical trials between Lahore and Delhi ACCs in first phase. Pakistan will take up test trials between Karachi and Mumbai & Karachi and Ahmedabad in second and third phase respectively. **IX. Delhi & Lahore (Pakistan)-** Under test trails. During the first test trials during the March'2021 it was identified that Lahore Automation system not generating automatic ACP messages. Also Delhi system is rejecting the AIDC messages because of the extra space in messages from Lahore. **X. Kolkata & Yangon (Myanmar)** – Initial trials were conducted in Q4 of 2018 in which some ABI and message reference errors were encountered. Vendor at both ends modified the software and issues were mitigated. In the next trials in Q1 of 2020 most message exchanges were successful. LOA to be negotiated and signed. **C. Under Planning** I. To conduct operational trials between Kolkata-Dhaka, Mumbai-Karachi (Pakistan), Chennai-Jakarta and Varanasi-Kathmandu subject to readiness from the concerned states. D. Seychelles and Sana ATSU do not have a compatible ATM Automation system in place for AIDC coordination with Mumbai ATSU		

				E. Delhi – Karachi: AIDC between Delhi & Karachi will not be required due to re-structuring of FIRs		
14	INDONESIA	ATN BIS Router and AMHS with Singapore implemented since February 2018; AMHS Trial (IOT) with Brisbane pending for CRV implementation.	IDS	AIDC implementation in Ujung Pandang ACC conducted as follows: 1) Ujung Pandang ACC –Brisbane ACC: Implemented since July 2017. 2) Ujung Pandang ACC – Manila ACC: Implemented since 4Q 2020; 3) Ujung Pandang ACC – Kota Kinabalu ACC: - Successfully tested and target date for operational trial in 4Q2020; - Target date for implementation 4Q2021. 4) Ujung Pandang ACC – Oakland ARTCC: - Successfully tested and target date for implementation in 4Q2021. 5) Ujung Pandang ACC – Port Moresby ACC: - Successfully tested on 7 July 2020; - Target date for operational trial in 3Q2020. - Target date for implementation 2Q2021. 6) Ujung Pandang ACC – Jakarta ACC;	Thales TopSky in Makassar able to support ICD version 3 since December 2015.	For CRV, target of contract in 3Q2021 and implementation in 4Q2021.

				- Target date for operational trial in 3Q2021. - Target date for implementation 4Q2021; AIDC implementation in Jakarta ACC will be carried out with the following priorities: 1) Jakarta – Ujung Pandang (4Q2021); 2) Jakarta – Chennai (2Q2022); 3) Jakarta – Melbourne (3Q2022); 4) Jakarta – Colombo (4Q2022); 5) Jakarta – Singapore (2Q2023); 6) Jakarta - Kuala Lumpur (3Q2023); 7) Jakarta – Kota Kinabalu (4Q2023).		Priority is in accordance with Hot Spot identified by RASMAG/23
15	JAPAN	ATN BBIS router and AMHS installed at **USA** in 2000. Connection tests with USA in 2000 - 2004 and put into operational use in 2005. ATN BBIS router (to apply to Dual Stack) and AMHS (to upgrade in 2015. The connection test with each country which is not currently connecting is started after update. Hong-Kong AMHS/FTBP over CRV was put into operation in September 2020. **Singapore** AMHS/FTBP over CRV was put into operation in December 2020.	NEC	AIDC implemented between Fukuoka ATMC and Oakland ARTCC in 1998. AIDC implemented between Fukuoka ATMC and Anchorage ARTCC in 2005. AIDC implemented between Tokyo ACC/Fukuoka ACC and Incheon ACC in 2010. Implemented between Fukuoka and Incheon since June 2009. AIDC implemented between Fukuoka ACC/Naha ACC and Taibei ACC implemented.		Japan and USA conducting testing AIDC over AMHS and cutover date is 5 May 2017.

		Beijing/China AMHS/FTBP over CRV test was all completed in March 2021. It will put into operation after TMC is signed **Taipei** Plan for AMHS/FTBP over CRV IOT in July 2021 POT in 1Q 2022 Incheon/Korea Plan for AMHS/FTBP over CRV IOT in 4Q 2021		AIDC between Fukuoka ACC and Shanghai ACC under negotiation.		
16	KIRIBATI	Connection with Nadi using UA/AMHS implemented in 2015.				
17	LAO PDR	- ATN BIS Router and AMHS Implemented with Bangkok and Phnom Penh. - AFTN used with Hanoi and Kunming. - For Yangon we have no direct link the connection is used via Bangkok.	THALES	- Vientiane ACC AIDC used for coordination between Bangkok and Phnom Penh ACCs since 2020. - Operation trials are on going with Kunming, Hanoi and Yangon ACCs.	THALES which is able to support ICD Version 2	
18	MALAYSIA	ATN BIS Router completed 2007. AMHS for Malaysia – Singapore implemented in March 2020.	FREQUENTIS	**<u>Kuala Lumpur ACC and Bangkok ACC</u>** AIDC technical test between Kuala Lumpur ACC and Bangkok ACC conducted since November 2016 (ABI/EST/ACP/LAM/LRM/CDN/REJ/TOC /AOC). The operational trial commenced in August 2019 (EST/ACP/LAM/ LRM).	SELEX which is able to support ICD Version 3.	

	AMHS for Malaysia – Thailand implemented in Dec 2019.		The operational implementation commenced on 14th March 2020 (EST/ ACP/LAM/LRM). **<u>Kuala Lumpur ACC and Chennai OCC</u>** AIDC technical test between Kuala Lumpur ACC and Chennai OCC conducted since 31st July 2013. The operational trial implemented in phases from September 2016 (ABI/EST/MAC/LAM/LRM/ACP). Review on the CDN message implementation conducted in August 2017. SOP signed 26 April, 2017. The MOU signed on March 2020. The operational implementation commenced on 1st April 2020 (ABI/EST/ ACP/LAM/LRM/CDN/REJ/MAC). The operational trial for TOC/AOC started on 1st July until 1st August 2020. The operational implementation for TOC/AOC commenced on 1st January 2021. The updated LOA signed on 26th May 2021. **<u>Kuala Lumpur ACC and Singapore ACC</u>** AIDC technical test between Kuala Lumpur ACC and Singapore ACC conducted since April 2015 (ABI/EST/ ACP/LAM/LRM/CDN/REJ). The operational trial started on September 2018 (EST/ACP/LAM/ LRM). The operational implementation commenced on 1st November 2019 (EST/ ACP/LAM/LRM).		

			Kuala Lumpur ACC and Ho Chi Minh ACC AIDC technical test between Kuala Lumpur ACC and Ho Chi Minh ACC To Be Discussed (TBD). **Kuala Lumpur ACC and Jakarta ACC** AIDC technical test between Kuala Lumpur ACC and Jakarta ACC TBD. **Kota Kinabalu ACC and Manila ACC** AIDC Technical Test 1 between Kota Kinabalu ACC and Manila ACC started on 21 – 22nd May 2019 (ABI / EST / ACP / LAM / LRM / TOC / AOC / MAC). Technical Test 2 was conducted on 21 – 22nd October 2019 (ABI / EST / ACP / LAM / LRM / TOC / AOC / MAC). Upcoming AIDC Technical Test between Kota Kinabalu ACC and Manila ACC to be conducted in Q32021 **Kota Kinabalu ACC and Ujung Pandang ACC** AIDC Technical Test 1 between Kota Kinabalu ACC and Ujung Pandang ACC started on 7 – 8th August 2019 (ABI / EST / ACP / CDN / LAM / LRM / REJ / MAC). Technical Test 2 was conducted on 23 – 24th October 2019 (ABI / EST / ACP / LAM / LRM / TOC / AOC / MAC). Technical Test 3 was conducted on 11th March 2020 (EST / ACP / LAM / LRM). Upcoming AIDC Technical Test between Kota Kinabalu ACC and Ujung Pandang ACC to be conducted in Q32021 **Kota Kinabalu ACC and Jakarta ACC** AIDC Technical Test between Kota Kinabalu ACC with Jakarta ACC is to be discussed. **Kota Kinabalu ACC and Singapore ACC**		

			AIDC Technical Test between Kota Kinabalu ACC and Singapore ACC started on 22nd September 2015 (ABI / EST / ACP / CDN / LAM / LRM / REJ / MAC). AIDC Technical Test 1 was conducted on 18 – 19th November 2019 (ABI / EST / ACP / CDN / LAM / LRM / REJ / MAC). Technical Test 2 was conducted on 16th January 2020 (EST / ACP / LAM / LRM). AIDC Operational Trial started since 16th November 2020 and to be extended until 30th June 2021. Agreement on Operational Implementation has been materialized on 3rd June 2021. Operational Implementation is agreed to be conducted on 1st July 2021 (EST / ACP / LAM / LRM) **<u>Kuching ACC and Singapore ACC</u>** AIDC Technical Test (First and Second) between Kuching ACC and Singapore ACC was conducted both on 11 November 2015 and 24-25 November 2015 (ABI, EST, LAM, CDN, ACP, REJ, and LRM). However, it was discontinued until November 2019 The AIDC Technical Test (Third and Fourth) was conducted both on 20-21 November 2019 and 14 January 2020 (ABI, EST, LAM, CDN, ACP, REJ, and LRM) AIDC Operational Trial was started on 20 July until 18 October 2020. Then it was continuing until 31 January 2021. Agreement on Operational Implementation has been materialized on 12 January 2021 via videoconference.		

				The operational implementation was on 1 February 2021. The AIDC messages included for exchange are EST, LAM, LRM and ACP. **<u>Kuching ACC and Jakarta ACC</u>** AIDC between Kuching ACC and Jakarta ACC TBD.		
19	MALDIVES	In the process of replacing the existing operational AFTN system by AMHS. It is expected to complete the installation before the end of 2019. With the new AMHS, it is planned to establish a new IP connection between an additional neighboring ATSU as the current link is an X.25 connection between Colombo. Also will look for the possibility of implementing the CRV network to use with AMHS and AIDC during the same phase.		Connection established with all the adjacent ATSUs. Interoperability tests successfully completed in 2017. LOA signed for operational trials between Mumbai, Chennai, and Trivandrum. Operational trials were also successful with these ATSUs, while several issues were resolved from both ends. Ready to sign LOA with Melbourne and is expected during the 2nd quarter of 2019. Trials with Colombo had few issues, which Colombo is working to resolve it on their end with the automation system supplier. Connections between all 5 ATSUs are turned ON in the ATS automation system to conduct pre-notified operational trials.	SELEX which is able to support ICD Version 3.	

20	MARSHALL ISLANDS					
21	MICRONESIA (FEDERATED STATES OF)					
	Chuuk					
	Kosrae					
	Pohnpei					
	Yap					
22	MONGOLIA	AMHS/AFTN gateway implemented 2012. ATNBIS router implemented in 2014. ATN and AMHS IOT with China was completed in May 2018. Plan for commissioning after POT completion in 2019.	COMSOFT	ATM automation system supports both AIDC and OLDI. Coordinating with Russia on OLDI connection in target date 2016. Coordinating with China on AIDC connection between Beijing/Ulaanbaatar technical trials in progress. Planned date of testing in 2019.	INDRA Aircon 2100 supporting AIDC ICD Version 2.	
23	MYANMAR	AMHS including AFTN/AMHS gateway implemented in Nov 2011. Connection with Thailand implemented in 4Q2016. Planned for AMHS connection with Beijing. Target date TBC.	THALES	AIDC connection pre- operation test with Thailand conducted in 4Q2017 and Target date of implementation 4Q2020; AIDC testing with Chennai, Kolkata and Vientiane conducted in 2020. Myanmar improved ATS Surveillance Coverage at coordination point with China and will start AIDC test again with Kunming ACC in 2020.	THALES Automation system (Topsky ATC) supports APAC AIDC ICD Ver. 2.	AMHS including AFTN/AMHS gateway implemented in Nov 2011. Connection with Thailand implemented in 4Q2016. Planned for AMHS connection with Beijing. Target date TBC.
24	NAURU					
25	NEPAL	AFTN/AMHS Gateway implemented in 2012. AMHS implemented with India since June 2014. AFTN connection with China. Plan to test AMHS connection soon.	COMSOFT	Nepal uses custom built ATM system from NEC. Some issues regarding ICD need to be resolved in order to proceed ahead with AIDC testing with India and China.		
26	NEW CALEDONIA	New router and AMHS commissioned December 2016	COMSOFT			

27	NEW ZEALAND	AMHS connection with the USA over CRV was implemented in April 2019. AMHS connection to Australia over CRV is scheduled for June 2019.	COMSOFT	AIDC implemented between New Zealand, Australia, Fiji, Tahiti, Chile and USA.	Supported the Basic 5 message set. ATM systems are LEIDOS and ADACEL	
28	PAKISTAN	ATN/AMHS connections with Mumbai and Kuwait since 2015 and 2018 respectively. AMHS connection with Beijing, Kabul, Tehran and Muscat will be provided after up gradation of existing AMHS at Karachi which is already in progress.	Existing COMSOFT After up gradation ISD	Implemented between Karachi and Lahore ACCs. Lahore/Delhi ACC AIDC trials are being carried out which started in March 2021 (Phase-1), Karachi/Mumbai & Karachi/Ahmedabad are planned in Phase-2. After modification of Lahore/Karachi FIRs boundaries, trials between Karachi/Delhi ACC are not required.	ATM system from Indra AIRCON 2100 version-2 in Lahore and Karachi ACC, Si-ATM version-3 in Islamabad ACC	Existing ATM system are likely to be upgraded in Lahore and Karachi ACC.
29	PAPUA NEW GUINEA	Currently AFTN over IP. AMHS implementation is planned for after successful implementation of CRV this year. AMHS implementation planned for 2020.	COMSOFT is the supplier of PNG AFTN/AMHS system	AIDC using AFTN operational with Australia, testing/trial with Oakland (USA) started late last year and in progress. AIDC implementation with Indonesia to happen after CRV implementation this year.	New ATM System from Thales (TopSky-ATC) implemented and operational now supports AIDC V3.	
30	PHILIPPINES	ATN/AMHS Boundary Intermediate System was installed at the new Manila CNS/ATM Center; • Site Acceptance, Oct. 2015 • Commissioned & operational, March 2018	**Frequentis - Comsoft**	AIDC implementation status/update over AMHS with the following FIR's; **HONG KONG** – Implemented, May 2019	THALES which is able to support ICD Version 2.	The New ATN/AMHS of Manila CNS/ATM center has been in domestic operations since March 2018. And with the implementation of CRV, AMHS connection has been implemented with the following adjacent FIR's; **-HONG KONG**

		AMHS implementation over CRV with; • **HONG KONG** - May 2019 • **TAIPEI** - Sept. 2019 • **SINGAPORE** - Dec. 2020 • **OAKLAND** - April 2021		**SINGAPORE** – Implemented, December 2020 **TAIPEI** – Implemented, December 2019 **UJUNG PANDANG** – Implemented, December 2020 via **BBIS** **HO CHI MINH** - Awaiting OPS trial. Technical Test conducted on June 15-16, 2021. **KOTA KINABALU** – Next progress AIDC test to be scheduled, target 3Q2021 **OAKLAND** – 1st test to be scheduled, target 3Q2021		**-TAIPEI** **-SINGAPORE** **-OAKLAND**
31	REPUBLIC OF KOREA	Plan to upgrade AMHS support IWXXM from 2023 over CRV Frequentice 1) AMHS/CRV IOT with China and Japan in 4Q of 2021 2) AMHS/CRV POT with China and Japan in 4Q 2022 3) Cutover to AMHS/CRV with Chi na and Japan in Q1 2023 after POT 4) Implementation of AMHS/CRV with Japan Q1 2023	FREQUENTIS	AIDC implemented between ACC and Fukuoka ATMC in 2010 AIDC between Incheon and Dalian implemented in Nov. 2016.	Rockheed Martin System	

32	SINGAPORE	AMHS implemented with: 1) AMHS circuit with India put into operational use in Mar 2011. 2) AMHS circuit with UK put into operational use in Mar 2012. 3) AMHS circuit with Thailand put into operational use in Dec 2014. 4) AMHS circuit with Australia put into operational use in Oct 2016. 5) AMHS circuit with Indonesia put into operational use in Feb 2018. 6) AMHS circuit with Malaysia put into operational in Mar 2020. 7) AMHS circuit with Japan put into operational in Dec 2020. 8) AMHS circuit with Philippines put into operational in Dec 2020. Inter-Operability Test (IOT) with Vietnam started in 2019. IOT with Sri Lanka, Bahrain and Brunei to be confirmed.	FREQUENTIS COMSOFT	1) Operational with Ho Chi Minh implemented Jul 2014. 2) Kuala Lumpur operational trial started since Sep 2018 and is implemented Nov 2019. 3) Implemented with Kuching ATCC in Feb 2021. 4) Operational trial ongoing with Kota Kinabalu ATCC since Nov 2020 and implementation date on 1st July 2021. 5) Manila operational trial started in Feb 2019. Implementation Nov 2019. 6) Technical trials with Jakarta ACC will be initiated once the Jakarta ACC ATMS renewal is completed.	THALES supports ICD Version 3 since December 2018	

33	SRI LANKA	ATN BIS Router Planned for 2013. IP based AMHS implemented by Oct. 2017. - Mumbai tested May 2017 operational planned for Q4 2017; - Singapore testing in Q4 2017 operational for 2018; - Male testing and operational date TBD.	IDS	Trials with Male planned for in 3Q2019. Trial with Chennai on-going. Plan for implementation in 2018 and with Melbourne plan for 1Q2018.	INTELCAN which is able to support ICD Version 3.	
34	THAILAND	BBIS/BIS Routers already implemented. Connection with Bangladesh, Bhutan, Cambodia, China, India, Lao PDR, Myanmar, Singapore, Hong Kong China, and Malaysia implemented. Bangkok -Viet Nam Circuit IOT Test: Done POT Test: Planned for end of 3Q2021 Bangkok - Rome Circuit IOT Test: Planned for 3Q2021 Connection with SITA (SITA AMHS Gateway inter-connections) implemented. POT Test: Planned for end of 4Q2021	AEROTHAI's AMHS System	The implementation with Lao PDR has done since 14th July 2020 Cambodia has done on 22nd feb 2021 In addition, it is planned to implement AIDC with Myanmar.	THALES which supports AIDC feature APAC AIDC ICD V.3	
35	TONGA	AMHS planned for 2008. The provider is linked to the New Zealand AFTN				CPDLC and ADS-C is not considered for lower airspace

36	UNITED STATES	- Australia - Fiji - New Zealand - Japan - Philippines - Papua New Guinea (2021) - Indonesia (2022) - Russia (Planned)	IN-HOUSE	- Fiji, Japan, New Zealand - Tahiti (via New Zealand), - Papua New Guinea via Australia (Direct planned for 2021) - Philippines (2021) - Indonesia via Australia (Direct planned for 2022) - Russian Federation (pending joining CRV)	IN-HOUSE which is able to support APAC and NAT ICDs currently Version 2.	
37	VANUATU					
38	VIET NAM	AMHS (basic) implemented from 4Q/2018. Plan AMHS extended from Q4 2022 IOT with Singapore from 10/2019 to 8/2020 IOT with Hong Kong 12/2019 IOT with Thailand 6/2020, POT 8/2020.	IN-HOUSE	Operational between Ho Chi Minh and Singapore since July 2014. Operational trial for additional messages sets on-goning. Technical testing between Ho Chi Minh with Philippines on going Technical testing with Cambodia already done; Technical testing between Hanoi and Vientiane, Lao. PDR. already done with Malaysia TBC For operation trial TBC. Operation trial between Ho Chi Minh and Hanoi ongoing.	Support ICD Version 1.0 with THALES at Ho Chi Minh ATM system. Support ICD Version 3.0 with Selex at Hanoi ATM System.	
39	Wallis and Futuna (FRANCE)	AMHS implementation planned for end of 2017			COMSOFT	

CRV IMPLEMENTATION TABLE

State/ Administration	Intended date for CRV cut-over	Applications targeted	Migration scheme	Prerequisites/ dependencies
Australia	Contract in May2018 and service readiness in 3Q 2018	AFTN, ADS-B, AMHS, Voice With: **Australia** February,2019(AMHS/AIDC), March,2019(Voice) **Fiji** March,2019 (AMHS June 2019/AIDC, Voice completed April) **New Zealand,** February, 2019 (AMHS June 2019, AFTN May 2019/AIDC), March, 2019 (Voice April 2019 completed) **Indonesia** 4Q2019 (TBC) (AMHS/AIDC, Voice, ADS-B); **PNG** 4Q2019(TBC), (AMHS/AIDC, Voice) **Singapore** 2Q2019 TBC (AMHS/AIDC, Voice); **South Africa TBC** 3Q2019 TBC (AMHS/AIDC, Voice); **Japan** would be end of 2019.	staged approach	Termination of current COM contract
Bhutan	Contract signed on Oct 2019. CRV installed successfully in Dec 2021. CRV P2P Test between Paro-Mumbai & Paro-Bangkok to be done once India and Thailand join CRV	AMHS first and Voice & ADS-B will follow up after AMHS.		Dependent on India and Thailand for utilization of CRV network.

State/ Administration	Intended date for CRV cut-over	Applications targeted	Migration scheme	Prerequisites/ dependencies
Cambodia	As early as convenient, dependent on neighboring countries			Internal decision making
China	Contract signed on 21 June 2020.	Applications targeted: Data(AMHS) With: Hong Kong 3Q2020; Japan 4Q2020; Thailand TBD; India TBD. Republic of Korea 4Q2020 ATFM test with Japan and ROK at Sep 2020 over CRV	staged approach	
Democratic People's Republic of Korea	Contract in 3Q2018 and service readiness in 4Q2018	AFTN and VoIP		
Hong Kong, China	Contract signed on 6 April 2018. Connection was installed successfully in June 2018.	**With Manila** CRV-Voice put into operation in August 2018 CRV-AMHS put into operation in May 2019 **With Taibei** CRV-AMHS put into operation in May 2020 **With Fukuoka** CRV-AMHS put into operation in September 2020 **With Beijing** CRV - AMHS POT in March and operation in April 2021 **Bangkok and Hochiminh** Subject to their readiness	staged approach	Need to coordinate with relevant CAAs/ANSPs in joining CRV in a harmonized manner, etc.

State/ Administration	Intended date for CRV cut-over	Applications targeted	Migration scheme	Prerequisites/ dependencies
Macao, China	Service readiness in Q4 2021	To be confirmed	Staged approach	Migration from X.25 to IPS
Fiji	Contract in May 2018 and service readiness in 3Q 2018.	Data (AMHS) and VoIP With: Australia ATS voice April 2019 completed, AMHS completed in July 2019, NZ ATS voice completed April 2019 and USA ATS voice completed in March 2019 and AMHS completed in April 2019.	Staged approach	CBA, safety case
France (New Caledonia and French Polynesia)	2023 is target for DNSA to sign contract subject to internal security assessment (done).	ATS Voice, AMHS with Fiji & AIDC, AMHS with USA, AIDC/AMHS with NZ.		CBA, cost must be affordable *Wallis and Futuna: no dedicated connection to CRV*
India	Contract for CRV implementation with M/s PCCW in India will be signed in 3Q of 2021 and CRV Service will be ready in 4Q of 2021.	AFTN/AMHS,ADS-B,AIDC,ATS Voice	staged approach	Internal Administrative approvals & safety case
Indonesia	Contract in 3Q2021 and service readiness in 4Q2021.	AFTN, AMHS, ADS-B and voice		CBA completed

State/ Administration	Intended date for CRV cut-over	Applications targeted	Migration scheme	Prerequisites/ dependencies
Japan	Contract signed in Nov.2017 and service readiness in1Q 2018for Fukuoka	Data first with: Hong Kong completed 3Q2020 USA completed 1Q2019 Singapore completed 4Q2020 China completed 1Q2021 Voice Plan with: USA 2Q2021 Daegu and Incheon (R.O.K) started in1Q2021	staged approach	
Malaysia	Contract to be signed 4Q 2020 and service readiness in 1Q 2021	AFTN, AMHS, ADS-B and ATS voice	staged approach	New ATC centre operational in 2021 Contract issue with the new ATC main contractor. COM Project is part of the main contract.
Myanmar	Contract will be signed 4Q2020.	AFTN/AMHS, AIDC, ADS-B and voice	staged approach	One of counterparts join in
Nepal	Nepal intends to join CRV on staged approach with AMHS data connectivity as first priority and intends to sign the contract with PCCW within 2020.			

State/ Administration	Intended date for CRV cut-over	Applications targeted	Migration scheme	Prerequisites/ dependencies
New Zealand	Contract signed in July 2018 and service implemented December 2018	Australia Voice Completed March 2019 and AMHS June 2019 Completed USA Voice Completed March 2019 and AMHS March 2019 Completed Fiji Voice Completed April 2019 French Polynesia AMHS and Voice Chile AMHS (SAM regional network REDDIG)	Awaiting French Polynesia joining. Awaiting outcome of inter-regional network connectivity discussion. For Chile	CBA attractive if all counterparts join in.
Philippines	Contract signed in March 2018 and service readiness in 2Q2018	Completed: with **HONG KONG** AIDC - 2Q2019; AMHS - 2Q2019; Voice - 3Q2018. with **TAIPEI** AIDC 4Q2019; AMHS 3Q2019; Voice 1Q 2019. with **SINGAPORE** AIDC – 4Q2019; AMHS –4Q2020; Voice – 1Q2020. with **USA** AMHS – 2Q2021; Voice – 4Q2019;	staged approach	Success transition to the New ATM centre in 4Q2018

State/ Administration	Intended date for CRV cut-over	Applications targeted	Migration scheme	Prerequisites/ dependencies
		with **INDONESIA** AIDC – 4Q2020.		
Republic of Korea	Contract in 3Q 2019 and service readiness in 4Q 2019	Completed: with Japan Voice –March 2021 Planned; With Japan Voice additional lines-from 2022 to 2023 AMHS-4Q 2022 With China Data(AMHS)-4Q 2022	staged approach	
Singapore	Contract signed in May 2019 and service readiness in Dec 2019	Data (AMHS over IP) with: Australia Dec 2020 (completed); Japan Nov 2020 (completed); and Philippines Dec 2020 (completed);and Malaysia Q3 2021. Voice with: Philippines Mar 2020 (completed).	Staged approach	**Singapore**
Sri Lanka	As soon as CRV is available	AMHS connectivity with Mumbai, Singapore and Male. Direct Speech facilities with Chennai, Trivendrum, Mumbai, Male, Jakarta, Melbourne, Singapore	Phased approach with the implementation of CRV	CBA

State/ Administration	Intended date for CRV cut-over	Applications targeted	Migration scheme	Prerequisites/ dependencies
Thailand	Contract in 3Q2021 and service readiness in 1Q2022	Data first Then voice, subject to safety case: China 1Q2022 Hong Kong 1Q2022; Singapore 1Q2022; India 2022.	Staged approach	

State/ Administration	Intended date for CRV cut-over	Applications targeted	Migration scheme	Prerequisites/ dependencies
United States	Contract in January 2018	1) AMHS with Australia Fiji Japan Philippines New Zealand Papua New Guinea (2021) Indonesia (2022) 2) AIDC with Fiji Japan New Zealand Papua New Guinea (Direct planned 2021) Tahiti (via New Zealand) Indonesia (Direct planned 2022) Russia (when join CRV) 3) VoIP with Fiji Japan Philippines New Zealand Papua New Guinea (direct planned 2021) Indonesia (2022) Russia (when join CRV)	Staged approach	
Viet Nam	To be confirmed later (After discussed with PCCW Global)			

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AMHS Readiness Report for Supporting IWXXM Traffic

No.	States/Administration	Name of State (Administration)/name of BBIS/BIS location where AMHS is installed:	AFTN/AMHS transition date/schedule	Readiness Status of AMHS for supporting File Transfer Body Part (FTBP), the Interpersonal Message (IPM) Heading Extension (IHE) to support for exchanging IWXXM reports of a maximum size of 4MB and FTBP of maximum 2MB:	Capacity status of the operational AFS links to support the exchange of the required meteorological information in both IWXXM GML form and TAC form:
1	Australia	Airservices - Brisbane	Completed. AMHS exchange in place with USA, Fiji, New Zealand, Singapore and South Africa. AFTN still in place with Indonesia and PNG, migration to AMHS based on pending readiness both partners Several Pacific island nations connecting via FCO CADAS ATS Terminal, currently over AFTN. Airservices plans to migrate to AMHS P3 CADAS but will need to provide user training. All domestic users and data originators still on AFTN, no desire by external partners to migrate to AMHS, awaiting SWIM instead.	Full compliance and support since Nov 2020	Airservices has contracted a 2.0Mbps bandwidth using CRV Package C+ for Voice & AMHS services. Bandwidth on the leased line with South Africa / Johannesburg is also 2Mbps.
2	China	Beijing	AMHS deployed in 2008 which was upgraded to support ATN/IPS in 2013 and upgraded to support exchanging IWXXM in 2020.	support	CRV bandwidth is 3M. Minimally 64kbps for each AMHS connection..
3	Hong Kong China	Hong Kong China	December 2009	Support	2MB for CRV and 64kbps for IPLCs
4	Fiji	Fiji Airport/Air Traffic Management Centre	Completed. In June 2019, Fiji completed the transition of ATN BBIS to IPS for the AMHS service from Nadi to Salt Lake, USA & Brisbane, Australia over the CRV network. The local end User still operates on AFTN terminal and is converted to AMHS over the AFTN/AMHS Gateway.	The Comsoft AMHS System supports File Transfer Body Part (FTBP). Our system has the capability of exchanging IWXXM reports of a maximum size of 4MB and FTBP of maximum.	Nadi has contracted a 1.0Mbps bandwidth using CRV Package C+ for Voice & AMHS services. The total bandwidth usage for voice and data is 768K from the total 1.0Mbps. The bandwidth for AMHS is 64Kbps each to Brisbane & Salt Lake Center. It is noted in the ACSICG/7 WP04 presented by USA that 64Kbps is the minimum recommended required bandwidth for AMHS to exchange FTBP for IWXXM.
5	India	AAI/Mumbai Airport	AMHS is in operation since 2011. India is in the process of tendering for replacement of existing AMHS system . The Tender action stands delayed due to COVID pandemic.	Presently India is not able to exchange the required 4 MB messages and 2 MB FTBP attachments.	Indian Meteorological Department is in the process of upgradation of HPC & DB to support IWXXM.

No.	States/Administration	Name of State (Administration)/name of BBIS/BIS location where AMHS is installed:	AFTN/AMHS transition date/schedule	Readiness Status of AMHS for supporting File Transfer Body Part (FTBP), the Interpersonal Message (IPM) Heading Extension (IHE) to support for exchanging IWXXM reports of a maximum size of 4MB and FTBP of maximum 2MB:	Capacity status of the operational AFS links to support the exchange of the required meteorological information in both IWXXM GML form and TAC form:
6	Japan	Japan/Fukuoka	ATN BBIS router and AMHS installed at 2000. Connection tests with USA 2000 - 2004 and put into operational use in 2005 and over CRV in February 2019. Put into AMHS operation with Hong- Kong and Singapore in 2021. AMHS implementation with China in 2021 , Korea and Taipei in 2022.	Already support exchange of IWXXM messages based on FTBP in August 2015. It is possible to send , receive and transfer up to 2GB for the contents such as FTBP,IPM and IHE in AMHS,and the size of IWXXM suported system by Japan Meteorological Agency is 2MB	AFS links over CRV is a Package A, Bandwidth 2M.
7	Macao China	Macao China	Q4/2009	Q3/2021	To be determined
8	Philippines	Philippines/ATMC Manila	Completed March 2018	Can support IHE and FTBP maximum 1MB (tested with Taipei on 13-May-20)	1MB Philippines has contracted 2Mbps bandwidth using CRV package “A” voice and data services.
9	Republic of Korea	Gimpo international airport	ATN/AMHS with China put into operational use in June, 2011. AMHS implementation with China and Japan over CRV will be in 4Q, 2022.	AMHS implementation for supporting FTBP and IHE will be in 4Q, 2022.	AFS links over CRV is a Package A, Bandwidth 2M.
10	Singapore	Singapore	March 2011	Yes	2MB for CRV and minimally 64kbps for IPLCs
11	Thailand	Thailand	BBIS/BIS Routers already implemented. AMHS has been implemented since July 2011. Connection with Bangladesh, Bhutan, Cambodia, China, India, Lao PDR, Myanmar, Singapore, Hong Kong China, and Malaysia implemented. Connection with SITA (SITA AMHS Gateway inter-connections) implemented. **Bangkok - Vietnam Circuit** IOT Test : Done POT Test: Planned for end of 3Q2021 **Bangkok - Rome Circuit** IOT Test: Planned for 3Q2021 POT Test: Planned for 4Q2021	Completed, the IWXXM exchange has been implemented since November 2020.	The capacity of links readied to support in both form.

No.	States/Administration	Name of State (Administration)/name of BBIS/BIS location where AMHS is installed:	AFTN/AMHS transition date/schedule	Readiness Status of AMHS for supporting File Transfer Body Part (FTBP), the Interpersonal Message (IPM) Heading Extension (IHE) to support for exchanging IWXXM reports of a maximum size of 4MB and FTBP of maximum 2MB:	Capacity status of the operational AFS links to support the exchange of the required meteorological information in both IWXXM GML form and TAC form:
12	USA	Federal Aviation Administration	Q4, 2020	Yes. FAA AMHS has FTBP capability. National Weather Service (NWS) projected to implement IWXXM by Q3, 2021	Yes. 2MB bandwidth over CRV

Roadmap for Mode S DAPs Implementation in APAC Region

(Agreed by Mode S DAPs WG/4 and SURICG/6)

1. INTRODUCTION

1.1 The Terms of Reference for the Mode S DAPs Working Group includes the formulation of a roadmap for DAPs Application.

1.2 An initial version of the roadmap was generated at Mode S DAPs WG/3 for adopted by SURICG/6.

1.3 The topics considered in the roadmap were:

a) Mode S mandate;
b) Use of II and SI mixed Codes;
c) Radar Clustering;
d) Use of conspicuity codes;
e) Weather reporting capability; and
f) Datalink Map.

1.4 However, due to the evolving and complex nature of Mode S related technology, only the roadmap of *Mode S mandate* was adopted after some amendment.

1.5 Based on current practices around the world and taking into account the situation in Asia Pacific, the Mode S DAPs WG/4 formulated the revised version of roadmap for the Asia Pacific Region.

2. SUMMARY

The revised roadmap is summarised as follows:

S/N	Issue	Proposed Roadmap	Reasons
1	Mode S Mandate	**Conclusion APANPIRG/31/14 (CNS SG/24/13 (SURICG/5/3(DAPs WG3/1))) - Mode S Forward Fit Equipage in APAC Region** That, States/Administrations in APAC Region be strongly encouraged to mandate that registered aircraft with a maximum certified take-off mass exceeding 5 700 kg or having a maximum cruising true airspeed capability greater than 250 knots, with a date of manufacture on or after 1 January 2022 be equipped with Mode S avionics compliant with Enhanced Surveillance (EHS).	Considering that a number of DAPs applications will require EHS and that it's easy for new aircraft to be equipped with EHS. Retrofitting existing airframes with EHS will need further deliberation under challenging pandemic situation.

2	Use of II and SI mixed Codes	**Proposed Draft Conclusion** States with Mode S radar capable of performing II/SI mode operations are urged to transit from II code to II and SI mixed code, so as to ease the shortage of II codes. States planning to perform the transition shall coordinate with ICAO APAC to obtain the SI codes.	Due to higher density of radars, some states are facing a shortage of IC codes, which has to be solved by transiting from II to II and SI mixed code. It is noted that radars using II and SI codes can co-exist, hence there is no need for a big bang approach. However, States still have to coordinate with ICAO APAC on the allocation of SI codes. Due to some aircraft still not SI code ready, only radars with II/SI mode should be allowed to use SI
3	Radar Clustering	No proposed roadmap at the moment. But States with the competency and operational requirement may consider applying such technique.	Due to complexity and cost, only Germany and the Netherlands have implemented such techniques. It is unclear whether the benefits outweigh the cost.
4	Use of conspicuity codes	Mode A = 1000 has already being assigned as the conspicuity code.	It is foreseen that the region will need the automation systems to be able to support the conspicuity code feature before Mode S address can be used in lieu of Mode A address for selected flights. There may be a need to coordinate the efforts with ATMAS TF in the region.
5	Weather reporting capability	Not practical to mandate weather reporting capability in Mode S, as there are no ready solutions to enable such capability for current transponders (i.e. versions 0, 1, and 2). States requiring such capability should consider other means to generate weather information (such as using algorithm to derive weather information).	While weather data is one of the Mode S DAPs, only very few (<1%) aircraft has this capability. The industry does not have software patches to enable this weather feature, hence there is no point having a mandate for weather capability. Instead, some States researched algorithms to derive weather information. It is foreseen that the weather reporting capability will be available in version 3 transponders
6	Datalink Map	No proposed roadmap at the moment. States are instead urged to adopt the various SARPs and guidance material relating to reduction of frequency congestion.	It is difficult to implement and enforce datalink map with no certainty of success. It is more practical to adopt the SARPs and guidance materials relating to the reduction of frequency congestion.
7	Monitoring of 1030 and 1090 MHz usage	States with capability are urged to perform RF measurement on 1030 and 1090 MHz usage. Guidance material is proposed.	It is necessary to ensure that the RF occupancy is kept at healthy levels.

Note: The roadmap may be revisited as and when necessary. It is foreseen that for the items without roadmap, they may be reviewed in 2 to 3 year time.

ADS-B IMPLEMENTATION STATUS IN THE APAC REGION

State/ Administration	ADS-B Ground Infrastructure and ATC System readiness or Implementation plan	Date of issue/ effectiveness date of equipage mandate	Mandated Airspace and/or ATS-routes	Intended separation criteria to be applied	Remarks
AFGHANISTAN	ADS-B & Multi Lateration system installed.				subject to safety assessment
AUSTRALIA	A total of 50 ADS-B ground stations and 28 WAM stations are operational (Total 78) ATC readiness since 2004 ADS-B data sharing with Indonesia operational since 2/2011. ASMGCS using multilateration and ADS-B is operational in Brisbane, Sydney, Melbourne and Perth November 2016 – ADS-B converted to "radar like" Cat 48 for use in Melbourne Terminal Area and Perth Terminal Area in early 2017. CMATS replacing the current ATM system is expected to be fully operational in 2026 period.	2009/effective date of mandating in upper airspace 12/12/2013. An ADS-B mandate for all IFR aircraft applies from 2/2017. Some limited exemptions for foreign registered aircraft and some private operations.	All airspace for IFR aircraft from 2/2017	2.5NM, 3NM and 5 NM surveillance separations. 3/2016 - Manual of ATC updated to include 3 nautical mile separation using ADS-B in terminal control unit. 3/2017 – 2.5NM separation authorized using ADS-B when also used with radar. Vectoring allowed using ADS-B Precision Runway Monitoring for Sydney WAM	WAM is operating in Tasmania since 2010 with 5 NM separation service. WAM is also operating in Sydney for 3 NM separation service in TMA and for precision runway monitoring function. CASA has approved the use of reduced specification ADS-B avionics to support ADS-B IN and ATC situational awareness for VFR aircraft

State/ Administration	ADS-B Ground Infrastructure and ATC System readiness or Implementation plan	Date of issue/ effectiveness date of equipage mandate	Mandated Airspace and/or ATS-routes	Intended separation criteria to be applied	Remarks
BANGLADESH	Bangladesh has taken the "Modernization of CNS-ATM System of CAAB" project which is going on G2G agreement with France and likely to be implemented by 2024. This project included a plan of five ADS-B ground stations to be installed at Dhaka, Cox's Bazar, Sylhet, Saidpur and Barisal. ADS-B data will be integrated with new ATM system at Dhaka. Bangladesh has also a plan to install MLAT stations to provide surface movement control at HSIA, Dhaka as well as TMA coverage as a backup and complimentary RADAR coverage to the Dhaka MSSR.				Bangladesh is willing to share ADS-B data with neighbouring States to enhance the safety and surveillance capability in the sub-region.
BHUTAN	ADS-B ground infrastructure feasibility study will be completed in the middle of 2020.	Equipage mandate will be issued once after the completion of feasibility study.			
BRUNEI DARUSSALAM	5 ADS-B ground stations with WAM functionality installed in 2015 and full operation in October 2016. ADS-B/WAM data are fused with radar data in the TopSky ATC Automation system (Thales) to enhance full				

State/ Administration	ADS-B Ground Infrastructure and ATC System readiness or Implementation plan	Date of issue/ effectiveness date of equipage mandate	Mandated Airspace and/or ATS-routes	Intended separation criteria to be applied	Remarks
	radar surveillance coverage for Brunei Darussalam. Memorandum of Understanding (MOU) on ADS-B data sharing with Singapore and Brunei Darussalam is expected to sign in April 2019.				
CAMBODIA	3 ADS-B ground stations installed at Phnom Penh, Siem Reap and Stung Treng City since 2011 and able to provide full surveillance coverage for Phnom Penh FIR. Cambodia is willing to share data with others.				
CHINA	5 UAT ADS-B stations are used for flight training of CAFUC. The upgrade to 1090ES ADS-B stations project has already started in 2017, and the project is planned to finish by 2022. 308 ADS-B stations nationwide have already finished the final acceptance activities. 4 ADS-B stations operational in Sanya FIR since 2008. Chengdu-Jiuzhai and Chendu - Lhasa route with 9 ADS-B stations.	The operation of national ADS-B Service is implementing in step -by-step way. Phase I: from October 10, 2019 ➢ ADS-B control services will be provided in APP where radar control services are not available; ➢ ADS-B control services will be implemented in control area above 8400m (inclusive) where Radar control services are not available; ➢ Radar control services will be provided, using integrated surveillance data of ADS-B and radar, in control areas above 8400m (inclusive) where radar	The ADS-B mandate published in October 2020, in a separated AIC Nr.09/19 named "Implementation of ADS-B Control Services"		

State/ Administration	ADS-B Ground Infrastructure and ATC System readiness or Implementation plan	Date of issue/ effectiveness date of equipage mandate	Mandated Airspace and/or ATS-routes	Intended separation criteria to be applied	Remarks
	9 ADS-B stations deployed on the routes H15 and Z1 by the end of 2015. 19 ADS-B stations at the small airport.	control services are available. Phase II: from December 31, 2020 ➢ ADS-B control services will be provided in APP and ACC where radar control services are not available; ➢ Radar control services will be provided, using integrated surveillance data of ADS-B and radar, in APP and ACC where radar control services are available; and ➢ ADS-B equipment will be used at the tower of transport airports to display flight movements.			
HONG KONG CHINA	A larger-scale A-SMGCS covering the whole Hong Kong International Airport put into operational use in April 2009. Data collection/ analysis on aircraft ADS-B equipage in Hong Kong airspace conducted on quarterly basis since 2004. ADS-B trial using a dedicated ADS-B system completed in 2007.	AIP supplement issued on 29 Aug 2014 with 8 Dec 2016 as effective date.	HKFIR at or above FL290	5NM surveillance separation	Fully implemented ADS-B in HKFIR by phased approach to ensure safe and smooth integration of ADS-B into the Air Traffic Management System to provide aircraft separation service since November 2018.

State/ Administration	ADS-B Ground Infrastructure and ATC System readiness or Implementation plan	Date of issue/ effectiveness date of equipage mandate	Mandated Airspace and/or ATS-routes	Intended separation criteria to be applied	Remarks
	ADS-B out operations over PBN routes L642 and M771 at or above FL 290 within HK FIR was effective in December 2013 and within HK FIR at or above FL 290 has been effective since December 2016. ADS-B ground station infrastructure completed in 2013. ADS-B signal provided by Mainland China to cover southern part of Hong Kong FIR commenced in 2010 and has been put into operational use after commissioning of the new ATMS since November 2016.				
MACAO, CHINA	Mode S MSSR coverage available for monitoring purposes.				Airspace – ATZ only
DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA	ADS-B has been used as back-up surveillance of SSR since 2008.				

State/ Administration	ADS-B Ground Infrastructure and ATC System readiness or Implementation plan	Date of issue/ effectiveness date of equipage mandate	Mandated Airspace and/or ATS-routes	Intended separation criteria to be applied	Remarks
FIJI ISLANDS	ADS- B /multilateration ground stations installed. Situations awareness service provided in 2013.	ADS-B mandate commencing from 31st December 2013	Mandate for domestic registered aircraft.		
FRANCE ***(French Polynesia)***	ATM system is ready for ADS-B sensors/Installation of 5 first GS expected at beginning of 2017. 2nd stage with implementation of 7 GS and associated VHF coverage.			5 NM for airspace under coverage.	
INDIA	ASMGCS (SMR + Multilat) is operational at Delhi, Mumbai, Chennai, Kolkata, Bangalore, Hyderabad, Jaipur, Amritsar, Lucknow, Ahmedabad and Guwahati Airports. ASMGCS (SMR+MLAT) proposed at Cochin and Bhubaneswar (VOCI&VEBS) Expected to be completed by March 2022. ADS-B Ground Stations are installed at 36 locations to cover continental and Oceanic airspace. Out of these 36 ADS-B ground receivers, 25 receivers have been operationalized and	AIP supplement issued on 25th October, 2018 with effective date of implementation from 01st January 2019 which was subsequently revised through NOTAM G1995/18 to be effective from 01st January 2020.	On all ATS Routes within continental airspace at and above F290.	a) 5 NM within 60 NM of ADS-B ground station i.e. in the terminal airspace served by the ADS-B receiver. b) 10 NM beyond 60NM of ground station i.e. in the en route airspace.	Standalone ADS-B based APP Surveillance service provided at VOCL, VOCB, VEPT, VEAT and VIJP. MSSR/ADS-B integrated mode APP Surveillance service provided at VILK, VOML, VEBN and VANP.

State/ Administration	ADS-B Ground Infrastructure and ATC System readiness or Implementation plan	Date of issue/ effectiveness date of equipage mandate	Mandated Airspace and/or ATS-routes	Intended separation criteria to be applied	Remarks
	remaining 11 ADS-B ground receivers will also be operationalized soon. ATM automation systems at 22 ATC Centres are capable of processing ADS-B data.				
INDONESIA	All 30 ADS-B ground station have been met with DO260B in November 2019; The 18 new ADS-B ground stations, with DO260B capability, will be established to cover the traffic in terminal and area. The 7 ADS-B ground station has been installed in Papua. The rescheduling of completion for 11 ground stations in 4Q2021. The ADS-B ground stations has been integrated to 9 ATC systems and 3 others will follow after being upgraded.		Starting on 23rd April 2020, Indonesia has implemented mandatory ADS-B equipment for all transport aircraft category flying at all level (SFC up to FL600) in 2 ACCs, 9 TMAs and 10 Airports.	Using 5 NM separation standard.	ADS-B data sharing had been conducted by Indonesia with Australia and Singapore. LOA of collaboration in ADS-B data sharing has been achieved with India. LOA of collaboration in ADS-B data sharing are under reviewing by Malaysia, Philippines and PNG.

State/ Administration	ADS-B Ground Infrastructure and ATC System readiness or Implementation plan	Date of issue/ effectiveness date of equipage mandate	Mandated Airspace and/or ATS-routes	Intended separation criteria to be applied	Remarks
JAPAN	Multilateration Systems for surface monitoring have been implemented at eight airports PRM (WAM) has been implemented at Narita Airport and Haneda Airport. En-route WAM system have manufactured for four areas and will be put into operation in FY2021 Plan to evaluate accuracy of ADS-B information under RAD condition.				
KIRIBATI					
LAO PDR.	2 ADS-B ground stations were installed in Vientiane and Luangprabang Int'l Airport in 2015 and the ADS-B data is fused with MSSR data target in the ATM Automation system. 3 additional ADS-B ground stations (DO-260B compliant) will be completed the installation at existing MSSR sites (Xiengkhouang, Savannakhet and Champasack) by 2016 to Q1				

State/ Administration	ADS-B Ground Infrastructure and ATC System readiness or Implementation plan	Date of issue/ effectiveness date of equipage mandate	Mandated Airspace and/or ATS-routes	Intended separation criteria to be applied	Remarks
	of 2017 to enhance the full ADS-B coverage of Lao FIR.				
MALAYSIA	Ground Infrastructure: Kuala Lumpur FIR: 1. Installation of two (2) ADS-B GS in Langkawi and Genting has been completed in October 2017. 2. Upgrading of Kuala Terengganu ADS-B for ADS-B Version 2 capability is to be completed at the end of Dec 2021. 3. Operation of all three ADS-B in new Kuala Lumpur ATC System is to be completed in Dec 2021. Kota Kinabalu FIR: Four (4) new ADS-B will be installed in Kuching, Bintulu, Kota Kinabalu and Sandakan, to be completed in Dec 2021. Implementation Plan: Phase 1: ADS-B services on specific ATS routes and Flight Levels within Kuala Lumpur FIR, target date Mar 2021. Phase 2: ADS-B as secondary means of surveillance within the Kuala Lumpur FIR for en-route airspace. Target date: Mar 2022.	AIC Issued on September 2017. AIP Supp on 16 Jan 2020.	Phase 1: On ATS routes N571, P628, L510, P627, L645 and P574 at FL 290 to FL 410 within Kuala Lumpur FIR Phase 2: En-route airspace	ICAO approved surveillance separation.	

State/ Administration	ADS-B Ground Infrastructure and ATC System readiness or Implementation plan	Date of issue/ effectiveness date of equipage mandate	Mandated Airspace and/or ATS-routes	Intended separation criteria to be applied	Remarks
	Phase 3: ADS-B used as the primary means of surveillance for en-route airspace. (TBA)				
MALDIVES	4 ADS-B stations installed in Nov. 2012 (2 at Male' Ibrahim Nasir Intl Airport, 1 at Kulhudhuffushi Island in the North and 1 at Fuah Mulah Island in the South to cover 95% of the FIR at/above FL290. Maldives' ADS-B is integrated with the ATM system (in November 2013), and under observation prior to commencing trials. Maldives has planned to share ADS-B data with its adjacent FIRs. Updated by email				Seaplane in Maldives equipped with ADS-B for AOC purpose. These seaplanes have ADS-B IN functions as well.
MARSHALL ISLANDS					
MICRONESIA (FEDERATED STATES OF)					

State/ Administration	ADS-B Ground Infrastructure and ATC System readiness or Implementation plan	Date of issue/ effectiveness date of equipage mandate	Mandated Airspace and/or ATS-routes	Intended separation criteria to be applied	Remarks
MONGOLIA	Ten ADS-B ground stations for combination SSR and filled the surveillance gaps implemented in 2015 and integrated with ATM system and trial operation in early 2016.				
MYANMAR	**a) The ADS-B Implementation Update** - The five ADS-B ground stations have been installed in Myanmar. Among them, SITTWE and CoCo Island ground stations are installed in 2014, and are DO260 compliant. The other 3 stations, YANGON, MANDALAY and MYEIK airport ground stations are DO260B compliant and installations were finished in 2016. - All ADS-B data are fused with MSSR data in the TopSky ATC Automation system (Thales) in 2016 and using as MSSR backup in Yangon ACC. **b) The ADS-B data sharing update between neighbouring States** - Myanmar and India signed the MOU agreement for ADS-B data	Doing ADS-B data analysis and statistic for ADS-B equipped Aircraft in Yangon FIR.			Supplement radar and fill the gaps to improve safety and efficiency ADS-C/CPDLC integrated in Yangon ACC since 2010.

State/ Administration	ADS-B Ground Infrastructure and ATC System readiness or Implementation plan	Date of issue/ effectiveness date of equipage mandate	Mandated Airspace and/or ATS-routes	Intended separation criteria to be applied	Remarks
	sharing on 6th May 2015. ADS-B data sharing test between Agartala (India) - Sittwe (Myanmar), and Port Blair (India) - CoCo Island (Myanmar) have been accomplished between technical teams since June 2018. At present, the shared ADS-B data from Myanmar side is now using as backup automation system at Kolkata for test purpose. But, Myanmar side is needed to discuss with ATM manufacturer for operational use of the India's Data at Yangon ACC. - Myanmar have planned to install new ADS-B Station in the 2nd quarter of 2019 at LASHIO Airport located in north-eastern part of Myanmar closed to the China-Myanmar border near the LINSO transfer point on A599 ATS route. After the installation finished, the ADS-B data sharing process can be proceeded between Myanmar and China.				

State/ Administration	ADS-B Ground Infrastructure and ATC System readiness or Implementation plan	Date of issue/ effectiveness date of equipage mandate	Mandated Airspace and/or ATS-routes	Intended separation criteria to be applied	Remarks
NAURU					
NEPAL	Four ADS-B ground stations have been installed in 2019 at Kathmandu (Phulchowki), Bhairahawa, Nepalgunj and Dhangadi.				Safety assessment will be done soon.
NEW CALEDONIA	Three ADS-B ground stations commissioned in 2010 to cover international traffic at La tontouta airport serving Tontouta ACC & APP. It is used for Situation awareness and SAR.				
NEW ZEALAND	MLAT and ADS-B data from WAM system centred in and around Queenstown. Provides surveillance coverage for TOWER and Approach Surveillance using 5NM separation for NZQN and ENROUTE coverage of the southern half of the South Island of New Zealand MLAT and ADSB data from the NZAA MLAT system to support surface movements control at NZAA	Current: ADSB mandate FL245 and above in the NZZC FIR from DEC 31, 2018, active **Proposed:** ADSB mandate for all controlled airspace from DEC 31, 2022, promulgated by NZCAA (Delayed from 2021 by 1 year due to COVID) **Current:** Since July 2018, all new aircraft registered in New Zealand, or any currently registered aircraft upgrading transponder(s) are required to install DO260B transponder(s) which meet the NZCAA rule set. The	Current: All controlled airspace within the NZZC FIR FL245 and above. **Proposed:** All controlled airspace within the NZZC FIR	5NM surveillance separation in enroute controlled airspace, and 3NM surveillance separation in Terminal approach controlled (Class C) airspace.	Currently situational awareness surveillance targets are displayed for ADS-B targets from which the data supplied does not meet the requirements for surveillance separation.

State/ Administration	ADS-B Ground Infrastructure and ATC System readiness or Implementation plan	Date of issue/ effectiveness date of equipage mandate	Mandated Airspace and/or ATS-routes	Intended separation criteria to be applied	Remarks
	ADSB data at 6 domestic aerodromes to provide ADSB APT surface movements control 34 ADSB-B Ground stations for Enroute, Terminal and ADSB APT services	rule specifies the minimum Technical Standing Orders (TSO) or transponder GNSS receiver models for position input into ADS-B			
PAKISTAN	Tender for procurement of 5 ADS-B stations issued to be installed at Pasni, Lakpass, Rojhan, Dalbandin and Laram-top. Contract expected to be finalized by end of 2016. These stations will be DO260B compliant and operational by end of 2017.				
PAPUA NEW GUINEA	Initially 7 ADS-B sites to be deployed across PNG to provide seamless coverage above FL285. Three (3) sites installed as of December 2017. Two (2) of these are operational.First site to be installed May/June 2017, with remainder to be completed in 2018. Additional 7 sites to be rolled-out in the 2018/19 timeframe. Site location will be dependent on infrastructure, security and an analysis of Phase 1 site performance.	An ADS-B mandate is on CASA PNG roadmap, however legislation yet to be developed. The Australian mandates will largely drive equipage for overflights (e.g. East-Asia to Australia/South Pacific). Expectation is that PNGASL (the ANSP) will lead development of ADS-B mandate framework. Initial steps may include mandate above F245 – but will depend on performance of Phase 1 ADS-B deployment.	None	**Air Traffic Control** <u>Approach/ Arrivals</u> 2018 – 5NM 2019 – 3NM (approach) <u>Upper Airspace (>FL245)</u> 2017/18 – Situational awareness. 2018/19 – 5NM	

State/ Administration	ADS-B Ground Infrastructure and ATC System readiness or Implementation plan	Date of issue/ effectiveness date of equipage mandate	Mandated Airspace and/or ATS-routes	Intended separation criteria to be applied	Remarks
	PNGASL (ANSP) will commence a transition to new ATM automation system in May 2018. The system will support fusion of ADS-B and RADAR data. 5 mile separation to be provided using ADS-B and fused ADS-B/Radar from May 2018. From 2018 onwards, PNGASL will be looking to share ADS-B data with Indonesia and Australia.	Country-wide mandate not envisaged before 2021/22.		Note: Implementation dictated by training requirements and new ATM system transition priorities. **Flight Service** Directed Traffic (FIS) 2019 – Situational awareness	
PHILIPPINES	One ADS-B GS installed at the Manila ATM Center for situational awareness. One ADS-B Ground Station installed at Bataraza, Palawan for data sharing with Singapore. Additional ground stations are planned to be installed in Laoag Airport, Tagaytay, Jomalig Island, Puerto Princesa Airport, Mt. Majic Mactan, and General Santos "Tambler" Airport.				

State/ Administration	ADS-B Ground Infrastructure and ATC System readiness or Implementation plan	Date of issue/ effectiveness date of equipage mandate	Mandated Airspace and/or ATS-routes	Intended separation criteria to be applied	Remarks
REPUBLIC OF KOREA	Installed 10 ADS-B receivers and in operation since May 2020. 3 more receivers will be installed by 2024.	To be confirmed.	To be confirmed.	To be confirmed.	
SINGAPORE	The airport MLAT system was installed in 2007 and "far-range" ADS-B sensor was installed in 2009. ATC system has been processing ADS-B data since 2013.	AIC was issued on 28 December 2010/effective from 12 Dec.2013. ADS-B OUT equipment requirement for all aircraft operating on selected ATS routes within the WSSS FIR from 27 January 2022. ADS-B OUT equipment requirement for all aircraft operating within the WSSS FIR from 26 January 2023. AIP updated in May 2018 to reflect the ADS-B equipment certified as meeting: a. EASA - (AMC 20-24), or b. EASA CS-ACNS (Subpart D - Surveillance - SUR), or c. FAA - Advisory Circular No: 20-165A (or later versions), or d. The equipment configuration standards in Appendix XI of Civil Aviation Order 20.18 of CASA.	At and above FL290, affecting the following ATS routes L642, L644, M753, M771, N891 & N892 At and above FL290, affecting the following ATS routes L517, L625, L649, M758, M767, M768, M772 & N884.	40nm implemented on ATS routes L644 and N891. 20nm implemented on ATS routes L642, M771, M753 and N892.	Safety case was completed end of November. 2013.

State/ Administration	ADS-B Ground Infrastructure and ATC System readiness or Implementation plan	Date of issue/ effectiveness date of equipage mandate	Mandated Airspace and/or ATS-routes	Intended separation criteria to be applied	Remarks
SRI LANKA	Total of 5 ADS-B Ground Receiving Stations and 01 Central Processing Station have been installed in March 2017. ADS-B Data is fused with Multi-sensor Data, including MSSR and ADS-C in the ATM system at Colombo ACC Ratmalana was launched for operational used on 15 Nov. 2017. New ATM system planned for operational at APP Centre in 2018 will also be capable of fusing Multi-sensor Data, including MSSR and ADS-B	Revised Date of Equipage mandate would be 31st Dec 2020. Ref: AIC A02/16 (Initially AIC A02/14 was issued in November 2014)	All ATS Routes within Colombo TMA	Initially 5 NM within Approach Radar Coverage, 8 Nm within Area Radar Coverage & Procedural Separation minima outside Radar Coverage.	On completion of a safety assessment, use of ADS-B alone for ATC separation purposes.
THAILAND	Five ADS-B ground stations (DO-260B and lower compliant) have been primarily installed for research and development purpose and are being undergone the approval process to be used for air traffic services with a target date by the end of 2021.	The airspace re-structure and aircraft equipage mandate are planned to be studied in 2021 and are expected to be started implementation in 2022.	TBD	TBD	

State/ Administration	ADS-B Ground Infrastructure and ATC System readiness or Implementation plan	Date of issue/ effectiveness date of equipage mandate	Mandated Airspace and/or ATS-routes	Intended separation criteria to be applied	Remarks
	The new ATM automation system was successfully implemented in Q1 2020. It can The ATS surveillance data sharing with the adjacent FIRs was approved in principle in October 2018.				
TONGA	Trial planned for 2017				
UNITED STATES	The US identified required ADS-B Service Volumes in 2007. Using data from over 600 terrestrial radio sites, the US domestic ADS-B system became operational in 2014. As of 1 January 2020, ADS-B aircraft equipage is mandated in most controlled airspace within the US. Over 160,000 US registered aircraft are now equipped. ADS-B is available to U.S. air traffic control facilities for ATC separation; all En Route Centers and major Terminal facilities are using ADS-B for ATC separation.	The U.S. ADS-B Out rule (14 CFR 91.225 and 14 CFR 91.227) was issued in May 2010 and specifies that the ADS-B Out mandate is effective on 1 January 2020.	Class A, B, and C airspace, plus Class E airspace above 10,000 ft MSL. See 14 CFR 91.225 for details.	The U.S. is using both terminal and en route (5nm) separation criteria, depending on the specific airspace and available surveillance information. Terminal separation includes the following separation criteria: - 3nm - 2.5nm - independent parallel approach operations down to 3600 ft centreline separation - dependent	The U.S. has implemented integrated WAM/ADS-B in the following terminal areas: Charlotte LAX Implementation of integrated WAM/ADS-B is being considered for additional U.S. terminal areas.

State/ Administration	ADS-B Ground Infrastructure and ATC System readiness or Implementation plan	Date of issue/ effectiveness date of equipage mandate	Mandated Airspace and/or ATS-routes	Intended separation criteria to be applied	Remarks
				parallel approach operations down to 2500 ft centreline separation (currently 1.0 nm diagonal distance).	
VANUATU					
VIET NAM	Two phases ADS-B implementation plan adopted. Phase 1 implemented in March 2013. Phase 2 commenced in 2015 for whole lower and upper Hanoi FIR and 2018 for Ho Chi Minh FIR	AIC issued on 20 June 2013/ADS-B mandating effective from 12 December 2013 in Ho Chi Minh FIR.	M771, L642, L625, N892, M765, M768, N500 and L628 At/above FL290.		Operators required to have operational approval from State of aircraft registry.

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ATM and Airspace Safety Deficiencies List (Updated 16 November 2021)

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

	Deficiencies			Corrective Action		
States/facilities	**Description**	**Date first reported**	**Remarks**	**Executing body**	**Target date**	**Priority ****
	<u>AIS Quality Management System</u> Requirements of Paragraph 3.6.1 of Annex 15 Quality Management System - Not implemented					
Afghanistan	AIS Quality Management System - Not implemented	24/6/2014		Afghanistan	TBD	A
Bangladesh	AIS Quality Management System - Not implemented	24/6/2014		Bangladesh	TBD	A
Bhutan	AIS Quality Management System - Not implemented	24/6/2014		Bhutan	TBD	A
Brunei Darussalam	AIS Quality Management System - Not implemented	24/6/2014		Brunei Darussalam	TBD	A
Cambodia	AIS Quality Management System - Not implemented	24/6/2014		Cambodia	TBD	A
Kiribati	AIS Quality Management System - Not implemented	24/6/2014		Kiribati	TBD	A
Lao PDR	AIS Quality Management System - Not implemented	24/6/2014		Lao PDR	TBD	A
Maldives	AIS Quality Management System - Not implemented	24/6/2014		Maldives	TBD	A

	Deficiencies			Corrective Action		
States/facilities	**Description**	**Date first reported**	**Remarks**	**Executing body**	**Target date**	**Priority ****
Marshall Islands	AIS Quality Management System - Not implemented	24/6/2014		Marshall Islands	TBD	A
Micronesia	AIS Quality Management System - Not implemented	24/6/2014		Micronesia	TBD	A
Myanmar	AIS Quality Management System - Not implemented	9/6/2016		Myanmar	TBD	A
Nauru	AIS Quality Management System - Not implemented	24/6/2014		Nauru	TBD	A
Nepal	AIS Quality Management System - Not implemented	24/6/2014		Nepal	TBD	A
Palau	AIS Quality Management System - Not implemented	24/6/2014		Palau	TBD	A
Philippines	AIS Quality Management System - Not implemented	24/6/2014		Philippines	TBD	A
Samoa	AIS Quality Management System - Not implemented	24/6/2014		Samoa	TBD	A
Solomon Islands	AIS Quality Management System - Not implemented	24/6/2014		Solomon Islands	TBD	A

	Deficiencies			**Corrective Action**		
States/facilities	**Description**	**Date first reported**	**Remarks**	**Executing body**	**Target date**	**Priority ****
Sri Lanka	AIS Quality Management System - Not implemented	9/6/2016		Sri Lanka	TBD	A
Timor-Leste	AIS Quality Management System - Not implemented	24/6/2014		Timor-Leste	TBD	A
Vanuatu	AIS Quality Management System - Not implemented	24/6/2014		Vanuatu	TBD	A
	Aeronautical Data Area of Responsibility - requirements of Paragraph 2.1.2 of Annex 2 to ensure that the provision of aeronautical data and aeronautical information covers its own territory and those areas over the high seas for which it is responsible for the provision of ATS					
Bangladesh	Aeronautical Data Promulgation Within the State's Area of Responsibility - Not implemented	29/03/2019 SAIOACG /9		Bangladesh	TBD	A
	Designation of Restricted Areas - requirements of Annex 2 (Definitions) to ensure that restricted areas are designated above the land areas or territorial waters of a State					
Australia	Designation of Restricted Areas Above the Land Areas or Territorial Waters of a State - Not implemented	29/03/2019 SAIOACG /9	Danger areas within international airspace that is part of a State's responsibility is acceptable	Australia	~~TBD~~ December 2022	A
India	Designation of Restricted Areas Above the Land Areas or Territorial Waters of a State - Not implemented	29/03/2019 SAIOACG /9	Danger areas within international airspace that is part of a State's responsibility is acceptable	India	TBD	A

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

	Deficiencies			**Corrective Action**		
States/facilities	**Description**	**Date first reported**	**Remarks**	**Executing body**	**Target date**	**Priority ****
Bangladesh	DEP message transmission	05/09/2018	DEP messages inconsistently transmitted Conclusion APANPIRG/27/12 and ICAO correspondence	Bangladesh	TBD	A
India	DEP message transmission	05/09/2018	DEP messages inconsistently transmitted Conclusion APANPIRG/27/12 and ICAO correspondence	India	TBD	A
Malaysia	DEP message transmission	05/09/2018	DEP messages inconsistently transmitted Conclusion APANPIRG/27/12 and ICAO correspondence	Malaysia	TBD	A
Maldives	DEP message transmission	09/08/2019	DEP messages inconsistently transmitted Conclusion APANPIRG/27/12 and ICAO correspondence	Maldives	TBD	A
Nepal	DEP message transmission	09/08/2019	DEP messages inconsistently transmitted Conclusion APANPIRG/27/12 and ICAO correspondence	Nepal	TBD	A
USA	DEP message transmission	05/09/2018	DEP messages inconsistently transmitted Conclusion APANPIRG/27/12 and ICAO correspondence	USA	TBD	A

	Deficiencies			**Corrective Action**		
States/facilities	**Description**	**Date first reported**	**Remarks**	**Executing body**	**Target date**	**Priority ****
	<u>SAR capability</u>: Requirements of Annex 12 as defined in the Regional Air Navigation Plan Volume II Part I – GENERAL PLANNING ASPECTS Section 3 SPECIFIC REGIONAL REQUIREMENTS, failure to reach 90% or more implementation of the Asia/Pacific SAR Plan					
Afghanistan	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 45%	Afghanistan	~~2016~~ 2019	U
Bangladesh	Asia/Pacific SAR Plan	17/05/2019	~~APSAR/WG/5 65%~~ APSAR/WG/6 67%	Bangladesh	2019	U
Bhutan	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 34%	Bhutan	~~2016~~ 2019	U
Brunei	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/4 63%	Brunei	2019	U
Cambodia	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 76%	Cambodia	2019	U
~~China~~	~~Asia/Pacific SAR Plan~~	~~17/05/2019~~	~~APSAR/WG/4 82%~~ 16 November 2021 91% Deletion of Deficiency agreed by ATM/SG Chair.	~~China~~	~~2019~~	~~U~~
Cook Islands	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Cook Islands	2019	U
DPR Korea	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 66%	DPR Korea	2019	U
Fiji	Asia/Pacific SAR Plan	6/07/2015	~~APSAR/WG/4 80%~~ APSAR/WG/6 89%	Fiji	2019	U

	Deficiencies			Corrective Action		
States/facilities	**Description**	**Date first reported**	**Remarks**	**Executing body**	**Target date**	**Priority ****
French Polynesia	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/4 84%	French Polynesia	2019	U
Kiribati	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 26%	Kiribati	2019	U
Lao PDR	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 57%	Lao PDR	2019	U
Macau, China	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 85%	Macao, China	2019	U
Malaysia	Asia/Pacific SAR Plan	17/05/2019	~~APSAR/WG/5 78%~~ APSAR/WG/6 77%	Malaysia	2019	U
Maldives	Asia/Pacific SAR Plan	6/07/2015	~~APSAR/WG/5 78%~~ APSAR/WG/6 71%	Maldives	2019	U
Marshall Islands	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/5 17%	Marshall Islands	2019	U
Micronesia	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/5 17%	Micronesia	2019	U
Mongolia	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/4 63%	Mongolia	2019	U
Myanmar	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 67%	Myanmar	2019	U
Nauru	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Nauru	2019	U
Nepal	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/5 56%	Nepal	2019	U
New Caledonia	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/4 54%	New Caledonia	2019	U
Palau	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/5 17%	Palau	2019	U

	Deficiencies			Corrective Action		
States/facilities	**Description**	**Date first reported**	**Remarks**	**Executing body**	**Target date**	**Priority ****
Pakistan	Asia/Pacific SAR Plan	17/05/2019	~~APSAR/WG/4 84%~~ APSAR/WG/6 87%	Pakistan	2019	U
Papua New Guinea	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Papua New Guinea	2019	U
Philippines	Asia/Pacific SAR Plan	6/07/2015	~~APSAR/WG/4 61%~~ APSAR/WG/6 88%	Philippines	2019	U
Samoa	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Samoa	2019	U
Solomon Islands	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Solomon Islands	2019	U
Sri Lanka	Asia/Pacific SAR Plan	17/05/2019	~~APSAR/WG/5 75%~~ APSAR/WG/6 78%	Sri Lanka	2019	U
Thailand	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/5 78%	Thailand	2019	U
Timor-Leste	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Timor-Leste	2019	U
Tonga	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Tonga	2019	U
Vanuatu	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Vanuatu	2019	U
	Non Provision of Safety-related Data Requirement of Paragraph 3.3.5.1 of Annex 11 (provision of data for monitoring the height-keeping performance of aircraft) and APANPIRG Conclusion 16/6 – Non Provision of safety related data by States					

	Deficiencies			**Corrective Action**		
States/facilities	**Description**	**Date first reported**	**Remarks**	**Executing body**	**Target date**	**Priority ****
Afghanistan	Non-provision of safety related data	12/07/2019	Failure to submit Kabul LHD data for January-December 2018 and 2020. Afghanistan had submitted data for the period January to July 2021, but no further LHD reports were received after August 2021.	Afghanistan	~~RASMAG/26~~ RASMAG/27	U
	State Responsibility to comply with the Annex 6 Height-Keeping Monitoring Requirement Annex 6 Part I Section 7.2.9 (10th Ed.) and Part II Section 2.5.2.10 (9th Ed.)					
Afghanistan	Non-compliance with LTHM requirement (remaining monitoring burden more than 30%)	RASMAG/ 23	Remaining monitoring burden of 85% (RASMAG/~~25~~26,	Afghanistan	RASMAG24	A
Pakistan	Non-compliance with LTHM requirement (remaining monitoring burden more than 30%)	RASMAG/ 22	Remaining monitoring burden of ~~46% (RASMAG/25)~~ 61% (RASMAG/26)	Pakistan	RASMAG24	A
	Data Link Performance Monitoring and Analysis Requirements of Paragraph 2.28 and/or 3.3.5.2 of Annex 11 not met					
~~Fiji~~	~~Post-implementation monitoring not implemented~~	~~25/06/2018~~	~~Problem reports not provided to CRA. RASMAG24~~	~~Fiji~~	~~TBD~~	A
India	Post-implementation monitoring not implemented	13/07/2017	Performance monitoring and analysis was reported for the Chennai and Kolkata FIRs, but was not reported for the ~~Kolkata and~~ Mumbai FIR~~s~~.	India	TBD	A
Maldives	Post-implementation monitoring not implemented	29/5/2015	Problem Reports not provided to CRA. Performance monitoring and analysis not reported to FIT.	Maldives	TBD	A

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

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Updated 16 Dec. 2020

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	<u>Afghanistan</u>							
Annex 14 Volume I	**Herat International Airport**	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.				A
	Kabul International Airport	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.				A
	Kandahar International Airport	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.				A
	Mazar-e-Sharif Airport	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.				A
Annex 14 Volume I PANS-Aerodromes PANS-AIM	AIP	**Status of Certification of Aerodromes in AIP**	Effective from 1 Jan 2021	Status of certification of aerodromes yet to be published in AIP AD 1.5.				A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Updated 16 Dec. 2020

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	American Samoa (US)							
Annex 14 Volume I PANS-Aerodromes PANS-AIM	AIP	**Status of Certification of Aerodromes in AIP**	Effective from 1 Jan 2021	Status of certification of aerodromes yet to be published in AIP AD 1.5.				A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Updated 16 Dec. 2020

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	Bangladesh							
Annex 14 Volume I	**Hazrat Shahjalal International Airport, Dhaka**	**Runway/ Taxiway**	**ICAO mission April 2009**	Runway strip width insufficient (280m strip not available for the full length of runway);	runway strip in accordance with Annex 14, volume I will be provided	CAABD	Runway strip width 280m available for the full length of runway (mitigation measures for storm water drain on the western side strip under process. No obstructions on graded area)	A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Updated 16 Dec. 2020

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
Annex 14 Volume I	**Brunei Darussalam** **Brunei International Airport**	**Taxiway**	ICAO Mission of April 2011	non provision of enhanced taxiway centre line marking in accordance with Para 5.2.8 of Annex 14, Volume I Objects on taxiway strips; vegetation on pavement joints and maintenance of joints	Both Northern Parallel Taxiway and Southern Parallel Taxiway Centre line have been repainted yellow and enhanced with black borders on each side.	Airport Operator (DCA Aerodrome Division)		A A
		Apron		non provision of ICAO compliant signage in accordance with section 5.4 Annex 14, Volume I	Airfield signages have always been provided at BIA that follow ICAO standards and measurement. Recent replacement of old and faded labels have also been completed in 2018.	Airport Operator (DCA Aerodrome Division)		A
		Rescue and Fire Fighting (RFF):		non provision of direct access for the rescue and fire fighting vehicles from the fire station into the runway;	Duly noted that there is no direct access for fire fighting vehicles to the runway at the moment, but one	Airport Operator (DCA Aerodrome Division)	4th Qtr. 2022	A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
					will be concluded within the second phase of the Airfield Pavement Rehabilitation Project.			
		Wildlife Hazards:		Establishing a national bird control committee in accordance with APANPIRG Conclusion 18/1.	Aerodrome Division headed by Head of Aerodrome to firstly establish an in-house committee and will cooperate with Regulatory Division	Airport Operator (DCA Aerodrome Division)	4th Qtr. 2021	B
	Brunei International Airport	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.				A
Annex 14 Volume I PANS-Aerodromes PANS-AIM	AIP	**Status of Certification of Aerodromes in AIP**	Effective from 1 Jan 2021	Status of certification of aerodromes yet to be published in AIP AD 1.5.				A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Updated 16 Dec. 2020

Identification		**Deficiencies**			**Corrective Action**			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	<u>China</u>							
Annex 14 Volume I	**Hualien Airport**	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.				A
	Taichung Airport	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.				A
	Tainan Airport	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.				A
Annex 14 Volume I PANS-Aerodromes PANS-AIM	AIP	**Status of Certification of Aerodromes in AIP**	Effective from 1 Jan 2021	Status of certification of some of the aerodromes used for international operations yet to be published in AIP AD 1.5.				A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Updated 16 Dec. 2020

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	Cook Islands							
Annex 14 Volume I PANS-Aerodromes PANS-AIM	AIP	**Status of Certification of Aerodromes in AIP**	Effective from 1 Jan 2021	Status of certification of aerodromes yet to be published in AIP AD 1.5.				A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Updated 20 Nov. 2021

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
~~**Annex 14 Volume I**~~	**Fiji Islands** ~~**Nadi International Airport**~~	~~**Runway/ Taxiway**~~	~~**ICAO mission June 2010**~~	~~Provision of RESA in accordance with Section 3.5 of Annex 14, Volume I requirements;~~	~~RESA will be provided~~	~~**Airport Operator – Fiji Airports**~~	~~ACTION COMPLETED.~~ ~~RESA has been provided at all runways ends.~~ ~~*RWY 09 – 90mx90m~~ ~~*(RWY 27 – 90mx90m~~ ~~*RWY 20 - 90mx90m~~ ~~*RWY 02 – 90mx90m~~ ~~Information published in the State AIP dated 25 March 2021.~~	~~A~~
~~**Annex 14 Volume I**~~	~~**Nausori International Airport**~~	~~**Runway/ Taxiway**~~	~~**June 2010**~~	~~Provision of RESA in accordance with Section 3.5 of Annex 14, Volume I requirements.~~	~~RESA will be provided~~	~~**Airport Operator – Fiji Airports**~~	~~ACTION COMPLETED.~~ ~~RESA has been provided at all runways ends.~~ ~~*RWY 10 – 90mx90m~~ ~~*RWY 28 – 90mx90m~~ ~~Information has been published in AIP Fiji (12 August 2021).~~	~~A~~

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

~~**Annex 14 Volume I PANS-Aerodromes PANS-AIM**~~	~~AIP~~	~~**Status of Certification of Aerodromes in AIP**~~	~~Effective from 1 Jan 2021~~	~~Status of certification of aerodromes yet to be published in AIP AD 1.5.~~			~~ACTION COMPLETED. Information published in the State AIP AD 1.5 dated 3 December 2020 and CAAF Website at - Aerodrome Certificates Validity | Civil Aviation Authority of Fiji (CAAF)~~	~~A~~

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Updated 16 Dec. 2020

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	Guam (US)							
Annex 14 Volume I PANS-Aerodromes PANS-AIM	AIP	**Status of Certification of Aerodromes in AIP**	Effective from 1 Jan 2021	Status of certification of aerodromes yet to be published in AIP AD 1.5.				A

Updated 16 Dec. 2020

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	<u>India</u>							
Annex 14 Volume I	**Chennai International Airport**	**Runway**	**AGA mission January 2009**	Runway strip is insufficient 300m strip width is not available for the full length of runway 07/25 in accordance with 3.4.3 of Annex 14, Volume I.	280m strip width for full length of runway 07/25 will be made available.	AAI	Work in progress. Due to COVID-19 work is held up. PDC for straightening of B taxiway alone is 30-09-2020.	A
Annex 14, Volume I	**Mumbai International Airport**	**Runway**	**AGA mission January 2009**	Runway strip is insufficient 300m strip width is not available for the full length of runway 09/27 in accordance with 3.4.3 of Annex 14, Volume I.	280m strip width for full length of runway 09/27 will be made available	MIAL	31 Dec 2022. Due to presence of slum in beginning of RWY 09/27 south – RWY strip 280m not available. Due to presence of slum of either side at beginning of RWY 14/32 – RWY strip 280m not available.	A
Annex 14 Volume I	**Chandigarh Airport**	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.				A
Annex 14 Volume I	**Goa Airport**	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.				A
Annex 14 Volume I	**Port Blair Airport**	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.				A
Annex 14 Volume I	**Pune Airport**	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.				A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
Annex 14 Volume I	**Srinagar Airport**	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.				A
Annex 14 Volume I PANS-Aerodromes PANS-AIM	**AIP**	**Status of Certification of Aerodromes in AIP**	Effective from 1 Jan 2021	Status of certification of some of the aerodromes used for international operations yet to be published in AIP AD 1.5.				A

Updated 20 Nov. 2021

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
~~**Annex 14 Volume I**~~	~~**Japan**~~ ~~**Hyakuri Airport**~~	~~**Aerodrome Certification**~~	~~Effective from 1 Jan 2021~~	~~Aerodrome yet to be certified.~~	~~Aerodrome Certification by Civil Aviation Safety Authority (CASA) in Japan Civil Aviation Bureau (JCAB)~~	~~CASA in JCAB~~	~~15th JUL 2021 (**)~~	~~A~~
	~~**Komatsu Airport**~~	~~**Aerodrome Certification**~~	~~Effective from 1 Jan 2021~~	~~Aerodrome yet to be certified.~~	~~Aerodrome Certification by CASA in JCAB~~	~~CASA in JCAB~~	~~15th JUL 2021 (**)~~	~~A~~
	~~**Tokushima Airport**~~	~~**Aerodrome Certification**~~	~~Effective from 1 Jan 2021~~	~~Aerodrome yet to be certified.~~	~~Aerodrome Certification by CASA in JCAB~~	~~CASA in JCAB~~	~~15th JUL 2021 (**)~~	~~A~~
	~~**Miho Airport**~~	~~**Aerodrome Certification**~~	~~Effective from 1 Jan 2021~~	~~Aerodrome yet to be certified.~~	~~Aerodrome Certification by CASA in JCAB~~	~~CASA in JCAB~~	~~15th JUL 2021 (**)~~	~~A~~
~~**Annex 14 Volume I PANS-Aerodromes PANS-AIM**~~	~~**AIP**~~	~~**Status of Certification of Aerodromes in AIP**~~	~~Effective from 1 Jan 2021~~	~~Status of certification of some of the aerodromes used for international operations yet to be published in AIP AD 1.5.~~	~~Status of Certification of 4 Aerodromes (Hyakuri, Komatsu, Tokushima, Miho) will be published in AIP AD 1.5~~	~~CASA in JCAB~~	~~15th JUL 2021 (**)~~	~~A~~

~~**** Comment of CASA in JCAB**~~

~~CASA in JCAB has been having close consultations with the Ministry of Defense and had meetings at March 22, May 13, May 31, and June 8 in order to aim to remove from deficiencies list informed on January this year.~~

~~We will continue to hold close coordination for aiming to announce the certification of Hyakuri Aerodrome, Komatsu Aerodrome, Tokushima Aerodrome and Miho Aerodrome on July 15 (AIRAC DATE) by the aeronautical information such as AIP or NOTAM.~~

Updated 16 Dec. 2020

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	<u>Kiribati</u>							
Annex 14 Volume I	**Christmas Island Airport, Kiritimati**	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.				A
	Bonriki International Airport, Tarawa	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.				A
Annex 14 Volume I PANS-Aerodromes PANS-AIM	AIP	**Status of Certification of Aerodromes in AIP**	Effective from 1 Jan 2021	Status of certification of aerodromes yet to be published in AIP AD 1.5.				A

Updated 20 Nov. 2021

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
Annex 14 Volume I	**<u>Lao PDR</u>** **Wattay International Airport**	**Taxiway**	**ICAO Mission of March 2011**	Provision of runway hold position lights in accordance with Para 5.3.19 of ICAO Annex 14, Volume I	Under consideration by Airports of Laos to purpose for support the budgets and installation		We have planned budgets and installation in 2025	A
		Rescue and Fire Fighting (RFF):		Provision of road holding position sign at all road entrances to a runway;	Completed the design and submit to DCA for Approval		~~Will complete in December 2019~~ It will be completed in December 2021	A
		Wildlife Hazards:		Establishing a national bird control committee in accordance with APANPIRG conclusion 18/1.	We are repairing plan for establish committee for approval from Ministry		~~Will complete in December 2019~~ It will be completed in December 2021	B
		Aerodrome Certification	Effective from 1 Jan 2021	Aerodrome yet to be certified.			Aerodrome Certification will be completed in 30th December 2021	A
	Luang Prabang International Airport	**Taxiway**		Provision of runway hold position lights in accordance with Para 5.3.19 of ICAO Annex 14, Volume I on new taxiways	Under consideration by Airports of Laos to purpose for support the budgets and installation		We have planned budgets and installation during 2021 to 2025	A

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
		Rescue and Fire Fighting (RFF)		Provision of road holding position sign at all road entrances to a runway	Completed the design and submit to DCA for Approval		~~Will complete in December 2019~~ It will be completed in December 2021	A
		Aerodrome Certification	Effective from 1 Jan 2021	Aerodrome yet to be certified.			Aerodrome Certification will be completed in 29th December 2022	A
	Savannakhet International Airport	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.			Aerodrome Certification will be completed in 28th December 2023	A
	Pakse International Airport	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.			Aerodrome Certification will be completed in 28th December 2024	A
~~**Annex 14 Volume I PANS-Aerodromes PANS-AIM**~~	~~AIP~~	~~**Status of Certification of Aerodromes in AIP**~~	~~Effective from 1 Jan 2021~~	~~Status of certification of aerodromes yet to be published in AIP AD 1.5.~~			~~Published the status of certification of aerodromes in AIP Supplement 02/21, 09 Sep. 2021~~	~~A~~

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Updated 24 May 2021

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	Malaysia							
Annex 14 Volume I	**Kuantan Haji Ahmad Shah Airport**	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.	Coordination among Ministry of Transport, Ministry of Defense and Airport Operator are being conducted to get the aerodrome certified	Ministry of Transport and Ministry of Defense	31 December 2021	A
	Labuan Airport	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.	Coordination among Ministry of Transport, Ministry of Defense and Airport Operator are being conducted to get the aerodrome certified	Ministry of Transport and Ministry of Defense	31 December 2021	A
Annex 14 Volume I PANS-Aerodromes PANS-AIM	**AIP**	**Status of Certification of Aerodromes in AIP**	Effective from 1 Jan 2021	Status of certification of some of the aerodromes used for international operations yet to be published in AIP AD 1.5.	Coordination among CAAM and Airport Operator are being conducted to get all aerodromes used for international operations published in AIP AD 1.5.	CAAM	31 December 2021	A

Updated 16 Dec. 2020

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	Marshall Islands							
Annex 14 Volume I PANS-Aerodromes PANS-AIM	AIP	**Status of Certification of Aerodromes in AIP**	Effective from 1 Jan 2021	Status of certification of aerodromes yet to be published in AIP AD 1.5.				A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Updated 16 Dec. 2020

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	Maldives							
Annex 14, Volume I	**Velana International Airport**	**Runway/ Taxiways**	**AGA Mission Report April 2008**	Insufficient runway strip.	Runway strip available	Maldives Airports Company Pvt. Ltd	Apron is still within the runway strip. New master plan work is in progress, new runway construction on-going, estimated date of completion: December 2019. Exemption granted by the State to Aerodrome Operator till December 2019.	U

Updated 16 Dec. 2020

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	Micronesia (Federated States of)							
Annex 14 Volume I	**Pohnpei International Airport**	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.				A
	FM Chuuk International Airport	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.				A
	Yap International Airport	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.				A
	Kosrae Airport	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.				A
Annex 14 Volume I PANS-Aerodromes PANS-AIM	AIP	**Status of Certification of Aerodromes in AIP**	Effective from 1 Jan 2021	Status of certification of aerodromes yet to be published in AIP AD 1.5.				A

Updated 16 Dec. 2020

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	Nauru							
Annex 14 Volume I	**Nauru International Airport**	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.				A
Annex 14 Volume I PANS-Aerodromes PANS-AIM	AIP	**Status of Certification of Aerodromes in AIP**	Effective from 1 Jan 2021	Status of certification of aerodromes yet to be published in AIP AD 1.5.				A

Updated 16 Dec. 2020

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	Niue (New Zealand)							
Annex 14 Volume I PANS-Aerodromes PANS-AIM	AIP	**Status of Certification of Aerodromes in AIP**	Effective from 1 Jan 2021	Status of certification of aerodromes yet to be published in AIP AD 1.5.				A

Updated 16 Dec. 2020

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	<u>New Zealand</u>							
Annex 14 Volume I PANS-Aerodromes PANS-AIM	AIP	**Status of Certification of Aerodromes in AIP**	Effective from 1 Jan 2021	Status of certification of aerodromes yet to be published in AIP AD 1.5.				A

Updated 16 Dec. 2020

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	Northern Mariana Islands (US)							
Annex 14 Volume I PANS-Aerodromes PANS-AIM	AIP	**Status of Certification of Aerodromes in AIP**	Effective from 1 Jan 2021	Status of certification of aerodromes yet to be published in AIP AD 1.5.				A

Updated 16 Dec. 2020

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	Palau							
Annex 14 Volume I PANS-Aerodromes PANS-AIM	AIP	**Status of Certification of Aerodromes in AIP**	Effective from 1 Jan 2021	Status of certification of aerodromes yet to be published in AIP AD 1.5.				A

Updated 18 June 2021

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	Philippines							
Annex 14 Volume I	**Kalibo International Airport, Akla**	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.			Temporary Aerodrome Certificate issued with validity from 28 December 2020 to 28 June 2021	A
	Puerto Princesa International Airport	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.			Temporary Aerodrome Certificate issued with validity from 04 December 2020 to 04 June 2021	A
	Bohol-Panglao International Airport	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.			Temporary Aerodrome Certificate issued with validity from 23 December 2020 to 23 June 2021	A
~~**Annex 14 Volume I PANS-Aerodromes PANS-AIM**~~	~~**AIP**~~	~~**Status of Certification of Aerodromes in AIP**~~	~~Effective from 1 Jan 2021~~	~~Status of certification of aerodromes yet to be published in AIP AD 1.5.~~			~~AD 1.5 – 1 dated 22 April 2021 included all certified aerodromes with validity of the certificates.~~	~~A~~

Updated 16 Dec. 2020

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	Mongolia							
Annex 14 Volume I	**Buyant-Ukhaa Airport**	**Taxiway**	**ICAO Mission of July 2011**	provision of runway hold position lights in accordance with Para 5.3.19 of ICAO Annex 14, Volume I.	The runway hold position lights will be provided in accordance with Para 5.3.19 of ICAO Annex 14, Volume I.	Civil Aviation Authority of Mongolia	The RWY hold position marking and mandatory signs were provided to avoid runway incursions on the maneuvering area. Because of the existing International scheduled flights will be transferred to new airport in 2020, the additional runway hold position lights are unrequired to install.	A
		Apron: Airfield signage		Provision of ICAO compliant signage in accordance with section 5.4 Annex 14, Volume I and to cut the vegetation in front of the signs.	The signage will be provided in accordance with section 5.4 Annex 14, Volume I. The vegetation in front of the signs will be cut	Civil Aviation Authority of Mongolia	The work on cutting the vegetation in front of the signs was completed in 2017 within the totally 119560 m² area including, taxiway strip, glide path antenna and apron area, as per Aerodrome manual of, in scope of Aerodrome maintenance plan. [Note: Partially completed]	A

Updated 15 June 2021

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	Myanmar							
Annex 14 Volume I	**Yangon International Airport**	**Runway/ Taxiway**	**ICAO mission April 2010**	Provision of RESA in accordance with Section 3.5 of Annex 14, Volume I requirements;	RESA will be provided	Yangon Aerodrome Company Limited	(Risk Assessment conducted by the operator submitted on 10 Aug 2018.) RESA for RWY 21 was completed on 15 Nov 2018. Revised date- ~~**31 Dec 2020**~~ **31 Dec 2021**	A
		Bird Hazard		Establishment of a national bird committee in accordance with APANPIRG Conclusion 18/1.	Establish National Bird Committee	Department of Civil Aviation	Guideline for Wildlife Hazard Management at Aerodromes, DCA-GM-AGA 08 has been developed and published on 29 Oct 2018) Revised date- ~~**31 Aug 2020**~~ **30 Nov 2021**	B

Updated 8 June 2021

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
Annex 14, Volume I	**Nepal** **~~Tribhuvan International Airport~~**	**~~Runway/ taxiways~~**	**~~ICAO Mission of February 2008~~**	~~Provision of RESA in accordance with section 3.5 of ICAO Annex 14, Volume I.~~	~~RESA (240 m) provided on both runway (RWY 02 / RWY 20) ends~~	~~Tribhuvan International airport/ CAAN~~	~~With effect from 22 April 2021 (Refer to AIP dated 22 April 2021)~~	~~U~~
				Insufficient runway strip, refer recommendations given in section 3.4 of Annex 14, Volume I.	Provide runway strip as per ICAO recommendations		~~TIA Master Plan Review from Int'l Consulting firm, first phase of construction will to start within 2020.~~ Construction works to provide sufficient strip towards runway 20 already started with target of completion in 2023.	A

Updated 4 May 2021

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
~~**Annex 14 Volume I PANS-Aerodromes PANS-AIM**~~	~~**Pakistan**~~ ~~**AIP**~~	~~**Status of Certification of Aerodromes in AIP**~~	~~Effective from 1 Jan 2021~~	~~Status of certification of one of the aerodromes used for international operations yet to be published in AIP AD 1.5.~~	~~Nawabshah Airport Certified and incorporated in AIP Pakistan. Page AD 1-5 dated March, 2021.~~	~~Directorate of Aerospace and Aerodrome Regulations of PCAA~~	~~Completed in November, 2020~~	~~A~~

Updated 16 Dec. 2020

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
Annex 14 Volume I	**<u>Samoa</u>** **Faleolo International Airport**	**Runway Strip**	**ICAO Mission of Oct. 2015**	Insufficient Runway Strip				A
		Aerodrome Pavements		Lack of maintenance of aerodrome pavements in accordance with Annex 14, 10.2				U
Annex 14 Volume I PANS-Aerodromes PANS-AIM	**AIP**	**Status of Certification of Aerodromes in AIP**	Effective from 1 Jan 2021	Status of certification of aerodromes yet to be published in AIP AD 1.5.				A

Updated 16 Dec. 2020

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	Solomon Islands							
Annex 14 Volume I	**Honiara International Airport/Henderson Field**	**Runway Strip**	**ICAO Mission of Oct. 2015**	Insufficient Runway Strip				A
		RESA		RESA at both ends of runway not provided				U
		Aerodrome Pavements		Lack of maintenance of aerodrome pavements in accordance with Annex 14, 10.2				U
Annex 14 Volume I PANS-Aerodromes PANS-AIM	**AIP**	**Status of Certification of Aerodromes in AIP**	Effective from 1 Jan 2021	Status of certification of aerodromes yet to be published in AIP AD 1.5.				A

Updated 16 Dec. 2020

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	Sri Lanka							
Annex 14 Volume I	**Bandaranaike International Airport**	**Runway/ Taxiway**	**ICAO mission April 2010**	Provision of 280m strip width for the full length of precision approach CAT I runway in accordance with the standard 3.4.3, Annex 14, Volume I; remove obstacles from runway strip; flush the strip with the adjacent runway shoulder.	runway strip in accordance with Annex 14, Volume I will be provided, obstacles from strip will be removed and flush strip with adjacent runway shoulder.	CAASL	AASL has informed that the Runway Safety Team – BIA will carry out the safety study and submit the report by June 2018. Preliminary Report of the Safety Study of AASL was reviewed in April 2018.	A
				Establishment of a national bird committee in accordance with APANPIRG Conclusion 18/1.	National Bird Committee will be established.		1st Draft of TOR of National Bird Control Committee of Sri Lanka has been compiled and ready for ratification.	A

Updated 9 June 2021

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	<u>Thailand</u>							
Annex 14, Volume I	**Phuket International Airport**	**Runway**	**AGA mission of July 2009**	RESA to satisfy Section 3.5 of Annex 14, Volume I requirements.	RESA will be provided at the end of both RWY09 and RWY27 to satisfy Section 3.5 of Annex 14, Volume I requirements. Remark: - Dimension of RESA RWY09 is 150x190 m. - Dimension of RESA RWY27 is 150x120 m.	Airports of Thailand Public Company Limited	~~Currently, the construction plan has been approved. The budget approval is in progress.~~ The construction is expected to be completed in 2022. The construction plan and budget have been approved. Airports of Thailand Public Company Limited already has had the contractor for this construction's project. Currently, the safety assurance and project management documentation is under consideration for approval by the Civil Aviation Authority of Thailand to ensure that the aerodrome can continue to operate safely during the project	U
				Runway strip width insufficient (280m runway strip for precision approach runways in accordance	300m runway strip width will be made available. Except 111.4m length at the beginning of	Airports of Thailand Public Company Limited	~~Currently, the construction plan has been approved. The budget approval is in progress.~~	A

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
				with Para 3.4.3 of Annex 14, Volume I.	RWY09 (60m strip length before RWY09 threshold plus 51.4m length beyond the threshold), the runway strip width will be extended 150m on the right side of RWY09 centre line and 90.27m on the left side of the runway centre line (due to the marsh near the runway).		The construction is expected to be completed by 2022. The construction plan and budget have been approved. Airports of Thailand Public Company Limited already has had the contractor for this construction's project. Currently, the safety assurance and project management documentation is under consideration for approval by the Civil Aviation Authority of Thailand to ensure that the aerodrome can continue to operate safely during the project.	
	Krabi Airport	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.	Certify the aerodrome in accordance with aerodrome certification requirements	The Civil Aviation Authority of Thailand and Department of Airports	30 November 2021 It is currently under Phase 4 of aerodrome certification. Note - Aerodrome certification is divided into 5 phases as follows: Phase 1 Pre-application; Phase 2 Formal Application; Phase 3 Document Evaluation; Phase 4 Demonstration and Audit; and	A

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
							Phase 5 Certification.	
	Hua Hin Airport	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.	Certify the aerodrome in accordance with aerodrome certification requirements	The Civil Aviation Authority of Thailand and Department of Airports	30 November 2021 It is currently under Phase 4 of aerodrome certification. Note - Aerodrome certification is divided into 5 phases as follows: Phase 1 Pre-application; Phase 2 Formal Application; Phase 3 Document Evaluation; Phase 4 Demonstration and Audit; and Phase 5 Certification.	A
	U-Taphao Pattaya International Airport	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.	Certify the aerodrome in accordance with aerodrome certification requirements	The Civil Aviation Authority of Thailand and U-Tapao Airport Authority	30 July 2021 It is currently under Phase 4 of aerodrome certification. Note - Aerodrome certification is divided into 5 phases as follows: Phase 1 Pre-application; Phase 2 Formal Application; Phase 3 Document Evaluation; Phase 4 Demonstration and Audit; and Phase 5 Certification.	A

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	Samui Airport	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.	Certify the aerodrome in accordance with aerodrome certification requirements	The Civil Aviation Authority of Thailand and Bangkok Airways Public Company Limited	30 September 2021 It is currently under Phase 5 of aerodrome certification. Note - Aerodrome certification is divided into 5 phases as follows: Phase 1 Pre-application; Phase 2 Formal Application; Phase 3 Document Evaluation; Phase 4 Demonstration and Audit; and Phase 5 Certification.	A
	Surat Thani Airport	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.	Certify the aerodrome in accordance with aerodrome certification requirements	The Civil Aviation Authority of Thailand and Department of Airports	30 November 2021 It is currently under Phase 4 of aerodrome certification. Note - Aerodrome certification is divided into 5 phases as follows: Phase 1 Pre-application; Phase 2 Formal Application; Phase 3 Document Evaluation; Phase 4 Demonstration and Audit; and Phase 5 Certification.	A

Updated 4 May 2021

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
Annex 14 Volume I	**<u>Timor-Leste</u>** **Presidente Nicolau Lobato International Airport, Dili**	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.	Certification process restarted. AD operator has to correct couple of findings (noncompliance) requested by national regulator (AACTL)	ANATL* as AD operator *National AD and ATS provider	Initial target date was 30/June/2021. However due to COVID pandemic and AD operator budget problem the target date of competition will be probably extended up to 31/December/2021	A
	Commander-in-Chief of the FALINTIL – Kay Rala Xanana Gusmão International Airport, Suai	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.	To be certify for its designed category (3C) the significant safety issue relating to AD strip (local houses and habitants must be relocated!) should be resolved. Currently AD is occasionally in use for domestic general aviation and helicopters only.	Gov. TL and ANATL as AD operator	Estimated date: 31 December 2022	A
Annex 14 Volume I PANS-Aerodromes PANS-AIM	**AIP**	**Status of Certification of Aerodromes in AIP**	Effective from 1 Jan 2021	Status of certification of aerodromes yet to be published in AIP AD 1.5.	New TL AIP is published on 25/March/2021.	AACTL	In correlation with AD certification	A

Updated 16 Dec. 2020

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	Tonga							
Annex 14 Volume I	**Fua'amotu International Airport**	**Runway Strip**	**ICAO Mission of Oct. 2015**	Insufficient Runway Strip				A
Annex 14 Volume I PANS-Aerodromes PANS-AIM	**AIP**	**Status of Certification of Aerodromes in AIP**	Effective from 1 Jan 2021	Status of certification of aerodromes yet to be published in AIP AD 1.5.				A

Updated 16 Dec. 2020

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	<u>Tuvalu</u>							
Annex 14 Volume I	**Funafuti International Airport**	**Aerodrome Certification**	Effective from 1 Jan 2021	Aerodrome yet to be certified.				A
Annex 14 Volume I PANS-Aerodromes PANS-AIM	**AIP**	**Status of Certification of Aerodromes in AIP**	Effective from 1 Jan 2021	Status of certification of aerodromes yet to be published in AIP AD 1.5.				A

Updated 16 Dec. 2020

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	Vanuatu							
Annex 14 Volume I PANS-Aerodromes PANS-AIM	AIP	**Status of Certification of Aerodromes in AIP**	Effective from 1 Jan 2021	Status of certification of aerodromes yet to be published in AIP AD 1.5.				A

Updated 3 June 2021

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
	Viet Nam							
~~**Annex 14, Volume I**~~	~~**Tan Son Nhat International Airport, Ho Chi Minh City**~~	~~**Runway/ Taxiway**~~	~~**ICAO mission March 2010**~~	~~Provision of RESA in accordance with Section 3.5 of Annex 14, Volume I requirements;~~	~~Provide RESA~~	~~Airport Operator (ACV)~~	~~* RESA for the runway 25L/07R:~~ ~~* CAAV issued Decision No. 1666/QD-CHK dated September 09th 2020 to approve RESA for the runway 25L/07R (90x90m)~~ ~~*** Target date of completion: Completed.**~~ ~~* RESA for the runway 25R/07L:~~ ~~* CAAV issued Decision No. 116/QD-CHK dated January 09th 2021 to approve RESA for the runway 25R/07L (25R: 90x90m; 07L: 160x90m). The information was updated on AIP Viet Nam published on March 30th, 2021.~~ ~~**Target date of completion: Completed.**~~	A
Annex 14 Volume I PANS-Aerodromes PANS-AIM	AIP	**Status of Certification of Aerodromes in AIP**	Effective from 1 Jan 2021	Status of certification of one of the aerodromes used for international operations yet to be published in AIP AD 1.5.	Certify aerodromes used for international operations	CAAV	**WORK IN PROGRESS** – CAAV has checked and recognized that Lien Khuong is a domestic aerodrome used for international operation under the Article 80 of the revised Civil Aviation Law of Vietnam.	A

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date of completion**	**Priority for action****
							- CAAV published the status of certification of 13 domestic aerodromes in AIP, AD 1.5 in the AIP Amendment No 03/2020, issued on November 30th 2020 (including Lien Khuong aerodrome). - CAAV is conducting the procedures to certify the aerodromes in Vietnam used for international operations (including Lien Khuong aerodrome). **Target date of completion: End of 2021.**	

* Priority for action to remedy the shortcoming is based on the following safety assessments:

"U" priority = Urgent requirements having a direct impact on safety and requiring immediate corrective actions. Urgent requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is urgently required for air navigation safety.

"A" priority = Top priority requirements necessary for air navigation safety. Top priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation safety.

"B" priority = Intermediate requirements necessary for air navigation regularity and efficiency. Intermediate priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation regularity and efficiency.

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE CNS FIELDS IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirement	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date for completion**	**Priority for action**
Reliable ground to ground communication as specified in the regional Air Navigation Plan (Doc.9673) Tables CNS II-1; CNS II-2 & CNS II-3	Afghanistan and Pakistan	Unreliability of AFS communication between Afghanistan and Pakistan was brought to the notice of APANPIRG/21. Lack of reliability in the AFS including data communication between Kabul and Karachi and ATS voice communication between Lahore and Kabul was identified.	September 2010	A follow-up COM coordination meeting held in July 2019 discussed way forward	1. Site visits in Pakistan by expert from the VSAT service provider were made in February and March 2016. Remedial recommendations were provided to CAA. Pakistan. 2. Both Afghanistan and Pakistan agreed to as first step to recover the VSAT connection by upgrading terminals in Lahore and Karachi. Afghanistan will provide assistance and does the Network Configuration settings; 3. Both States also agreed to implement CRV as soon as practical to resolve the existing COM deficiencies.	CAA. Afghanistan and CAA. Pakistan	June 2020	A

Editorial Note:
Proposed updates based on the Report of MET SG/25 shows deleted text using strikeout (~~text to be deleted~~), and added text with grey shading (text to be inserted).

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE MET FIELD IN THE ASIA/PAC REGION								
Identification		**Deficiencies**			**Corrective action**			
Requirements	**States/ Facilities** (Index No.)	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date for completion**	**Priority for action ***
MWO and SIGMET service (Annex 3: Chapter 3, 3.4 and Chapter 7)	**Democratic Peoples' Republic of Korea** (DPRK) (AP-MET-16)	Requirements for MWO and SIGMET service not established for Pyongyang FIR	2008	Reported by ICAO Regional Office mission	Establish MWO to provide required service, including SIGMET information for Phnom Penh FIR. **See notes below for more information.**	GACA, Democratic Peoples' Republic of Korea	TBC	A
Meteorological observations and reports. (Annex 3: Chapter 4)	**Kiribati** (AP-MET-02)	METAR from Kiribati not available on regular basis.	1998	Reported by airlines	Equipment to be installed and arrangements to be made for regular observations and reports, including: training of personnel; maintenance of equipment; calibration and verification of meteorological observations; and proper/secure transmission of data. **See notes below for more information.**	State designated MET authority	TBC	A
Meteorological information for operators and flight crew members, including forecasts provided by the WAFCs (Annex 3: Chapter 9)	**Kiribati** (AP-MET-18)	WAFC forecasts not available for inclusion in flight briefings and documentation	2008	Reported by TCB CAEMSA-SP Technical Expert	Implement procedures and systems for the required meteorological information to be supplied to operators and flight crew members, including forecasts generated from the digital forecasts provided by the WAFCs. **See notes below for more information.**	State designated MET authority	TBC	U
Meteorological information for operators and flight crew members, including forecasts provided by the WAFCs (Annex 3: Chapter 9)	**Nauru** (AP-MET-19)	WAFC forecasts not available for inclusion in flight briefings and documentation	2008	Reported by TCB CAEMSA-SP Technical Expert	Implement procedures and systems for the required meteorological information to be supplied to operators and flight crew members, including forecasts generated from the digital forecasts provided by the WAFCs. **See notes below for more information.**	State designated MET authority	TBC	U
Meteorological observations and reports. (Annex 3: Chapter 4)	**Nauru** (AP-MET-21)	METAR/SPECI service not provided	2008	Reported by TCB CAEMSA-SP Technical Expert	Equipment to be installed and arrangements to be made for regular observations and reports, including: training of personnel; maintenance of equipment; calibration and verification of meteorological observations; and proper/secure transmission of data. **See notes below for more information.**	State designated MET authority	TBC	U

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE MET FIELD IN THE ASIA/PAC REGION								
Identification		**Deficiencies**			**Corrective action**			
Requirements	**States/ Facilities** (Index No.)	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date for completion**	**Priority for action ***
Provision of SIGMET information (Annex 3, Chapter 7)	**Nauru** (AP-MET-24)	Lack of SIGMET issued for the Nauru FIR.	Sep 2011	IATA deemed this situation unsafe and unacceptable to airline operations.	Implement procedures for SIGMET information to be issued by the designated meteorological watch office/s concerning the occurrence or expected occurrence of specified en-route weather and other phenomena in the atmosphere that may affect the safety of aircraft operations. **See notes below for more information.**	State designated MET authority	TBC	U
Provision of SIGMET information (Annex 3: Chapter 7)	**Nepal** (AP-MET-14)	Requirements for issuance and dissemination of SIGMET information for Kathmandu FIR have not been fully implemented	2000		Implement procedures for SIGMET information to be issued by the designated meteorological watch office/s concerning the occurrence or expected occurrence of specified en-route weather and other phenomena in the atmosphere that may affect the safety of aircraft operations. **See notes below for more information.**	State designated MET authority	TBC	A
Reporting of information on volcanic eruptions to civil aviation units. (Annex 3, 3.6, 4.8)	**Papua New Guinea** (AP-MET-04)	Information on volcanic activity not provided regularly to ATS units, MWOs and VAACs.	1995	Observed by States concerned. Reported at the WMO/ICAO Workshop on Volcanic Ash Hazards (Darwin, 1995)	Establish arrangements for State volcano observatories to send the required volcano observation information as quickly as practicable to the associated ACC/FIC, MWO and VAAC. **See notes below for more information.**	Rabaul Volcano Observatory, NWS and ASL of Papua New Guinea	TBC	A
Provision of SIGMET for volcanic ash (Annex 3: Chapter 7)	**Papua New Guinea** (AP-MET-08)	Requirements for issuance and proper dissemination of SIGMET for volcanic ash have not been fully implemented	Dec 2003	Reported by airlines, noted by Volcanic Ash Advisory Centres and confirmed by ICAO mission	Implement procedures for SIGMET information to be issued by the designated meteorological watch office/s concerning the occurrence or expected occurrence of volcanic ash. **See notes below for more information.**	NWS of Papua New Guinea	TBC	U
Provision of SIGMET information (Annex 3, Chapter 7)	**Papua New Guinea** (AP-MET-22)	Lack of SIGMET issued for the Port Moresby FIR.	Sep 2011	IATA deemed this situation unsafe and unacceptable to airline operations.	Implement procedures for SIGMET information to be issued by the designated meteorological watch office/s concerning the occurrence or expected occurrence of specified en-route weather and other phenomena in the atmosphere that may affect the safety of aircraft operations. **See notes below for more information.**	State designated MET authority	TBC	U

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE MET FIELD IN THE ASIA/PAC REGION								
Identification		**Deficiencies**			**Corrective action**			
Requirements	**States/ Facilities** (Index No.)	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date for completion**	**Priority for action ***
Meteorological information for operators and flight crew members, including forecasts provided by the WAFCs (Annex 3: Chapter 9)	**Solomon Islands** (AP-MET-20)	WAFC forecasts not available for inclusion in flight briefings and documentation	2008	Reported by TCB CAEMSA-SP Technical Expert	Implement procedures and systems for the required meteorological information to be supplied to operators and flight crew members, including forecasts generated from the digital forecasts provided by the WAFCs. **See notes below for more information.**	State designated MET authority	TBC	U
Provision of SIGMET information (Annex 3, Chapter 7)	**Solomon Islands** (AP-MET-23)	Lack of SIGMET issued for the Honiara FIRs.	Sep 2011	IATA deemed this situation unsafe and unacceptable to airline operations.	Implement procedures for SIGMET information to be issued by the designated meteorological watch office/s concerning the occurrence or expected occurrence of specified en-route weather and other phenomena in the atmosphere that may affect the safety of aircraft operations. **See notes below for more information.**	State designated MET authority	TBC	U
Reporting of information on volcanic eruptions to civil aviation units. (Annex 3: 3.6, 4.8)	**Tonga** (AP-MET-17)	Information on volcanic activity not provided regularly to ATS units, MWOs and VAACs	2008	Reported by TCB CAEMSA-SP technical expert	Establish arrangements for State volcano observatories to send the required volcano observation information as quickly as practicable to the associated ACC/FIC, MWO and VAAC. **See notes below for more information.**	MOI and MEIDECC	TBC	U

NOTES:

Index No.	State	Update Date	NOTES ON <u>OPEN</u> DEFICIENCIES
AP-MET-02	Kiribati	September 2017	APANPIRG/28 noted that Kiribati should: • Verify the status of implementation of CAP; and • Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the deficiency.
AP-MET-04	Papua New Guinea	September 2017	APANPIRG/28 noted that Papua New Guinea should: • Verify the status of implementation of CAP; and • Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the deficiency.
AP-MET-08	Papua New Guinea	September 2017	APANPIRG/28 noted that Papua New Guinea should: • Verify the status of implementation of CAP; and

Index No.	State	Update Date	NOTES ON <u>OPEN</u> DEFICIENCIES
			• Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the deficiency.
AP-MET-14	Nepal	September 2017	APANPIRG/28 noted that Nepal should: • Verify the status of implementation of CAP; and • Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the deficiency.
AP-MET-16	Democratic People's Republic of Korea	September 2017	APANPIRG/28 noted that DPRK should: • Verify the status of implementation of CAP; and • Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the deficiency.
AP-MET-17	Tonga	10 May 2013	Ministry of Infrastructure (MOI), Civil Aviation Division, advised that: • MOU established between the national authority providing volcano monitoring (Ministry of Lands, Environment, Climate Change and Natural Resources – MLECCNR) and the national authority providing meteorological service for international air navigation (MOl) for the reporting of volcanic activity to the associated ACCs, MWOs and VAACs in accordance with the relevant ICAO SARPs.
		29 May 2017	MOI, Civil Aviation Division, advised that: • Relevant operating procedures implemented in the units concerned and case studies of real volcanic events presented as evidence of the State volcano observatory's issuance of the required volcano observation information.
		September 2017	APANPIRG/28 noted that: • Removal of the deficiency from the open list is subject to the concurrence of the ATS units, MWOs and VAACs concerned that the deficiency is resolved.
		June 2018	MET SG/22 noted that: • VAAC Wellington was coordinating with Tonga on the validation of corrective action taken to resolve the deficiency.
AP-MET-18	Kiribati	September 2017	APANPIRG/28 noted that Kiribati should: • Verify the status of implementation of CAP; and • Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the deficiency.
AP-MET-19	Nauru	September 2017	APANPIRG/28 noted that Nauru should: • Verify the status of implementation of CAP; and

Index No.	State	Update Date	NOTES ON OPEN DEFICIENCIES
			• Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the deficiency.
AP-MET-20	Solomon Islands	September 2017	APANPIRG/28 noted that Solomon Islands should: • Verify the status of implementation of CAP; and • Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the deficiency.
		June 2019	MET SG/23 requested the Secretary in conjunction with support from other States to provide Solomon Islands with assistance in preparing the full report on rectification of the deficiency.
AP-MET-21	Nauru	September 2017	APANPIRG/28 noted that Nauru should: • Verify the status of implementation of CAP; and • Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the deficiency.
AP-MET-22	Papua New Guinea	September 2017	APANPIRG/28 noted that Papua New Guinea should: • Verify the status of implementation of CAP; and • Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the deficiency.
AP-MET-23	Solomon Islands	September 2017	APANPIRG/28 noted that Solomon Islands should: • Verify the status of implementation of CAP; and • Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the deficiency.
		June 2019	MET SG/23 requested the Secretary in conjunction with support from other States to provide Solomon Islands with assistance in preparing the full report on rectification of the deficiency.
		October 2021	MET SG/25 requested the Solomon Islands, with assistance from its partner States, to conduct additional corrective action to enable the MET SG to confirm that Solomon Islands had fully resolved the deficiency; maintain a log of all SIGMETs issued over at least one month to capture the operational WC-, WS- and WV-SIGMETs, plus any test WV-SIGMETs; pass the details [of the log] to the ad hoc group [on AN Deficiencies] to compare against SIGMETs received by RODB Brisbane [MET SG/25, Action No. 25/10]. Subject to Solomon Islands demonstrating resolution of the issues concerning content, format and timeliness of SIGMET information (as discussed in MET SG/25, WP/12) and sustainable provision of ICAO-compliant SIGMET service, MET SG would support the removal of deficiency AP-MET-23 from the APANPIRG open list. Therefore, to facilitate the removal of the deficiency from the open list, MET SG/25 requested the Secretariat coordinate with the Solomon Islands to report the resolution of the deficiency to APANPIRG [MET SG/25, Action No. 25/11].

Index No.	State	Update Date	NOTES ON OPEN DEFICIENCIES
AP-MET-24	Nauru	September 2017	APANPIRG/28 noted that Nauru should: • Verify the status of implementation of CAP; and • Work together with ICAO to develop and properly record the remaining steps of the CAP to resolve the deficiency.

Index No.	State	Update Date	NOTES ON CLOSED DEFICIENCIES
AP-MET-01	Solomon Islands	December 2020	Removed from the open list; APANPIRG/31 Conclusion 31/19, refers.
AP-MET-03	Indonesia	September 2017	Removed from the open list, APANPIRG/28 Conclusion 28/29 refers.
AP-MET-05	–	–	This Index No. is not used.
AP-MET-06	Indonesia	September 2017	Removed from the open list, APANPIRG/28 Conclusion 28/29 refers.
AP-MET-07	Philippines	November 2019	Removed from the open list, Conclusion APANPIRG/30/19, refers.
AP-MET-09	Cambodia	September 2018	Removed from the open list, APANPIRG/29 Decision 29/23 refers
AP-MET-10	–	–	This Index No. is not used.
AP-MET-11	Cambodia	September 2018	Removed from the open list, APANPIRG/29 Decision 29/24 refers
AP-MET-12	Lao PDR	September 2018	Removed from the open list, APANPIRG/29 Decision 29/24 refers
AP-MET-13	–	–	This Index No. is not used.
AP-MET-15	–	–	This Index No. is not used.

Acronyms/Abbreviations/Definitions

ACC	— Area control centre
ASL	— Air Services Ltd.
ATS	— Air traffic services
CAEMSA-SP	— Cooperative Agreement for the Enhancement of Meteorological Services to Aviation - South Pacific
CAAP	— Civil Aviation Authority Philippines
CAP	— Corrective action plan
FIC	— Flight information centre
FIR	— Flight information region
GACA	— General Administration of Civil Aviation
IATA	— International Air Transport Association
MEIDECC	— Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communication
MET	— Meteorological
METAR	— Aerodrome routine meteorological report *(in meteorological code)*
MWO	— Meteorological watch office
NWS	— National Weather Service
PAGASA	— Philippine Atmospheric, Geophysical and Astronomical Services Administration
PHIVOLCS	— Philippine Institute of Volcanology and Seismology
SIGMET	— Information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified en-route weather and other phenomena in the atmosphere that may affect the safety of aircraft operations
SPECI	— Aerodrome special meteorological report *(in meteorological code)*
SSCA	— State Secretariat of Civil Aviation
TBC	— To be confirmed
TCB	— Technical Cooperation Bureau (of ICAO)
VAAC	— Volcanic ash advisory centre
WAFC	— World area forecast centre

Acronyms/Abbreviations/Definitions

WMO — World Meteorological Organization