



ICAO

*International Civil Aviation Organization*

**The Third Meeting of the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG/3)**

Bangkok, Thailand, 16 – 19 April 2024

---

## **Agenda Item 4: Implementation of CNS-ATM Systems**

### **AIS – AIM IMPLEMENTATION TASK FORCE OUTCOMES**

(Presented by the Secretariat)

#### **SUMMARY**

This paper presents an update on Aeronautical Information Services (AIS) and Aeronautical Information Management (AIM) implementation, including the outcomes of the Eighteenth Meeting of the ICAO Aeronautical Information Services – Aeronautical Information Management Implementation Task Force.

## **1. INTRODUCTION**

1.1 The Eighteenth Meeting of the ICAO Aeronautical Information Services (AIS) – Aeronautical Information Management (AIM) Implementation Task Force (AAITF/18) was held from 19 to 23 June 2023 at the ICAO Asia and Pacific Regional Office in Bangkok, Thailand. A total of 88 participants from 23 States and Administrations, three International Organizations and one Industry partner attended the AAITF/18 meeting.

1.2 17 Working Papers (WPs), seven Information Papers (IPs), six presentations and six filmsies were presented to AAITF/18.

1.3 AAITF/18 formed five Draft Conclusions and one Draft Decision for consideration by ATM/SG.

1.4 The full report of the meeting is available on the ICAO Asia/Pacific (APAC) Regional Office web-page at <https://www.icao.int/APAC/Meetings/Pages/2023-AAITF18.aspx>.

## **2. DISCUSSION**

### Asia/Pacific ATM and Airspace Safety Deficiencies in the AIS/AIM Field

2.1 AIS/AIM-related Air Navigation Deficiencies as identified/agreed by APANPIRG/33 were provided for review and update by the meeting.

2.2 There are three AIS/AIM-related deficiencies in the list agreed by APANPIRG/33:

- WGS-84 not implemented (nine States);
- AIP Format (two States); and
- Quality Management System not implemented (20 States).

2.3 As of the latest assessment following APANPIRG/33, no new deficiencies have been identified. Bhutan, Nepal, and Philippines have submitted information to support the withdrawal of previously identified deficiencies. Upon analysis of the information provided by Bhutan, ICAO recommended the withdrawal of the deficiency for non-implementation of World Geodetic System-84 (WGS-84). Information provided by Nepal and the Philippines to support the withdrawal of deficiencies for non-implementation of AIS Quality Management System (QMS) is currently under analysis by ICAO.

2.4 The meeting was, once again, invited to note the ongoing, deep concern about poor quality management of aeronautical information in the APAC Region, and the apparent lack of organizational priority for this safety-critical obligation of all States that are signatory to the Convention on International Civil Aviation.

2.5 The criteria used by the Regional Office to determine whether an AIS QMS deficiency may be recommended for deletion is provided in **Attachment A**.

2.6 The list of AIS/AIM-related deficiencies as reviewed by AAITF/18 is included in the relevant working paper presented under ATM/SG/11 Agenda Item 4.

#### Regional Implementation Status of AIM Performance Expectations

2.7 The meeting was informed of the reported implementation status of AIM performance expectation detailed in the Performance Improvement Plan of the *APAC Regional Plan for Collaborative AIM. Conclusion ATM/SG/10-1: Revised Reporting Date for ATM Regional Plans' Implementation Status Monitoring* urged States to report using the Regional AIM Implementation Status Report form annually, by not later than 28 February each year.

2.8 The performance expectations were arranged in three phases:

**Phase I**, expected to be implemented immediately;

**Phase II**, expected to be implemented by 7 November 2019, and

**Phase III**, expected to be implemented by 27 November 2025.

2.9 States that had never provided information on their implementation status were:

Brunei Darussalam, Marshall Islands, Micronesia and Nauru.

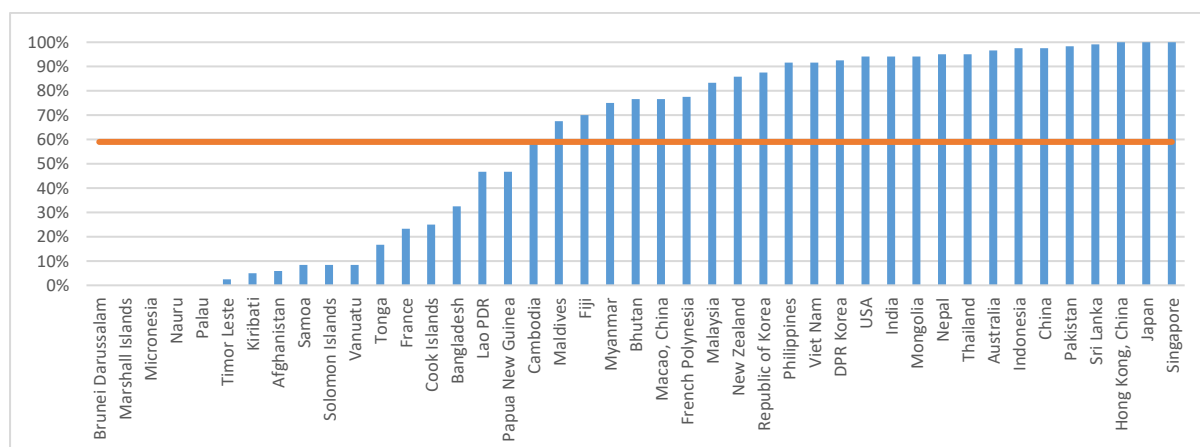
2.10 The 19 Administrations that reported their implementation status in 2024 were:

Australia, Bangladesh, Bhutan, China, Hong Kong China, Macao China, Fiji, India, Indonesia, Japan, Malaysia, Mongolia, Nepal, New Zealand, Pakistan, Philippines, Singapore, Sri Lanka, and USA.

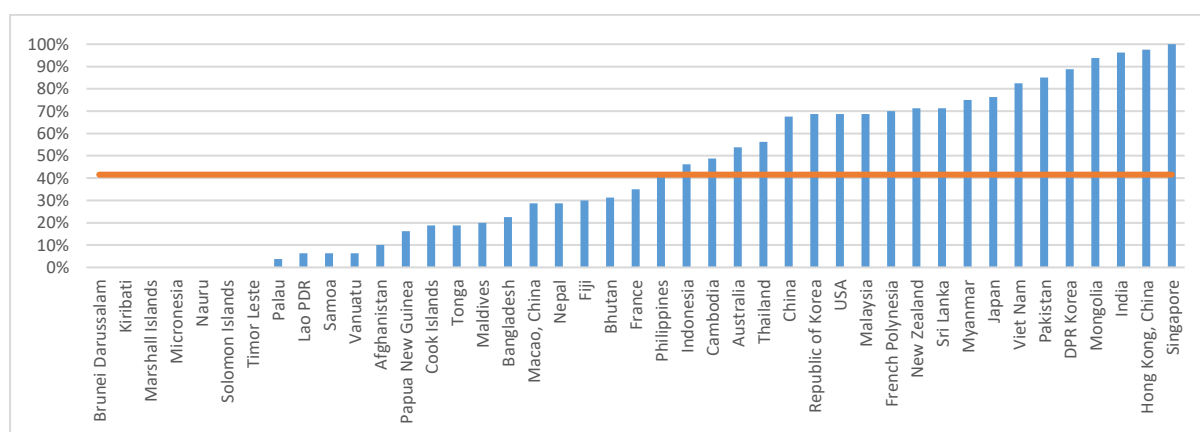
2.11 The latest update of regional implementation status of the AIM performance expectations is provided in **Attachment B**.

2.12 Japan, Singapore and Hong Kong, China reported implementation of all Phase I elements. Only Singapore reported implementation of all Phase II elements. No Administration reported implementation of all Phase III elements.

2.13 **Figures 1 and 2** illustrate overall regional implementation of Phase I and II elements of the Regional Plan for Collaborative AIM; approximately 59% (58% in 2023) for Phase I and 42% for Phase II. Combined progress towards implementation of Phases I and II was 52% (51% in 2023).



**Figure 1: Regional Phase I Implementation Progress (updated 22 March 2024)**



**Figure 2: Regional Phase II Implementation Progress (updated 22 March 2024)**

2.14 Regional implementation of Phase III elements, expected to be implemented by 2025, was approximately 17%, also increases from 2023.

2.15 The meeting is invited to note there has been very little progress in AIS/AIM implementation for several years.

#### Airline Feedback on AIS

2.16 International Air Transport Association (IATA) provided airline feedback on issues and areas where improvement was needed in AIS quality in the region, including ongoing long-term issues such as notification of the release of new or amended aeronautical information products, non-conformance of eAIP, omission of Pavement Classification Number (PCN), aircraft type or wingspan limitation information, AIS website, non-contactable AIS office email addresses and phone numbers.

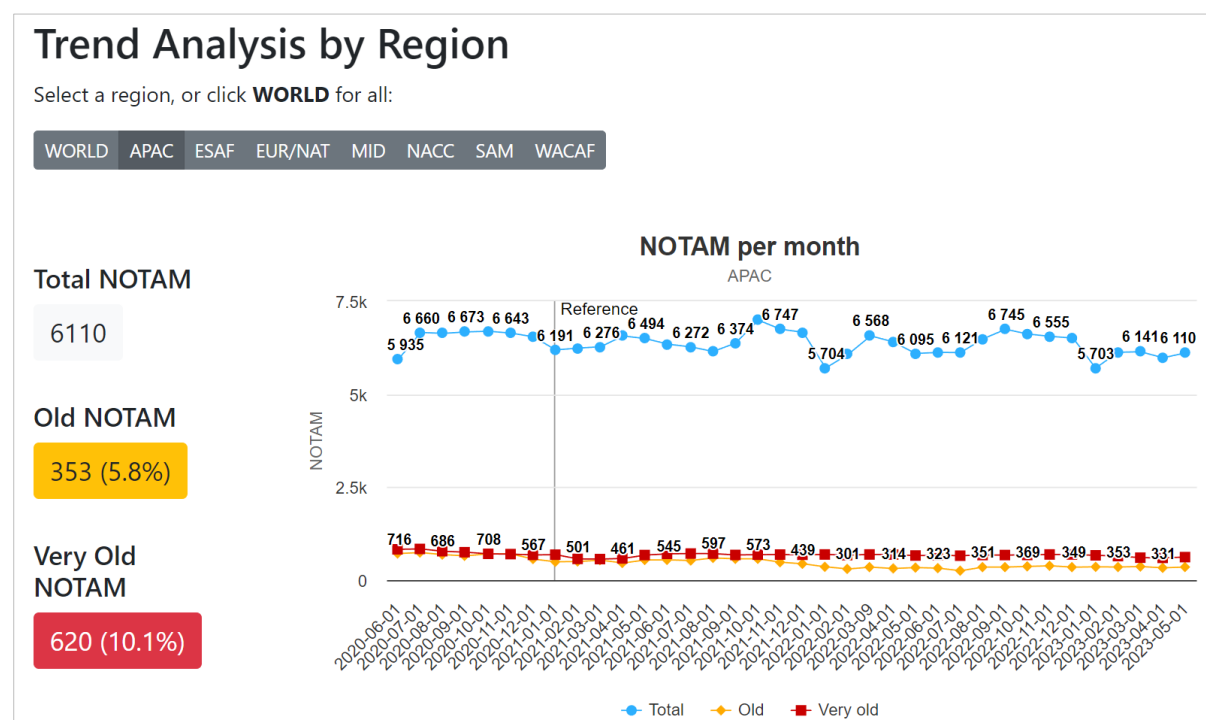
2.17 AAITF/18 had agreed to add an action item in the AAITF Task List to address issues related to aerodrome data in AIPs.

#### NOTAM Proliferation Analysis

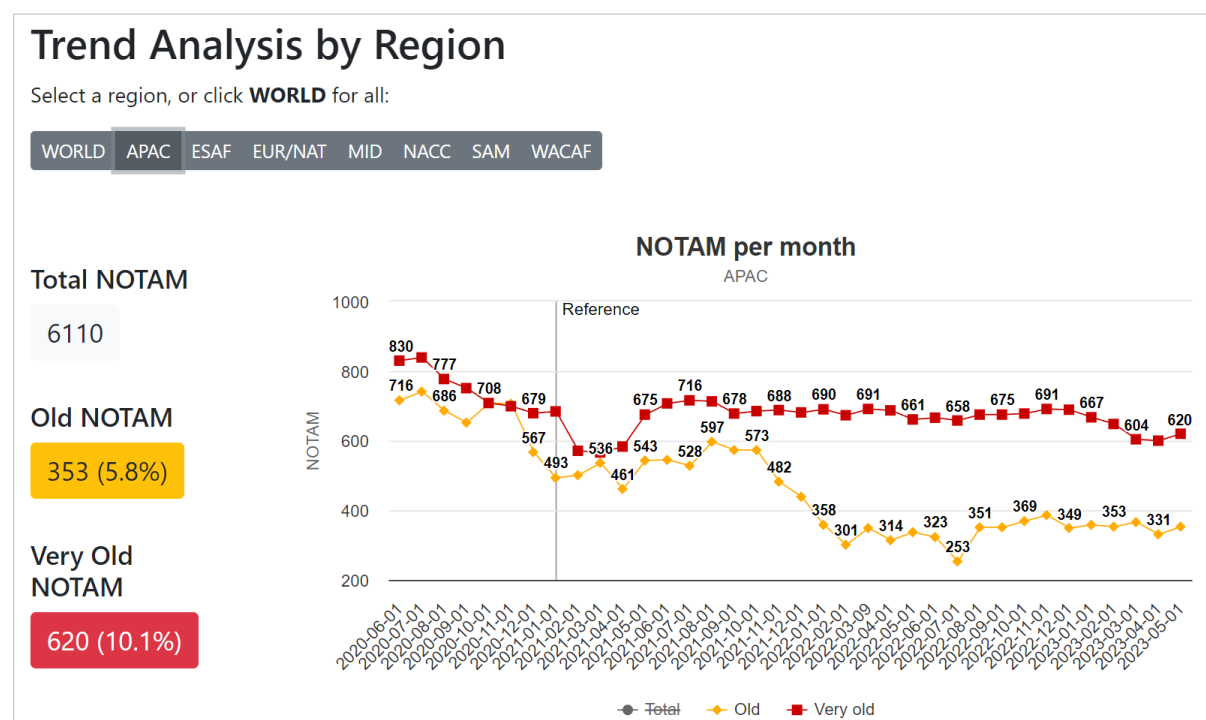
2.18 International Federation of Aeronautical Information Management Associations (IFAIMA), in collaboration with the Secretariat, provided a regional analysis of NOTAM proliferation.

2.19 AAITF/13 in 2018 had discussed the continuing existence of NOTAM containing information of permanent validity that had not been transferred to AIP in a timely manner, and had developed a Draft Conclusion on the subject, subsequently agreed by ATM/SG/6: **Conclusion ATM/SG/6-14: Management of NOTAMs.**

2.20 **Figures 3 and 4** illustrated APAC NOTAM statistics since June 2020. At 01 May 2023, a total of 6110 NOTAMs were active in the APAC Region. 353 (5.8%) of these were *old* (i.e. more than three months but less than one year), and 620 (10.1%) were *very old* (one year or more).



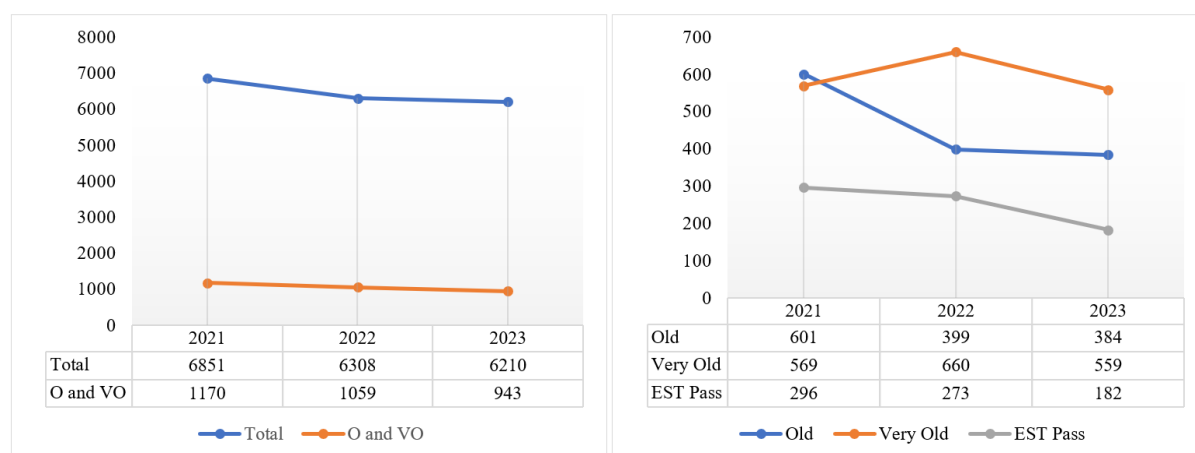
**Figure 3: APAC NOTAM Statistics (Total, old and very old)**



**Figure 4: APAC NOTAM Statistics (old and very old)**

2.21 Compared with June 2022 the number of very old NOTAM had decreased by 46 (9.6%), but the number of old NOTAMs had increased by 30 (9.3%).

2.22 A further regional analysis conducted on 02 June 2023 summarized the trend over three years (**Figure 5**).



**Figure 5: Regional NOTAM analysis**

2.23 **Table 1** listed the 10 top NOTAM-promulgating and **Table 2** listed top 10 poorest APAC Administrations at 2 June 2023.

No	Administrations	Total NOTAM	Old NOTAM	Very Old NOTAM	Percent of old and very old NOTAM
1	China	1197	135	49	15.4%
2	Japan	1145	1	1	0.2%
3	India	888	78	370	50.5%
4	Australia	621	54	8	10.0%
5	Republic of Korea	588	1	0	0.2%
6	Philippines	443	52	52	23.5%
7	Malaysia	276	19	8	9.8%
8	Thailand	198	2	6	4.0%
9	Singapore	123	0	0	0.0%
10	New Zealand	101	4	0	4.0%
		<b>5580</b>	<b>346</b>	<b>494</b>	<b>15%</b>

**Table 1: Top 10 NOTAM-producing Administrations**

No	Administrations	Total NOTAM	Old NOTAM	Very Old NOTAM	Percent of old and very old NOTAM
1	DPR Korea	10	0	10	100.0%
2	Micronesia	5	3	2	100.0%
3	Kiribati	1	0	1	100.0%
4	Nepal	1	0	1	100.0%
5	Lao PDR	19	0	18	94.7%
6	Timor Leste	15	8	1	60.0%
7	India	888	78	370	50.5%
8	Samoa	5	0	2	40.0%
9	Solomon Islands	21	5	1	28.6%
10	Papua New Guinea	85	13	11	28.2%

		<b>1050</b>	<b>107</b>	<b>417</b>	<b>49.9%</b>
--	--	-------------	------------	------------	--------------

**Table 2: Top 10 Poorest Performing Administrations – Old and Very Old NOTAM**

#### Airline Feedback on NOTAMs

2.24 IATA presented airline feedback received regarding NOTAM quality both in APAC and global examples and identifies issue areas for addressing.

2.25 It was noted that, in spite of the ICAO global campaign on NOTAM proliferation, the practice to repeatedly issue NOTAMR continued globally although this was seen to have improved in the APAC Region.

2.26 Further examples were provided of inconsistent NOTAM text and incorrect abbreviations, omission of runway identifiers in runway closure information, inappropriate reference to AIP page numbers instead of instrument flight procedure identifiers and publication in NOTAM of major changes to AIP (required to be published in AIP Amendment under the AIRAC process).

2.27 Information was also provided on late distribution of NOTAMs after the information in the NOTAM was already valid, including the example of one major airline receiving 480 NOTAMs 60 minutes or more after their start time, and 272 received 120 minutes or more later, between 01 January and 01 May 2023.

2.28 IATA noted that 36% of APAC Administrations were not compliant with the requirement to issue a checklist of NOTAMs, including checklist of AIP SUPs.

#### Asia/Pacific Region ICARD Status and 5LNC Duplicate Resolution

2.29 ICAO provided an update on the use of the ICAO International Codes and Route Designators (ICARD) application in the APAC Region and the resolution status of 5-letter name code (5LNC) duplicates.

2.30 Several APAC Region Administrations did not have any registered ICARD\_5LNC\_PLANNER. If these Administrations allocated 5LNC outside the ICARD system, they were not compliant with the requirements of Annex 11.

2.31 ICAO Headquarters had compiled a full global list of duplicated 5LNC in 2018. There were **3,905** duplicated 5LNCs worldwide, of which **2,733** were within the APAC region.

2.32 An update of the status reports (**AAITF/18 WP/8 Attachment B**) provided the following information for each APAC Administration:

- Total number of duplicated 5LNCs;
- 5LNCs for which priority is allocated;
- 5LNCs for which priority is allocated to other Administrations;
- 5LNCs for which priority to be determined by duplicate resolution rules;
- 5LNCs which are in the process of being resolved; and
- the number of completely resolved 5LNCs.

2.33 ATM/SG/10 had agreed to **Conclusion ATM/SG/10-10: State Reports of 5LNC Status**, urging States to provide an annual update on the status of duplicated 5LNCs by not later than 28 February each year. In 2023 duplicated 5LNC status updates were provided to the ICAO Regional

Office in different formats. The meeting had agreed to the following Draft Conclusion. The ATM/SG/11 meeting subsequently agreed to the Conclusions drafted by AAITF/18.

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

That, the revised 5LNC Data Collection Spreadsheet (version 2.0) provided in **ATM/SG/11 WP39 Attachment D** be made available on the ICAO Asia/Pacific Regional Office website, to replace the existing.

Notification for NOTAM Service Disruption

2.34 Japan proposed recommended actions to be taken for service disruption when the International NOTAM Office (NOF) was temporarily unable to distribute aeronautical information, especially NOTAMs, to other NOFs to which NOTAMs were distributed, based on Annex 15 paragraph 2.2.4.

2.35 There was significant discussion of this paper, including matters such as variable system capability across the APAC region, the use of email communications and website publication in NOTAM promulgation (both in normal operations and contingency situations), the example of major problems in the Africa region due to communications system challenges resulting in delivery of many NOTAMS either failing or being delayed, and the use of different methods for international and domestic distribution.

2.36 The meeting held an ad hoc workshop to consider regional guidance for notification of NOTAM service disruption. The core guidance was presented in the form of a checklist of considerations for service providers experiencing degraded or failed operation of the NOTAM system, or of any of the supporting infrastructure that supported distribution of NOTAMs.

2.37 The meeting had agreed to the following Draft Conclusion. The ATM/SG/11 meeting subsequently agreed to the Conclusions drafted by AAITF/18.

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

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

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

2.38 IFAIMA, in collaboration with the Secretariat, presented a preliminary review of the Guidance Manual for Aeronautical Information Services in the Asia/Pacific Region. The Guidance Manual had been developed in 2001 by the AIS Automation Task Force (AATF), and was last updated in 2016.

2.39 The meeting agreed that the Guidance Manual be retired, and:

1. The Selection Principles and the Selection Process from Chapter 2 of the Guidance Manual be relocated to the Asia/Pacific Regional Plan for Collaborative AIM;
2. The Preface information referring to the stand-alone OPADD be relocated to the OPADD, and a brief summary of the history of the Asia/Pacific OPADD and its current status/location be included in the Regional Plan for Collaborative AIM; and
3. Appendix A of the Guidance Manual was no longer required.

2.40 A proposed update of the Asia/Pacific Regional Plan for Collaborative AIM included consequential amendments arising from the agreed retirement of the Guidance Manual, updates of a number of superseded items, and editorial amendments. The meeting had agreed to the following Draft Conclusions. The ATM/SG/11 meeting subsequently agreed to the Conclusions drafted by AAITF/18.

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

That,

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

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

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

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

Preliminary Review of APAC ANP Vol II

2.41 A review of the Asia/Pacific Regional Air Navigation Plan (APAC ANP) Vol. II had been conducted by IFAMA, in collaboration with the Secretariat. The meeting was informed of the history and contents of the ANP.

2.42 Part VII of APAC ANP Vol II complemented the provisions in ICAO SARPs and PANS related to AIS/AIM and aeronautical charts. APAC ANP Vol II Table AIM II-1 contains list of designated international NOTAM Offices, designated States for AIP and aeronautical charts production and provision of the Integrated Aeronautical Information Database and pre-flight information services. Only Singapore had provided complete information for Table AIM II-1. 14 Administrations had not provided information on their designated NOF. 42 Administrations had not provided information on the other elements in the table.

2.43 Table AIM II-2 contains production responsibility for sheets of the World Aeronautical Charts (WACs). 22 Administrations had not provided information on all relevant sheet numbers for inclusion in the Table.

2.44 The following course of action was agreed by the meeting:

- All Administrations provide the information necessary to fully populate APAC ANP Vol II Part VII Tables AIM II-1 and AIM II-2 to the ICAO Secretariat; and
- A Proposal for Amendment (PfA) to APAC ANP Volume II will be prepared by the Secretariat on behalf of APAC Administrations, for inclusion in Part VII of updated information in the Tables and any necessary editorial amendments.



2.45 The meeting had agreed to the following Draft Conclusion. The ATM/SG/11 meeting subsequently agreed to the Conclusions drafted by AAITF/18.

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

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

2.46 As of 22<sup>nd</sup> March 2024, following 15 Administrations have provided information for inclusion in APAC ANP Vol II Part VII:

Australia, Cambodia, Hong Kong China, Macao China, India, Indonesia, Malaysia, Mongolia, New Zealand, Pakistan, Philippines, Republic of Korea, Sri Lanka, Thailand and Viet Nam.

2.47 Tables AIM II-1 and AIM II-2 to be included in the proposal for amendment (PfA) are provided in the **Attachment C**.

Dissemination of Aeronautical Information in SWIM Environment

2.48 The meeting was informed of discussions being held in meetings of contributory bodies in the Communications, Navigation and Surveillance (CNS) field regarding bandwidth required to support SWIM services on the Common aeronautical Virtual Private Network (CRV), and was asked to share information on plans to disseminate aeronautical information in the SWIM environment.

2.49 A meeting of the SWIM TF Task Leads on 22 February 2023 had discussed potential bandwidth requirements for the CRV to carry SWIM traffic, and requested the Secretariat coordinate with AAITF to understand plans to disseminate aeronautical information in the SWIM environment, to assist in assessing bandwidth requirements.

2.50 The AAITF Secretariat informed the meeting that Phase III of the Regional Plan for Collaborative AIM was aligned with the Global Air Navigation Plan targets for exchange of aeronautical information in the SWIM environment. It was further noted that Phase II was fundamentally related to the migration of aeronautical information into digital datasets in preparation for future information exchange in SWIM, and that overall regional implementation was poor.

2.51 AAITF/18 had agreed to add an action item in the AAITF Task List to participate in and coordinate closely with SWIM TF and other relevant ICAO regional groups.

Future Direction of AAITF

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

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

- AIS/AIM implementation status;
- AIS-related APANPIRG ATM and Airspace Safety Deficiencies;

- Internet accessible AIP drawn from digital databases of aeronautical information;
- Working Papers submitted to AAITF meetings; and
- Hosting of AAITF meetings and workshops.

2.54 **Tables 3 and 4** highlighted continuing poor overall regional performance in the implementation of regional performance expectations, including those from Phase 1 of both the Roadmap and Regional AIM Plan, which related mainly to ICAO Standards and Recommended Practices (SARPS) published in Annexes to the Convention for decades.

<b>Regional Implementation Status: Phases 1 and 2 of the ICAO Roadmap for Transition from AIS to AIM</b>										
<i>Note 1: The Asia/Pacific Seamless ATM Plan version 1.0 (2013) expected implementation of Phases 1 and 2 of the Roadmap by November 2015.</i>										
<i>Note 2: The roadmap was superseded (regional use) by the Asia/Pacific Regional Plan for Collaborative AIM in 2019, and is now globally considered to be out-of-date.</i>										
AAITF YEAR	9 2014	10 2015	11 2016	12 2017	13 2018	14 2019	15 2020	16 2021	17 2022	18 2023
%	N/R	37%	41%	44%	49%	51%	-	-	-	-

**Table 3:** Implementation of Phases 1 and 2 of the ICAO Roadmap for Transition from AIS to AIM

<b>Regional Implementation Status: Phases 1 and 2 of Regional AIM Capability (Asia/Pacific Regional Plan for Collaborative AIM)</b>										
<i>Note 1: Asia/Pacific Regional Plan for Collaborative AIM, first published in 2018, included the expectation of implementation of Phase I of Regional AIM Capability immediately, and Phase II by November 2019.</i>										
AAITF YEAR	9 2014	10 2015	11 2016	12 2017	13 2018	14 2019	15 2020	16 2021	17 2022	18 2023
%	-	-	-	-	-	45%	45%	48%	50%	51%

**Table 4:** Implementation of Phases 1 and 2 of Regional AIM Capability

2.55 Implementation of an *internet-accessible electronic AIP generated from a digital database of aeronautical information*, expected to be implemented by November 2019, could be considered to be an indicator of the State progress in transition from AIS to AIM. As reported in WP/4 to AAITF/18, only 11 APAC Administrations have reported implementation.

2.56 **Table 5** summarizes AIS-related Deficiencies recorded by APANPIRG from 2014 to 2022, and the proposed deficiencies for 2023 as reported in WP/3 to this meeting.

<b>AIS-related APANPIRG ATM and Airspace Safety Deficiencies (Number of Administrations)</b>										
YEAR	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
WGS/84	17	15	13	12	12	11	10	10	9	9
AIP Format	4	4	4	2	2	2	2	2	2	2
AIS QMS	25	25	22	23	23	22	20	20	20	20*

\* Two States have submitted information to support withdrawal of the AIS QM Deficiency

**Table 5:** AIS-related APANPIRG Deficiencies 2014 – 2023

2.57 These deficiencies also related to SARPS that have been in place for decades. While WGS-84 implementation had shown some improvement, it remained less than ideal. The number of Administrations having deficiencies recorded for AIS quality management was deeply concerning. In this regard, it appeared that AAITF activity only had a minor impact.

2.58 **Table 6** shows the numbers of Working Papers and Information Papers submitted to AAITF meetings from 2014 to 2023.

<b>Working Papers and Information Papers Submitted to AAITF Meetings 2014 - 2023</b>										
<b>AAITF # YEAR</b>	9 2014	10 2015	11 2016	12 2017	13 2018	14 2019	15 2020	16 2021	17 2022	18 2023
<b>State WPs</b>	4	-	3	3	5	7	3	3	3	2
<b>Secretariat WPs</b>	6	7	9	13	11	17	15	13	10	10
<b>State IPs</b>	7	4	3	3	16	12	4	9	7	6
<b>Secretariat IPs</b>	3	2	2	1	1	1	2	3	2	1
<b>IO WP/IP/SP</b>	-	-	-	2	-	2	1	1	2	5
<b>Total Papers</b>	20	13	17	22	33	39	25	29	24	23

**Table 6:** Working Papers and Information Papers Submitted to AAITF Meetings.

2.59 Since the renaming of the group to AAITF (AAITF/4, 2009) five of its 12 face-to-face meetings have been hosted by States, but of those five only one was hosted by a State in the 10 years commencing with AAITF/9 in 2014 (Thailand hosted AAITF/9 at Pattaya, Thailand).

2.60 Noting the very slow progress in AIS/AIM implementation and deficiency resolution, the Secretariat proposed that consideration be given to holding AAITF meetings once per two years.

2.61 Noting the importance of AIS to the safety and regularity of aviation, the meeting did not support a reduced frequency of AAITF meetings. It was further proposed that AAITF may consider developing guidance on practical issues such as how to implement QMS, how to write procedures for AIS operations, and how to assess effective implementation.

2.62 The meeting further considered that AAITF provided an effective means for sharing ideas and experience. It should consider improving its objectives to achieve the end point of quality management of all processes in the AIS.

#### Review the AAITF TOR

2.63 The meeting reviewed the AAITF Terms of Reference, noting the outcomes of discussion of the future direction of AAITF. The meeting had agreed to the following Draft Decision. The ATM/SG/11 meeting and followed by APANPIRG/34 subsequently agreed to the Decision drafted by AAITF/18.

#### **Decision APANPIRG/34/7: Update AAITF TOR**

That, the updated AAITF TOR at **APANPIRG/34 WP/10 Attachment A** be adopted.

### **3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) note the ATM and Airspace Safety Deficiencies in the AIS/AIM field, and particularly the deep concern about poor quality management of aeronautical information in the APAC Region;
- b) note the continuing overall poor implementation of the Phase I and II performance expectations of the Regional Plan for Collaborative AIM;
- c) take all necessary steps to eliminate old and very old NOTAMs; and
- d) discuss any relevant matters as appropriate.

.....

## ICAO ASIA/PACIFIC REGIONAL OFFICE

### Checklist of Evidence Supporting Withdrawal of APANPIRG ANS Deficiency – AIS Quality Management System (QMS)

The relevant authority should write to the ICAO Asia/Pacific Regional Director ([apac@icao.int](mailto:apac@icao.int)), requesting withdrawal of the APANPIRG ANS Deficiency and including the following supporting information:

AIS QM Area	Evidence	Purpose
<b>Quality Management Scope and Process</b> <i>Annex 15 Section 3.6</i> <i>PANS-AIM Chapter 3</i>	<b>Provide a copy of:</b> <ol style="list-style-type: none"> <li>the AIS Quality Management Manual; <i>or</i></li> <li>Other equivalent document or formal procedures detailing: <ul style="list-style-type: none"> <li>Scope of QMS; and</li> <li>QM processes; <i>or</i></li> </ul> </li> <li>Other procedure document detailing processes for rectification of non-conformities.</li> </ol>	<ol style="list-style-type: none"> <li>To provide evidence that: <ul style="list-style-type: none"> <li>formal documentation of the scope of the QMS, and its processes have been developed; and</li> <li>QMS documentation and processes are formally approved by the accountable authority, and are subject to regular review; and</li> <li>that the QMS is formally applied to the aeronautical information production activities of all AIS and associated entities in the preparation and publication of aeronautical information products (AIP, AIP Amendments, AIP SUPs, AICs, NOTAMs). Example: in some states, the CAA retains responsibility for AIP production, but the Air Navigation Service Provider is responsible for NOTAMs); <i>or</i></li> </ul> </li> <li>To demonstrate the application of quality management processes to the management of non-conformities including detection, reporting, rectification, recording and procedure improvement.</li> </ol>
<b>ISO Certification</b> (optional) <i>Annex 15 Section 3.6</i> <i>(Recommendation)</i>	<ol style="list-style-type: none"> <li>Provide a copy of the ISO 9001 QMS Certificate (optional)</li> </ol>	To provide evidence that the State has achieved ISO certification of its QMS. <i>Note that ISO certification of AIS QMS is recommended, but is not mandatory. ISO certification is not a sole means of demonstrating effective QMS implementation.</i>

<p><b>Other Critical AIS QM Areas</b></p> <p><i>Annex 15 Sections 2.1, 3.2, 3.3 and 3.6</i></p> <p><i>PANS-AIM Section 2.1.3</i></p>	<p><b>Provide a <u>statement</u> confirming that the State has established:</b></p> <ol style="list-style-type: none"> <li>1. Formal arrangements with originators of aeronautical data and aeronautical information in relation to the timely and complete provision of aeronautical data; <i>Note: originators of aeronautical data include aerodrome operators, ATS units, geospatial agencies military agencies and any other agency or authority providing aeronautical data or aeronautical information for publication in aeronautical information products.</i></li> <li>2. Verification and validation procedures which ensure that upon receipt of aeronautical data and aeronautical information, quality requirements are met.</li> <li>3. Quality check procedures to ensure compliance with product specifications (PANS-AIM Chapter 5).</li> <li>4. Competency, knowledge, skill and ability criteria for personnel engaged in: <ol style="list-style-type: none"> <li>a. production of aeronautical information products;</li> <li>b. AIS training delivery; and/or</li> <li>c. AIS competency assessment;</li> </ol> </li> <li>5. AIS training and competency assessment plan</li> </ol>
<p><b><i>Note: ICAO Asia/Pacific Regional Office will also conduct sampling of aeronautical information products before then making a recommendation to APANPIRG to remove the ANS Deficiency, where appropriate.</i></b></p>	

## Regional Implementation Status of AIM Performance Expectations

Date Last Amended: March 22, 2024

	Phase 1												Phase 2								Phase 3				
	1				2	3	4	5	6	7	8	9	10	11	12	13	14			15	16	17	18		
	1a	1b	1c	1d													14a	14b	14c						
Afghanistan	0%	0%	0%	0%	0%	0%	40%	0%	30%	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	50%	0%	0%	0%		
Australia	100%	100%	100%	100%	100%	100%	100%	60%	100%	100%	100%	100%	100%	70%	100%	60%	0%	100%	0%	0%	100%	0%	0%		
Bangladesh	70%	30%	0%	0%	0%	50%	0%	30%	0%	30%	80%	100%	50%	10%	0%	0%	0%	90%	0%	30%	0%	0%	0%		
Bhutan	100%	100%	100%	100%	0%	100%	40%	20%	60%	100%	100%	50%	50%	60%	40%	10%	10%	20%	10%	100%	0%	0%			
Brunei Darussalam	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
Cambodia	50%	100%	50%	70%	10%	90%	50%	30%	50%	50%	50%	100%	50%	50%	30%	80%	50%	50%	10%	70%	10%	30%	50%		
China	100%	100%	100%	80%	100%	100%	100%	100%	100%	100%	100%	90%	40%	70%	100%	100%	10%	50%	70%	100%	30%	10%	10%		
Hong Kong, China	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	80%	100%	70%	50%	50%		
Macao, China	100%	100%	100%	100%	0%	100%	100%	100%	50%	0%	100%	70%	0%	50%	50%	50%	0%	0%	0%	80%	0%	0%	0%		
Cook Islands	0%	100%	0%	0%	0%	0%	100%	0%	30%	0%	0%	70%	0%	0%	100%	0%	0%	0%	0%	50%	0%	0%	0%		
DPR Korea	100%	100%	100%	100%	60%	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	50%	70%	100%	90%	20%	20%	30%		
Fiji	100%	100%	50%	0%	40%	100%	40%	100%	100%	50%	100%	60%	100%	60%	70%	10%	0%	0%	0%	0%	0%	0%	0%		
French Polynesia	100%	100%	80%	100%	50%	0%	80%	80%	80%	100%	60%	100%	80%	100%	100%	80%	50%	50%	0%	100%	60%	60%	20%		
India	100%	100%	100%	100%	30%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	70%	100%	0%	0%	0%		
Indonesia	100%	100%	100%	100%	90%	80%	100%	100%	100%	100%	100%	100%	70%	70%	100%	50%	10%	10%	10%	50%	50%	50%	0%		
Japan	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	80%	80%	100%	80%	80%	90%	0%	100%	0%	0%	0%		
Kiribati	0%	0%	0%	0%	0%	0%	0%	0%	30%	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
Lao PDR	100%	100%	100%	100%	0%	100%	0%	0%	0%	30%	0%	30%	0%	0%	20%	0%	0%	30%	0%	0%	0%	0%	0%		
Malaysia	100%	100%	100%	70%	0%	100%	50%	80%	100%	100%	100%	100%	0%	50%	100%	100%	70%	70%	70%	90%	0%	0%	50%		
Maldives	100%	80%	50%	100%	0%	100%	50%	50%	60%	50%	100%	70%	0%	50%	60%	0%	0%	0%	0%	50%	0%	0%	0%		
Marshall Islands	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
Micronesia	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
Mongolia	100%	100%	100%	100%	30%	100%	100%	100%	100%	100%	100%	100%	100%	50%	100%	100%	100%	100%	100%	100%	100%	50%	30%		
Myanmar	100%	100%	100%	100%	0%	100%	0%	100%	30%	100%	100%	70%	0%	50%	50%	100%	100%	100%	100%	100%	0%	0%	100%		
Nauru	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
Nepal	100%	100%	100%	100%	100%	100%	50%	100%	100%	90%	100%	100%	30%	0%	50%	0%	50%	50%	50%	0%	0%	0%	0%		
New Zealand	100%	100%	100%	100%	0%	100%	50%	100%	80%	100%	100%	100%	0%	80%	100%	90%	100%	80%	40%	80%	0%	60%	80%		
Pakistan	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%	100%	70%	70%	100%	100%	80%	100%	60%	100%	80%	50%	50%		
Palau	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	30%	0%	0%	0%		
Papua New Guinea	50%	100%	50%	50%	0%	100%	50%	50%	30%	50%	0%	30%	0%	50%	50%	30%	0%	0%	0%	0%	0%	0%	0%		
Philippines	100%	100%	100%	100%	0%	100%	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	0%	0%	0%	30%	100%	0%	0%		
Republic of Korea	100%	100%	100%	100%	50%	0%	100%	100%	100%	100%	100%	100%	100%	0%	100%	50%	50%	50%	100%	100%	100%	0%	0%		
Samoa	0%	0%	0%	0%	0%	0%	0%	0%	30%	0%	0%	70%	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	0%		
Singapore	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	0%		
Solomon Islands	0%	0%	0%	0%	0%	0%	0%	0%	30%	0%	0%	70%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
Sri Lanka	100%	100%	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	100%	70%	100%	90%	50%	50%	20%	90%	20%	20%	20%		
Thailand	100%	100%	100%	100%	80%	100%	90%	100%	100%	80%	100%	90%	100%	100%	100%	30%	20%	0%	0%	100%	30%	20%	20%		
Timor Leste	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
Tonga	0%	100%	0%	0%	0%	0%	0%	0%	30%	0%	0%	70%	0%	0%	100%	0%	0%	0%	0%	50%	0%	0%	0%		
Vanuatu	0%	0%	0%	0%	0%	0%	0%	0%	30%	0%	0%	70%	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	0%		
Viet Nam	100%	100%	100%	100%	70%	100%	100%	70%	80%	80%	100%	100%	100%	80%	100%	80%	80%	70%	70%	80%	0%	0%	0%		
USA	100%	100%	100%	90%	70%	100%	100%	100%	100%	100%	100%	70%	70%	50%	100%	100%	0%	80%	60%	90%	80%	90%	70%		
France	0%	100%	0%	0%	0%	0%	0%	0%	80%	0%	0%	100%	0%	0%	100%	100%	0%	0%	0%	80%	0%	0%	10%		
64% 72% 60% 60% 32% 60% 53% 55% 61% 56% 60% 72% 42% 40% 62% 47% 29% 37% 26% 53% 24% 12% 14%																									

## Phase 1

1 Developed policy and enacted primary legislation and supporting regulations for Annex 4 and Annex 15 SARPS, and PANS-AIM Procedures including:

1a establishment of an organizational structure for the safety oversight of aeronautical information service providers;

1b requirements for monitoring of differences from Annex 4 and Annex 15 SARPS;

1c requirements for aeronautical information/data originators;

1d Requirement for AIS quality management systems and processes to be established by all entities in the end-to-end AIS data chain.

2 Ensured National Air Navigation Plans developed in accordance with the Beijing Declaration, and the provisions of the Asia/Pacific Seamless ANS Plan, include the implementation planning for each of the performance expectations of the Regional Plan for Collaborative AIM.

3 Established AIS either as a separate entity within or, ideally, separated from the civil aviation administration in accordance with the guidance provided in ICAO Doc 8126 – AIS Manual Chapter 2 (2.4.1.2 and 2.4.1.3).

4 Developed competency requirements for AIS personnel, including English language proficiency requirements, supported by a program of regular performance assessment.

5 Established regular programs of engagement with all stakeholders.

6 Established quality management processes for aeronautical information under the SARPS in Annex 15.

7 Established formal agreements between AIS providers and aeronautical data originators under the relevant SARPS in Annex 15 specifying the content, quality, maintenance and timing of the provision of aeronautical data that required to be promulgated in AIP, and the application of quality management process.

8 Provided full access to relevant ICAO Annexes and Documents to all personnel having responsibility for the origination, reception, management, publication and/or distribution of aeronautical information and aeronautical data.

9 Ensured full compliance of all aeronautical products with common reference systems in accordance with the relevant SARPS and procedures in Annex 15 and PANS-AIM: WGS-84, MSL/EGM-96 and UTC

## Phase 2

10 Adapted policy, primary legislation and supporting regulations for Annex 4, Annex 15 SARPS and PANS AIM to support transition to AIM: implementation of digital databases of aeronautical information and production of electronic AIP and other Aeronautical Information Products.

11 Adapted training, competency and performance assessment of AIS personnel the establishment and maintenance of digital databases and generation of data sets of aeronautical information, quality management systems, and electronic AIP.

12 Implemented and maintained quality management systems encompassing all functions of an AIS.

13 Established and maintained digital databases of aeronautical information (PANS-AIM Appendix 1)

14 Managed terrain, obstacle and aerodrome mapping data through the establishment of:

14a a terrain database, from which terrain data sets conforming with Annex 15 Section 5.3.3.3 may be generated;

14b an obstacle database, from which obstacle data sets conforming with Annex 15 Section 5.3.3.4 may be generated; and

14c an aerodrome mapping database, from which aerodrome mapping data sets conforming with Annex 15 Section 5.3.4 may be generated.

15 Implemented internet-accessible electronic AIP generated from a digital database of aeronautical information.

## Phase 3

16 Adapted policy, primary legislation and supporting regulations for Annex 4 and Annex 15 SARPS, and PANS AIM procedures to support the automated exchange of aeronautical data in a SWIM environment: Interoperability with meteorological products, Communications networks for the exchange of aeronautical data and Electronic aeronautical charts.

17 Adapted training, competency development and performance assessment of AIS personnel to support the automated exchange of aeronautical data in a SWIM environment, and the generation of electronic aeronautical charts.

18 Exchanged digital data sets of aeronautical information in a SWIM environment, aligned with ASBU DAIM-BZ/1, provided Aeronautical Information briefing with integrated meteorological information and Electronic aeronautical charts.

Color Code:

Green - Increased implementation

Red - Decreased implementation

Dark Blue - No Change

**TABLE AIM II-1 - RESPONSIBILITY FOR THE PROVISION OF AIS/AIM FACILITIES AND SERVICES IN THE ASIA AND PACIFIC REGIONS**

*Note: To be completed*

EXPLANATION OF THE TABLE

Column:

1. Name of the State or territory
2. Designated international NOTAM Office (NOF)
3. Designated State for AIP production
4. Designated State for aeronautical charts (MAP) production
5. Designated State for the provision of the authoritative Integrated Aeronautical Information Database (IAID)
6. Designated State for the provision of pre-flight information services
7. Remarks — additional information, as appropriate.

State	NOF	AIP	MAP	IAID	Pre-flight briefing	Remarks
1	2	3	4	5	6	7
Afghanistan						
Australia	Sydney Melbourne	Australia	Australia	Australia	Australia	
Bangladesh	Dhaka					
Bhutan	Paro					
Brunei Darussalam						
Cambodia	Phnom Penh Siem Reap	Cambodia	Cambodia	Cambodia	Cambodia	
China	Beijing					
Hong Kong, China	Hong Kong	Hong Kong	Hong Kong	Hong Kong	Hong Kong	
Macao, China	Macao	Macao	Macao	Macao	Macao	
Cook Islands						
Democratic People's Rep. of Korea	Pyongyang					
Fiji	Nadi					
French Polynesia	Tahiti					
India	Chennai Delhi Kolkata Mumbai	India	India	India	India	
Indonesia	Jakarta	Indonesia	Indonesia	Indonesia		
Japan	Tokyo					
Kiribati						
Lao Peoples' Democratic Republic	Vientiane					
Malaysia	Kota Kinabalu Kuala Lumpur	Malaysia	Malaysia	Malaysia	Malaysia	
Maldives	Male					
Marshall Islands						
Micronesia (Federated States of)						
Mongolia	Ulaanbaatar	Mongolia	Mongolia	Mongolia	Mongolia	
Myanmar						
Nauru	Nauru					
Nepal	Kathmandu					
New Caledonia						
New Zealand	Apia Christchurch Rarotonga Tonga American Samoa					

Pakistan	Karachi	Pakistan	Pakistan	Pakistan	Pakistan	
Palau						
Papua New Guinea	Port Moresby					
Philippines	Manila	Philippines	Philippines	Philippines	Philippines	
Republic of Korea	Incheon	Republic of Korea	Republic of Korea	Republic of Korea	Republic of Korea	
Samoa						
Singapore	Singapore	Singapore	Singapore	Singapore	Singapore	
Solomon Islands	Honiara					
Sri Lanka	Colombo	Sri Lanka	Sri Lanka	Sri Lanka	Sri Lanka	
Thailand	Bangkok	Thailand	Thailand	Thailand	Thailand	
Timor-Leste						
Tonga						
United States of America						
Vanuatu	Port Vila					
Viet Nam	<del>Ho Chi Minh</del> Ha Noi	Viet Nam	Viet Nam	Viet Nam	Viet Nam	



**TABLE AIM II-2 - PRODUCTION RESPONSIBILITY FOR SHEETS OF THE WORLD  
AERONAUTICAL CHART - ICAO 1:1 000 000 OR AERONAUTICAL CHART — ICAO 1: 500 000**

EXPLANATION OF THE TABLE

Column:

1. Name of the State accepting production responsibility.
2. World Aeronautical Chart — ICAO 1:1 000 000/Aeronautical Chart — 1: 500 000 sheet number(s) for which production responsibility is accepted.
3. Remarks.

*Note — In those instances where the production responsibility for certain sheets has been accepted by more than one State, these States by mutual agreement should define limits of responsibility for those sheets. This should be reflected in the Remarks column.*

State	Sheet number(s)	Remarks
1	2	3
Afghanistan	2336, 2337, 2430, 2431, 2442	
Australia	3097, 3098, 3099, 3103, 3108, 3109, 3110, 3111, 3112, 3164, 3219, 3220, 3221, 3222, 3223, 3229, 3230, 3231, 3232, 3233, 3234, 3235, 3340, 3341, 3342, 3343, 3344, 3345, 3346, 3351, 3352, 3353, 3354, 3355, 3356, 3357, 3358, 3359, 3456, 3457, 3458, 3459, 3461, 3462, 3469, 3470, 3556	
Solomon Islands	2990, 3094	
Bangladesh	2557	
Bhutan		
Brunei Darussalam		
Cambodia	2738, 2739, 2799	
China		
Hong Kong, China	NIL	
Macao, China	NIL	
Cook Islands		
Democratic People's Rep. of Korea		
Fiji		
French Polynesia		
India	2432, 2439, 2440, 2551, 2552, 2553, 2554, 2558, 2559, 2560, 2561, 2673, 2674, 2675, 2679, 2681, 2682, 2795, 2796, 2798, 2801, 2673, 2795, 2796, 2552, 2439, 2681, 2675, 2558, 2559, 2440, 2801, 2554, 2674, 2551, 2553, 2561, 2560, 2679, 2682, 2798	With western sheet edge extended to meridian 71 E  With western sheet edge extended to meridian 71 E Excluding Sri Lanka
Indonesia	2800, 2862, 2863, 2864, 2920, 2921, 2975, 2976, 2977, 2978, 2979, 2980, 2981, 2982, 2983, 2984, 2985, 2986, 3100, 3101, 3102	
Japan	2281, 2292, 2378, 2379, 2387, 2388, 2389, 2489, 2491, 2500, 2502, 2504	
Kiribati		
Lao Peoples' Democratic Republic	2616  2617	Lao PDR to cover its own territory  Lao PDR to cover its own territory and Viet Nam to cover Ho Chi Minh
Malaysia	2858, 2859, 2861	1. WAC 2858 - NORTH NATUNA ISLAND 2. WAC 2859 - PENANG ISLAND 3. WAC 2861 - CAPE SIRIK

Maldives		
Marshall Islands		
Micronesia (Federated States of)		
Mongolia	2240, 2241, 2201, 2202, 2242, 2286, 2285, 2284, 2331, 2287, 2288	
Myanmar	2555, 2556, 2676	
Nauru		
Nepal	2438	
New Caledonia		
New Zealand	3474, 3553	
Pakistan	2441, 2549, 2550	
Palau		
Papua New Guinea	2972, 2973, 2974, 2987, 2988, 2989, 3095, 3096	
Philippines	2620, 2735, 2741, 2742, 2855, 2856	
Republic of Korea	2380 2379 2387	Republic of Korea to cover Incheon FIR Republic of Korea to cover Incheon FIR
Samoa		
Singapore	2860	
Sri Lanka	2803 2796	With sheet lines extended to include the whole of Sri Lanka Excluding India
Thailand	2677, 2678, 2799	
Timor-Leste		
Tonga		
Vanuatu		
Viet Nam	2615, 2616, 2617, 2618, 2737, 2738, 2739	Lao PDR to cover its own territory and Viet Nam to cover Ho Chi Minh FIR Each sheet covers only Viet Nam's FIRs.