INTERNATIONAL CIVIL AVIATION ORGANIZATION

REPORT OF THE COMBINED TENTH MEETING OF THE SOUTH ASIA/INDIAN OCEAN ATM COORDINATION GROUP AND THE TWENTY-SEVENTH MEETING OF THE SOUTH-EAST ASIA ATS COORDINATION GROUP (SAIOACG/10 and SEACG/27)

VIDEO TELECONFERENCE, 29 MARCH – 02 APRIL 2021

The views expressed in this Report should be taken as those of the Meeting and not the Organization

Approved by the Meeting
and published by the ICAO Asia and Pacific Office, Bangkok

CONTENTS

APPENDIXES

INTRODUCTION

Meeting

1.1 The Combined Tenth Meeting of the South Asia/Indian Ocean ATM Coordination Group and Twenty-Seventh Meeting of the South-East Asia ATS Coordination Group (SAIOACG/10 and SEACG/27) was held as a Video Teleconference (VTC), from 29 March to 02 April 2021.

Attendance

2.1 The meeting was attended by 119 participants from Afghanistan, Bangladesh, Cambodia, China, Hong Kong China, India, Indonesia, Malaysia, Myanmar, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, United States, Viet Nam, IATA, IFALPA, IFATCA and ICAO.

2.2 A list of participants is appended at **Appendix A** to this report.

Officers and Regional Office

3.1 Mr. Indra Gunawan, Deputy Director of Air Navigation Operation, Directorate of Air Navigation, Directorate General of Civil Aviation Indonesia presided over the meeting throughout its duration as Chair of SAIOACG and SEACG.

3.2 Mr. Mior Adli Bin Mior Sallehhuddin, Regional Officer Air Traffic Management (ATM) and Ms. Sunok Lee, Regional Officer ATM, ICAO Asia and Pacific Regional Sub-Office were the Secretaries for the meeting. They were assisted by Mr. Len Wicks, Regional Officer ATM/Search and Rescue (SAR), Mr. Shane Sumner, Regional Officer ATM/Aeronautical Information Management (AIM), and Mr. Chew Han Chee, Associate ATM Officer, ICAO Regional Office.

Opening of the Meeting

4.1 Mr. Indra Gunawan welcomed participants to the meeting.

4.2 On behalf of Mr. Manjit Singh, Acting Regional Director of ICAO Asia and Pacific Office, Mr. Mior Adli Bin Mior Sallehhuddin also welcomed participants to the meeting.

Documentation and Working Language

5.1 The working language of the meeting and all documentation was English. There were 26 Working Papers (WP), four Information Papers (IP) and eight presentations were considered by the meeting.

5.2 A list of papers is included at **Appendix B** to this report.

Draft Conclusions, Draft Decisions and Decisions of SAIOACG and SEACG − Definition

6.1 SAIOACG and SEACG recorded their actions in the form of Draft Conclusions, Draft Decisions and Decisions within the following definitions:

a) **Draft Conclusions** deal with matters that, according to APANPIRG terms of reference, require the attention of States, or action by the ICAO in accordance with established procedures;

b) **Draft Decisions** deal with the matters of concern only to APANPIRG and its contributory bodies; and

c) **Decisions** of SAIOACG and/or SEACG that related solely to matters dealing with the internal working arrangements of these bodies.

List of Decisions and Draft Conclusions/Decisions

7.1 List of Draft Conclusions/Draft Decisions

<table>
<tr><td colspan="3">Draft Conclusion SAIOACG/10 and SEACG/27-1: Implementation of Efficient ATS Horizontal Separations and Transfer of Control Aircraft Spacing</td></tr>
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a) States/Administrations are strongly urged to review and update their National Air Navigation Plans (NANPs) to ensure that Air Navigation Service Providers (ANSPs) fully implement the horizontal separation and aircraft spacing elements in the Asia/Pacific Seamless ANS Plan V3.0; and
b) ICAO considers the need for seminars, workshops and other educational material to support this implementation.</td><td>Expected impact:
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<tr><td>When: 15-Oct-21</td><td colspan="2">Status: Draft to be adopted by Subgroup</td></tr>
<tr><td colspan="3">Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☒Other: RSO</td></tr>
</table>

<table>
<tr><td colspan="3">Draft Decision SAIOACG/10 and SEACG/27-2: Combining SAIOACG and SEACG Groups</td></tr>
<tr><td colspan="2">What: That, noting the:
1. large cross-over in work between the SAIOACG and SEACG, with about 90% of the papers being developed by the Secretariat and virtually the same content; and
2. resource challenge to States/Administrations in terms of participant’s travel and attendance costs attending two separate meetings;
the Secretariat develops a consolidated Term of Reference for ATM/SG consideration.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: To ensure future meetings are conducted more effectively and economically.</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
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</table>

7.2 List of Decisions

Nil

REPORT ON AGENDA ITEMS

Agenda Item 1: Adoption of Agenda

Election of Chairperson

1.1 Mr. Ibrahim Toha, General Manager, Air Traffic Management, Maldives Airports Company Ltd. and Mr. Chhun Sivorn, Director, Air Navigation Standards and Safety Department, State Secretariat of Civil Aviation Cambodia had vacated the Chair of SAIOACG and Chair of SEACG respectively. The meeting acknowledged with gratitude their service to SAIOACG and SEACG.

1.2 Malaysia nominated Mr. Indra Gunawan, Deputy Director of Air Navigation Operation, Directorate of Air Navigation, Directorate General of Civil Aviation Indonesia, to Chair the Meeting. The nomination was seconded by Cambodia, India and Singapore.

1.3 No further nominations were made. Mr. Indra Gunawan was duly elected to the Chair of SAIOACG and SEACG.

Adoption of Agenda (WP01)

1.4 The provisional agenda for the Combined Meeting (WP01) was adopted by the meeting. The List of Papers (IP01) was noted.

Agenda Item 2: Review Outcomes of Related Meetings

Relevant Meeting Outcomes (WP02)

2.1 ICAO presented information relevant to the SAIOACG/10 and SEACG/27 meeting from recent ICAO meetings (not including safety matters under the Regional Airspace Safety Monitoring Advisory Group – RASMAG), including the:

- Eighth Meeting of the APANPIRG Air Traffic Management Sub-Group (ATM/SG/8, held via video teleconference, from 23 to 27 November 2020); and
- Twenty Fourth Meeting of the Communications, Navigation and Surveillance Sub-group of APANPIRG (CNS SG/24, held via video teleconference, from 30 November to 4 December 2020).

2.2 Airspace safety-related meeting outcomes, and those related to Aeronautical Information Management (AIM) and Air Traffic Flow Management (ATFM) were reported to the meeting under separate papers.

2.3 In response to enquiry from Pakistan on the most appropriate Interface Control Document (ICD) for ATS Inter-Facility Data Communication (AIDC) ICAO, after offline coordination, informed the meeting that while both the Asia/Pacific ICD (2007) and *Pan Regional (NAT and APAC) ICD for AIDC* (PAN AIDC ICD, 2014) remained valid documents, the *AIDC Implementation and Operations Guidance Document Edition 1.0* (July 2017) included multiple references to the PAN AIDC ICD, and that therefore this document would be the most appropriate to use.

Agenda Item 3: Review of Current Operations and Problem Areas

Air Navigation Service Deficiencies List (WP03)

3.1 ICAO provided information on the current Air Navigation Deficiencies related to airspace safety and Air Navigation Services (ANS), as approved by the Thirty-First Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/31). APANPIRG Deficiencies had been issued in the following areas:

- Aeronautical Information Management (AIM);
- Airspace Classification;
- Air Traffic Services (ATS) Messages and Flight Planning;
- Search and Rescue (SAR);
- ATS Datalink; and
- Airspace Safety Reporting.

3.2 **Figure 1** provides a graphical indication of the APANPIRG Deficiencies that had been issued for each State.

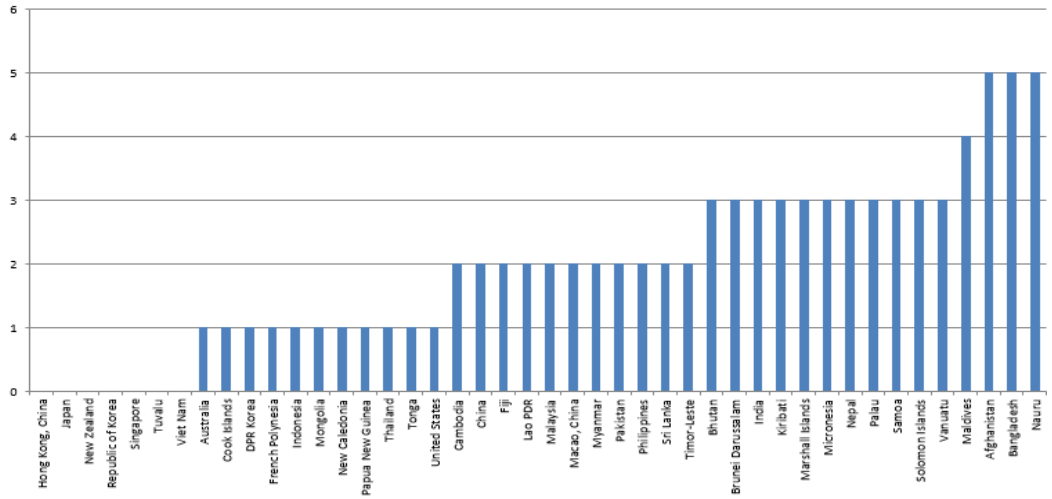

Figure 1: Comparison of State Deficiencies

3.3 Indonesia provided an update on its efforts to rectify the deficiency related to the designation of restricted areas in airspace over the high seas. The relevant authorities in Indonesia had agreed for the concerned restricted areas to be re-designated as danger areas.

Airspace Safety Monitoring (WP04)

3.4 ICAO presented the outcomes relevant to the SAIOACG/10 and SEACG/27 meeting from the Twenty-Fifth Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/25, VTC, 27 – 30 October 2020).

3.5 The meeting noted the outcomes from the Tenth Meeting of the FANS Interoperability Team-Asia (FIT-Asia/10, VTC, 03 – 06 August 2020), reported at RASMAG/25:

- the improvement in the submission of Problem Reports (PRs) that was noted at FIT-Asia/ 9 continued at FIT-Asia/10. A total of 66 PRs had been raised between July 2019 and June 2020, compared with 45 in the previous 12-month period. However, only six States had provided their annual survey response for 2020 reporting to FIT-Asia/10: Australia, China, Philippines, Singapore, Thailand and Viet Nam;
- key analysis of the Required Surveillance Performance (RSP) aggregated data for the APAC Region indicated that performance requirements for RSP180 had not been met for Automatic Dependent Surveillance – Contract (ADS-C) messages delivered via High Frequency (HF), or messages delivered via Iridium and some Inmarsat paths;
- analysis of the Required Communications Performance (RCP) data indicated that requirements for RCP240 had not been met for Controller Pilot Datalink Communications (CPDLC) transactions delivered via High Frequency (HF) and mixed media, for CPDLC transactions delivered via Iridium paths in a few Asia/Pacific Flight Information Regions (FIRs), and also some aircraft operators observed below the RCP240 95% requirements within multiple APAC FIRs; and
- Performance-based Communications and Surveillance (PBCS) non-compliance report templates had been intended for ANSPs to inform the relevant Regional Monitoring Agency (RMA) of aircraft/aircraft operators where data link performance did not comply with specifications. A revised non-compliance report form template was proposed to FIT-Asia/10, and subsequently agreed by RASMAG/25, in order to include additional information, to harmonize with the template already adopted in the North Atlantic (NAT) Region, and to use Microsoft Excel format to facilitate data handling by the RMA.

3.6 WP04 provided the overview of Reduced Vertical Separation Minimum (RVSM) Target Level of Safety (TLS) compliance and the Large Height Deviation (LHD) Hot Spot status in the region.

3.7 **Table 1** provides a summary of the Hot Spots.

ID	Involved FIRs	Identified	Remarks
A1	Kolkata/Chennai/Dhaka – Yangon	2015	Potential non-hot spot
A2	Chennai – Kuala Lumpur	2015	LHDs increased
B	Incheon	2015	AKARA Corridor
D	Manila – all adjacent FIRs	2015	LHDs reduction
F	Mogadishu – Mumbai	2015	LHDs reducing
G	Sana'a/Muscat – Mumbai	2015	Cat. E LHDs (Sana'a improved)
J	Jakarta – Singapore/Kota Kinabalu	2018	Minor, Cat. E LHDs
M	Colombo - Melbourne	2019	Potential non-hot spot
N	Oakland USA – Hawaii CEP	2019	Cat. E LHDs

Table 1: Comparison Summary of LHD Hot Spots

South Asia/Indian Ocean (SAIO) Airspace

3.8 RASMAG/25 had noted that the 2019 RVSM risk estimate for SAIO airspace indicated that the TLS had not been met at **36.78×10^{-9}**. As had been the case in previous years, the vast majority of the 434 LHD cases that had been reported were Category E events, with 411 (95%).

3.9 LHD **Hot Spot F** (Mogadishu – Mumbai) and **Hot Spot G** (Sanaa/Muscat – Mumbai) remained as LHD hot spots. In 2019, the operational risk of this hotspot accounted for **25.65×10^{-9}**, which was 71% of the SAIO area's total risk. The 2019 operational risk in SAIO airspace was dominated by LHDs at Mumbai – Muscat interface. Out of 16 long duration LHDs in SAIO airspace, 12 LHDs occurred at this interface, accounting for 38% of the total operational risk in this subregion.

3.10 The majority of LHDs between Muscat and Mumbai were Category E, with as sub-category of 'No or Late FL Revision' and 'Negative transfer'. The poor communication services and lack of surveillance coverage at this interface worsened the situation, due to the slower identification that led to long-duration occurrences.

Southeast Asia (SEA) Airspace

3.11 The 2019 RVSM risk estimate for SEA airspace indicated that the TLS had been met at 3.59 x 10^{-9}. However, there was an upward trend towards the TLS at the end of 2019. Category E events once again formed the vast majority of occurrences, with 120 out of 145 attributed to this cause (83%).

3.12 Most of the LHDs and operational risk within SEA airspace were associated with **Hot Spot D** (Manila and all adjacent FIRs). From late 2018, the number of LHDs and operational risk in SEA airspace began reducing as the capabilities of the new ATM system were implemented, including enhanced Very High Frequency (VHF) radio, radar and Automatic Dependent Surveillance – Broadcast (ADS-B) coverage, and new Air Traffic Control (ATC) sectors. The ADS-C/CPDLC implementation in oceanic airspace, AIDC implementation with Hong Kong FIR, Singapore FIR and Taipei FIR had commenced as indicated in **Figure 2**.

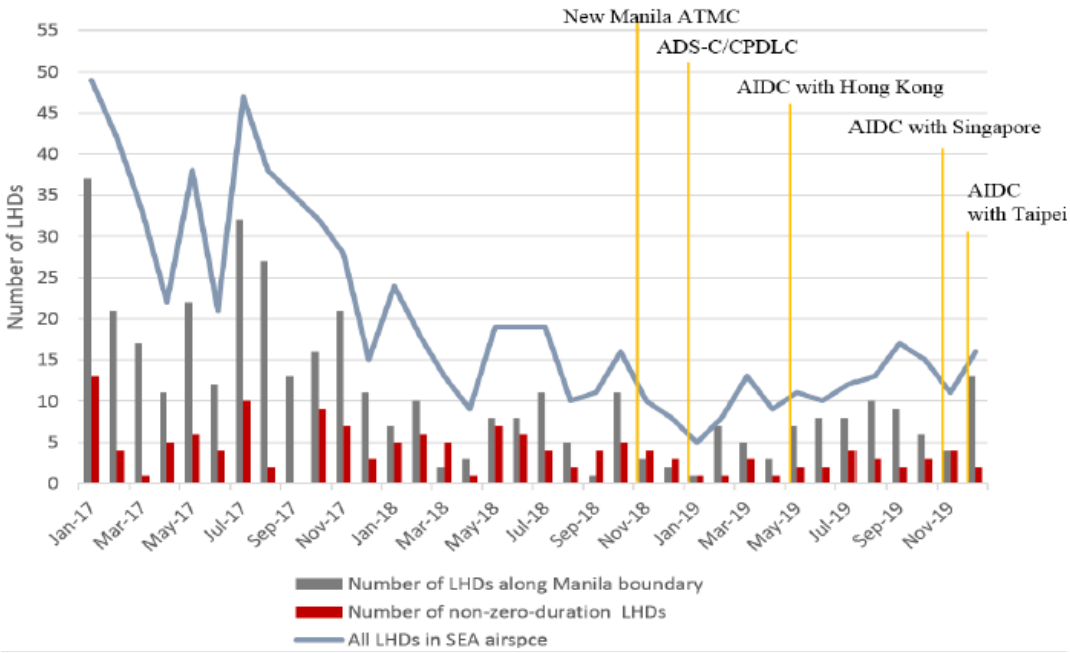

Figure 2: LHDs, Manila FIR Boundary, 2017 – 2019

Call Sign Confusion

3.13 With regard to the Category D (Air Traffic Control – *ATC system loop error*) events, Japan had provided more detailed analysis to the meeting after ICAO asked whether English Language Proficiency (ELP) might be an issue. While acknowledging the potential role of ELP, Japan had noted that a number of these incidents were due to similar call signs.

3.14 In response to a query from ICAO, IATA clarified that its similar call sign initiative successfully implemented in the Middle East (MID) Region had not been able to progress in the APAC Region. One of the reasons for this had been the reluctance of aerodrome operators to implement change until an automated tool was available to accommodate alphanumeric call signs. Noting the grave safety risks from such occurrences, RASMAG/25 had drafted a Conclusion, which was endorsed by the AOP/SG/4 and the ATM/SG/8 and subsequently adopted by APANPIRG/31:

Conclusion APANPIRG/31/11: 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.

Safety Reporting

3.15 States were urged to improve safety reporting, even those which had taken significant positive steps to improve reporting, to continually monitor their reporting culture and systems to optimise reporting. Experience from developed nations had shown that educating operational personnel was not enough to achieve the open reporting objective of the 'aviation culture', as described in the *Asia/Pacific Seamless ANS Plan*.

3.16 In order to be more proactive, ICAO recommended that RMAs and En-Route Monitoring Agencies (EMAs) better analyse safety data to identify potential under-reporting and undertake safety culture surveys and audits to monitor safety reporting culture.

3.17 RASMAG/25 had agreed to the following Decision on safety reporting, as part of RMA/EMA safety reports.

Decision RASMAG/25-4: Safety Reporting Assessments

That, RMAs and EMAs will include within their vertical and horizontal safety reports to RASMAG an assessment of the safety reporting culture of the States concerned (including 'Just Culture'), and specifically, whether safety reports for events such as LHDs were consistently being made by pilots and ATC.

3.18 Regarding Hot Spot A2 (Chennai – Kuala Lumpur interface), Indonesia informed the meeting that their surveillance facilities at Banda Aceh had coverage in the area of this hotspot. Indonesia offered to engage in three party discussion between India, Indonesia and Malaysia, to support the mitigation of LHDs at this interface.

3.19 The meeting noted the AIDC implementation status provided by India, Indonesia, and Malaysia.

Reduction in Large Height Deviations (LHDs) in Oceanic Airspace (IP02)

3.20 India informed the meeting of efforts to reduce the LHDs in the oceanic airspace of Chennai, Mumbai and Kolkata FIRs, utilising Space-based ADS-B (SB ADS-B) for traffic awareness and monitoring, and AIDC to eliminate the errors in voice coordination.

3.21 SB ADS-B surveillance coverage extending beyond the FIR boundary had enabled the controllers to check the instances of all LHDs prior to the Transfer of Control (TOC) points, and had significantly reduced the LHD occurrences at Mumbai – Muscat interface.

3.22 The meeting noted that incompatibility of the ATM automation systems had delayed the implementation of AIDC procedures between Mumbai and Muscat FIRs.

Application of ATC Separation Minimums (WP05)

3.23 ICAO presented information on the survey conducted to determine which ATC separation standards were being applied within the Asia/Pacific Region, in accordance with the provisions of the *Asia/Pacific Seamless ANS Plan*.

3.24 **Figure 3** provides an indication as at March 2021 of the efficiency of ATC spacing between aircraft at the same level as it was theoretically being applied inbound at FIR TOC points.

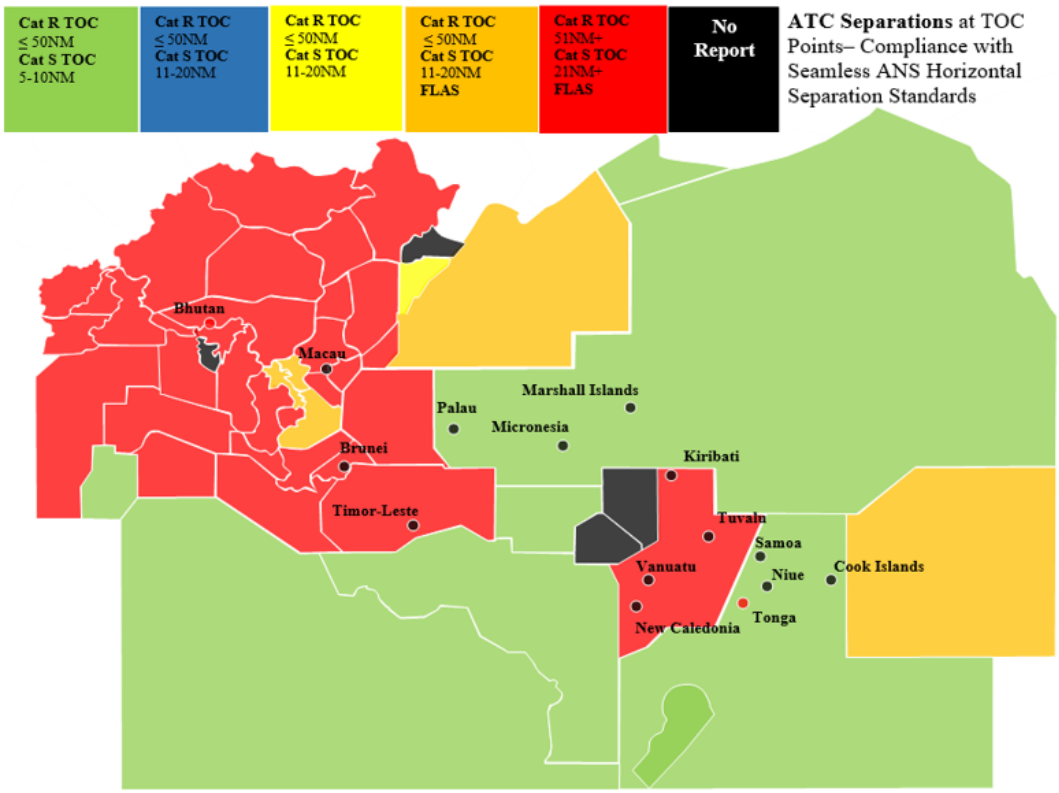

Figure 3: ANS Horizontal Spacing at Inbound FIR TOC points, March 2021

3.25 Except for Male FIR (Maldives), according to the survey, no Asian States were adhering to the TOC spacing expected inbound to their FIRs in accordance with the Plan, despite the largely modernised ATC surveillance and communication systems available.

3.26 In contrast to the TOC points results, many more Asian States and Administrations had been applying the recommended separation minimums within their FIR(s) (**Figure 4**). States were urged to improve ATC service levels to meet the expectations of the Plan as follows:

- poor application of regional policy within Category S (ATC surveillance) airspace were noted in the FIRs served by Afghanistan, Malaysia (Kuala Lumpur FIR), Myanmar and Sri Lanka; and
- less than satisfactory application of regional policy within Category S airspace were observed in the FIRs served by Cambodia, India, Lao PDR, Pakistan and Viet Nam.

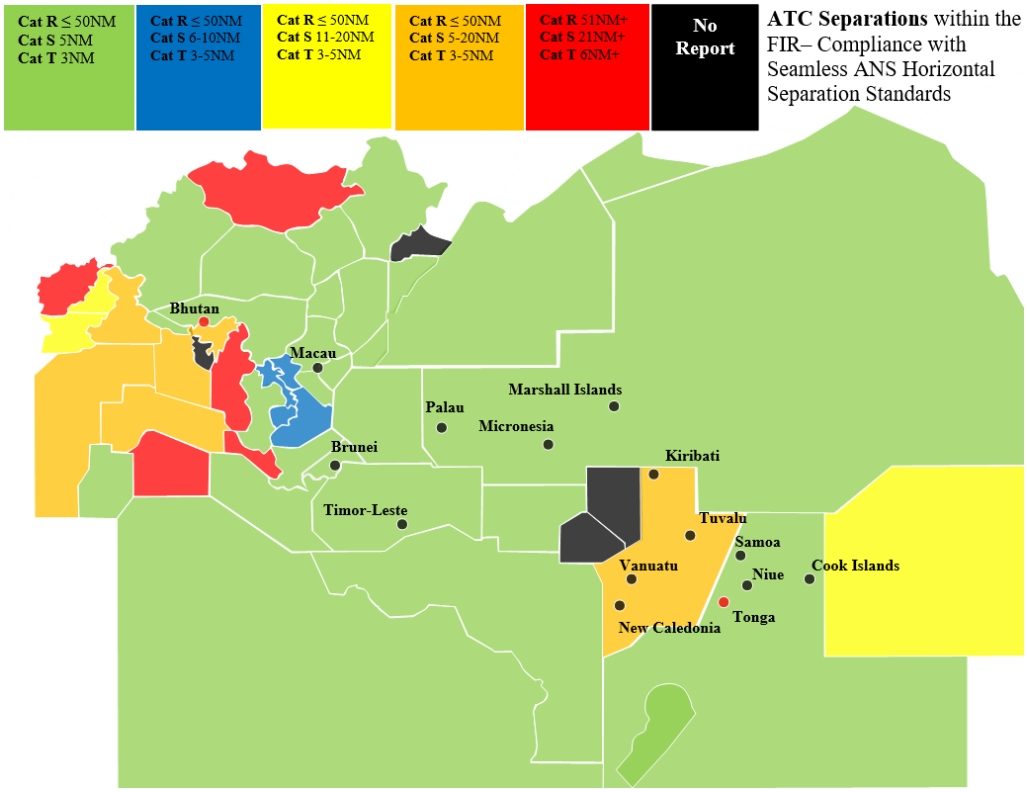

Figure 4: Horizontal Separation Minimums within the FIR, March 2021

3.27 The meeting was provided with information on the primary reasons given by the States in the past for not implementing the expected horizontal separations and aircraft spacing, and the probable resolution.

3.28 The meeting noted that human decision-making at management level could be responsible for these poor results, indicating a region-wide paradigm shift in organisational culture was necessary. Asian States in particular were urged to recognise the problem and establish policies, rules and procedures for Air Navigation Service Providers (ANSPs) as part of their review of the State's National Air Navigation Plan (NANP) to greatly improve the benefits from modern CNS/ATM systems, including training for senior managers to recognise the gap between current practice and best practice.

3.29 Hong Kong China opined that **Figure 3** did not show the actual status of the application of horizontal spacing at all inbound FIR TOC points of the FIRs. The meeting noted that ICAO intended to circulate a new survey at the end of the year, requesting all States and Administrations to provide the minimum separation at every TOC point for their FIR/s. ICAO Regional Office would develop the chart for TOC separation according to the number of TOC points that did not meet the recommended minimum separation standard.

3.30 Indonesia informed the meeting that the lack of Doc 7030 *Regional Supplementary Procedures* (SUPPs) procedure supporting performance-based separation had been a barrier to implementation of RNP 10/RNAV 10-based separation in the Ujung Pandang FIR.

3.31 ICAO informed the meeting that FIT-Asia/10 had discussed the Proposal for Amendment (PfA) to ICAO Doc 7030 – *Regional Supplementary Procedures* to support the application of performance-based separation in Colombo, Manila and Ujung Pandang FIRs. However, due to the moratorium imposed by ICAO Headquarters related to amendment of SUPPS, this matter had not been progressed. ICAO Regional Office was following up on the matter.

3.32 Noting the need to support airlines' recovery from the severe financial losses caused by the COVID-19 pandemic and the suitable low traffic environment, the meeting agreed to the following Draft Conclusion:

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</table>

Missing Departure (DEP) Messages (WP06)

3.33 ICAO provided an update on the issue of missing Departure (DEP) messages, as discussed by the Air Traffic Flow Management Steering Group (ATFM/SG) and presented to ATM/SG/7 in August 2019.

3.34 The meeting was reminded of ***Conclusion APANPIRG/27/12: Origination and Distribution of Departure (DEP) Messages***, initiating and analysis and response to State failure to ensure correct transmission of DEP messages, and ***Conclusion ATM/SG/7-5: ATS Message Reception and Handling***, urging States to ensure compliance with ATS message addressing requirements of ICAO Doc 4444 – *Procedures for Air Navigation Services – Air Traffic Management* (PANS-ATM).

3.35 The meeting was provided with a summary of non-compliant addressing requirements published in online Aeronautical Information Publications (AIPs) in the Asia/Pacific Region (**SAIOACG/10 and SEACG/27 WP/06 Attachment A**), and informed that ICAO would continue to encourage improved compliance with PANS-ATM provisions.

3.36 Data from an analysis of missing DEP messages conducted in 2019 (**SAIOACG/10 and SEACG/27 WP/06 Attachments B and C**) highlighted the poor performance of non-APAC States in this regard, most notably but not limited to Bahrain, France, Germany, Kuwait, Qatar, Russia, Saudi Arabia, Turkey, UAE and United Kingdom. The data indicated that, while there had been some improvement in the Asia/Pacific Region, there were still a number of States that needed to take further action to address the issue. Current APANPIRG Air Navigation Service (ANS) Deficiencies in this regard were currently recorded against Bangladesh, India, Malaysia, Maldives, Nepal and USA.

3.37 Due to the substantial reduction in international air traffic resulting from the COVID-19 pandemic an APAC regional analysis had not been conducted in 2020. However, Thailand continuously monitored non-receipt of DEP messages for flights entering the Bangkok (VTBB) FIR, and provided data up to February 2021. **Table 2** summarizes non-receipt of DEP messages for flights originating in the FIRs of SAIOACG/SEACG participant States for the six months ending in February 2021.

Originating State	SEP 2020	OCT 2020	NOV 2020	DEC 2020	JAN 2021	FEB 2021	TOT %
Afghanistan			2/2				**100**
Bangladesh	67/107	68/100	19/83	24/97	34/100	40/112	**42**
Bhutan	3/9	1/9	0/13	1/10	0/8	1/8	**10**
Brunei Darussalam	1/5	1/8	0/6	0/8	0/6	0/4	**5**
Cambodia	9/157	3/183	2/165	3/169	2/147	0/124	**2**
China	0/390	0/342	1/382	1/487	2/473	4/356	**< 1**
India	51/175	35/191	38/227	28/233	43/224	52/233	**19**
Indonesia	9/67	6/68	8/78	8/100	6/101	6/96	**8**
Lao PDR	2/21	0/29	1/31	1/18	0/21	0/15	**3**
Malaysia	41/227	47/253	51/234	36/236	39/240	29/200	**17**
Maldives	0/2	2/11	2/6	0/9	0/7	3/10	**15**
Myanmar	2/149	13/131	3/170	5/141	4/146	1/86	**3**
Nepal	0/34	0/53	0/36	0/24	0/45	1/43	**< 1**
Pakistan	0/8	1/9	0/9	2/8	3/9	0/6	**12**
Philippines	6/364	11/371	8/412	8/435	8/477	2/385	**2**
Singapore	1/315	2/392	2/408	2/371	2/405	1/328	**< 1**
Sri Lanka	0/43	0/47	0/67	1/83	1/77	0/57	**< 1**
USA	4/5	4/5	7/15	2/15	0/22	1/11	**24**
Viet Nam	2/252	3/317	21/383	7/317	0/295	1/230	**2**

Table 2: Non-receipt of DEP Messages for Flights Entering the Bangkok FIR per Originating State – September 2020 to February 2021

3.38 Due to the importance of this matter and its impact on ATM processes another regional analysis was being planned for reporting to ATFM/SG/11 in July 2021.

Information on Missing Departure (DEP) Messages (WP07)

3.39 Indonesia provided information about the non-receipt of DEP messages of traffic overflying Jakarta and Ujung Pandang FIRs, for the period between 01 July and 31 December 2020 (**SAIOACG/10 and SEACG/27 WP/07 Attachment A**).

3.40 Based on its research, Indonesia had found multiple examples of States specifying non-compliant Flight Plan (FPL) addressing requirements in the State AIP Section ENR 1.11, together with the use in Aeronautical Fixed Telecommunication Network (AFTN) addresses of three-letter designators that were not registered to be used by the States in ICAO Document 8585 *Designators for Aircraft Operating Agencies, Authorities and Services*, which could be the possible causes of missing FPL and associated ATS messages (including DEP Messages).

3.41 **Table 3** provides the addressing requirements for flights inbound or transiting Jakarta and Ujung Pandang FIRs.

Category of Flight (VFR or IFR)	Route (Into FIR and/or TMA/CTA), Destination and Alternate Aerodrome	Address
1	2	3
All Flight	Into or via Jakarta FIR	WIIIZQZX
	Into or via Ujung Pandang FIR	WAAAZQZX
	Added by: Destination and Alternate Aerodrome	Aerodrome's Location Indicator + ZPZ + X
	Into or via Jakarta FIR and Ujung Pandang FIR should be addressed to Centralized FPL (CFPL) AirNav Indonesia.	WRRRZEZX

Table 3: Addressing Requirements in Indonesia AIP

3.42 ICAO noted that the addresses WIIIZQZX and WAAAZQZX were not compliant, as the correct location indicators for the Jakarta and Ujung Pandang FIRs were WIIF and WAAF respectively. It was also noted that WRRRZEZX was not compliant with PANS-ATM 11.2.1.2.3.3, which specified that only [location indicator] ZQZ(X), ZFZ(X), ZTZ(X) and/or ZPZ(X) shall be used for the addressing of ATS messages. WRRR was also not the location indicator of a centre in charge of a FIR, as required in the PANS procedure.

3.43 ICAO thanked Indonesia for submitting this paper, as it opened discussion highlighting ATS addressing issues that were common across the region, as demonstrated in **SAIOACG/10 and SEACG/27 WP/06 Attachment A**.

Mode S Conspicuity Code (WP08)

3.44 An update was provided on developments in the identification of a Mode Select (Mode S) Conspicuity Code for the Asia/Pacific Region.

3.45 The meeting was informed that, in accordance with ***Conclusion ATM/SG/6-3: Proposed Air Navigation Plan Volume II Amendment***, a PfA had been circulated and subsequently Regional Air Navigation Agreement was reached. Accordingly, a Specific Regional Requirement was now included in the Air Navigation Plan (ANP) Volume II, reserving Secondary Surveillance Radar (SSR) Mode A Code 1000 for use as the Conspicuity code for Mode S-equipped aircraft operating in airspace under Mode S surveillance, where Aircraft Identification (Flight ID) was used for unambiguous ATC identification of aircraft, and to enable coupling of the ATS surveillance system information with the flight plan. Code A1000 had been removed from the Codes Allocation Plan of the Asia and Pacific Regions.

3.46 In its 2019 update the Asia/Pacific Seamless ANS Plan also included, in a note to element 7.27 (ATS Surveillance), the expectation that ATC units operating within controlled airspace wholly served by Mode S SSR and/or ADS-B surveillance should implement the use of the standard non-discrete Mode A code 1000 for Mode S transponder equipped aircraft to reduce the reliance on assignment of discrete Mode A SSR codes and hence reduce the incidence of code bin exhaustion and duplication of code assignment.

3.47 Referring to a query on the setting of Code A1000 in aircraft transponders, ICAO noted that this should only be expected in airspace and/or at aerodromes that were part of a coordinated project implementing Mode S SSR and/or ADS-B surveillance, for aircraft that were Mode S SSR and/or ADS-B equipped. The ATM automation system in such projects would detect the aircraft identification from Downlinked Aircraft Parameters (DAPs) in the Mode S SSR reply or ADS-B downlink, and would couple the surveillance track to the flight plan on this basis. If an aircraft operating outside such an environment, or without Mode S SSR equipage, squawked code 1000 then the current procedures for ATC instructing pilots to squawk an assigned discrete Mode A code would continue to apply.

3.48 In response to a query, ICAO acknowledged that the identification of FIRs and Regions was misaligned between ICAO Doc 7030 (SUPPS) and the Regional Air Navigation Plan. However, there was a current project to restructure the SUPPS, and the ICAO Council-approved Regional Air Navigation Plan listed the FIRs that formed the Asia/Pacific Region.

Free-Route Operations Trials for Optimum Capacity and Flexible Flights (WP09)

3.49 The meeting was presented with the efforts by Singapore in conducting Flexi Airspace trials to validate elements within the ICAO Aviation System Block Upgrade (ASBU) Block 0 Direct and Free Route Operations (FRTO-B0/1 – 4).

3.50 Singapore stated that the Flexi Airspace trial, conducted within the Singapore FIR with entry waypoints at the Ho Chi Minh – Singapore FIR boundary, provided direct routing options from the flight planning stage. The trial provided airline operators with fuel savings considerations on "carry-on fuel" even before take-off, which contributed to the reduction of carbon emission. For the period ~~of~~ between September 2020 and January 2021, more than 2000 flights had participated in the trial and a total of about 140 tonnes of fuel had been saved. With collaborative efforts for cross-border direct routing options, weather avoidance option could be utilized which would further enhance the fuel efficiency benefits.

3.51 Singapore also shared lessons learnt from the Flexi Airspace trials which included determination of the adequacy of safety nets, Mid Term Conflict Detection (MTCD) and ATM system support with regards to dynamic TOC point between sectors. Singapore shared that such interim effort of introducing flexible route options during periods of lower and manageable traffic flow could provide benefits and savings to the airlines. In addition, this would also pave the way for the initial steps towards full FRTO implementation which would require projected resolution through implementation of Flight and Flow Information for a Collaborative Environment (FF-ICE) Release 2 and beyond, where dynamic flight intent and trajectory could be shared between ANSPs, and the development of advanced conflict resolution tools.

3.52 Indonesia indicated its support and looked forward to work together with Singapore to implement cross-border free-route operations. Indonesia also provided information about the User Preferred Route operational trials conducted within Jakarta and Ujung Pandang FIRs, effective June 2020.

3.53 ICAO thanked Singapore for the initiatives to improve efficiency through the Flexi Airspace trial.

3.54 ICAO commented that, noting the current low traffic environment in most of the Asia/Pacific Region caused by COVID-19, it was an ideal lower risk opportunity for States to implement new ATC procedures and collaborate to explore direct routings and cross-border free-route operations to maximise benefits and support the recovery of the aviation industry.

SID/STAR Procedures (WP10)

3.55 ICAO provided information that had been presented to ATM/SG/7 in August 2019 on the implementation of Standard Instrument Departure/Standard Instrument Arrival (SID/STAR) procedures consequential to amendment 7-A to PANS-ATM. The *Asia/Pacific Regional SID/STAR Phraseology Implementation Strategy* was available on the ICAO Asia/Pacific Regional Office eDocuments web-page (ATM Section, ATM Procedures sub-section) at:

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

3.56 A survey on the implementation status of the new SID/STAR phraseology yielded only five responses from Asia/Pacific Administrations. ATM/SG had included a follow-up survey in its Task List, for reporting to ATM/SG/9 in 2021. SAIOACG/10 and SEACG/27 participants were urged to ensure their Administration responded to the survey.

3.57 The ICAO SID/STAR Implementation Support Team (ISSIST) had developed the SID/STAR Toolkit, available on the ICAO website at:

https://www.icao.int/airnavigation/sidstar/Pages/SID_STAR-Toolkit-.aspx

Agenda Item 4: Implementation of CNS/ATM Systems

Transition Planning for RNP APCH Chart Identification (WP11)

4.1 ICAO presented information provided to other ATM-related meetings in 2020 relating to transition planning for RNP Approach Chart Identification. The Performance-Based Navigation (PBN) Implementation Coordination Group (PBNICG) had developed the Asia/Pacific Regional Transition Plan for RNP APCH Chart Identification from RNAV to RNP (**SAIOACG/10 and SEACG/27 WP/11 Attachment A**),

4.2 It was noted that ICAO Electronic Bulletin (EB) 2020/21 (**SAIOACG/10 and SEACG/27 WP/11 Attachment B**) had advised States to limit, as much as possible, the information provided under the Aeronautical Information Regulation and Control (AIRAC) system due to COVID-19-related limited capacity of data houses. However, further noting that the Regional Transition Plan was part of a globally coordinated plan to transition to new chart identification by 30 November 2022, as specified in Amendment 6 to ICAO Doc 8618 *PANS-Aircraft Operations* Volume II, APAC Regions should continue to process he chart changes in accordance with the plan. APAC Administrations were encouraged to inform the ICAO Regional Office in cases where data houses either rejected or failed to process chart identification changes that were included in AIRAC AIP Amendments in accordance with the APANPIRG-agreed transition plan.

4.3 Bangladesh stated that they had completed the RNP APCH Chart Identification from RNAV to RNP. ICAO advised the meeting the information provided in the attachment to WP/11 was the transition plan, and that any current tracking of completion was undertaken by the PBNICG.

Regional Air Navigation Plan Update (WP12)

4.4 ICAO presented an update on the progress of the electronic Air Navigation Plan (eANP) development for the Asia/Pacific, replaced ICAO Doc. 9673 – *Asia and Pacific Regions Regional Air Navigation Plan*. At present, the ANP was in the form of pdfs on the APAC website. The eANP with full hyperlink and html functionality was expected to be available at the end of 2021.

4.5 The meeting noted the progress of the FIR and Search and Rescue Region (SRR) data review, which were anticipated to be completed by April and October 2021 respectively. **Figure 5** indicates the FIR review status as at March 2021, which 31 FIRs were either in the process of completing their verification by PfA to the ANP, or had been verified.

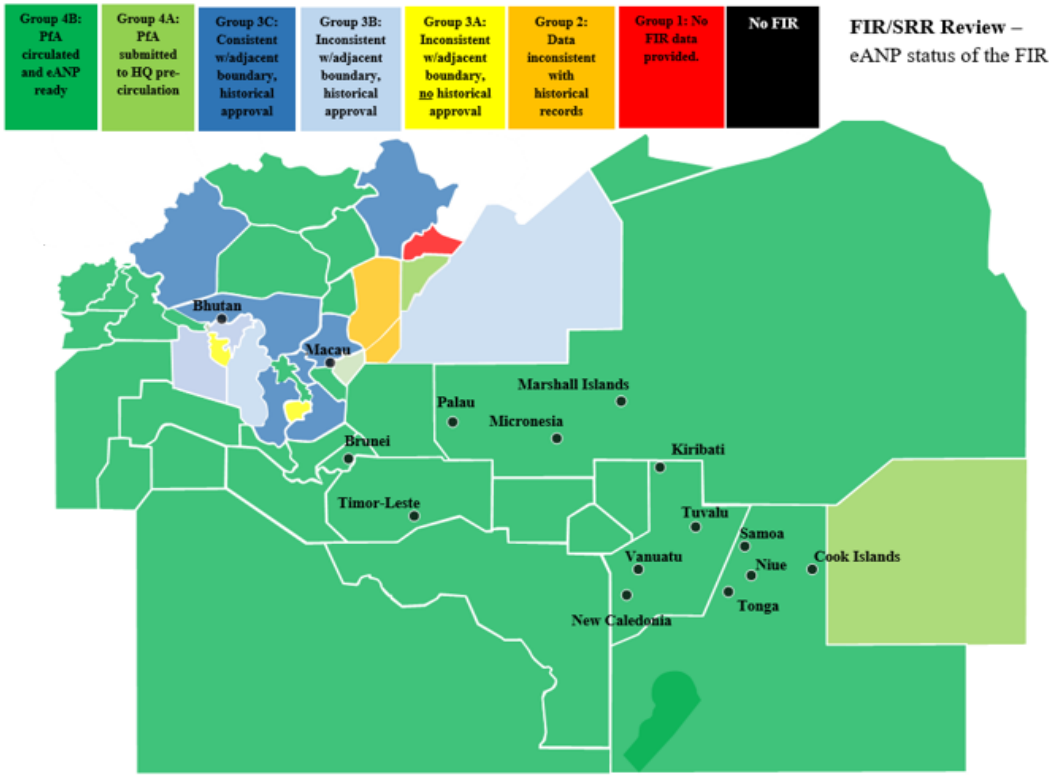


Figure 5: FIR Review Status as at March 2021

4.6 ICAO informed that seven PfAs (FIRs) had been approved by the President of the Council on behalf of the ICAO Council, and will be incorporated in the next consolidated amendment of the eANP.

4.7 Meeting participants were invited to review the FIR and SRR data affecting their administration, and provide feedback to ICAO on the data's accuracy.

4.8 In response to an enquiry from Indonesia, ICAO clarified that the charts were not part of the PfA, and included as illustrations to assist the visualisation of the coordinates of the FIR. ICAO added that both Jakarta and Ujung Pandang FIRs PfAs were pending the final approval from President of the Council on behalf of the ICAO Council and ICAO Secretary General.

Air Traffic Flow Management Update (WP13)

4.9 The meeting was informed of the outcomes of the ATFM/SG/10 meeting held in May 2020, as reported to ATM/SG/8.

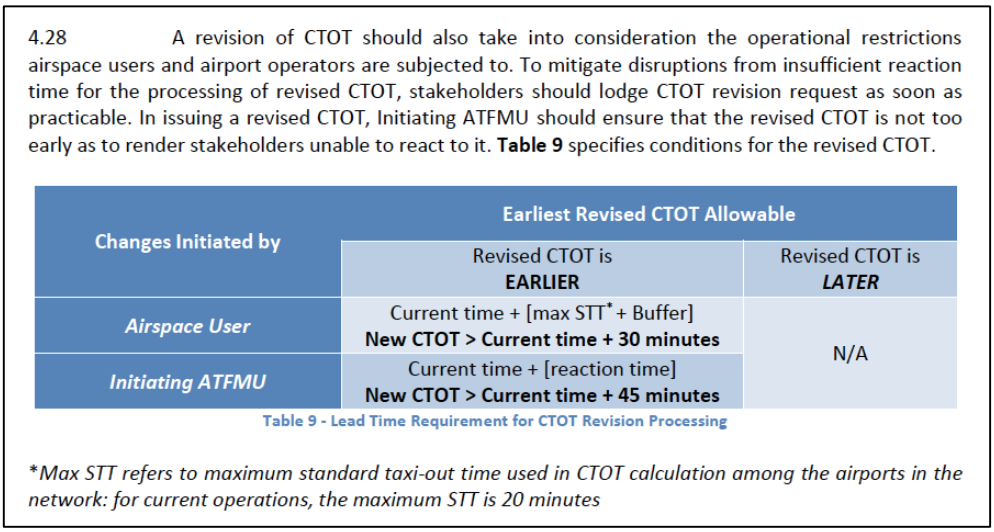
ATFM Information Exchange

4.10 The APAC Flight Information Exchange Model (FIXM) 4.1 Extension, initiated by ATFM/SG and developed by the APAC System-Wide Information Management (SWIM) Task Force (SWIM TF), had been reviewed by the FIXM Change Control Board (CCB) and subsequently published on the FIXM website at https://fixm.aero. APANPIRG 30 subsequently adopted the FIXM extension under ***Conclusion APANPIRG/30/12 (CNS SG/23/6-SWIM TF/3/4) – Asia/Pacific FIXM Extension for ATFM***. The FIXM extension was posted on the ICAO APAC Regional Office eDocuments web-page for immediate use by APAC administrations, where capability to do so existed.

4.11 The CNS SG/23 meeting had, under ***Conclusion CNS SG/23/1 (ACSICG/6/1) – ATFM/AMHS-Based Interface Control Document for ATFM*** drafted by ATFM/SG/9, adopted the AFTN/AMHS-based Interface Control Document (ICD) for use by APAC Administrations in implementing cross-border ATFM communications in the non-SWIM environment. A further update of the ICD was also developed by ATFM/SG/10, which drafted a Conclusion that was subsequently endorsed by the Seventh Meeting of the Aeronautical Communications Services Implementation Coordination Group (ACSICG/7, Web-Conference, 21 – 23 July 2020), and adopted by CNS SG/24 in December 2020 under ***Conclusion CNS SG/24/3 (ACSICG/7/2 (ATFM/SG/10-3) – Amendment of the AFTN/AMHS-based Interface Control Document (ICD) for ATFM***

Progress Update from the Asia/Pacific Cross-Border Multi-Nodal ATFM Collaboration

4.12 The Asia/Pacific Cross-Border Multi-Nodal ATFM Collaboration (AMNAC, formerly the Distributed Multi-Nodal ATFM Network and composed of Cambodia, China, Hong Kong China, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, Viet Nam) had informed ATFM/SG/10 of overall compliance with ATFM measures of 73% (Level 3 nodes) and 70% (Level 2). The AMNAC Common Operating Procedure was updated to resolve Calculated Take Off Time (CTOT) revision in cases where the revised CTOT was issued with insufficient time for stakeholders to react (**Figure 6**).



4.28 A revision of CTOT should also take into consideration the operational restrictions airspace users and airport operators are subjected to. To mitigate disruptions from insufficient reaction time for the processing of revised CTOT, stakeholders should lodge CTOT revision request as soon as practicable. In issuing a revised CTOT, Initiating ATFMU should ensure that the revised CTOT is not too early as to render stakeholders unable to react to it. **Table 9** specifies conditions for the revised CTOT.

Changes Initiated by	Earliest Revised CTOT Allowable	
	Revised CTOT is **EARLIER**	Revised CTOT is ***LATER***
Airspace User	Current time + [max STT* + Buffer] **New CTOT > Current time + 30 minutes**	N/A
Initiating ATFMU	Current time + [reaction time] **New CTOT > Current time + 45 minutes**	

Table 9 - Lead Time Requirement for CTOT Revision Processing

**Max STT refers to maximum standard taxi-out time used in CTOT calculation among the airports in the network: for current operations, the maximum STT is 20 minutes*

Figure 6: Revised Procedure for Revision of CTOT

4.13 Regarding CTOT compliance, IFALPA had noted that ANSPs differed in their approach. In Thailand, for example, the ANSP was proactive in ensuring compliance, while some others were not.

NARAHG Update

4.14 The Northeast Asia Regional ATFM Harmonization Group (NARAHG – China, Japan and Republic of Korea) had, as the first steps towards interoperability, exchanged ATFM Daily Plans (ADPs). Exchange of CTOT with Hong Kong China had been agreed by Japan and was being planned by Republic of Korea. This was expected to help develop harmonization between AMNAC and NARAHG. China advised that, following a system upgrade, Shanghai ATFMU would share ADPs with AMNAC ATFMUs. There was no current plan for all China FIRs to share ADPs.

Progress of the ATFM/IR/SWG

4.15 The ATFM Information Requirements Small Working Group (ATFM/IR/SWG) had developed an ADP exchange procedure. ATFM/SG/10 had agreed to ***Conclusion ATFM/SG/10-2: ADP Exchange Procedure Working Draft***, making the procedure available for use by Administrations pending its inclusion in the future amendment of the *Regional Framework for Collaborative ATFM*.

4.16 ATFM/IR/SWG had coordinated a collaborative effort among several ANSPs to mitigate cross-border ATFM issues for flights departing aerodromes in the Incheon (Republic of Korea) FIR for Da Nang, Viet Nam. While Viet Nam did not apply ATFM measures to these flights, they were subject to various ATFM and tactical restrictions by other ANSPs. **Table 4** summarizes the previous situation and planned or implemented mitigations agreed by the collaborating ANSPs.

FIR	Approach	Previously	Currently	When
Ho Chi Minh FIR Sanya FIR	Increase capacity	FL260 restriction	No longer exists	Nov 2019
	Increase capacity	30NM transfer	20NM transfer	Mar 2020
Sanya FIR Hong Kong FIR	Increase capacity	30NM transfer	20NM transfer	Mar 2020
Hong Kong FIR Taipei FIR	Increase capacity	30NM transfer	20NM transfer	Mar 2020
Fukuoka FIR	Reduce ATFM measures	(1) 12min FL340- (2) 35min	(1) 10min FL340- (2) 30min	Nov 2019
Incheon FIR	Implement ATFM	AIP publish for ATFM Tactical ATFM (CTOT)	Strategic/Pre-tactical /Tactical ATFM (CTOT, slot swapping, Reroute, etc.)	Mar 2020 (Jun 2019)

Table 4: Initiatives introduced for Flights Bound for Da Nang.

4.17 Viet Nam informed the meeting that it recognized the need to work collaboratively to mitigate the cross-border ATFM issues. Therefore, after upgrading to AMNAC Level 3, Viet Nam planned to participate in NARAHG ATFM practices to improve efficiency over cross-boundary fixes.

India Update on ATFM Operations

4.18 India had informed ATFM/SG/10 of the status of ATFM implementation and the integration of ATFM and Airport Collaborative Decision-Making (A-CDM) at major airports in India. A Beta version of India's ATFM portal had been developed (www.atfmaai.aero/portal). Cross-border ATFM was planned for inclusion in Phase III of the ATFM project, for implementation in 2021 or later. An agreement for ATFM assistance to Nepal was being considered by the Ministry of Civil Aviation.

Regional ATFM Implementation Status

4.19 APAC ATFM implementation status was reported against the performance expectations of the *Regional Framework for Collaborative ATFM*. States were assessed as having *Robust* (90-100%), *Marginal* (70-89%) or *Incomplete* (0-69%) implementation.

4.20 Reports due by 30 April each year were assessed as follows:

- several States were recorded as *Incorrect Report*, reporting against the criteria applicable to States that were not required to implement ATFM under performance expectations of the *Asia/Pacific Seamless ANS Plan* and *Regional Framework for Collaborative ATFM* (the remaining APAC States were recorded as *Did Not Report*);
- India, Singapore and USA were assessed as having *Robust* implementation;
- *Marginal* implementation was recorded for Australia, Cambodia, China, Japan, Republic of Korea, and Thailand; and
- Bangladesh, Hong Kong China, Macao China, Indonesia, Maldives, Myanmar, Nepal, New Caledonia, New Zealand, Pakistan, Papua New Guinea, Philippines and Viet Nam were assessed as *Incomplete*.

4.21 The meeting was informed that most AMNAC Level 3 Nodes had completed the implementation of ATFM data exchange capability over AFTN/AMHS using Slot Allocation Messages (SAMs), Slot Revision Messages (SRMs) and Slot Cancellation Messages (SLCs) (**Table 5**).

Level-3 ATFM nodes	Status	Remark
AEROTHAI	Completed	
SANYA ATFMU	Completed	Only SAM implemented
CATS	Completed	
HKCAD	Completed	
CAAS	In-Progress	Reliability testing, estimated completion Q2 2020.

Table 5: ATFM Data Exchange Capability – AMNAC Level 3 Nodes

ATFM Post-Operations Analysis Recommended Framework

4.22 The ATM/SG/8 meeting had agreed to the following Conclusion, drafted by ATFM/SG/10, adopting the Version 1.0 of the ATFM Post-Operations Analysis Recommended Framework, initially developed for ATFM/SG by the core team of AMNAC and further improved by input from Australia, India and Japan:

Conclusion ATM/SG/8-1: ATFM Post-Operations Analysis Recommended Framework

That:

1. *The ATFM Post-Operations Analysis Recommended Framework Version 1.0 at **ATM/SG/8 WP11 Attachment 2** be uploaded to the ICAO Asia/Pacific Regional Office eDocuments web-page, to replace the existing working draft version; and*
2. *States are urged to utilize the guidance provided in the document when implementing ATFM post-operations analysis in accordance with the performance expectations of the Regional Framework for Collaborative ATFM.*

4.23 States were urged to utilize the guidance provided in the document when implementing ATFM post-operations analysis in accordance with the performance expectations of the Regional Framework for Collaborative ATFM.

4.24 Hong Kong China informed the meeting that the Hong Kong ATFM website was currently working well, and was being used for monthly Ground Delay Programme (GDP) trials.

BOBCAT Operational Updates (IP03)

4.25 Thailand provided information on the operational analysis and overview of westbound flights transiting via the Kabul FIR associated with the Bay of Bengal Cooperative Air Traffic Management (BOBCAT) system for the two-year period between January 2019 and December 2020.

AIS-AIM Implementation Update (WP14)

4.26 The outcomes of the Fifteenth Meeting of the Aeronautical Information Services (AIS) – Aeronautical Information Management (AIM) Implementation Task Force (AAITF/15, Video Teleconference, 01 to 05 June 2020) were reported to the meeting.

AIS-Related Air Navigation Service Deficiencies

4.27 Three AIS-related Air Navigation Deficiencies had been updated by APANPIRG/30:

- WGS-84 not implemented (11 States, compared to 12 States at AAITF/14);
- AIP Format (2 States – no change since AAITF/14); and
- Quality Management System not implemented (22 States).

4.28 The AAITF/15 meeting agreed that deficiencies be deleted as proposed by Indonesia and Thailand, subject to further offline coordination of documented evidence of implementation, and subsequent sampling of aeronautical information products by the ICAO Regional Office. The criteria used by ICAO Regional Office were provided at **SAIOACG10 and SEACG/27 WP/14 Attachment A**. The following deficiencies were proposed for deletion, and subsequently agreed by APANPIRG/31 in December 2020:

- Quality Management System not implemented – Indonesia and Thailand; and
- WGS-84 not implemented – Thailand.

4.29 The current AIS-related ANS Deficiencies, including the above changes, are listed in **SIAOACG/10 and SEACG/27 WP/03**. The following SAIOACG and SEACG participating Administrations have AIM-related Deficiencies:

WGS-84 not implemented: Afghanistan, Bangladesh, Bhutan, Brunei Darussalam.

AIS Quality Management System not implemented: Afghanistan, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, Lao PDR, Maldives, Myanmar, Nepal, Philippines, Sri Lanka, Timor-Leste.

4.30 The meeting was invited to once again note the ongoing, high level of concern about poor quality management of aeronautical information in the APAC Region, and the apparent lack of organizational priority for this safety-critical requirement.

NOTAM Proliferation

4.31 The meeting was reminded that ***Conclusion ATM/SG/6-14: Management of NOTAMs***, drafted by AAITF/13 in 2018, urged States to take immediate action to reduce the large numbers of permanent or long duration NOTAMs (more than 90 days' validity). The most recent ICAO APAC Regional Office analysis of NOTAMs was provided in **SIAOACG/10 and SEACG/27 WP/14 Attachment B**.

4.32 As of 01 September 2020, a total of 6844 NOTAMs were valid in the APAC Region, and 1469 of them had been published before 01 June 2020. In comparison with the data reported in 2019, by September 2020 the total number of valid NOTAMs in the APAC Region had increased by 17%, while the number of old-aged NOTAMs had decreased by 14.8%. The percentage of valid NOTAMs that were old-aged had decreased by 8%, remaining unacceptably high. **Figure 7** illustrates the APAC Administrations having more than 10, and more than 100, 'old' NOTAMS of validity longer than 90 days at April and September 2020.

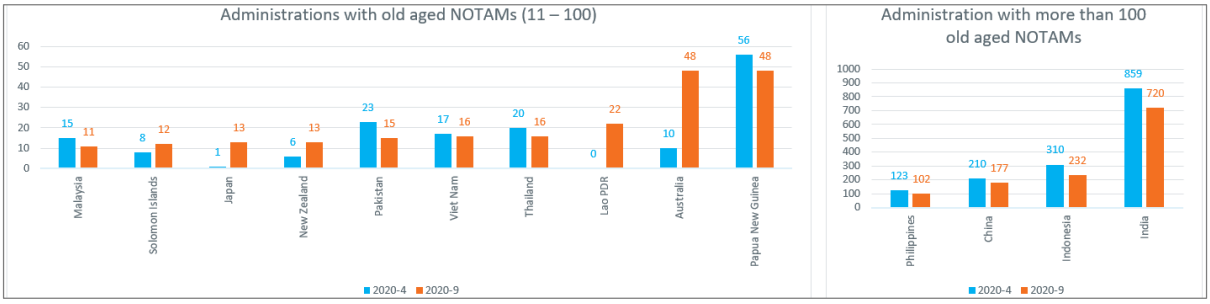


Figure 7: Administrations with more than 10 old aged NOTAMs – April/September 2020

4.33 The meeting was also informed that ICAO Headquarters had issued State Letter AN 2/2-21/12, Inviting States to participate in the *Global Campaign on NOTAM Improvement, Phase 1: old NOTAM* (**SAIOACG/10 and SEACG/27 WP/14 Attachment C**). The meeting was urged to ensure that all appropriate entities directly or indirectly involved with NOTAM be encouraged to participate.

4.34 The meeting was also invited to note the NOTAMeter, a web-based software tool to distinguish between current NOTAMs, *old* NOTAMs (validity exceeding three months but less than one year) and very old NOTAMs (validity one year or longer). More information on the NOTAMeter could be found on the Global NOTAMS Campaign web pages at:

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

4.35 The meeting was also informed of ICAO State Letter AP086/20 (ATM), dated 26 March 2020, responding to global concerns about the quality of NOTAMS promulgating information on COVID-19-related aerodrome and/or ATS contingency operations. The State Letter included template NOTAMs for guidance.

Regional Implementation Status of AIM Performance Expectations

4.36 A summary of the implementation progress of the AIM performance expectations in the *APAC Regional Plan for Collaborative AIM* was provided. The total number of Administrations providing reports in 2020 (13) compared poorly with the 26 Administrations that had reported in time for AAITF/14 in 2019.

4.37 Administrations that had reported their implementation status were:

Australia, Bangladesh, Cambodia, China, Hong Kong China, Indonesia, Japan, Mongolia, Pakistan, Singapore, Sri Lanka, Thailand and Viet Nam.

4.38 **Figures 8 and 9** illustrated overall regional implementation of Phase I (immediate implementation expected) and Phase II (implementation expected by November 2019) elements of the Regional Plan for Collaborative AIM; approximately 51% percent for Phase I, and 38% for Phase II.

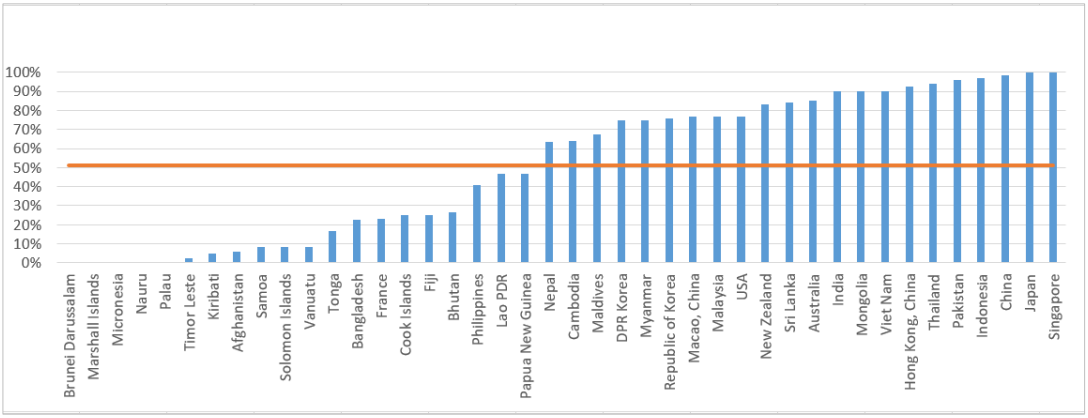


Figure 8: Regional Phase I Implementation Progress (updated on 17 November, 2020)

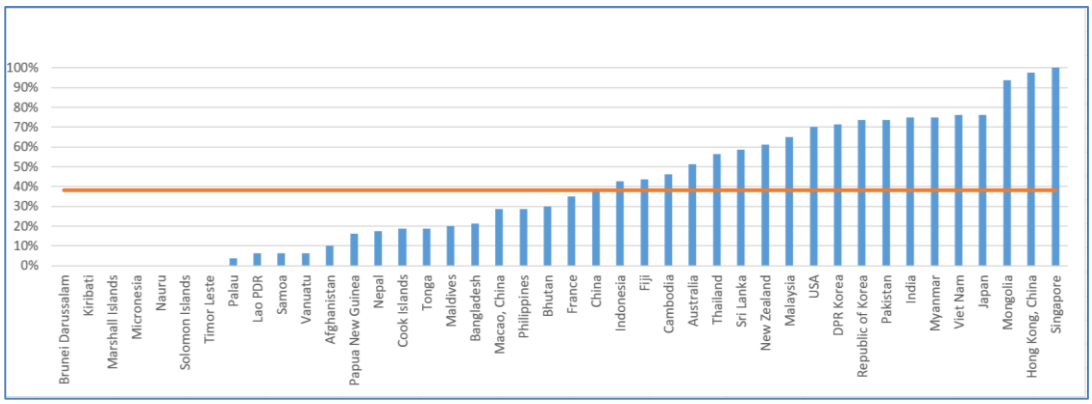


Figure 9: Regional Phase II Implementation Progress (updated on 11 November, 2020)

4.39 Regional implementation of Phase III elements, expected to be implemented by 2025, was approximately 10%.

4.40 Only Japan and Singapore reported implementation of all Phase II elements. No Administration reported implementation of all Phase III elements.

APAC ICARD Status and 5LNC Duplicate Resolution

4.41 The meeting was informed of the status of the ICAO International Codes and Route Designators (ICARD) application and the resolution of APAC 5-letter name code (5LNC) duplicates.

4.42 ICAO Headquarters had compiled a full global list of duplicated 5LNC in 2018. There were at that time 3905 duplicated 5LNCs worldwide, of which 2,733 were within the APAC Region.

4.43 Due to limited information on actions taken to resolve duplicates, APAC Administrations were requested to review and maintain the APAC 5LNC Status data prepared by ICAO and provided at **SAIOACG/10 and SEACG/27 WP/14 Attachment D**, and send an update to the ICAO Regional Office at least once per year.

4.44 **Figure 10** illustrated the number of 5LNCs registered globally, and in the APAC Region.

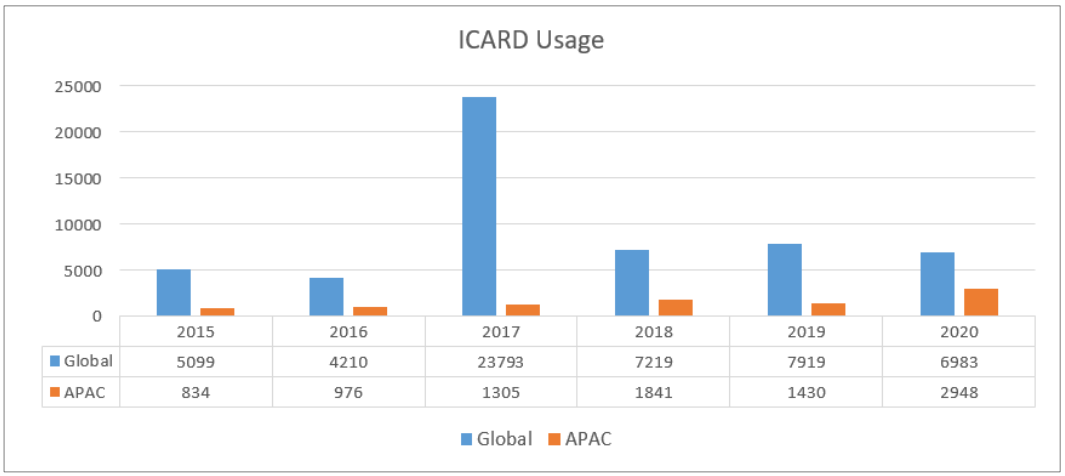


Figure 10: ICARD usage of the last 5 years

4.45 The meeting was also informed that 'special request' creation of 5LNCs that did not exist in the ICARD database would only be made available to ensure that 5LNCs currently published in AIP were registered in ICARD.

4.46 ICAO acknowledged the substantially increased effort by some APAC Administrations to comply with Annex 11 Appendix 2 requirements by registering 5LNCs in ICARD and actively resolving duplicated 5LNCs.

SNOWTAM

4.47 The meeting was informed of ***Conclusion AAITF/15-1: Guidance on the Issuance of SNOWTAM***, supporting the APAC use of the *European and North Atlantic Region Guidance on the Issuance of SNOWTAM*, pending a future update of the APAC *Operating Procedures for Aeronautical Dynamic Data* (OPADD). Subsequent to AAITF/15, ICAO had issued State Letter 2020/73, dated 30/07/2020, notifying the postponement of the applicability of SARPS and PANS related to the GRF until 04 November 2021. The guidance document on the APAC Regional Office eDocuments web-page had been updated to reflect the changed applicability date.

Asia/Pacific Unmanned Aircraft Systems Update (WP15)

4.48 ICAO provided information on developments in the field of Unmanned Aircraft Systems (UAS), recalling that ATM/SG/7 had adopted the *Asia/Pacific Regional Guidance for the Regulation and Safe Operation of UAS within National Airspace* (***Conclusion ATM/SG/7-9***).

4.49 The UAS Advisory Group (UAS-AG) of the Remotely-Piloted Aircraft Systems (RPAS) Panel had developed the ICAO UAS Toolkit, which was a repository of information on the UAS management that fell outside the scope of Standards and Recommended Practices (SARPs) and Procedures for Air Navigation Services (PANS) developed for RPAS operations. The toolkit was available at:

https://www.icao.int/safety/UA/UASToolkit/Pages/default.aspx.

4.50 The ICAO COVID-19 Series Webinars on UAS-related topics included:

- Enabling UAS Operations (link);
- Enabling UAS Operations Part II – Panel Discussion (link);
- Introducing ICAO UAS Model Regulations (link);
- UAS Beyond Visual Line of Sight Operations – for Regulators (link); and
- ICAO UAS Traffic Management (UTM) Framework (link).

4.51 The ICAO DRONE ENABLE 2021 Symposium would be held by VTC from 13 – 15 and 20 – 21 April 2021. More information was available at www.icao.int/meetings/droneenable4.

Agenda Item 5: ATS Route Developments

Progressing with Implementation of PBN Routes in Preparations for Post COVID-19 Recovery (WP16)

5.1 Singapore informed the meeting of the benefits of implementing Performance-based Navigation (PBN) routes to enable reductions in separation minima, increasing the capacity of ATS routes, maximising the use of airspace, as well as providing enhancements to safety.

5.2 The meeting was updated on the various PBN initiatives (**Figure 11**) that Singapore had embarked upon, which had been presented and agreed at the previous ICAO meetings. The initiatives included the progress to upgrade PBN specifications of existing ATS routes M767 and N884 to RNP 4 with the Philippines, phased introduction of PBN specifications on ATS route M768 starting from RNP 10 with Indonesia, Malaysia, and Viet Nam, and designating ATS routes L642 and M771 to RNAV 2 with Viet Nam.

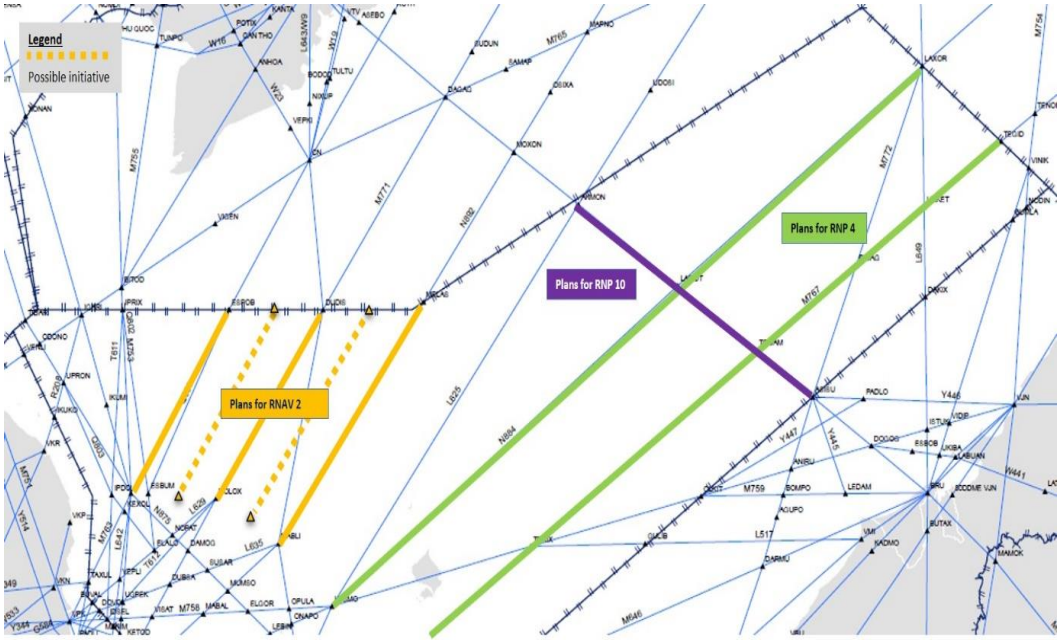


Figure 11: Singapore PBN Initiatives

5.3 While APAC Region had been making good progress for PBN implementation, more could be done by ANSPs. Singapore emphasized the importance of coordination amongst States to implement harmonised PBN specifications across FIR boundaries and encouraged the meeting to strengthen its efforts in preparation for post COVID-19 recovery.

5.4 Indonesia and Viet Nam congratulated the PBN initiatives by Singapore. Both States indicated their support and invited all States concerned to work together to implement these initiatives.

5.5 Hong Kong China commented that a considerable level of fleet equipage of the required capability was essential to support enhancement of the route structure. Hong Kong China opined that they were open to re-designating the existing ATS route L642 and M771 to RNP 2 or RNAV 2, but without implementing new parallel routes.

5.6 The Secretariat recalled the discussions from SCSTFRG/8 that according to Hong Kong China's assessment, by enhancing the longitudinal spacing from 50 NM to 30 NM (or possible 20 NM) on the existing ATS route L642 and M771, would be sufficient to cater for current and future traffic demand.

5.7 The Secretariat informed the meeting that these initiatives mentioned in WP16 were discussed and part of the South China Sea Traffic Flow Review Group (SCSTFRG) Task List. All States concerned were urged to ensure participation at the upcoming meeting (SCSTFRG/9, VTC, 01 – 03 June 2021), to further discuss these initiatives and progress on the Task List.

Optimisation of ATS Routes A461 and A583 (IP04)

5.8 Hong Kong China and Philippines provided information on the planned implementation of 30 NM longitudinal spacing on ATS routes A461 and A583, in phases:

- Phase 1: 30 NM longitudinal spacing would be applied on ATS route A461 only and target implementation timeline would be Q4 2021. The enhanced longitudinal spacing would only be applicable to RNP 4 compliant aircraft, with one or both of them landing within the Hong Kong or Manila FIR.
- Phase 2: Subject to the successful outcomes of Phase 1, the application of the 30 NM enhanced longitudinal spacing would be expanded to all RNP 4 compliant aircraft on ATS route A461.
- Phase 3: 30 NM longitudinal spacing would be applied to all RNP 4 compliant aircraft on ATS route A583 by Q4 2023 tentatively.

5.9 Hong Kong China thanked Philippines for their collaboration to enhance the efficiency of the concerned ATS routes.

Asia/Pacific Region ATS Route Catalogue (WP17)

5.10 WP17 described the review process conducted by the ICAO APAC Regional Sub-Office for the *Asia/Pacific Region ATS Route Catalogue*, including correspondence with all concerned States/Administration requesting status updates on relevant route proposals.

5.11 The *ATS Route Catalogue* as updated by the meeting (Draft Version 21) is provided in **Appendix C** to the Report.

Agenda Item 6: ATM Contingency Plans and Search and Rescue

Airline Feedback to Myanmar Contingency Response and the Importance of Contingency Planning (WP18)

6.1 IATA provided information on international airline feedback on the recent Myanmar airspace contingency and emphasised the importance of contingency planning for all States. Overall, the Myanmar contingency response worked effectively despite some issues that could be easily addressed and clarified.

6.2 The event was a good reminder for all States to have relevant contingency plans and their associated safety assessments reviewed annually and updated as required. As a contingency plan is often activated within short notice, table-top and/or simulator exercises should be conducted regularly to ensure the parties involved would remain current on the plan's procedures and operations.

6.3 IATA stressed that the development of contingency plans should always include affected stakeholders to ensure all impacts and risks were considered. IATA remains available for coordinating international airline input into the development and review of States' contingency plans.

6.4 India thanked IATA for sharing international airline feedback on the airspace contingency, and reiterated the importance of formalizing contingency arrangements between neighbouring Administrations. India also expressed its intention to conduct offline discussion with Myanmar, which would include development of an additional contingency ATS route and flight levels in Myanmar Level 2 Contingency Plan.

6.5 Thailand and IATA commended Myanmar for having the Level 2 Contingency Plan prepared for such a situation. Thailand also expressed its gratitude to Thai Airways for the cooperation and accepting re-routing via a more distant contingency route to improve the likelihood of achieving more efficient (if not optimal) flight levels.

Regional ATM Contingency Planning (WP19)

6.6 ICAO provided information on contingency planning in the Asia/Pacific Region. The meeting was reminded that Annex 11 Section 2.32 *Contingency Arrangements* required that ATS authorities must develop and promulgate contingency plans. The *Asia/Pacific Regional ATM Contingency Plan* also included relevant performance expectations that were expected to be implemented by 10 November 2016, reflecting the Annex 11 requirement which had been applicable since November 2003.

6.7 Based on annual status reports, the implementation of ATM contingency planning by APAC Administrations were assessed as *robust* (90 – 100% implementation), *marginal* (70 – 89%) or *incomplete* (0 – 69%).

6.8 Australia, Indonesia and Singapore were assessed as having *robust* contingency plans implemented. Marginal implementation was recorded for Malaysia, Pakistan, Republic of Korea and Viet Nam. The contingency planning of Bangladesh, Cambodia, Hong Kong China, Macao China, Japan, Maldives, Mongolia, Myanmar, Nepal, New Caledonia, Papua New Guinea, Philippines, Sri Lanka and Thailand was assessed as *incomplete*.

6.9 The following States had not reported their contingency planning status:

Afghanistan, Bhutan, Brunei Darussalam, China, Cook Islands, Fiji, France (French Polynesia), DPR Korea, India, Kiribati, Lao PDR, Marshall Islands, Micronesia, Nauru, New Zealand, Palau, Samoa, Solomon Islands, Timor-Leste, Tonga, Tuvalu, United States and Vanuatu.

6.10 The meeting was informed of APAC activities relating to ATM contingency planning in response to the COVID-19 pandemic. Activities included ATM-specific seminars held by VTC, and presentations and proposed recommendations to the Asia/Pacific COVID-19 Contingency Recovery and Planning Group (ACCRPG). Outcomes of these activities included the development of the *APAC Regional Strategy for COVID-19-related ATM Contingency Recovery* (**SAIOACG/10 and SEACG/27 WP/19 Attachment B**).

6.11 States and organizations participating in the Ad Hoc Afghanistan Contingency Group, as per the *Inter-Regional Afghanistan Contingency Arrangements* (**SAIOACG/10 and SEACG/27 WP/19 Attachment C**) were invited to update details contained within the plan, and their Contingency Coordination Team (CCT) details.

6.12 East Asia and North Pacific CCT participants were also invited to update the East Asia and North Pacific CCT Points of Contact document (**SAIOACG/10 and SEACG/27 WP/19 Attachment D**).

6.13 ICAO shared lessons learned from the Yangon (Myanmar) ATM Contingency Operations during February 2021, including a summary of the contingency operation, Annex 11 provisions relating to contingency coordination, and relevant guidance and performance expectations in the Regional ATM Contingency Plan. Lessons learned would be considered for inclusion in a future update of the Plan.

Asia/Pacific Search and Rescue Update (WP20)

6.14 WP20 discussed SAR matters related to the Asia/Pacific, including the outcomes of the Fifth Meeting of the Asia/Pacific Regional Search and Rescue Work Group (APSAR/WG/5, VTC, 09).

6.15 The APSAR/WG/5 had agreed that India and Indonesia's status reports were sufficient to recommend the deletion of the current SAR-related Deficiency, which was subsequently agreed for deletion by APANPIRG/31.

6.16 ICAO HQ had presented a summary of the activities undertaken by ICAO at the global level to support the implementation of the Global Aeronautical Distress and Safety System (GADSS), including developments relating to the location of an aircraft in distress repository (LADR). The meeting was informed that the PANS-OPS Volume III GADSS Autonomous Distress Tracking (ADT) and LADR procedures were now envisaged for applicability on 4 November 2021, while the Annex 6 ADT aircraft equipage requirements were delayed from 01 January 2021 until 01 January 2023. Provisions included procedures for aircraft operators to track aircraft, responding to tracking systems in an appropriate manner and forwarding information received from an ADT to the LADR.

6.17 An analysis of the 26 Universal Safety Oversight Audit Programme (USOAP) SAR-related Protocol Questions (PQs) indicated that the overall SAR Effective Implementation (EI) had risen for the Asia/Pacific Region since 2015 from 50.7% to 60% in May 2020. The APSAR/WG/5 noted that this represented positive progress, although the average achieved fell well short of what would be a satisfactory level to SAR experts. From the PQ analysis, there had been little improvement in the major areas of weakness in SAR, which were in the areas of:

- **CE-3**: 7.517 (28%) – [SAR service provider] SAR coordination agreements;
- **CE-4**: 7.497 and 7.499 (42% and 37%) – [SAR regulatory oversight] SAR inspector's training plan and training programme effectively implemented for SAR inspectors;
- **CE-7**: 7.505 and 7.545 (31% and 43%) – [SAR regulatory oversight] effective regulatory surveillance oversight of SAR, and checks that SAR operational personnel have regular training, including the conduct of SAREX; and
- **CE-8**: 7.507 (43%) – [SAR regulatory oversight and service provider] mechanism to eliminate SAR regulatory deficiencies.

6.18 The overall *Asia/Pacific SAR Plan* compliance is illustrated in **Figure 12**. States were assessed as having *Robust* (90-100%), *Marginal* (70-89%) or *Incomplete* (0-69%) implementation.

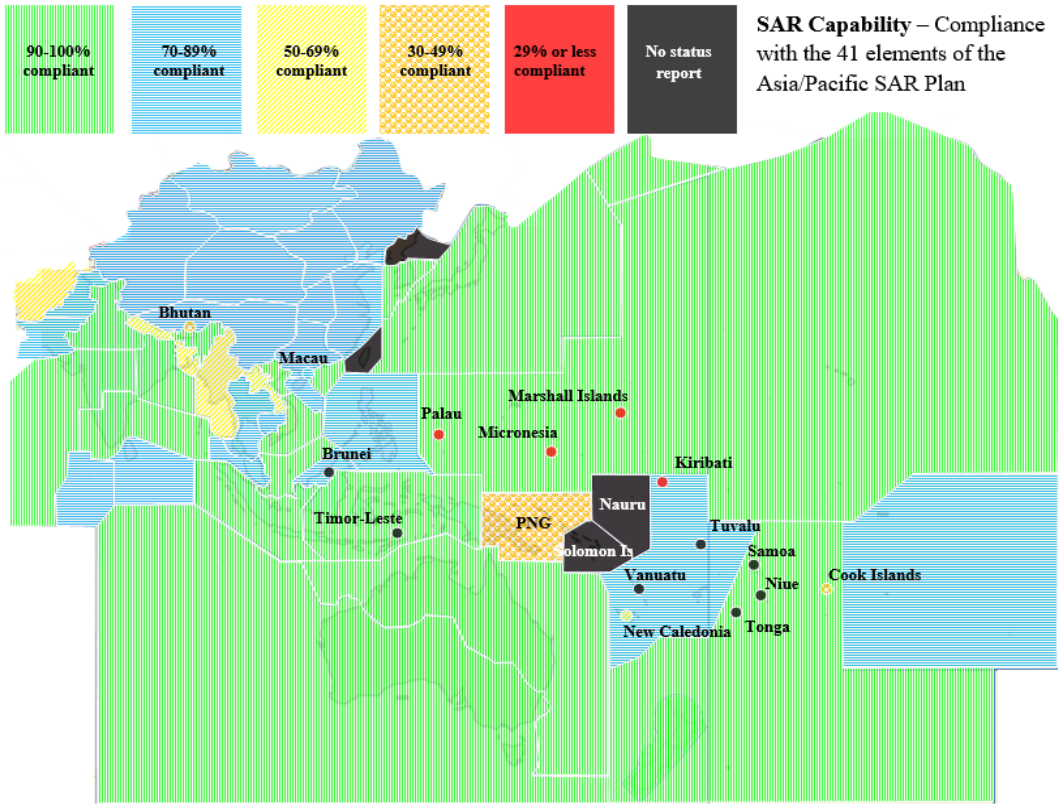


Figure 12: Reported Compliance with the Asia/Pacific SAR Plan, November 2020

6.19 ICAO presented a marked-up version of the *Asia/Pacific Search and Rescue (SAR) Plan* (**SAIOACG/10 and SEACG/27 WP/20 Attachment D**). The current version approved by APANPIRG/30 would be updated in 2022 in accordance with the normal cycle of review, but in the meantime the marked-up version would capture any proposals for change. Meeting participants were invited to review Version 3.1 and submit any comments accordingly.

Agenda Item 7: ANSP Coordination and Civil/Military Cooperation

Foreign Military Aircraft Activities without Coordination over Jakarta FIR and Ujung Pandang FIR (WP21)

7.1 Indonesia provided information on foreign military operations in the international airspace, within the Jakarta and Ujung Pandang FIRs that had affected the operations of civil aviation. There were four occurrences reported in 2020 and two in 2021.

7.2 The meeting was informed of the occurrence on 07 March 2021 involving a civil aircraft operating from Ternate Airport to Malinau Airport within Ujung Pandang FIR, which had been intercepted by three foreign military aircraft, believed to be from the United States Navy.

7.3 The meeting was informed of the actions taken by the ATS Units concerned including coordination with the military authority and adjacent ATS Units, and attempts to establish two-way communication with the unknown aircraft.

7.4 Indonesia stated that these occurrences had led to potential hazard to the safety of civil aircraft operations. Some of these occurrences happened within controlled airspace and near SID and STAR flight paths. Indonesia stressed that an urgent action should be taken to address this matter and prevent these occurrences in the future.

7.5 Singapore supported the general principle that airspace users should comply with ICAO requirements and agreed with the need for greater civil/military cooperation to enhance the safety and efficiency of civil aircraft operations.

7.6 ICAO recalled that, while the *Convention on International Civil Aviation* (Chicago Convention) and its Annexes, including Annex 2, are not applicable to State aircraft (military, police or customs) in general, the Convention does place requirements upon States regarding the interaction between military and civil aircraft. However, this does not preclude the military activities in international airspace over the high seas from monitoring and establishing two-way communications with the appropriate ATS Units to ensure the safety of civil operations.

7.7 USA thanked Indonesia for highlighting this matter, and informed the meeting that coordination of relevant US Navy operations was normally conducted through diplomatic channels. USA recommended that States contact the United States Embassy in the event of occurrences involving State aircraft of the USA.

Coordination on Ballistic Launch and Space Re-entry Activities (WP22)

7.8 Indonesia provided information concerning ballistic launch activities conducted by China, which had affected several FIRs, including Jakarta FIR, in December 2020.

7.9 According to Indonesia, the information regarding these ballistic launch activities were received by Jakarta NOTAM Office on 18 and 21 December 2020, for launches on 20 and 22 December 2020 respectively, neither of which were coordinated by China beforehand.

7.10 Indonesia expressed their concern regarding the absence of coordination by the Launch State and commented the late promulgation of NOTAM would pose a hazard to flight safety and reduce flight efficiency.

7.11 China stated that they would endeavour to comply with ICAO SARPS, and would immediately notify the affected States upon receiving the notification from the relevant authorities.

7.12 ICAO urged all States with organisations that conduct ballistic launch or space re-entry activities to establish effective coordination mechanisms to ensure the safety of civil air navigation.

7.13 The meeting was reminded that Annex 11 Section 2.19 *Coordination of Activities Potentially Hazardous to Civil Aircraft* required that the arrangements for activities potentially hazardous to civil aircraft, whether over the territory of a State or over the high seas, shall be coordinated with the appropriate ATS authorities. The coordination shall be effected early enough to permit timely promulgation of information regarding the activities in accordance with the ICAO Doc 10066 *Procedure of Air Navigation Services provisions – Aeronautical Information Managemen*t (PANS AIM).

7.14 ICAO recalled that the broadcast transmission of information by a NOTAM Office to other NOTAM Offices did not meet these requirements.

7.15 The procedures for ballistic launch and space re-entry management are available at: https://www.icao.int/APAC/Documents/edocs/Ballistic%20Launch%20and%20Space%20Re-entry%20Management.pdf.

Civil/Military Cooperation Update (WP23)

7.16 WP23 highlighted Asia/Pacific's civil-military cooperation issues and initiatives, which were critical for safety and relevant for COVID-19 recovery in terms of efficient procedures to support airlines.

7.17 The meeting discussed the relationship between international airspace and how this relates to both civil and military operations, with regard to the *United Nations Convention on the Law of the Sea* (UNCLOS) and the Chicago Convention.

7.18 ICAO extended its appreciation to the Air Traffic Management Bureau (ATMB) of the China Civil Aviation Administration (CAAC) for the effort undertaken to reduce ATM delays, with fewer reports of this nature reported in 2020.

7.19 With respect to Special Use Airspace (SUA), there had been a number of restricted areas identified designated within international airspace, which was not permissible under the Convention on International Civil Aviation (the Chicago Convention). The meeting noted that SUA in Chinese, Japanese, Korean and Malaysian airspace could be subject of a Deficiency, unless the airspace was re-designated as a danger area or disestablished before APANPIRG/32.

7.20 ICAO thanked Australia and Malaysia for the work to address the designation of restricted areas within international airspace.

7.21 ICAO commended India for compliance with *Asia/Pacific Seamless ANS Plan* elements on Civil/Military cooperation, issuing timely notification and improved coordination on ballistic launch activities, and also India's consistent efforts for Flexible Use of Airspace, addressing the altitude caps for SUA.

7.22 The meeting was informed that ICAO Doc 10088 – *Manual on Civil-Military Cooperation in Air Traffic Management* had been released and was available to States on the ICAO Secure Portal at ICAO-NET.

Agenda Item 8: Review of SAIOACG and SEACG Terms of Reference and Task Lists

SAIOACG/SEACG Terms of Reference and Task List (WP24)

8.1 The SAIOACG and SEACG Terms of Reference were presented for review in **SAIOACG/10 and SEACG/27 WP/21 Attachments A and B**.

8.2 The SAIOACG and SEACG Task Lists as reviewed by the meeting are provided in **Appendixes D and E**).

Agenda Item 9: Any Other Business

ATM Points of Contact (WP25)

9.1 The Secretariat presented the current ATM Points of Contact List (**Appendix F**), and requested that administrations update this information as required.

Future Meetings Modalities (WP26)

9.2 The Secretariat presented the results of the Future Meeting Modalities Survey conducted by the ICAO APAC Regional Sub-Office, requested respondents to advise the preferred modality and conduct of future SAIOACG and SEACG meetings.

9.3 The meeting noted there was a large cross-over in work between the SAIOACG and SEACG, with about 90% of the papers being developed by the Secretariat and virtually the same content. Conducting two separate meetings not only posed a significant workload on ICAO, but also posed a resource challenge to States in terms of the travel and attendance costs for those participants taking part in both meetings.

9.4 Also, to avoid duplication of work, it was proposed that SAIOACG and SEACG concentrate on ‘drilled down’ discussions that allow a State to describe its progress and potential barriers to improvements, such as APANPIRG Deficiency resolution and Seamless ANS element implementation (higher level APANPIRG bodies normally just concentrate on overall status reports, as they don’t have time to discuss, State-by-State, improvement activities). This would also allow the use of breakout or bilateral discussions to more effectively identify, analyse and resolve implementation issues.

9.5 **Figure 13** indicates the preferred modality of future SAIOACG and SEACG meetings.

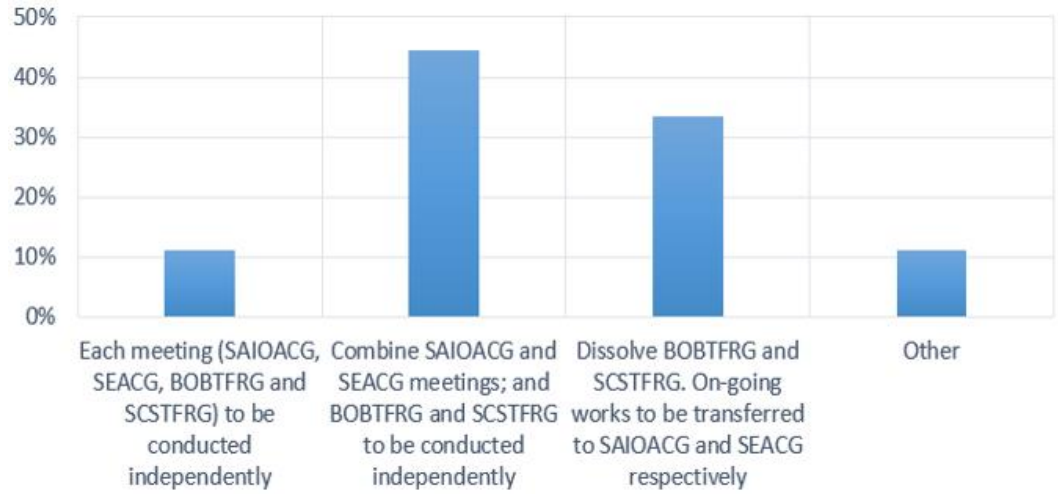


Figure 13: Preferred Modality of Future SAIOACG and SEACG Meetings

9.6 To ensure future meetings were conducted more effectively and economically, the meeting agreed to the following Draft Decision.

Draft Decision SAIOACG/10 and SEACG/27-2: Combining SAIOACG and SEACG Groups		
What: That, noting the: 1. large cross-over in work between the SAIOACG and SEACG, with about 90% of the papers being developed by the Secretariat and virtually the same content; and 2. resource challenge to States/Administrations in terms of participant's travel and attendance costs attending two separate meetings; the Secretariat develops a consolidated Term of Reference for ATM/SG consideration.		Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To ensure future meetings are conducted more effectively and economically.	Follow-up:	☐Required from States
When: 15-Oct-21	Status:	Draft to be adopted by Subgroup
Who: ☒Sub groups ☐APAC States ☒ICAO APAC RO ☐ICAO HQ ☒Other: RSO		

9.7 The meeting agreed to conduct a combined SAIOACG/11 and SEACG/28 meeting in 2022, subject to ATM/SG and APANPIRG decision, which would tentatively be held in March 2022.

Closing of the Next Meeting

The Chair thanked the meeting participants for their significant work during a busy meeting program.
