



ICAO

International Civil Aviation Organization

The First Meeting of the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG/1)

Video Teleconference, 28 March – 01 April 2022

Agenda Item 5: Implementation of CNS/ATM Systems

AIS – AIM Update

(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 Sixteenth Meeting of the ICAO Aeronautical Information Services – Aeronautical Information Management Implementation Task Force.

1. INTRODUCTION

1.1 The Sixteenth Meeting of the ICAO Aeronautical Information Services (AIS) – Aeronautical Information Management (AIM) Implementation Task Force (AAITF/16) was held by Video Teleconference (VTC) from 07 to 11 June 2021. A total of 211 participants were registered for the AAITF/16 VTC, from Afghanistan, Australia, Bangladesh, Bhutan, Cambodia, China, Hong Kong China, Macao China, Fiji, India, Indonesia, Japan, Lao PDR, Malaysia, Maldives, Mongolia, Myanmar, Nepal, New Zealand, Pakistan, Papua New Guinea, Philippines, Republic of Korea, Samoa, Singapore, Sri Lanka, Thailand, United States, Viet Nam, IATA, IFAIMA, IFALPA, Industry Partners and ICAO.

1.2 20 Working Papers (WPs), 13 Information Papers (IPs) and four presentations were presented to AAITF/16.

1.3 AAITF/16 formed one Draft Conclusion which was subsequently adopted by the Ninth Meeting of the Air Traffic Management Sub-Group of APANPIRG (ATM/SG/9, Video Teleconference, 01 to 05 September 2021).

1.4 The full report of the AAITF/16 meeting is available on the ICAO Asia/Pacific (APAC) Regional Office web-page at <https://www.icao.int/APAC/Meetings/Pages/2021-AAITF-16.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/31 were provided for review and update by the meeting.

2.2 There were three AIS/AIM-related deficiencies in the list agreed by APANPIRG/31:

- WGS-84 not implemented (10 States);
- AIP Format (2 States); and

- Quality Management System not implemented (20 States).

2.3 No new deficiencies had been added since APANPIRG/31, and no other States had provided evidence of compliance sufficient to warrant the removal of a recorded deficiency. 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.

2.4 The meeting was informed that, where States have completed the work necessary to rectify any deficiency, it may be removed from the deficiency list provided it is supported by adequate evidence for assessment by the appropriate technical body. In regard to deficiencies recorded against failure to implement QMS for AIS, the criteria used by the Regional Office to determine whether an AIS QMS deficiency may be recommended for deletion are provided in **Attachment A**.

2.5 The List of Deficiencies as reviewed by the AAITF/16 meeting was subsequently agreed by APANPIRG/32 (December 2021).

Supporting Improvements in Aeronautical Information

2.6 The AAITF/16 meeting was presented with observations and recommendations from the perspective IATA and member airlines for consideration to improve overall delivery of aeronautical information.

2.7 Discussion included consolidation and reduction of ‘old’ NOTAMs, compliance with NOTAM formats, standardized and consistent NOTAM content, change processes for aeronautical information products, aerodrome information, NOTAM Q Codes, timing of NOTAMs, geographical coverage of NOTAMs, and the frequent cancellation/re-issue of NOTAMs. Other topics for discussion were the online availability of aeronautical information, the provision of updated and correct contact details in Aeronautical Information Publication (AIP) Section GEN, and ensuring the points of contact were staffed and available as notified in the AIP.

2.8 It was noted that IATA had presented a list of ongoing concerns that were also reflected in the ICAO Asia/Pacific Webinar on NOTAM Proliferation that had preceded the AAITF/16 meeting, and included very good recommendations that all Administrations should take into account to improve the quality of aeronautical information.

Regional Implementation Status of AIM Performance Expectations

2.9 The meeting was informed of the reported implementation status of AIM performance expectations. *Conclusion ATM/SG/7-16: Amendment to the Regional Plan for Collaborative AIM* referred. It was noted that in the lead-up to AAITF/16 three Administrations had submitted reports using the discontinued AIM Transition Table (since 2019).

2.10 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.

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

Brunei Darussalam, Marshall Islands, Micronesia and Nauru.

2.12 The following 18 Administrations reported their implementation status in 2021:

Australia, Bangladesh, Bhutan, China, Hong Kong China, Macao China, Fiji, India, Indonesia, Japan, Mongolia, Nepal, Pakistan, Republic of Korea, Singapore, Thailand, Viet Nam and United States.

2.13 Indonesia and Viet Nam have provided their 2022 implementation status updates.

2.14 The latest update of regional implementation status of the AIM performance expectations, is provided at **Attachment B**. The total number of Administrations providing reports in 2020 (12) and 2021 compared poorly with the 26 Administrations that reported in time for AAITF/14 in 2019 – itself a less than satisfactory response rate.

2.15 Japan and Singapore 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.

Note: Following the consolidation of AIM Transition Table steps and Regional AIM Capability elements in the amended Regional Plan for Collaborative AIM, agreed by AAITF/14 and approved by ATM/SG/7, there were now 12 Phase I, eight Phase II and three Phase III Regional AIM capability elements listed in the Regional AIM Plan Monitoring and Reporting Form.

2.16 **Figures 1 and 2** illustrate overall regional implementation of Phase I and II elements of the Regional Plan for Collaborative AIM; approximately 54% (50% in 2020) for Phase I, and 39% (37% in 2020) for Phase II. Combined progress towards implementation of Phases I and II 48%

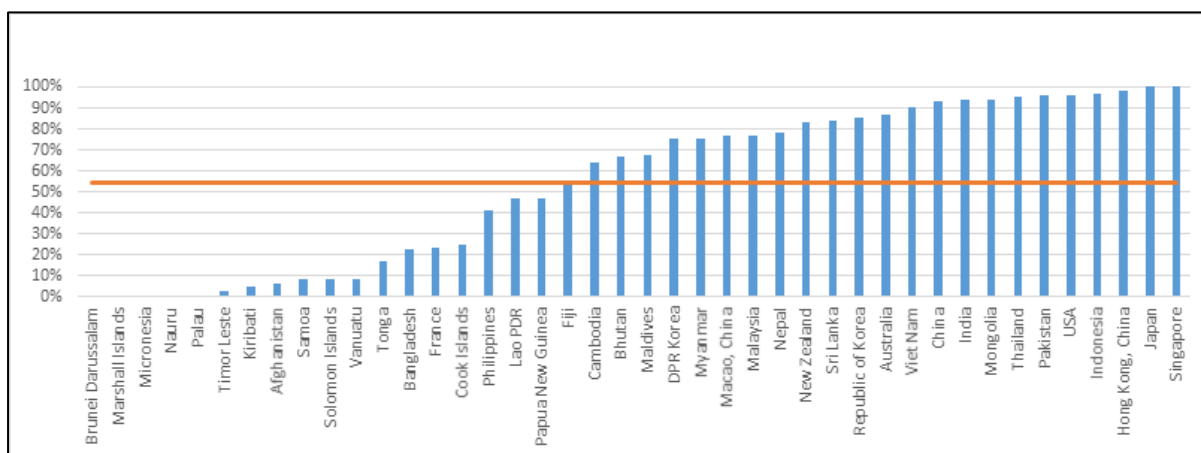


Figure 1: Regional Phase I Implementation Progress (updated on 21 March, 2022)

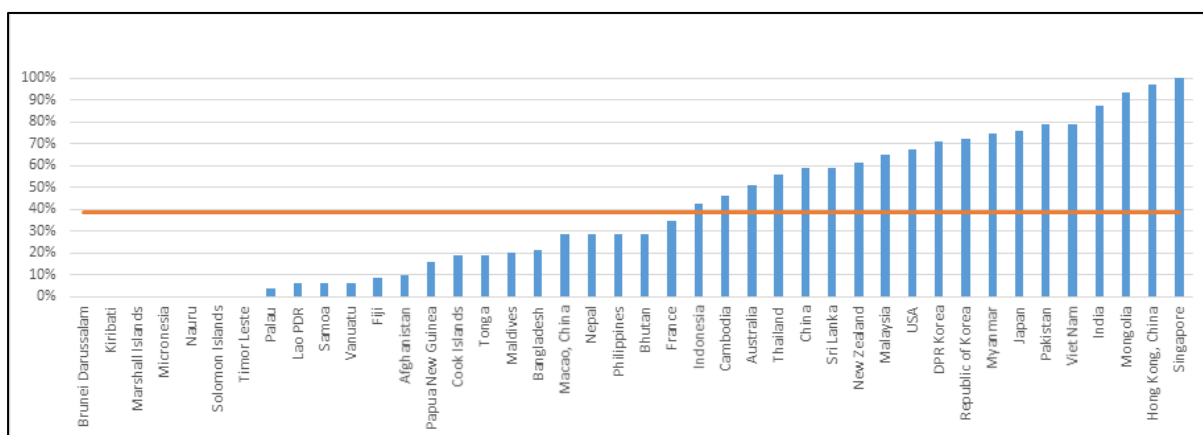


Figure 2: Regional Phase II Implementation Progress (updated on 21 March 2022)

2.17 Regional implementation of Phase III elements, expected to be implemented by 2025, was approximately 12%. (10% in 2020)

2.18 In response to a comment on the difficulty of reaching 100% establishment of formal agreements between the AIS and all data originators (Item 7 of the Regional AIM Implementation Status Reporting form) when there were, for instance, new aerodromes being established quite often, the Secretariat informed the AAITF/16 meeting that the ICAO expectation was that, also using the example of new aerodromes, the State regulatory authority would require that formal agreement between the aerodrome operator and the AIS must be established before certification of the aerodrome was awarded. This was supported by the provisions of Annex 14 *Aerodrome Design and Operations* section 2.13

2.19 In relation to the difficulty of establishing formal agreements with military authorities, the AAITF/16 meeting was informed that ICAO Doc 10088 – *Manual on Civil-Military Cooperation in Air Traffic Management*, included this matter in section 5.4.5, which stated inter alia that States should integrate civil and military AIS.

NOTAM Proliferation Analysis

2.20 IFAIMA, in collaboration with the Secretariat, provided AAITF/16 information about, and a regional analysis of, NOTAM proliferation, which had been the subject of AAITF/13 and ATM/SG/6 discussion in 2018 (*Conclusion ATM/SG/6-14: Management of NOTAMs.*).

2.21 Figures 3 and 4 illustrate APAC NOTAM statistics since June 2020, updated for SAIIOSEACG/1. At 01 February 2022, a total of 6070 NOTAMs were active in the APAC Region. 301 (5%) of these were ‘old’ (i.e. more than 90 days old), and 673 (11.1%) were ‘very old’ (more than 12 months old).

Trend Analysis by Region

Select a region, or click **WORLD** for all:

WORLD APAC ESAF EUR/NAT MID NACC SAM WACAF

Total NOTAM

6070

Old NOTAM

301 (5%)

Very Old NOTAM

673 (11.1%)

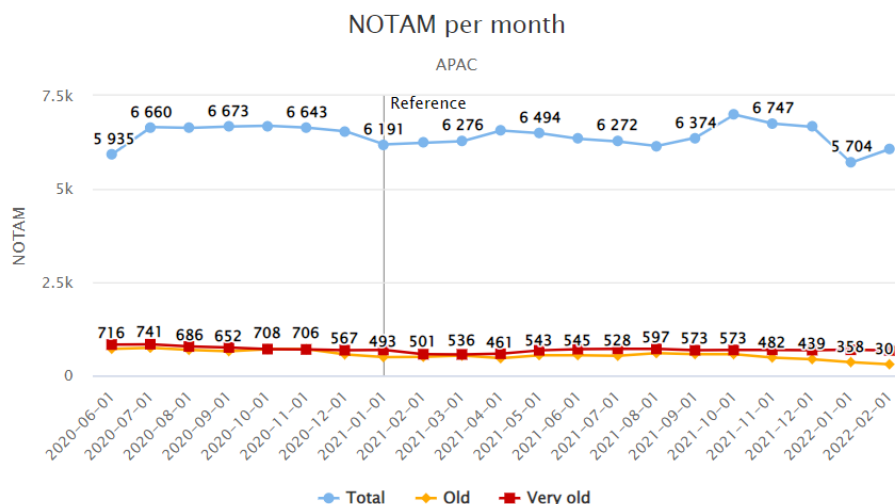


Figure 3: APAC NOTAM Statistics (Total, old and very old) – 01 February 2022

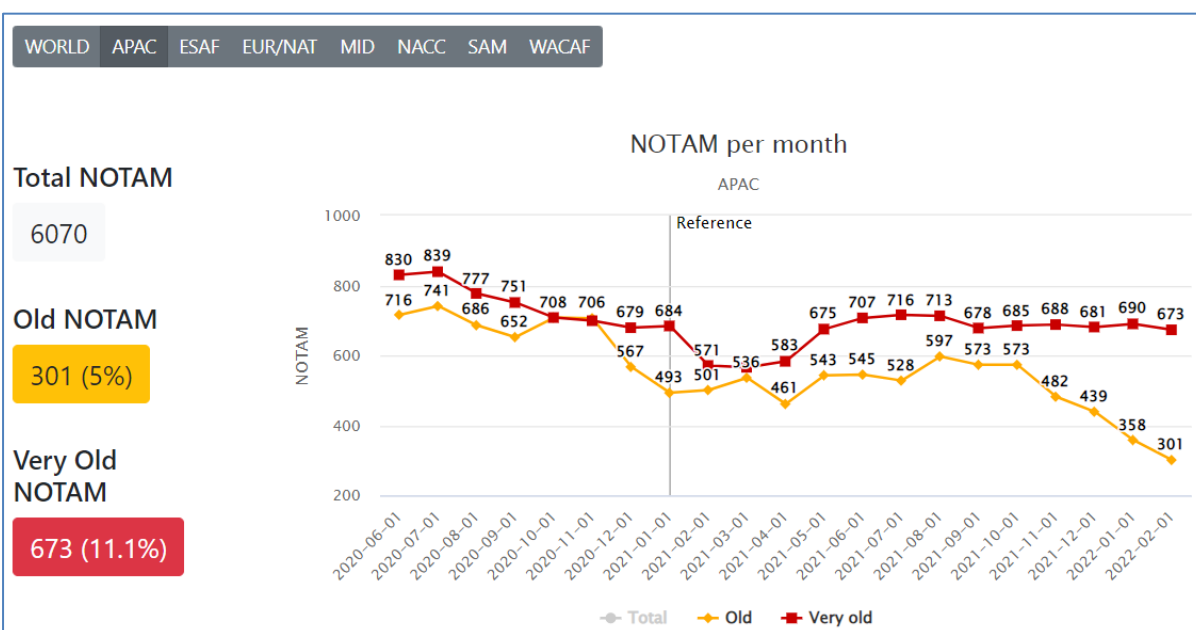


Figure 4: APAC NOTAM Statistics (old and very old) – 01 February 2022

2.22 While there has been a general downward trend in old and very old NOTAMs in 2020 and early 2021, there has also been a significant increase in the numbers since reaching their lowest point in March-April 2021. The number of very old NOTAMs has remained at the elevated levels of mid-2021, while there has been a general decline in the number of old NOTAMs since October 2021.

2.23 Detailed statistical data for Asia/Pacific Administrations was provided to AAITF/16. **Table 1** lists the 10 top NOTAM-promulgating APAC Administrations, updated at 01 February 2022

	Administrations	Total NOTAM	Old NOTAM	Very Old NOTAM	Percent of old and very old NOTAM
1	Japan	1170	19	3	1.8%
2	India	995	65	391	45.8%
3	China	883	93	36	14.6%
4	Australia	464	26	3	6.25%
5	Philippines	430	45	52	22.5%
6	Singapore	428	0	0	0%
7	Republic of Korea	405	0	0	0%
8	Malaysia	305	10	1	3.6%
9	Indonesia	193	0	84	43.5%
10	Thailand	106	2	8	9.4%
		5379	260	578	15.5%

Table 1: Top 10 NOTAM-promulgating Administrations – 01 February 2022

2.24 **Table 2** lists the 10 poorest-performing Administrations responsible for the promulgation of 92.6% in total of old and very old NOTAMs in the APAC Region.

No	Administrations	Total NOTAM	Old NOTAM	Very Old NOTAM	Percent of old and very old NOTAM
1	India	995	65	391	45.8%
2	China	883	93	36	14.6%
3	Philippines	430	45	52	22.5%
4	Indonesia	193	0	84	43.5%
5	Lao PDR	40	0	34	85%
6	Australia	464	26	3	6.25%
7	Nauru	29	5	24	100%
8	Japan	1170	19	3	1.8%
9	Papua New Guinea	90	11	9	22.2%
10	Malaysia	305	10	1	3.6%
		4599	274	637	19.8%

Table 2: Top 10 Poorest Performing Administrations – Old and Very Old NOTAM – 01 February 2022

2.25 Both the ICAO NOTAMeter and the Regional NOTAM Analysis use the USA’s FAA Defense Internet NOTAM Service (DINS, www.notams.faa.gov) as the primary source of NOTAM information.

2.26 It has been noted that in a very small number of cases the NOTAMs held in the DINS may no longer be current. Invalid NOTAMs could be retained in databases such as DINS due to a range of reasons, including inconsistent distribution of NOTAMR, NOTAMC and NOTAM Checklists, and connection problems.

2.27 At the AAITF/16 meeting USA recommended all States conduct periodic audits comparing internal system data with external NOTAM repositories including DINS. This would assure accurate data and improve system integrity. Discrepancies should be reported to the repository managers for specific NOTAM inclusion or deletion as appropriate and to support system improvements. DINS managers welcomed the routine receipt of NOTAM summaries to support internal data audits.

2.28 It is important to note that the DINS is the best available resource for tracking global and regional NOTAM performance, and while there may be some anomalies identified in the data, it still provides a valuable guide to assist ICAO regions and AIS providers to improve the NOTAM service.

2.29 The correct Aeronautical Fixed Telecommunications Network (AFTN) addresses for addressing NOTAMs to DINS are:

KDZZNAXX KDZNAYY KDZZNAZN KDCAYXYX KDCAYNYX

ICAO Activities Related to NOTAM Proliferation

2.30 The ICAO Global Campaign on NOTAM Improvement (NOTAM2021) was launched on 08 April 2021. Phase 1 of the campaign was focused on the elimination of old NOTAMs. The next webinar in the campaign was scheduled for 16 June 2021. Further details were available on the Campaign website at:

<https://www.icao.int/airnavigation/information-management/Pages/GlobalNOTAMcampaign.aspx>

2.31 There has been previous AAITF discussion of NOTAM proliferation. AAITF and ATM/SG have been informed of ICAO Regional Office planned analysis and action regarding the incorrect use of NOTAM which contributed not only to NOTAM proliferation but also to safety risks:

- ‘Bad’ NOTAMs promulgating information that Annex 15 Standards require to be promulgated by AIP Amendment under the Aeronautical Information Regulation and Control (AIRAC) system;
- Unnecessary NOTAMs promulgating information that should not be promulgated in operational information (i.e. administrative or other non-operational matters); and
- ‘Recycled’ NOTAMs of three months’ duration that are replaced more than once by another identical NOTAM of three months’ further duration to ‘work around’ PANS-AIM 6.1.4 provisions.

Asia/Pacific Region ICARD Status and 5LNC Duplicate Resolution

2.32 The ICAO International Codes and Route Designators (ICARD) application is the sole repository of five-letter name-codes (5LNCs) marking significant points (e.g. waypoints on ATS routes or instrument flight procedures) and is the only means through which States may meet the requirements of Annex 11 for global uniqueness and pronounceability, and for sourcing new 5LNCs to resolve duplicates.

2.33 In all cases where any personnel of a State Regulator or Air Navigation Service Provider are responsible for the allocation of 5LNC for ATS routes, Standard Instrument Departures (SIDs), Standard Terminal Arrival Routes (STARS) or Instrument Approach and Landing (IAL, including RNAV/RNP approaches), at least one person, and preferably two, must be registered as an ICARD_5LNC_PLANNER to ensure compliance with Annex 11 requirements.

2.34 Several APAC Region Administrations do not have any registered ICARD_5LNC_PLANNER. If these Administrations allocate 5LNC outside the ICARD system they are not compliant with the requirements of Annex 11.

2.35 ICAO Headquarters 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.

2.36 The Regional Office had presented a State 5LNC status report for each Administration to the AAITF/15 meeting in 2020 and AAITF/16 in (**AAITF/16 WP/9 Attachment B**). The reports summarized the number and purpose of 5LNC registered in ICARD, and the number and status of duplicated 5LNC published in each Administration's AIP, and full lists of duplicated 5LNC published by the Administration, arranged according to whether or not that Administration had priority to retain the 5LNC.

2.37 Due to the limited information on of actions taken to resolve duplicates, the 5LNC Status reports may not contain the most recent information. In order to improve the process and tracking of duplicate resolution, APAC Administrations were requested at AAITF/15 to review and maintain their status reports, and send an update to the ICAO Regional Office at least once per year. MS Excel versions of the 5LNC Status reports were available.

2.38 Only one report has been received by the ICAO Regional Office. All participant Administrations are requested to use the status reports and report to the Regional Office to assist in the tracking of 5LNC registration and duplicate resolution.

2.39 There are many 5LNCs published in AIPs that have not been registered in ICARD, and this matter has been a subject of discussion at multiple meetings of AAITF, ATM/SG and APANPIRG. All Administrations are requested to ensure that action is taken to register 5LNCs in ICARD, including the replacement of 5LNCs that do not meet Annex 11 requirements.

2.40 It is also important to ensure that the AIS is represented among nominated ICARD_5LNC_Planners, in addition to any personnel from airspace and procedure design units.

SNOWTAM Applicability and Guidance

2.41 SNOWTAM now include all elements of runway condition reported under the Global Reporting Format (GRF) for runway surface condition reporting. ICAO State Letter 2020/73 dated 30/07/2020 notified ICAO Member States that the ICAO Council had, on 19 June 2020 adopted amendments on the postponement of the applicability date, from 05 November 2020 to 04 November 2021, for provisions related to the enhanced GRF for assessing and reporting runway surface conditions as contained in Annexes 3, 6, 8, 14 and 15, and in PANS-ATM, PANS-Aerodromes, and PANS-AIM.

2.42 The 2021 update of the Asia/Pacific Operating Procedures for AIS Dynamic Data (OPADD) included provisions for the use of SNOWTAM to report runway surface conditions reported under the new GRF. However, the existing APAC Regional Guidance on the Issuance of SNOWTAM provides considerably more background information and guidance than the OPADD, and has therefore been retained pending a review of all APAC AIM guidance documents.

Proposal for the Amendment of the Asia/Pacific OPADD

2.43 At AAITF/16 Japan presented the update of the OPADD for the Asia/Pacific Region, based on the EUROCONTROL OPADD Edition 4.1, which had been updated on 07 December 2020 in response to changed ICAO provisions regarding the Aeronautical Information Service, especially related to the implementation of the GRF and revised SNOWTAM format. Some omissions had been corrected and editorial improvements had also been made.

2.44 AAITF/16 drafted the following Conclusion, which was subsequently adopted by ATM/SG/9:

Conclusion ATM/SG/9-5: Update Asia/Pacific OPADD

That,

- 1. the EUROCONTROL Operating Procedures for AIS Dynamic Data (OPADD) Edition 4.1 at ATM/SG/9 WP/34 Attachment C be adopted as the OPADD for the Asia/Pacific Region and uploaded to the Asia/Pacific Regional Office website;*
- 2. the Asia/Pacific OPADD Edition 4.0 in Chapter 3 of the Guidance Manual for Aeronautical Information Services in the Asia/Pacific Region be replaced by an updated preface and a hyperlink to the uploaded document; and*
- 3. States utilize the EUROCONTROL OPADD Edition 4.1 referenced in Chapter 3 of the Guidance Manual to update NOTAM systems and procedures.*

Update on the Progress Made by the SWG on Guidance for Postponement of Aeronautical Information Distributed under the AIRAC System

2.45 The AAITF/16 meeting was informed of progress made in the development of guidance for the postponement of aeronautical information distributed under the AIRAC system, by the Small Working Group (SWG) formed by AAITF for this work.

2.46 Regional guidance is being developed in the spirit of providing a standardised procedure for States/Administrations in the region to manage last-minute postponement of aeronautical information distributed under the AIRAC system due to unforeseen, extenuating circumstances encountered by the Data Originator. However, it is important to note that it is not meant to give States/Administrations a back-door to avoid adherence to the AIRAC system.

2.47 The Secretariat acknowledges the efforts of Singapore in assigning a team of AIS experts for this work, including the SWG rapporteur.

Review of GEN 0.3 – Record of AIP Supplements

2.48 Singapore invited the AAITF/16 meeting to discuss the interpretation of the content to be published in AIP GEN 0.3.

2.49 The current specification in PANS-AIM Appendix 2 requires that AIP GEN 0.3 includes a record of AIP Supplements. However, there are several possible interpretations of how this requirement should be carried out. ICAO Headquarters provisionally agreed to the proposition that the ICAO provisions for AIP GEN 0.3 should be revised, on the grounds that the AIP was meant to provide up-to-date aeronautical information, not an archive of old information. Singapore subsequently submitted a working paper on the topic to IMP/WG-A.

<https://www.icao.int/APAC/Pages/eDocs.aspx>.

Coordination of Ballistic Launch and Space Re-Entry Activities

2.51 Indonesia provided information to AAITF/16 on the poor coordination of ballistic launch activities that affected several Flight Information Regions (FIRs), and reviewed the necessary arrangements that needed to be followed by the launching State to avoid safety hazards and minimize the impact on flight operations.

2.52 The Secretariat reminded the meeting that this problem had been discussed multiple times at various Asia/Pacific forums, including AAITF, ATM/SG and APANPIRG, over several years.

Amendment 1 to PANS-AIM

2.53 The Secretariat reminded AAITF/16 of the ICAO State Letter AN2/33.1 20/26 dated 08 June 2020, which introduced Amendment 1 to PANS-AIM, for applicability on 04 November 2021, for elements concerning ATS route classification, GBAS Cat II and CAT III Criteria, visual segment surface (VSS) and folding wing tips (FWT), and 28 November 2024 for pavement classification rating (PCR).

2.54 The State Letter included an implementation task list and outline of guidance material, an impact assessment, together with the amendments to the PANS-AIM document.

2.55 States were reminded of the requirement to publish in AIP any significant differences that would exist on 04 November 2021 and 28 November 2024, as relevant, between the amended provisions of PANS-AIM and national regulations and practices. The meeting was invited to ensure the AIS had included the amendments to PANS-AIM in their AIP Amendment planning.

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 need identified by IATA for improvement in NOTAMs, the online availability of AIP and the provision of up-to-date contact details in AIP
- c) note the overall poor implementation of the Phase I and II performance expectations of the Regional Plan for Collaborative AIM;
- d) take all necessary steps to eliminate old and very old NOTAMs;
- e) note the ongoing need for resolution of duplicated 5-letter name codes, and for ICARD registration of all 5LNCs that are published in AIP;
- f) note the applicability of SNOWTAM for promulgation of runway surface condition information, and the availability of regional guidance; and
- g) discuss any relevant matters as appropriate.

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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), requesting withdrawal of the APANPIRG ANS Deficiency and including the following supporting information:

AIS QM Area	Evidence	Purpose
<p>Quality Management Scope and Process <i>Annex 15 Section 3.6</i> <i>PANS-AIM Chapter 3</i></p>	<p>Provide a copy of:</p> <ol style="list-style-type: none"> 1. the AIS Quality Management Manual; <i>or</i> 2. Other equivalent document or formal procedures detailing: <ul style="list-style-type: none"> • Scope of QMS; and • QM processes; <i>or</i> 3. Other procedure document detailing processes for rectification of non-conformities. 	<ol style="list-style-type: none"> 1. To provide evidence that: <ul style="list-style-type: none"> • formal documentation of the scope of the QMS, and its processes have been developed; and • QMS documentation and processes are formally approved by the accountable authority, and are subject to regular review; and • 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); or 2. To demonstrate the application of quality management processes to the management of non-conformities including detection, reporting, rectification, recording and procedure improvement.
<p>ISO Certification (optional) <i>Annex 15 Section 3.6</i> <i>(Recommendation)</i></p>	<ol style="list-style-type: none"> 4. Provide a copy of the ISO 9001 QMS Certificate (optional) 	<p>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>

<p>Other Critical AIS QM Areas <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>Provide a <u>statement</u> confirming that the State has established:</p> <ol style="list-style-type: none"> 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> 2. Verification and validation procedures which ensure that upon receipt of aeronautical data and aeronautical information, quality requirements are met. 3. Quality check procedures to ensure compliance with product specifications (PANS-AIM Chapter 5). 4. Competency, knowledge, skill and ability criteria for personnel engaged in: <ol style="list-style-type: none"> a. production of aeronautical information products; b. AIS training delivery; and/or c. AIS competency assessment; 5. AIS training and competency assessment plan
<p><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></p>	