

INTERNATIONAL CIVIL AVIATION ORGANIZATION



**REPORT OF THE NINTH MEETING OF THE ATM SUB-GROUP OF APANPIRG
(ATM/SG/9)**

VIDEO TELECONFERENCE, 01 – 05 NOVEMBER 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

ATM/SG/9
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INTRODUCTION

Meeting

1.1 The Ninth Meeting of the Air Traffic Management Sub-Group (ATM/SG/9) of the Asia Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) was held by Video Teleconference (VTC) from the ICAO Asia and Pacific Regional Office, Bangkok, Thailand.

Attendance

2.1 The meeting was attended by 292 registered participants from 27 States, two Special Administrative Regions of China and six International and Air Traffic Management-related organizations, including Afghanistan, Australia, Bangladesh, Bhutan, Brunei Darussalam, China, Hong Kong China, Macao China, Fiji, India, Indonesia, Japan, Kiribati, Lao People's Democratic Republic (PDR), Malaysia, Maldives, Mongolia, Myanmar, Nepal, New Zealand, Pakistan, Philippines, Republic of Korea (ROK), Singapore, Sri Lanka, Tajikistan, Thailand, USA, Viet Nam, CANSO, IATA, IFAIMA, IFALPA, IFATCA, and ICAO.

2.2 A list of participants is provided at **Appendix A** to this Report.

Officers and Secretariat

3.1 Mr Kuah Kong Beng, Director (Special Project), Civil Aviation Authority of Singapore presided over the ATM/SG/9 meeting as Sub-Group Chair.

3.2 Mr. Shane Sumner, Regional Officer, Air Traffic Management (ATM)/Aeronautical Information Management (AIM), ICAO Asia and Pacific Office, was the Secretary for meeting. He was assisted by Mr. Hiroyuki Takata, Regional Officer, ATM, Mr. Chew Han Chee, Associate ATM Officer and Ms. Prakayphet Chalayonnawin, Programme Analysis Associate, ATM. The meeting was also supported by Mr. Mior Adli Bin Mior Sallehuddin, Regional Officer AOM-ASM, and Ms Sunok Lee, Regional Officer ATM, of the ICAO Asia/Pacific Regional Sub-Office.

Language and Documentation

4.1 The ATM Sub-Group met as a virtual plenary meeting. The working language of the meeting was English for all documentation and this Report. A total of 36 Working Papers (WPs), ten Information Papers (IPs), three flimsies and three presentations were considered by the meeting.

4.2 The List of Working and Information Papers is attached at **Appendix B** to this Report (IP01).

4.3 **DISCLAIMER:** The presentation of material in this report does not imply the expression of any opinion whatsoever on the part of ICAO, APANPIRG or the ATM Sub-Group of APANPIRG concerning the legal status of any country, territory, city or area of its authorities, or concerning the delimitation of its frontiers or boundaries.

Opening of the Meeting

ICAO Regional Office

5.1 Mr. Shane Sumner, on behalf of Mr. Tao Ma, Regional Director of the ICAO Asia and Pacific Office, welcomed all the participants to the meeting.

Draft Conclusions, Draft Decisions and Decisions of ATM/SG – Definition

6.1 The ATM Sub-Group recorded its actions in the form of Draft Conclusions, Draft Decisions and Decisions within the following definitions:

- a) **Draft Conclusions** of the ATM/SG relate to matters that are not just of a purely technical or operational nature, which need to be considered by APANPIRG;
- b) **Conclusions** of the ATM/SG relate to matters of a purely technical or operational nature, which APANPIRG had delegated authority to ATM/SG to act upon;
- c) **Draft Decisions** relate solely to matters dealing with the internal working arrangements of the ATM/SG, which need to be considered by APANPIRG; and
- d) **Decisions** of the ATM/SG that relate solely to matters dealing with the internal working arrangements of the ATM/SG, which APANPIRG had delegated authority to ATM/SG to act upon.

List of Draft Conclusions and Decisions

7.1 List of ATM/SG/9 Draft Conclusions

Draft Conclusion ATM/SG/9-1: Implementation of Efficient ATS Horizontal Separations and Transfer of Control Aircraft Spacing	
<p>What: That, given the global priority to support airlines' recovery from the unprecedented negative economic consequences of the COVID-19 pandemic and the suitable low traffic environment:</p> <p>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</p> <p>b) ICAO considers the need for seminars, workshops and other educational material to support this implementation.</p>	<p>Expected impact:</p> <p><input checked="" type="checkbox"/> Political / Global</p> <p><input type="checkbox"/> Inter-regional</p> <p><input checked="" type="checkbox"/> Economic</p> <p><input checked="" type="checkbox"/> Environmental</p> <p><input checked="" type="checkbox"/> Ops/Technical</p>
<p>Why: Due to the non-implementation by many APAC State/Administrations of the expectations of the Asia/Pacific Seamless ANS Plan regarding horizontal separation and spacing standards, and to support airline recovery.</p>	<p>Follow-up: <input checked="" type="checkbox"/> Required from States</p>
<p>When: 2-Dec-21</p>	<p>Status: Draft to be adopted by PIRG</p>
<p>Who: <input type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input checked="" type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: RSO</p>	

7.2 List of ATM/SG/9 Conclusions

Conclusion ATM/SG/9-4: Management of Danger Areas situated over the High Seas	
<p>What: That, Acknowledging that safe and sustainable aviation is the prime goal of all stakeholders, and that airspace is a very important shared resource, States are urged to:</p> <ol style="list-style-type: none"> 1. act in accordance with the ICAO DOC 10088 principle <i>as civil as possible, as military as necessary</i>; and refrain from prolonged activation of Danger Areas over the High Seas, particularly activations that are repetitive in nature and impact almost all useable flight levels within the given volume of airspace; 2. give due consideration to the requirements of other airspace users (e.g. air traffic density, flight levels, enroute weather factors) during the planning, promulgation and activation of Danger Areas; 3. establish robust co-ordination between civil and military authorities, as well as with neighboring FIRs; and 4. ensure all affected FIRs provide appropriate AIS (NOTAM) notification regarding activation of the Danger Area 	<p>Expected impact:</p> <p><input type="checkbox"/> Political / Global</p> <p><input type="checkbox"/> Inter-regional</p> <p><input type="checkbox"/> Economic</p> <p><input type="checkbox"/> Environmental</p> <p><input checked="" type="checkbox"/> Ops/Technical</p>
<p>Why: To ensure the promulgation and distribution of information on Danger Areas in full compliance with ICAO Annexes and PANS, and to ensure the dimensions and activation of Danger areas take into account the needs of international civil aviation</p>	<p>Follow-up: <input checked="" type="checkbox"/> Required from States</p>
<p>When: 5-Nov-21</p>	<p>Status: Adopted by Subgroup</p>
<p>Who: <input checked="" type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:</p>	

Conclusion ATM/SG/9-5: Update Asia/Pacific OPADD	
<p>What: That,</p> <ol style="list-style-type: none"> 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. 	<p>Expected impact:</p> <p><input type="checkbox"/> Political / Global</p> <p><input type="checkbox"/> Inter-regional</p> <p><input type="checkbox"/> Economic</p> <p><input type="checkbox"/> Environmental</p> <p><input checked="" type="checkbox"/> Ops/Technical</p>
<p>Why: To update the APAC Regional OPADD</p>	<p>Follow-up: <input checked="" type="checkbox"/> Required from States</p>
<p>When: 5-Nov-21</p>	<p>Status: Adopted by Subgroup</p>
<p>Who: <input checked="" type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:</p>	

ATM/SG/9
History of the Meeting

7.3 List of ATM/SG/9 Draft Decisions

Draft Decision ATM/SG/9-2: Revised ATFM/SG Terms of Reference	
<p>What: That, in the event that APANPIRG/32 adopts Draft Decision AOP/SG/5-4: Dissolution of the APA-CDM/TF and determines that ongoing APAC regional A-CDM work be conducted by ATFM/SG, the revised ATFM/SG Terms of Reference at Appendix C to the Report be adopted.</p>	<p>Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical</p>
<p>Why: To ensure the continuity of regional A-CDM activity conducted under APANPIRG</p>	<p>Follow-up: <input type="checkbox"/> Required from States</p>
<p>When: 2-Dec-21</p>	<p>Status: Draft to be adopted by PIRG</p>
<p>Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:</p>	

Draft Decision ATM/SG/9-3: Combining SAIOACG and SEACG Groups to form the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG)	
<p>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 challenges to States/Administrations in terms of participant's travel and attendance costs attending two separate meetings; the two groups be combined to form the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG), with Terms of Reference as provided in Appendix D to the Report.</p>	<p>Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical</p>
<p>Why: To consolidate two meetings the which the majority of business is duplicated, thereby leading to better efficiencies for States and ICAO.</p>	<p>Follow-up: <input type="checkbox"/> Required from States</p>
<p>When: 2-Dec-21</p>	<p>Status: Draft to be adopted by PIRG</p>
<p>Who: <input checked="" type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:</p>	

7.4 List of ATM/SG/9 Decisions

Nil.

REPORT ON AGENDA ITEMS

Agenda Item 1: Election of Chair/Adoption of Provisional Agenda

Election of Chair

1.1 Thailand nominated Mr. Kuah Kong Beng, Director (Special Project), Civil Aviation Authority of Singapore, for re-election as Chair of ATM/SG. The nomination was seconded by Australia, Japan, Maldives and Philippines. As there were no other nominations Mr. Kuah Kong Beng was re-elected as Chair of ATM/SG for another four years, from 2021 until 2024.

Adoption of Agenda

1.2 The Agenda (WP/1) was adopted by the meeting, which noted the Provisional Order of Discussion (OOD), and the Provisional List of Working and Information Papers (IP01).

Agenda Item 2: Review of Related High Level Meetings

ATM/SG/8 and APANPIRG Outcomes (WP/2)

2.1 The meeting was reminded of the outcomes of the ATM/SG/8 meeting (23 to 27 November 2020) and informed of the relevant outcomes from the Thirty-First Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/31, 14 to 16 December 2020):

Conclusion ATM/SG/8-3: Review of National Air Navigation Plans (NANPs)

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

Conclusion APANPIRG/31-2: Submission of Wildlife Strike Reports

Conclusion APANPIRG/31-4: Promotion of a Positive Safety Culture

Conclusion APANPIRG/31-5: GRF Implementation Action Plan Template

Conclusion APANPIRG/31-6: Runway Safety Team

Decision APANPIRG/31-9: Amend AAITF Terms of Reference

Conclusion APANPIRG/31-10: Review of National Air Navigation Plans (NANPs)

Conclusion APANPIRG/31-11: Alphanumeric Call Sign Initiative

Conclusion APANPIRG/31-13: The Revised Regional Strategies on AMS and Datalink

Conclusion APANPIRG/31-14: Mode S Forward Fit Equipage in APAC Region

Conclusion APANPIRG/31-19: Update of Information in APANPIRG Air Navigation Deficiencies Reporting Form

RASG and APRAST Meeting Outcomes (WP/3)

2.2 WP/3 provided the ATM/SG/9 with a summary of the outcomes of the Tenth Meeting of the Regional Aviation Safety Group – Asia and Pacific Regions (RASG-APAC/10, Bangkok, Thailand, 17 – 18 December 2020) and the Sixteenth Meeting of the Asia Pacific Regional Aviation Safety Team (APRAST/16, VTC, 17 to 18 March 2021).

2.3 RASG-APAC/10 had agreed to Decision *RASG-APAC 10/6 – Managing Aviation Safety Risks Arising from the COVID-19 Pandemic*.

Conference of Directors General of Civil Aviation Outcomes (IP/2)

2.4 ICAO provided an information paper on planning for the next Conference of Directors General of Civil Aviation, Asia and Pacific Region, noting that the normally annual conference had not been held in 2020 due to the COVID-19 pandemic. Information was also provided on tentative planning for the next Ministerial Conference on Civil Aviation.

Agenda Item 3: Performance Frameworks and Metrics

FIT-Asia and RASMAG Outcomes (WP/4)

3.1 ICAO provided a summary of the outcomes from the Eleventh Meeting of the FANS Interoperability Team-Asia (FIT-Asia/11, VTC, 23 to 26 August 2021) and the Twenty-Sixth Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/26, VTC, 20 to 23 September 2021).

FIT-Asia/11

3.2 The lower number of data link Problem Reports (PRs) submitted to the Central Reporting Agency (CRA) in the 2020-2021 reporting period (27, compared with 66 in 2019-2020) reflected the decrease in air traffic due to the impact of the COVID-19 pandemic.

3.3 Overall Automatic Dependent Surveillance – Contract (ADS-C) Actual Surveillance Performance (ASP) for the region had met the 95% criterion of the Required Surveillance Performance 180 (RSP180) specification, but fell marginally below the 99.9% criterion. Overall Controller-Pilot Data Link Communications (CPDLC) Actual Communications Performance (ACP) for the region met the 95% criterion.

RASMAG/26

3.4 The Japan Airspace Safety Monitoring Agency (JASMA) had provided RASMAG/26 with an update on progress and proposals of the safety improvement plan for the AKARA – FUKUE Corridor. Phase 1 of the improvement plan had been implemented on 25 March 2021. All Air Traffic Control (ATC) responsibility for (Air Traffic Services) ATS route A593 between ONIKU and SADLI had been handed over to Incheon Area Control Centre (ACC).

3.5 As at August 2021 the transition from Phase 1 to Phase 2 of the improvement plan had been discussed between China and Republic of Korea, but the transition date had not yet been determined.

3.6 **Table 1** shows the result of a safety assessment in the AKARA – FUKUE corridor airspace conducted by JASMA and the Electronic Navigation Research Institute (ENRI), using fast-time simulation of traffic sample data (TSD) based on flight records between 0100 and 0700 UTC.

ATM/SG/9
Report on Agenda Items

AKARA Airspace (note: based on Dec 2019 traffic sample data)				
Source of Risk	Same & Opposite Risk	Intersection Risk	Total Risk	Remarks
Technical Risk (only A593 with FLAS)	15.4 x 10 ⁻⁹	0.16 x 10 ⁻⁹	15.6 x 10 ⁻⁹	Past
Technical Risk (Phase 1 with FLAS)	0.03 x 10 ⁻⁹	0.23 x 10 ⁻⁹	0.26 x 10 ⁻⁹	Current
Technical Risk (Phase 1 without FLAS)	0.02 x 10 ⁻⁹	0.20 x 10 ⁻⁹	0.22 x 10 ⁻⁹	
Technical Risk (Phase 2 with FLAS)	0.01 x 10 ⁻¹⁴	0.17 x 10 ⁻⁹	0.17 x 10 ⁻⁹	
Technical Risk (Phase 2 without FLAS)	0.05 x 10 ⁻¹⁵	0.12 x 10 ⁻⁹	0.12 x 10 ⁻⁹	Best future

Table 1: JASMA/ENRI result of safety assessment using fast-time simulation

3.7 The Flight Level Allocation Scheme (FLAS) was also discussed under **ATM/SG/9 Agenda Item 6, WP/25**.

3.8 The 62% fall in traffic volume in the Corridor due to the coronavirus outbreak had led to the number of Large Height Deviation (LHD) reports falling from 29 in 2019 to 5 in 2020. However, the overall vertical collision risk continued to exceed the Target Level of Safety (TLS) due to the Corridor being highly susceptible to even a single deviation resulting in the airspace not meeting TLS.

3.9 **Table 2** summarized current LHD Hot Spots, the FIRs involved, the year of identification, and status remarks.

Hot Spot	Involved FIRs	Identified	Remarks
A1	Kolkata/Chennai/Dhaka-Yangon	2015	Cat. E LHDs reducing
A2	Chennai – Kuala Lumpur	2015	Cat. E LHDs reducing
B	Incheon (AKARA Airspace)	2015	Cat. E LHDs
D	Manila – all adjacent FIRs	2015	Cat. E LHDs reducing Cat F LHDs emerging
F	Mogadishu – Mumbai	2015	Cat. E LHDs
G	Sanaa/Muscat – Mumbai	2015	Cat. E LHDs (Sanaa improved)
J	Jakarta – Singapore/Kota Kinabalu	2018	Cat. E LHDs, minor and reducing
M	Colombo – Melbourne	2019	Proposed to re-classify as non-hot spot
N	Oakland USA – Hawaii CEP	2019	Cat. E LHDs increasing

Table 2: LHD Hot Spots in the Asia/Pacific Region

3.10 **LHD Hot Spot G** (Sanaa/Muscat – Mumbai) and **LHD Hot Spot F** (Mogadishu – Mumbai) at the western boundary of Mumbai Flight Information Region (FIR) remained as LHD hot spots since 2015. In 2020 the number of non-zero duration LHDs of these hot spots accounted for 62% of all non-zero-duration LHDs of the South Asia/Indian Ocean (SA/IO) airspace and the resultant operational risk of **11.17 x 10⁻⁹ FAPFH** accounted for 74% of the total operational risk of the SA/IO airspace. It was strongly recommended that an engineering solution such as ATS Inter-facility Data Communications (AIDC) (hard barrier) be implemented to mitigate the risk.

3.11 The number of LHDs at **LHD Hot Spot A1 (Kolkata/Dhaka - Yangon) and LHD Hot Spot A2 (Chennai - Kuala Lumpur)**, first identified as hot spots in 2015, had been decreasing from 275 in 2018 to 24 in 2020. All reported LHDs at **LHD Hot Spots A1 (Kolkata/Dhaka - Yangon) and A2 (Chennai - Kuala Lumpur)** in 2020 had 0-min duration, resulting in the operational risk of 0 FAPFH. This was related to safety enhancement initiatives including ADS-B data sharing between Kolkata and Yangon, and AIDC between Chennai and Kuala Lumpur, as well as the reduction in traffic volume.

3.12 Even though the situation of **LHD Hot Spot D (Manila and all adjacent FIRs)** seemed to be improving, the majority of the reported LHDs and the operational risk of the SEA airspace still remained along the boundaries of Manila FIR. A total of 24 LHDs at Manila FIR boundaries accounted for 62% of the number of LHDs in the SEA airspace. The resultant operational risk of 1.05×10^{-9} FAPFH accounted for 74% of the operational risk of the SEA airspace. Two out of three long duration LHDs occurred at Manila FIR boundaries.

3.13 **Figure 1** illustrated the trend of LHDs being reported along Manila FIR boundaries together with the timeline of major safety improvement implementation by Manila (ACC) and the adjacent units.

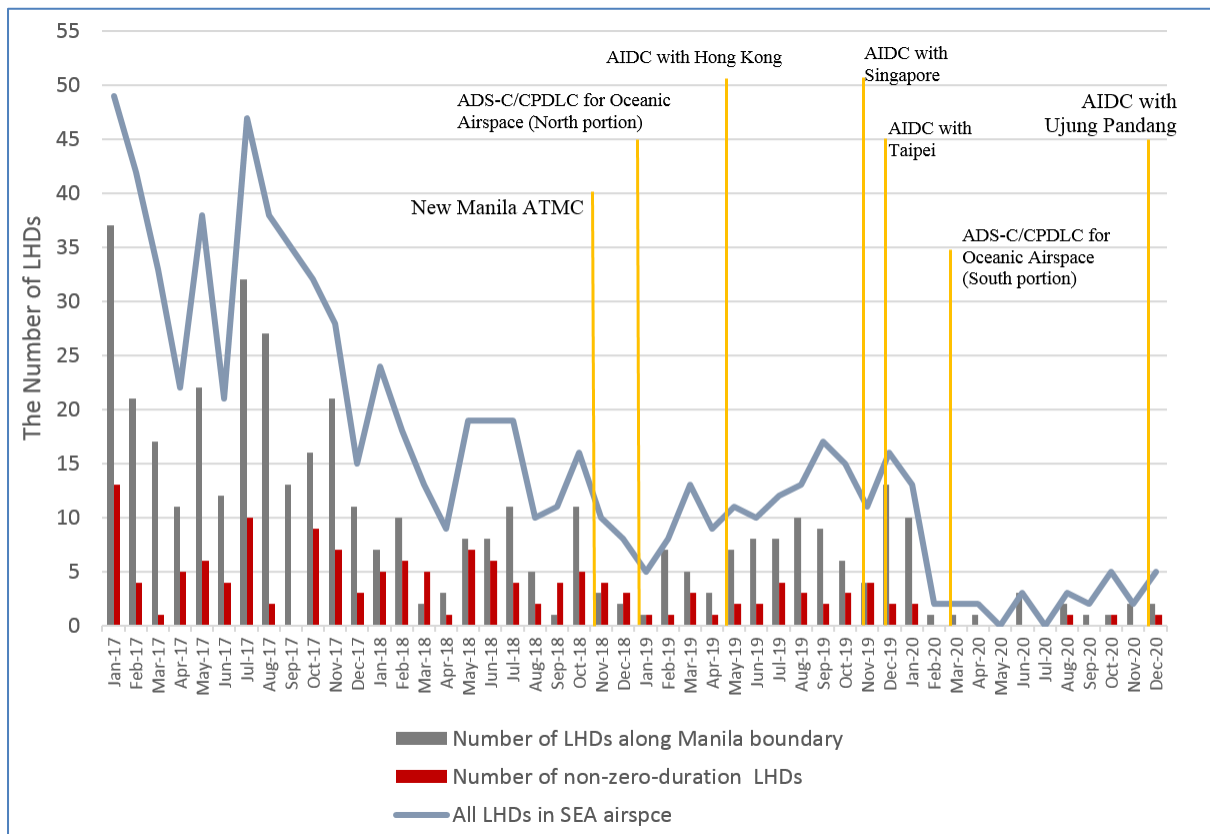


Figure 1: LHDs along Manila FIR Boundary 2017 to 2020

3.14 MAAR presented a combined summary of the safety analysis results for the Asia/Pacific (APAC) Region, on behalf of the APAC RMAs and En-route Monitoring Agencies (EMAs). The report was divided into the Pacific (PAC) area, and Asia area (**Figure 2**).

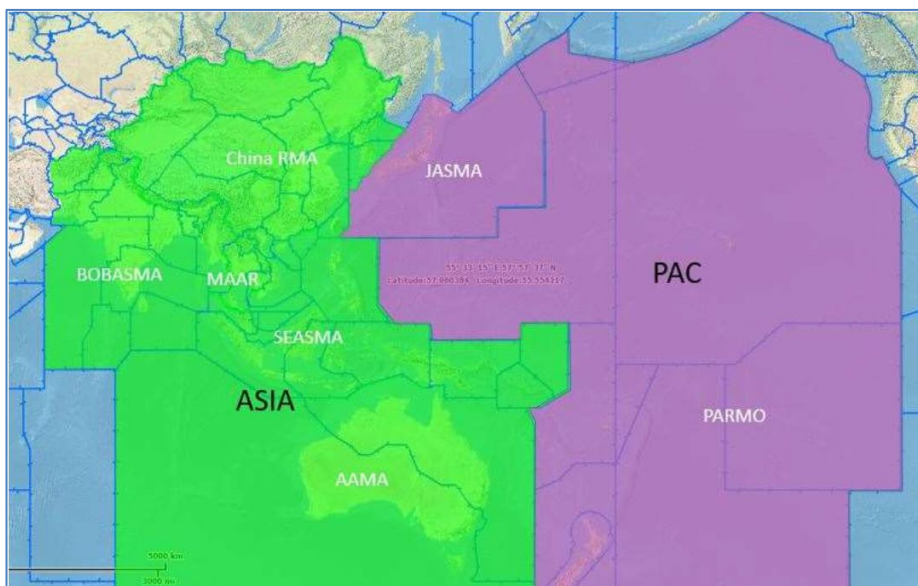


Figure 2: Asia and Pacific Safety Reporting Areas

3.15 The estimated vertical collision risk for 2020 for the PAC area did not meet TLS. (**Table 3**). The overall risk vertical risk had been increasing from 2016 to 2020 due to improvements in reporting culture.

Pacific Area – annual flying hours = 1,749,178 hours			
Source of Risk	Risk Estimation	TLS	Remarks
Vertical Technical Risk	0.14×10^{-9}	2.5×10^{-9}	Below Technical TLS
Vertical Operational Risk	16.57×10^{-9}	-	-
2020 Vertical Overall Risk	16.71×10^{-9}	5.0×10^{-9}	Above TLS

Table 3: Pacific Area Vertical Collision Risk 2020

3.16 The estimated vertical collision risk for 2020 for the Asia area did not meet TLS. (**Table 4**). The overall risk continued to decline since 2017 due to various safety improvement initiatives, but remained above TLS.

Asia Area – annual flying hours = 5,404,154 hours			
Source of Risk	Risk Estimation	TLS	Remarks
Vertical Technical Risk	0.33×10^{-9}	2.5×10^{-9}	Below Technical TLS
Vertical Operational Risk	7.09×10^{-9}	-	-
2020 Vertical Overall Risk	7.42×10^{-9}	5.0×10^{-9}	Above TLS

Table 4: Asia Area Vertical Collision Risk 2020

3.17 **Table 5** lists the numbers of non-RVSM airframes reported annually by each RMA.

Report	AAMA	China RMA	JASMA	MAAR	PARMO	Total
RASMAG/20	8	45	15	234	26	328
RASMAG/21	5	6	15	106	11	143
RASMAG/22	7	40	11	163	25	246
RASMAG/23	5	20	9	43	38	115
RASMAG/24	5	4	17	34	1	61
RASMAG/25	2	24	6	26	9	67
RASMAG/26	10	19	21	19	3	72

Table 5: Trend of Non-RVSM Airframes Observed

3.18 The RASMAG Chair had presented a paper addressing an action item from the RMACG/14 meeting, which **asked** all RMAs to request clarification from their respective PIRGs on responsibilities of the RMA regarding verification of the approval status of State aircraft (military and other government aircraft performing non-commercial, sovereign functions) and their relation to civil authorities. The ‘rogue’ aircraft (those that included ‘W’ in flight plans but did not have matching RVSM approval) that persistently remained on the list were mostly State aircraft. In order for the rogue State aircraft to be removed from the list either the State aircraft’s approval data had to be provided to the designated RMA, or the State aircraft operator had to stop using ‘W’ in item 10 of the ICAO flight plan.

3.19 The Draft Conclusion proposed by RASMAG/26 was not endorsed by the meeting.

Draft Conclusion RASMAG/26-3: RVSM Approvals Data and Filing of RVSM Indicator in Flight Plans of State Aircraft

That, States are urged to:

1. *liaise with their State aircraft operators to:*
 - a. *share State aircraft RVSM approval data with the designated RMA where State aircraft RVSM approval processes are implemented;*
 - b. *confirm the RVSM approval status of State aircraft when queried by the RMA; and*
 - c. *not file ‘W’ in item 10 of the ICAO flight plan of aircraft that are not approved for RVSM; and*
2. *respond to a survey on RMA and State responsibility on the matter of RVSM approvals of State aircraft.*

3.20 While noting the need for RVSM approval for all aircraft that included the RVSM indicator in flight plans, for the safety of operations in the airspace, the meeting considered that there would be considerable difficulty in sharing data on State aircraft outside the State. Items 1a. and 1b. of the Draft Conclusion were not supported by ATM/SG, but the remainder was acceptable.

3.21 JASMA had presented a list of operator-aircraft combinations operating within the Pacific Ocean airspace of the Fukuoka FIR without registration of Performance-Based Communications and Surveillance (PBCS) approval. While the percentage of all flights that had filed PBCS indicators in flight plans increased to over 87% over the period, the percentage that were recorded in the database as PBCS-approved remained below 80%. Details were provided of the 203 airframes that had filed PBCS indicators but were not included in the PBCS approvals database.

3.22 MAAR had started a trial process to verify ICAO aircraft address (24-bit address) and quality-check other parameters as a by-product. Errors detected included *inter alia* mismatch of the aircraft address and the information in Item 18 of the flight plan, mismatched aircraft address due to incorrect address information in the RMA RVSM approval database, and lag time in the provision of the combined snapshot when aircraft were transferred to a different State of Registry.

Seamless ANS Plan and Monitoring Update (WP/5)

3.23 The meeting was informed of the current status of *Asia/Pacific Seamless Air Navigation Services (ANS) Plan* (formerly the Seamless ATM Plan) reporting, and the implementation progress of air navigation improvements in the APAC Region. Due to the lack of a current reporting system the ICAO Regional Office was not able to update the current implementation status; the reporting portal had not been updated to match the 6th Edition of GANP and the current Version 3.0 of the Seamless ANS Plan. Implementation status information provided in the paper was as of March 2019, and therefore unchanged since reported to ATM/SG/8 in 2020. The meeting was reminded of ***APANPIRG Conclusion 30/6 - ICAO HQ Support for Regional ANS Implementation***.

3.24 The meeting was reminded that implementation of the ten priority regional targets for Phase I of the Seamless ANS Plan (November 2015 to November 2019) had in general not been achieved. There were now 16 priority ASBU Block 0 and 1 and regional elements.

3.25 Information was provided on the need for States to develop a National Air Navigation Plan (NANP) as detailed in Section 9 of the Seamless ANS Plan and included among the *specific regional requirements* of the Regional Air Navigation Plan (ANP) Vol II. To align with other APAC plans that were subsidiary to the Seamless ANS Plan the Regional Office had developed a NANP reporting form.

3.26 The following Draft Conclusion was proposed, introducing a NANP reporting form for use by States and APANPIRG to track NANP implementation progress.

Draft Conclusion ATM/SG/9-X: National Air Navigation Plan Reporting Form

That, the National Air Navigation Plan Reporting Form at ATM/SG/9 WP/05 Attachment C be adopted, and uploaded to the ICAO Asia/Pacific Regional Office Website. States are urged to report the status of NANP at least once annually, by 31 January each year.

3.27 Republic of Korea supported the intent of the Draft Conclusion, but proposed a different reporting date (April each year) to align with other reporting requirements.

3.28 China did not support the Draft Conclusion, stating that Seamless ANS reporting included NANP content; new reporting requirements should not be added; ~~and~~ some contents of the proposed form were not feasible; and existing reporting should instead be improved.

3.29 The meeting was therefore unable to reach consensus on this proposal.

3.30 ICAO reminded the meeting that ANP Vol II Part I Section III (relevant excerpt provided in Flimsy 01) placed a requirement on States to report their NANP implementation progress and the status of its applicable global and regional elements at least once each year. The purpose of the proposed reporting form and reporting mechanism was to provide States with a regionally standardized means to meet the requirement.

3.31 ICAO further informed the meeting that ATM/SG should be expected to support and facilitate this reporting requirement by proposing a standardized mechanism to do so. It was noted that other APANPIRG Sub-Groups were also monitoring the progress of this matter as they too had an interest in how NANP progress would be reported. The ATM/SG report to APANPIRG/32 would include discussion of this matter, to ensure APANPIRG awareness of a regional reporting requirement that could not currently be met.

ANS USOAP Update (WP/6)

3.32 WP/6 provided information on the ICAO Universal Safety Oversight Audit Programme (USOAP) Continuous Monitoring Approach (CMA). The paper discussed the Protocol Questions (PQs) used to assess a State’s safety oversight system, and an annual update of ANS USOAP status.

3.33 The meeting was informed that the 2020 edition of the USOAP CMA Protocol Questions (PQs) were available to reflect amendments to the ICAO provisions and reference documents (ATM/SG/9 WP06 Attachment A).

3.34 The average ANS Effective Implementation (EI) of APAC region was 68.52%, as at February 2020. **Figure 3** illustrated the EI ratings for ANS-related PQs of the 37 APAC States that had been audited or received USOAP activity:

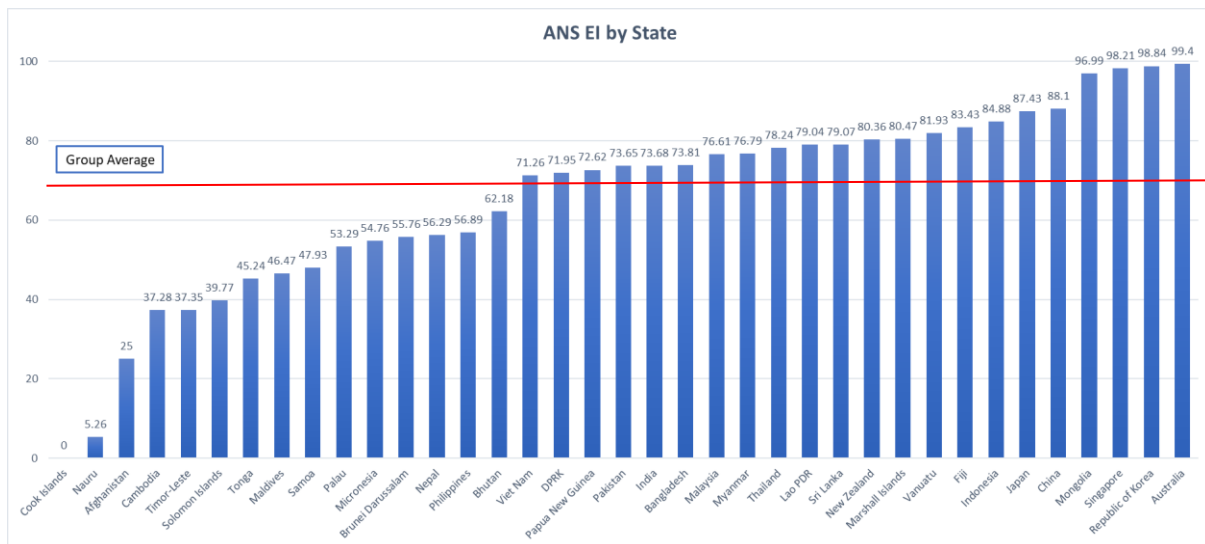


Figure 3: USOAP EI Comparisons by State (October 2021)

3.35 No onsite USOAP activity had been undertaken during the period of the COVID-19 pandemic.

Application of ATC Separation Standards (WP/7)

3.36 ICAO presented data on surveyed ATC separation standards that were being applied within the APAC Region compared to the provisions in the elements 7.34 and 7.35 of the *Asia/Pacific Seamless ANS Plan*. The response from APAC States and Administrations to the latest survey had been poor, with only 12 responses received (28%). The meeting was reminded that responding to the survey required few resources, and was an important activity to understand whether service delivery in the region was matched with the capability of aircraft and ground systems.

3.37 **Figures 4 and 5** illustrated the efficiency of ATC spacing between aircraft at the same level as it is theoretically being applied inbound at FIR TOC Points, and within FIRs, as at March 2021.

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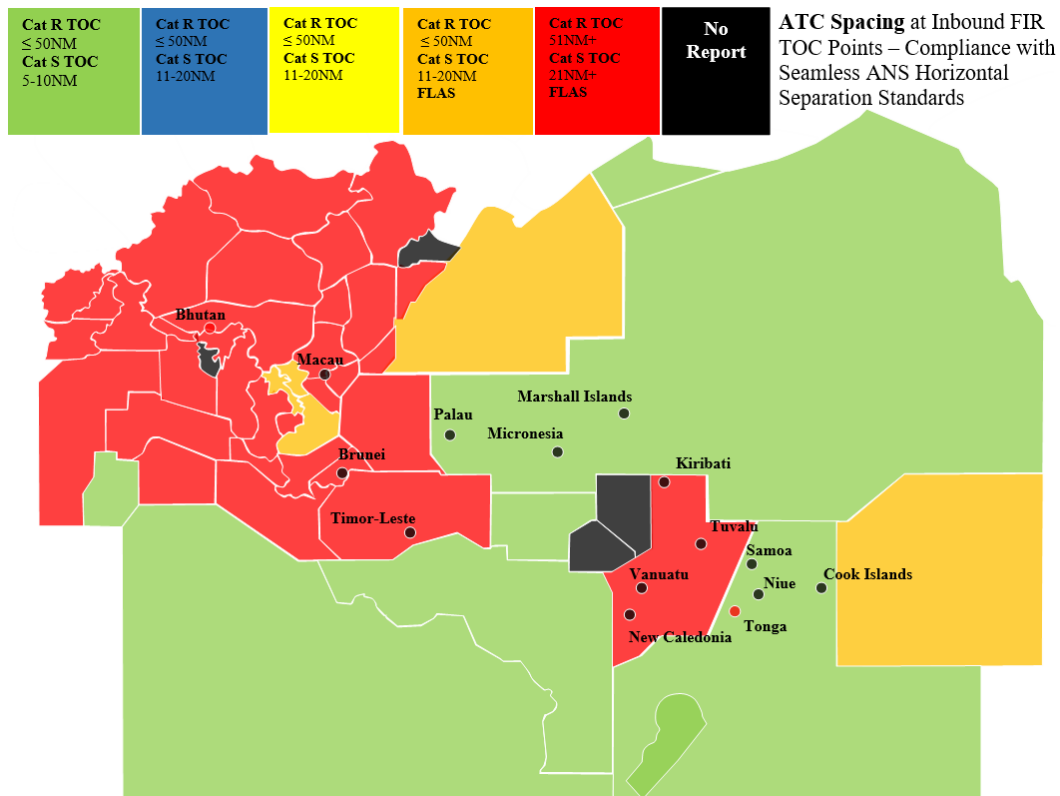


Figure 4: ANS Horizontal Spacing at Inbound FIR TOC points, March 2021

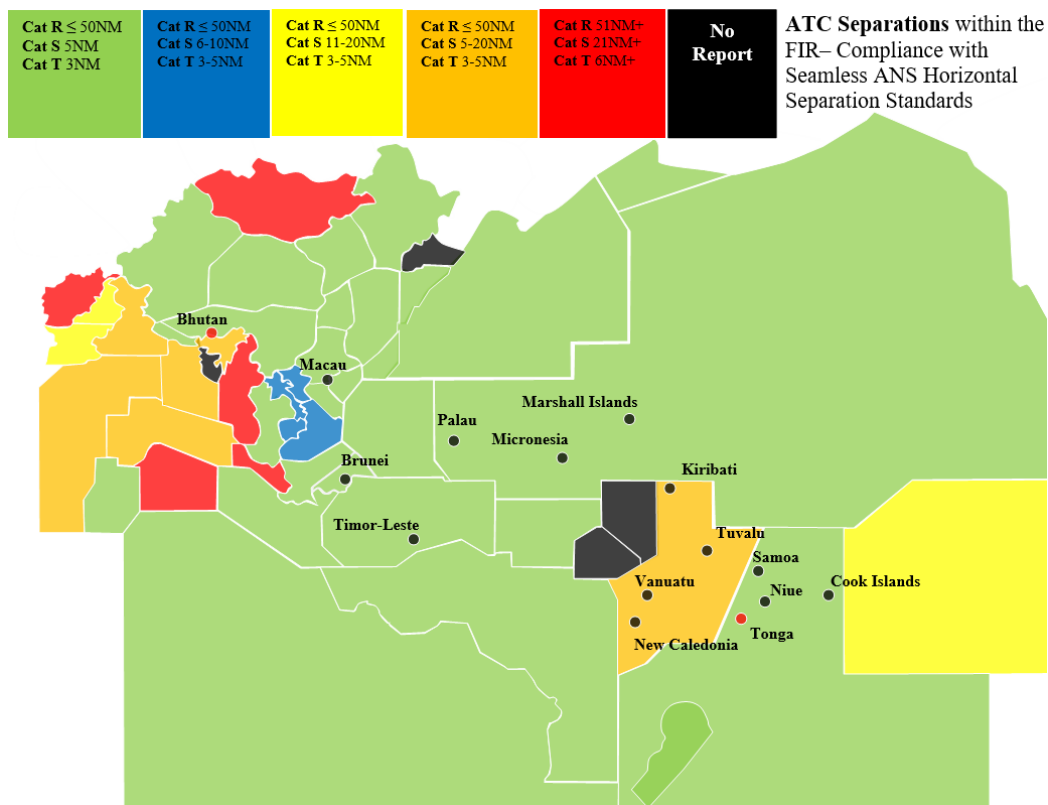


Figure 5: Horizontal Separation Minimums within the FIR, March 2021

3.38 **Figure 4** indicated that no Asian States except for the Male FIR (Maldives), were adhering to the TOC spacing expected inbound to their FIRs in accordance with the *Asia/Pacific Seamless ANS Plan*, despite the largely modernised ATC surveillance and communication systems available. Only two Pacific FIRs were failing to provide the correct TOC aircraft spacing.

3.39 As presented in **Figure 5** and in contrast to the TOC results, many more Asian States and Administrations had been applying the recommended separation minimums within their FIR(s), including China, Japan, the Republic of Korea, Malaysia and Thailand. However, many States were still not meeting the expectations of the Seamless ANS Plan in this regard.

3.40 To better analyse the separation minimums used in the APAC Region, the Regional Office, with valuable inputs from Thailand, had developed a new survey (**ATM/SG/9 WP/07 Attachment D**), also examining spacing applied at each TOC point in order to identify ‘bottleneck’ FIR Boundary TOC points in the region. In response to a query, ICAO confirmed that the new survey form was a replacement for the previous form, and not an additional form.

3.41 All Administrations were urged to review Letters of Agreement (LOAs) with adjacent FIR, both periodically and whenever there was an improvement in CNS/ATM systems, given the urgent need to ensure the most efficient ATM systems to support the fragile recovery of the aviation industry after severe financial losses during the COVID-19 pandemic.

3.42 The meeting agreed to the following Draft Conclusion, drafted by the Combined Tenth Meeting of the South Asia – Indian Ocean ATM Coordination Group and Twenty-Seventh Meeting of the Southeast Asia ATS Coordination Group (SAIOACG/10 and SEACG/27, 29 March to 02 April 2021) for consideration by APANPIRG/32:

Draft Conclusion ATM/SG/9-1: Implementation of Efficient ATS Horizontal Separations and Transfer of Control Aircraft Spacing

That, given the global priority to support airlines’ recovery from the unprecedented negative economic consequences of the COVID-19 pandemic, and the suitable low traffic environment:

- a) States 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

Agenda Item 4: Air Navigation Service Deficiencies

Civil-Military Cooperation to Eliminate Indonesia’s ANS Deficiency (WP/8)

4.1 Indonesia clarified the corrective action plans of Indonesia to eliminate its APANPIRG deficiency on the designation of restricted area within international airspace. During the last two years DGCA Indonesia in collaboration with the ANSP AirNav Indonesia had conducted several coordination meetings with the Ministry of Defence and Indonesia Air Force to discuss civil-military programs. In July 2021 the military had provided a set of coordinates to be published in Aeronautical Information Publication (AIP) Indonesia, designating the airspace concerned as Danger Area, where it was over international waters (**Figure 6**).

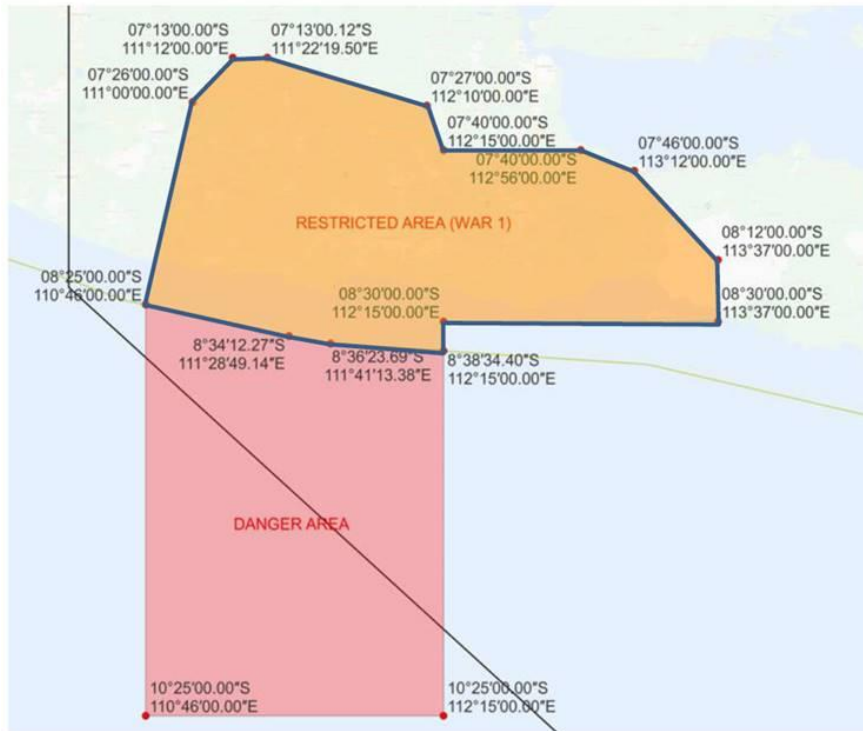


Figure 6: Establishment of Danger Area in International Airspace

4.2 The establishment of the Danger Area WAD1 had been published in Aeronautical Information Regulation and Control (AIRAC) AIP Amendment 109, effective on 07 October 2021. The updated status had been reported to the ICAO APAC Regional Director

4.3 ICAO informed Indonesia that the deletion of the Deficiency in this regard was supported, provided a copy of the relevant section of the AIP was sent to ICAO Regional Office.

Special Use Airspace Improvement in Japan (WP/9).

4.4 Japan presented information stating that restricted areas in the Fukuoka FIR were established in accordance with ICAO Annex 2 and Annex 11. This information was provided in response to ATM/SG/8 outcomes which had identified Japan as being potentially subject to an APANPIRG ANS Deficiency due to Restricted Area in international airspace.

4.5 The meeting was informed that the example special use airspace that was included in discussion at ATM/SG/8, R-109, along with all other 'R-x'-designated areas established by Japan in international airspace, had the characteristics of Danger Areas. Restricted areas were established above the land areas or territorial waters of Japan, and were identified by the designator RJRx.

4.6 Japan had been discussing an amendment of AIP Japan to inform aircraft operators that the area name 'R-x' within international airspace did not mean restricted area.

4.7 ICAO informed the meeting that Annex 11 provided the following standard in this regard:

2.33.3 The identification shall be composed of a group of letters and figures as follows:

a) nationality letters for location indicators assigned to the State or territory which has established the airspace;

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b) a letter P for prohibited area, R for restricted area and D for danger area as appropriate; and

c) a number, unduplicated within the State or territory concerned.

Note.— Nationality letters are those contained in Location Indicators (Doc 7910).

4.8 Therefore, the compliant designator for a Danger Area in the Fukuoka FIR would be ‘RJDx’, with the option to omit ‘RJ’. ICAO further informed the meeting that an APANPIRG Deficiency for this case was not under consideration at this time.

ATM and Airspace Safety Deficiencies List (WP/10)

4.9 ICAO presented the list of APANPIRG Air Navigation Deficiencies in the ATM and Airspace Safety fields. The meeting agreed to the following change proposals for consideration by APANPIRG/32 and recorded in **Appendix C to the Report**:

- a) Designation of Restricted Areas
 - i. Indonesia deletion, subject to provision of a copy of the relevant section of AIP Indonesia;
 - ii. Australia amendment – TBD set to December 2022.

4.10 The meeting noted the following change proposals from RASMAG/26:

- a) Non-Provision of Safety-related Data – Afghanistan deletion, subject to provision of data for September and October 2021.
- b) Data Link Performance Monitoring and Analysis
 - i. Fiji deletion;
 - ii. India modification, to remove reference to Kolkata FIR.

4.11 Deficiencies identified by IFALPA were provided in **ATM/SG/9 WP/10 Attachments B and C**, noting that the APANPIRG Procedural Handbook stated that such deficiencies were valuable sources of information that should be considered by APANPIRG. A list of contacts was provided by IFALPA for the use of States wishing to discuss these deficiencies.

4.12 The meeting was also invited to review the ICAO List of Contacts for Deficiencies, accessible through the ICAO secure portal at <https://portal.icao.int/DEF/Pages/default.aspx> and provided in **ATM/SG/9 WP/10 Attachment D**.

4.13 There were considerable discussions on the IFALPA Deficiencies.

4.14 Points arising included:

- States requested advance coordination/discussion of issues before they were raised as IFALPA deficiencies;
- IFALPA deficiencies should not be raised without first discussing the issue with the State;
- IFALPA should propose mitigations for Deficiencies;
- States requested more details so they could follow up appropriately;
- States requested IFALPA write to them to coordinate the problem so it could be resolved;

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- Some IFALPA Deficiencies such as the example of Nepal may be normal results of other factors such as topography, therefore Nepal requested that IFALPA remove this Deficiency from the list;
- The IFALPA Deficiency relating to ATS route A593 in the Incheon FIR was not valid since the 25 March 2021 changes under the AKARA corridor airspace improvement project Phase 1;
 - It was noted that this Deficiency was dated October 2020, and therefore may be overdue for review.

4.15 The meeting was reminded that the WP included a list of IFALPA Points of Contact (POCs), and that States should utilise it to contact IFALPA to discuss these issues. ICAO was also asked to provide IFALPA with the ICAO List of Contacts for Deficiencies, for the same purpose.

4.16 The meeting was of the opinion that the IFALPA Deficiencies should be presented separately from the APANPIRG Deficiencies, in a working paper presented by IFALPA.

Agenda Item 5: ATM Systems (Modernisation, Seamless ATM, CNS, ATFM)

Air Traffic Flow Management Steering Group Outcomes (WP/11)

5.1 The meeting was informed of the outcomes of the 11th Meeting of the Air Traffic Flow Management Steering Group (ATFM/SG/11), held by VTC from 02 to 06 August 2020.

5.2 The Sixth Meeting of the Asia/Pacific Airport Collaborative Decision-Making Task Force (APA-CDM/TF/6, 28 – 30 April 2021) had agreed to develop a regional model for the integration of ATFM and A-CDM. Noting the planned dissolution of the APA-CDM/TF, this activity had been recorded in the APA-CDM/TF Task List with a view to its subsequent inclusion in the ATFM/SG Task List, presuming ATFM/SG would undertake A-CDM-related activities following the dissolution of APA-CDM/TF. Action Items 5/2 and 5/3 from the APA-CDM/TF Task List had therefore been recorded in the ATFM/SG Task List pending APANPIRG agreement that ATFM/SG continue regional A-CDM work.

5.3 AOP/SG/5 (29 June to 2 July 2021) had agreed to ***Draft Decision AOP/SG/5-4: Dissolution of the APA-CDM/TF*** for consideration by APANPIRG/32.

5.4 The meeting agreed to the following Draft Decision for consideration by the APANPIRG/32:

Draft Decision ATM/SG/9-2: Revised ATFM/SG Terms of Reference

That, in the event that APANPIRG/32 adopts ***Draft Decision AOP/SG/5-4: Dissolution of the APA-CDM/TF*** and determines that ongoing APAC regional A-CDM work be conducted by ATFM/SG, the revised ATFM/SG Terms of Reference at **Appendix D to the Report** be adopted.

5.5 ATFM/SG/11 had been provided with an operational analysis and overview of westbound flights through the Kabul FIR associated with the Bay of Bengal Cooperative ATFM (BOBCAT) system for the two-year period from July 2019 to June 2021. **Figure 7** illustrated the BOBCAT slot request volume for the period.

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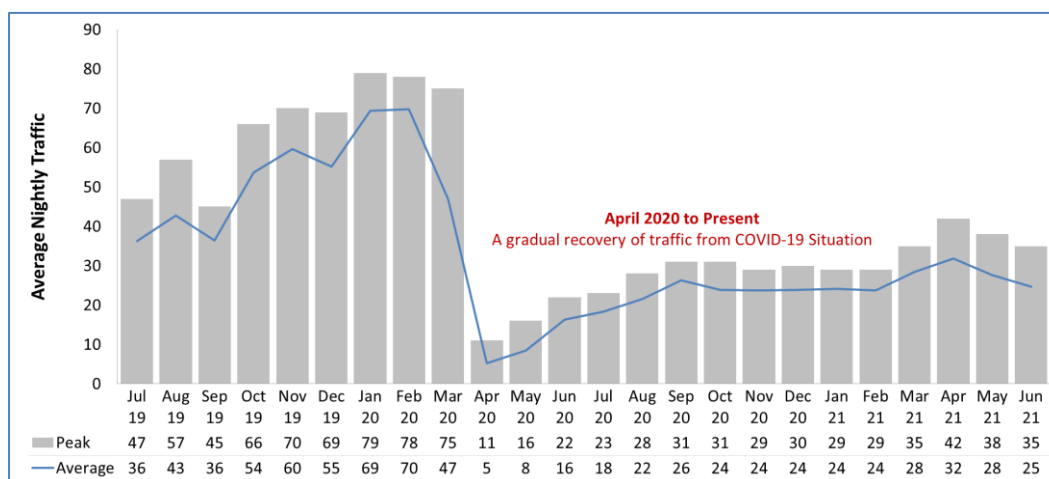


Figure 7: BOBCAT Traffic Demand from Slot Request: July 2019 – June 2021

5.6 The meeting was informed that due to the current ATM contingency situation in the Kabul FIR BOBCAT system operations had been temporarily suspended until such time as demand for overflights of Afghanistan resumed.

5.7 An update was provided on progress in the Asia/Pacific Cross-Border Multi-Nodal ATFM Collaboration (AMNAC), including post-operations analysis results, the role of collaboration during the COVID-19 pandemic, technical progress on ATFM information exchange via Aeronautical Fixed Telecommunications Network/ATS Message Handling System (AFTN/AMHS), discussion on the progress of SWIM development for ATFM, and the development of a Flight Information Exchange Model (FIXM) 4.2 APAC Extension.

5.8 ATFM collaboration had been established with the East-Asia Air Traffic Management Coordination Group (EATMCG) using the multi-nodal ATFM Concept of Operations (CONOPS). Other collaborative efforts included those between Hong Kong China and Japan, Republic of Korea, and Taipei ACC. It was also possible to extend the trial use of Calculated Take Off Time (CTOT) instead of Minutes-in-Trail (MINIT) currently being undertaken with EATMCG to the AMNAC group, noting that the current reduced traffic conditions may offer a good trial opportunity. Singapore also expressed interest in supporting trials by receiving CTOTs or Calculated Time Over (CTO) converted from MINIT requirements.

5.9 Hong Kong China had conducted nine GDP operational trials to provide continuous training and familiarization to Hong Kong ATFM personnel and regional partners. The trials were conducted once or twice per month since January 2021, distributing CTOTs to AMNAC and EATMCG ANSPs. As there was currently no genuine demand/capacity imbalance at HKIA, only no-delay CTOTs were distributed. The operational trials had proven to be an important activity, validating the ATFM concept and procedures, facilitating ATFM personnel’s maintenance of currency in common operating procedures and providing training opportunities.

5.10 India’s Central Air Traffic Flow Management System (C-ATFM) was planned to be implemented in three phases. The C-ATFM system would be provided with cross-border multi-nodal ATFM information exchange capability in accordance with the APAC AFTN/AMH-based ICD for ATFM, and would Slot Allocation Messages (SAM), Slot Revision Messages (SRM) and Slot Cancellation Messages (SLC) from the EUROCONTROL Specification for ATS Data Exchange Presentation (ADEXP) format. C-ATFM was receiving Space-Based ADS-B surveillance data for oceanic airspace through the ATM automation system. Extended coverage would be considered to facilitate future long range ATFM. The distribution of ATFM measures for cross-border ATFM would commence in C-ATFM Phase III.

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5.11 India had estimated that, following the significant impact of COVID-19 on traffic levels, traffic may recover to 70% of December 2019 levels by the end of 2021.

5.12 Japan and Republic of Korea had informed ATM/SG/11 of flow management changes made to the 'AKARA Corridor'. **Table 6** summarized the changes in coordination and communications between China, Japan and Republic of Korea, according to new agreements replacing or revising the previous Letters of Agreement:

ATFM in the Corridor	Before	After (as of March 25 2021)
Coordination	China ↔ Japan ↔ ROK	China ↔ ROK ↔ Japan
Communication Network	Commercial line between Fukuoka ATMC and Shanghai ATCC	Commercial line between Shanghai ATCC and Daegu ATCC, between Daegu ATCC and Fukuoka ATMC

Table 6 Coordination and Communication in the AKARA Corridor (Incheon FIR)

5.13 IATA had acknowledged the resolution of the long-standing issue of overlapping sectorization, and informed the meeting that airspace users operating on A593 were very much expecting increased capacity and flexibility of operations on the route in the future.

5.14 ATM/SG/11 had been updated on progress of the Northeast Asia Regional ATFM Harmonization Group (NARAHG), formed by China, Japan, and Republic of Korea. Information was provided on normal traffic volumes (2019), information exchange, data connection testing and ICD, the NARAHG CONOPS, the planned ATFM connection utilizing the APAC Common AeRONautical Virtual Private Network (CRV), the establishment of a task force for severe weather reroute coordination, and recent major activities.

5.15 In discussion the ATM/SG/11 meeting had noted the information exchange model used in NARAHG ATFM exchanges was not FIXM, and was reminded that performance expectations of the Regional Framework for Collaborative ATFM specified the use of FIXM. China informed the ATM/SG/9 meeting that the current NARAHG ICD was based on FIXM 4.1.0, which had been implemented in January 2019 for data exchange via the CRV. The ICD version would remain fixed, with any further upgrade implemented after all NARAHG members agreed.

5.16 A summary of the ATFM implementation status of APAC Administrations was provided, reported against the performance objectives of the Regional Framework for Collaborative ATFM. Annual implementation status reports, due by 30 April 2021, were received from 14 APAC Administrations: Australia, Bangladesh, Hong Kong China, India, Indonesia, Japan, Mongolia, Pakistan, Philippines, Republic of Korea, Singapore, Thailand, United States, Viet Nam.

5.17 It was noted that COVID-19-pandemic-related disruption to ICAO meeting planning and associated APAC ANSP activities may have contributed to the lack of reporting in 2020 and 2021.

5.18 Based on reports received States were assessed as having Robust (90-100%), Marginal (70-89%) or Incomplete (0-69%) implementation. .

- India, Singapore, Thailand and USA were assessed as having Robust implementation.
- Australia, China, Hong Kong China, Japan, Indonesia, Pakistan and Republic of Korea were assessed as Marginal implementation.

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- Bangladesh, Cambodia, Macao China, Malaysia, Maldives, Mongolia, Myanmar, Nepal, New Caledonia, New Zealand, Papua New Guinea, Philippines and Viet Nam were assessed as Incomplete.

5.19 The following APAC States had never provided an implementation status report, and their implementation status recorded as Did Not Report:

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

5.20 The Meteorological Requirements Working Group (MET/R WG) had developed a way forward to identify and document use cases and user requirements for SWIM-based MET information services supporting ATFM in the APAC Region, the scope and objectives having been established under *Decision MET SG/24-13: Development of APAC User Requirements for SWIM-based MET Information Services Supporting ATFM*.

5.21 ATFM/SG/11 had commenced initial planning for an update of the Regional Framework for Collaborative ATFM. It was expected that a final draft of the reviewed document should be provided to ATFM/SG/12 in 2022, and subsequently to ATM/SG/10.

Cross-Border ATFM Procedure Research in China (IP/3)

5.22 China provided information on the research of cross-border ATFM operational procedures in Shanghai FIR. Under the Extended Arrival Management (XMAN) operational trial an attempt was being made to optimize the design of cross-border operational procedures based on data exchange between China, Japan and Republic of Korea. China was preparing to start discussion of the XMAN operating concept with Japan and Republic of Korea at the next NARAHG meeting, for optimizing future cross-border ATFM procedures in northeast Asia.

Missing Departure (DEP) Messages (WP/12)

5.23 ICAO provided an update on the issue missing DEP messages, as discussed at multiple meetings of the ATFM/SG and ATM/SG since and including ATFM/SG/8 (2018) and ATM/SG/7 (2019). The meeting was reminded of *Conclusion APANPIRG/27/12: Origination and Distribution of Departure (DEP) Messages*, and *Conclusion ATM/SG/7-5: ATS Message Reception and Handling*.

5.24 In discussing PANS-ATM 11.2.1.2.3.3 China expressed the opinion that the additional addresses for movement messages including FPL messages, highlighted in **ATM/SG/9 WP/12 Attachment A** as published in AIP China, were compliant with PANS-ATM provisions, and quoted several references. It was also suggested that the provisions in the PANS were potentially confusing and may require improvement, recognizing the importance of DEP message information in ATM. ICAO informed the meeting that States were encouraged to submit working papers on the subject to the relevant technical panel meetings, in this case the ATM Operations Panel (ATMOPSP).

5.25 USA informed the meeting that they had substantial internal re-distribution requirements for FPL and associated ATS messages, but the only addressing requirement in AIP USA ENR 1.11 was [FIR location indicator]ZQZX for each FIR entered by a flight. ICAO mentioned that there were a number of other APAC States that had this level of capability.

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5.26 ICAO informed the meeting that the raising of APANPIRG Deficiencies had previously been considered for cases where non-compliant addresses were specified in State AIP, but this would only be the case if any State failed to correctly process messages that were correctly addressed to [FIR location indicator]ZQZX. It was noted that several States had amended their AIP Section ENR 1.11 to more closely comply with the PANS-ATM provisions

5.27 Bangladesh, India, Malaysia, Maldives, Nepal and USA currently had APANPIRG ATM and Airspace Safety Deficiencies recorded for non-compliance with the requirements of ICAO Doc 4444 – *Procedures for Air Navigation Services – Air Traffic Management* (PANS-ATM) Section 11.4. In response to a query ICAO informed the meeting that this Deficiency did not relate to State AIP ENR 1.11, but instead was related to the percentage of flights for which DEP messages were not transmitted.

5.28 Due to the COVID-19 pandemic the planned further data gathering and analyses in 2020 and 2021 had not been conducted, as the significant reduction in air traffic was considered to render a data analysis of unrepresentative. However, noting the importance of this issue another regional analysis was being tentatively planned.

5.29 Thailand had conducted continuous monitoring of non-receipt of DEP messages for all flights entering the Bangkok FIR (VTBB). **Table 7** summarizes non-receipt of DEP messages for flights originating in the FIRs of APAC Administrations (missing DEP/number of flights).

Originating State	JAN 2021	FEB 2021	MAR 2021	APR 2021	MAY 2021	JUN 2021	TOT %
Afghanistan				2/2			100%
Bangladesh	34/100	40/112	29/106	8/99	6/89	11/62	23%
Bhutan	0/8	1/8	0/13	0/12	1/10	0/14	3%
Brunei Darussalam	0/6	0/4	0/6	0/8	0/10	0/10	0%
Cambodia	2/147	0/124	2/127	3/121	0/171	1/179	1%
China	2/473	4/356	1/498	0/474	2/495	4/478	< 1%
India	43/224	52/233	23/276	34/248	41/323	35/256	15%
Indonesia	6/101	6/96	8/107	6/79	5/69	4/69	7%
Lao PDR	0/21	0/15	0/23	0/21	0/19	0/29	0%
Malaysia	39/240	29/200	38/229	32/229	32/206	22/142	11%
Maldives	0/7	3/10	4/13	3/13	3/14	0/6	23%
Myanmar	4/146	1/86	7/103	3/126	1/142	8/140	3%
Nepal	0/45	1/43	0/57	2/63	2/18	0/11	2%
Pakistan	3/9	0/6	0/9	0/6	1/5	0/6	10%
Philippines	8/477	2/385	4/470	2/409	11/426	1/417	1%
Republic of Korea	0/128	0/138	2/180	2/189	2/221	0/176	< 1%
Singapore	2/405	1/328	1/452	1/489	2/501	1/518	< 1%
Sri Lanka	1/77	0/57	0/74	0/60	2/71	1/71	< 1%
USA	0/22	1/11	4/24	3/23	1/26	5/33	10%
Viet Nam	0/295	1/230	4/325	1/311	9/313	2/293	1%

Table 7: Non-receipt of DEP Messages for Flights Entering the Bangkok FIR per Originating State – January to June 2021

Indonesia Corrective Action to Manage Missing Departure Messages (WP/13)

5.30 Indonesia informed the meeting of actions taken to manage DEP messages, including corrective actions. Information included resolution of ATM system issues (coupling of radar data to flight plans in the ATC system) and human factors.

5.31 Indonesia also provided information on an amendment to AIP Indonesia ENR 1.11 *Addressing of FPL*, effective from 02 December 2021, to comply with the provisions of PANS-ATM. Indonesia informed the meeting that, in response to requests from other States for DEP messages to be addressed according to sectors in their FIRs, Indonesia would send ATS messages in accordance with PANS-ATM 11.2.1.2.3.3.

The Long-Term Vision for the Future Air Traffic Systems of Japan – CARATS (IP/4)

5.32 The meeting was provided information on the status of the long-term vision for future air traffic systems of Japan's Collaborative Actions for Renovation of Air Traffic Systems (CARATS), which was being renovated through updating the roadmap, restructure and promotion system, projects related to reduction of CO₂ emissions, and digital transformation.

Future of the Ocean 2035 (FOTO35) Program Overview and Alignment with ICAO Global Initiatives (IP/5)

5.33 A brief overview was provided by USA on the FAA's newest oceanic strategic initiative, Future of the Ocean 2035 (FOTO35), explaining its intended alignment with global ICAO initiatives such as the Global Trajectory-based Operations (TBO) Concept and the implementation of Flight and Flow Information for a Collaborative Environment (FF-ICE).

The Progress Toward Trial Operation of Domestic Controller Pilot Data Link Communications (CPDLC) In Japan (IP/10)

5.34 Japan informed the meeting of the progress of preparations for trial operation of domestic CPDLC. Japan Civil Aviation Bureau (JCAB) planned to initiate a trial operation in March 2022.

Regional Air Navigation Plan Update (WP/14)

5.35 ICAO presented an update on the ANP for the APAC Region. Noting that the previous ICAO Doc 9673 Asia and Pacific Regions Regional Air Navigation Plan did not provide a legal description of FIRs in the first place, it was important for States to understand that the process of checking, alignment and validation was crucial to provide a formal basis for their FIRs.

5.36 As FIRs were considerably more difficult to establish than Search and Rescue Regions (SRRs), the review of FIRs had been commenced first. ICAO anticipated that the SRR Table would be completed by October 2022, to be entered into the ANP by APANPIRG/33.

5.37 Current ICAO APAC FIR data was provided in **ATM/SG/9 WP/14 Attachments B and C** (FIRs and SRRs, respectively).

5.38 There were four areas affecting the resolution of 11 FIRs, each with a political dimension and therefore appropriately involving APANPIRG in terms of overseeing the process used to resolve issues. The four areas were detailed in **ATM/SG/9 WP/14 Attachments D to G**.

5.39 In response to a query on why the PfA for ANP definition of a FIR remained subject to further consultation when the common coordinates published in the AIPs of the two States concerned were aligned, ICAO informed the meeting that FIR boundary coordinates were required to be established by Regional Air Navigation Agreement¹. In the case mentioned, the PfAs for the two FIRS, submitted separately by the two States, did not align.

5.40 Republic of Korea believed completing the eANP review as early as possible would best serve the original purpose if the coordinates provided by each Contracting State corresponded to the historical data of ICAO.

5.41 Regarding as-yet uncirculated PfAs for FIRs with coordinates the same as historical data, the meeting was informed that due to the requirement for Regional Air Navigation Agreement the PfAs submitted for adjacent FIRs must also be in alignment. This process was necessary to ensure that objections did not obstruct the process at the later crucial stage of reaching such agreement.

5.42 China requested that ICAO GIS data not be used in working papers. China identified that there are some errors in GIS data used by ICAO relating to national boundaries of China. ICAO informed the meeting that ICAO GIS data had not been used since April 2020. China was invited to provide examples of where such data had been used.

5.43 IATA reminded the meeting that FIR boundary definition was a matter of the practicality of managing air traffic flows, and the airspace user perspective should be kept in mind.

5.44 30 FIR PfAs had been approved by the President of the Council and the data incorporated in ANP VOL I Table ATM I-1. Three FIR PfAs had been received by the ICAO Regional Office and were expected to be circulated shortly for ICAO HQ review. 12 FIR PfAs had been submitted to the Regional Office but required further clarification/justification with adjacent States. **Figure 8** showed the FIR review status in October 2021.

¹ Annex 11 Chapter 2 refers.

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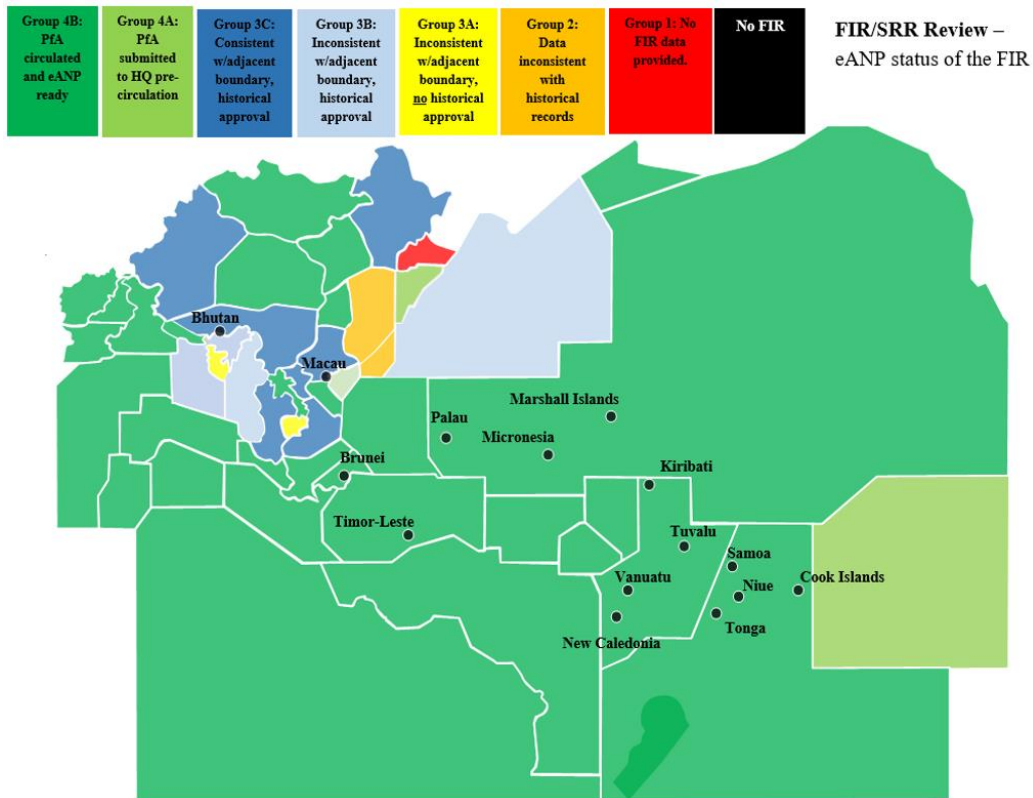


Figure 8: FIR Review Status, October 2021

5.45 14 SRR PfAs had been submitted and were being processed.

Resolution Effort for FIR Boundary Difference in Japan (WP/15)

5.46 The meeting was informed of Japan’s effort to resolve a difference in the FIR boundary between Japan and the Russian Federation. ATM/SG/8 had noted a previously unknown inconsistency with regard to the boundary coordinates of the Fukuoka (Japan) FIR and the Khabarovsk (Russian Federation) FIR. **Figure 9** illustrated the inconsistency. ICAO had proposed that bilateral discussions be held between Japan and the Russian federation, supported as required by the APAC and European and North Atlantic (EUR/NAT) Regional Offices.

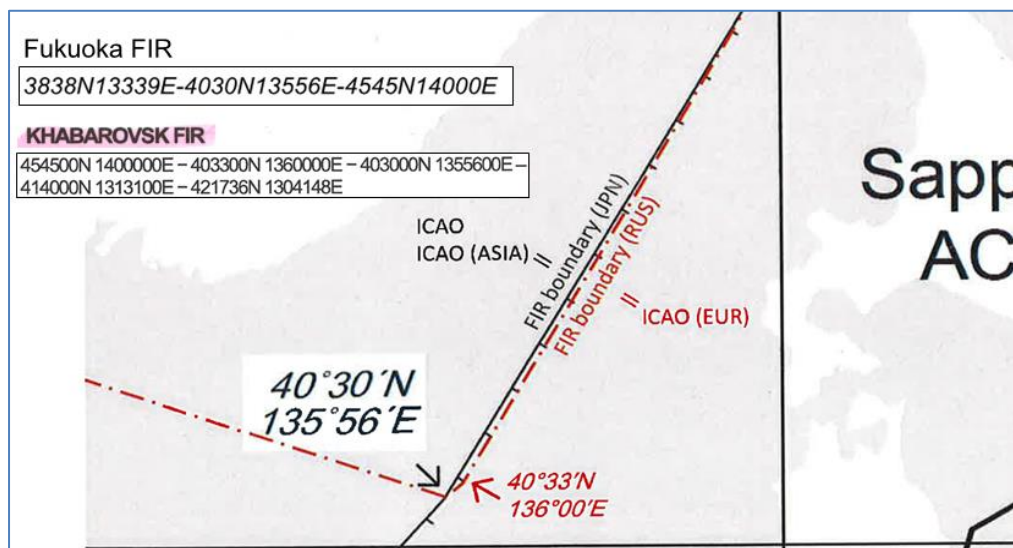


Figure 9: FIR Boundary Difference between Fukuoka and Khabarovsk FIRs.

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5.47 In June 2014 Japan had formally requested ICAO investigate the FIR boundary coordinate issue to clarify when and why the difference was caused.

5.48 ICAO informed the meeting that the 2014 request had been referred to the EUR/NAT Regional Office, but there had been no response and the matter had not progressed. The meeting was informed of the sequence of events that may have led to this outcome. ICAO APAC Regional Office would again take up the matter with the EUR/NAT Office.

Main Outcomes of CNS SG/25 (WP/16)

5.49 ICAO informed the meeting of recent developments in the Communications, Navigation and Surveillance (CNS) area that were of interest to ATM/SG, as discussed at the 25th Meeting of the CNS Sub-Group of APANPIRG (CNS SG/24, 18 to 22 October 2021).

5.50 Information was provided on outcomes from:

- the Fifth Meeting of the Spectrum Review Working Group (SRWG/5, 15 to 17 March 2021);
- the Eighth Meeting of the Aeronautical Communications Services Implementation Coordination Group (ACSICG/8, 21 – 23 June 2021)
- the Seventh Meeting of the Asia/Pacific AIDC Task Force (APA-TF/7, 07 – 09 June 2021); and
- the Fifth Meeting of the System-Wide Information Management (SWIM) Task Force (SWIM TF/5, 09 – 11 August 2021);

5.51 The ICAO EUR/NAT Office had initiated coordination with the APAC Office on interregional Aeronautical Message Handling System (AMHS) connection to support future Aeronautical Information Reference Model data, such as the ICAO Meteorological Information Exchange Model (IWXXM). Singapore would continue to provide the bilateral Singapore-London AMHS link, while a Bangkok-Rome link was awaiting the readiness of Rome for the AMHS transition. Other current links were Fukuoka-Moscow (AFTN) and Singapore-London (AMHS).

5.52 CNS SG/25 had reviewed global Performance-Based Navigation (PBN) status, noting the key requirement of ICAO Assembly Resolution ICAO wishes to speak A37-11 for the implementation of approach procedures with vertical guidance (APV) for all instrument runway ends by 2016. Current PBN implementation status for the APAC Region, compared with the global average, was provided in **Table 8**:

March 2021	LNAV(including LNAV only)	APV		PBN SID	PBN STAR
		LNAV/VNAV	LPV		
Global (%)	71.4	59.4	34.4	49.4	44.8
Asia/Pacific (%)	57.5	47.1	0	71.6	68.8

Table 8: APAC PBN Implementation

5.53 In response to a query from Nepal on the confusion inherent in the phrase *LNAV (including LNAV only)* used in Table 8, ICAO informed the meeting that this was already discussed at the Eighth Meeting of the Performance-Based Navigation Implementation Coordination Group (PBNICG/8, 06 – 08 July 2021) and, if required, it could be further deliberated at the PBNICG/9 meeting.

5.54 CNS SG/25 Draft Conclusions and Conclusions of key interest to ATM/SG included:

Conclusion CNS SG/25/03 – Asia/Pacific SWIM Implementation Plan and Status Survey;

Draft Conclusion CNS SG/25/09 – The APAC Roadmap for Mode S Implementation;

Conclusion CNS SG/25/10 – Mode S DAPs IGD 3.0;

Conclusion CNS SG/25/13 – Integrity of ICAO Aircraft Address and Target Identification in ADS-B/MLAT/Mode S Data and Flight Plan;

5.55 CNS SG/25 had supported the Draft Conclusion raised by the SAIOACG/10 and SEACG/27 meeting, which was subsequently agreed by ATM/SG/9 (Draft Conclusion ATM/SG/9-1)

5.56 The meeting was invited to note the updated ATN/AMHS/AIDC implementation status, CRV Implementation Status and ADS-B Implementation Status provided in **ATM/SG/9 WP/16 Appendixes A, B and C.**

Amendments to Annexes and PANS Relating to the Global Reporting Format for Runway Surface Conditions (WP/18)

5.57 ICAO reminded the meeting of the applicability, from 04 November 2021, of ICAO provisions in various Annexes and PANS for the reporting of runway surface conditions using the Global Reporting Format (GRF), SNOWTAM and revised ATC phraseology.

5.58 In 2016 all ICAO member States were informed through State Letters of the adoption of Standards and Recommended Practices (SARPS) and the approval of Procedures for Air Navigation Services (PANS) for the implementation of the new Global Reporting Format (GRF) for reporting runway surface conditions, and associated changes to ATC and AIS procedures, applicable from 05 November 2020.

5.59 ICAO State Letter 2020/073 dated 30 July 2020, had informed States of the adoption of amendments to various Annexes, and the approval of amendments to various PANS. The text of Amendments to Annex 15, PANS-ATM and ICAO Doc 10066 *PANS-Aeronautical Information Management* (PANS-AIM) was provided in the extract from the State Letter in **ATM/SG/9 WP/18 Attachment A**. The meeting was invited to note the amendment to the applicability of relevant definitions, and provisions for essential information on aerodrome conditions, ATC phraseology, and pilot reports of braking action related to the assessment and reporting of runway surface conditions:

- *as of 4 November 2021* replacing *as of 5 November 2020* (multiple cases);
- *until 3 November 2021* replacing *until 4 November 2020* (multiple cases).

5.60 ICAO guidance was provided in Circular 355 – *Assessment, Measurement and Reporting of Runway Surface Conditions*, and a dedicated web resource on GRF, including links to webinars, seminars and symposiums discussing the GRF, SNOWTAM, and ATC procedures was available at:

<https://www.icao.int/safety/Pages/GRF.aspx>

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5.61 The meeting was informed of potentially misleading information in various ICAO publications on runway condition code vis-à-vis the runway condition description when coverage of contamination was between 11% to 25% for any third of the runway. ICAO would seek clarification from appropriate technical experts. See also discussion under Agenda Item 7 WP/33.

5.62 IATA informed the meeting that there were some States that would not implement the GRF and associated procedures, some States would implement in accordance with ICAO provisions, and some States would implement a different form of GRF and/or procedure. It was very important that the aerodrome user had clear information in this regard.

5.63 The GRF was further discussed in ATM/SG/9 WP/33 – *AOP Subgroup Outcomes*.

Implementation of Status of SID/STAR Phraseology (WP/19)

5.64 ICAO informed the meeting of the results from a survey to States associated with the current implementation of the Standard Instrument Departure/Standard Arrival Route (SID/STAR) phraseology changes published in Amendment 7 to PANS-ATM, applicable from 10 November 2016. The survey, addressing Action Item 7/1 of the ATM/SG Task List, was circulated under State Letter AP087/21 (ATM) dated 12 May 2021. An informal survey on implementation planning had previously been circulated (May 2018), but few responses were received

5.65 The meeting was reminded of **Conclusion ATM/SG/6-4: Asia/Pacific Regional SID/STAR Phraseology Implementation Strategy**, adopting the strategy and urging all APAC Administrations to respond to a survey on the implementation of the SID/STAR phraseology and report final implementation of the phraseology to the ICAO APAC Office.

5.66 15 Administrations responded to the May 2021 survey:

Australia, Hong Kong China, French Polynesia, India, Indonesia, Japan, Nepal, Pakistan, Papua New Guinea, Philippines, Republic of Korea, Singapore, Sri Lanka, Thailand and USA.

5.67 Of the responding Administrations, 11 had implemented the phraseology, three had partially implemented, one had planned but not yet implemented. 29 Administrations did not respond.

Asia/Pacific Unmanned Aircraft Systems Update (WP/20)

5.68 The meeting was provided an update on ICAO Unmanned Aircraft Systems (UAS), activities, 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)*. Links were provided to the ICAO UAS Toolkit, COVID-19 Series Webinars on UAS related topics, and recorded presentations from the ICAO DRONE ENABLE 2021 Symposium.

Agenda Item 6: ATM Coordination (Meetings, Route Development, Contingency Planning)

SAIOACG and SEACG Outcomes (WP/21)

6.1 ICAO presented the key outcomes of the Combined SAIOACG/10 and SEACG/27 meeting, held from 29 March to 02 April 2021.

6.2 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 ***Draft Conclusion SAIOACG/10 and SEACG/27-1: Implementation of Efficient ATS Horizontal Separations and Transfer of Control Aircraft Spacing***, as discussed and agreed by the meeting under Agenda Item 3, WP/7.

6.3 The SAIOACG/10 and SEACG/27 meeting had discussed the results of the Future Meeting Modalities Survey conducted by the ICAO APAC Regional Sub-Office, which requested respondents to advise on the preferred modality and conduct of future SAIOACG and SEACG Meetings.

6.4 The meeting agreed to the following Draft Decision, drafted by SAIOACG/10 and SEACG/27 to ensure future meetings were conducted more effectively and economically:

Draft Decision ATM/SG/9-3: Combining SAIOACG and SEACG Groups to form the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG)

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 challenges to States/Administrations in terms of participant's travel and attendance costs attending two separate meetings;

the two groups be combined to form the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG), with Terms of Reference as provided in **Appendix E to the Report**.

ATS Route Catalogue (WP/22)

6.5 WP22 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 and IATA requesting status updates on relevant route proposals. Feedback had been incorporated into the draft *Asia/Pacific Region ATS Route Catalogue*, which was reviewed by the meeting and would be uploaded to the APAC website as Version 21.

6.6 The meeting was reminded of the established management protocols for the *Asia/Pacific Region ATS Route Catalogue*, which required that route proposals without progress for more than five years, or which had a Priority C or D (more than 36 months) by States and were assigned a LOW priority by IATA would be deleted.

6.7 Some cross-border airspace improvement projects were delayed, possibly due to a lack of validation tools to support the decision-making process. Feedback received by ICAO following a survey to identify validation methods and tools commonly used in the APAC region had led to the conclusion that the ICAO APAC Regional Sub-Office should conduct a webinar for States to share their knowledge and experiences and the benefits gained by using validation tools. The webinar was tentatively planned to be held in January 2022.

Asia Pacific Region ATS Route Catalogue – IATA Review (WP23)

6.8 IATA presented its 2021 review of the Asia/Pacific ATS Route Catalogue (**ATM/SG/9 WP/23 Annexure A**). IATA requested States to urgently carry out a detailed review of routes in their area of responsibility for possible implementation, given the changed COVID-19 pandemic environment and expected ‘new normal’ for aviation operations. Priority routes for airlines were those that gave the most benefit to operations and the environment in terms of CO₂ savings.

6.9 IATA was advocating on many fronts to support a recovery for aviation, noting among other factors that one area that would assist airlines and support recovery was more efficient routes saving flight time and fuel.

6.10 IATA particularly stressed the importance of three routes identified in the review: Himalaya 02 (potential to save 19 to 25 minutes and assist in decongesting A599/Lashio), BOB 01 (to provide a more efficient connection of traffic from the south west Bay of Bengal to the Far East) and BOB 02 (providing more efficient connectivity over the Bay of Bengal and assisting the decongestion of several other ATS routes.).

6.11 Nepal supported IATA’s suggestion on the Himalaya 2 route as it was crucial to support the airline community under the circumstances of the COVID-19 pandemic, by contributing significant track-mile savings, and urged that all other stakeholders consider IATA’s suggestion positively. China stated that a new entry waypoint to the Kunming FIR to support Himalaya 02 was impossible. IATA acknowledged China’s position from previous review, noting that was why an amendment to the proposal was now included and requested consideration again by all parties.

6.12 ICAO informed the meeting that the ATS Route Catalogue Version 21 would be updated according to the discussion. IATA proposed that ICAO consider how to better streamline the process of updating the route catalogue, potentially through more direct contact between airlines and States.

Optimisation of the Capacity of Air Routes L642 and M771 (WP/24 and SP/1)

6.13 Hong Kong China presented an initiative for relevant Administrations to optimize the capacity of air routes L642 and M771 by means of enhancing the longitudinal spacing applied, to be better prepared for the anticipated strong traffic resurgence and future growth in the APAC Region.

6.14 Information was provided on an additional ATC sector established for the southern portion of the Hong Kong FIR, and ADS-B surveillance coverage extending up to 80 NM south of the FIR boundary. The capacity of the two routes and the opportunity to improve fuel efficiency and the overall carbon footprint through greater probability to operate at optimum cruising levels, would be enhanced to a large extent by the implementation of 20 NM longitudinal spacing, proposed to commence during the current low traffic period. The proposal was also in line with the Category S airspace operation in the performance expectations of the Asia/Pacific Seamless ANS Plan.

6.15 Hong Kong China requested the support of the meeting for the initiative, and the provision of POC details for the relevant ATS authorities for further discussion of the proposal.

6.16 ICAO informed the meeting this initiative had also been discussed in meetings of SEACG and its South China Sea Traffic Flow Review Group (SCSTFRG). The Administrations concerned had agreed to the proposal, would work offline and report outcomes to the next meeting of the SCSTFRG. However, the POC for Viet Nam had not yet been provided. Viet Nam responded by providing the POC.

Implementation of Enhanced Wake Turbulence Separation at Hong Kong International Airport (WP/26 and SP/2)

6.17 The meeting was informed of a project initiated by Hong Kong China for the implementation of a revised wake turbulence separation scheme to improve the runway delivery rate at Hong Kong International Airport (HKIA). Considering the similarity of the scheme and the new ICAO wake turbulence separation scheme published during the period of the project, Hong Kong China had implemented the ICAO scheme on 05 November 2020.

6.18 Information was provided on the development of the HKIA project, collection and analysis of data, the project safety plan and local safety case, implementation plan and mitigating measures, operational experience and benefits, and stakeholders' collaboration.

6.19 Hong Kong China proposed that appropriate sessions should be arranged for the sharing of experience and lessons learnt with others to assist in project initiation.

Consideration of FLAS Elimination in AKARA Corridor (WP/25)

6.20 Japan presented updates of safety improvement, and a proposal for the elimination of the Flight Level Allocation Scheme (FLAS) in the AKARA – FUKUE Corridor airspace.

6.21 The FLAS operation in the AKARA corridor airspace was depicted in **Figure 10**.

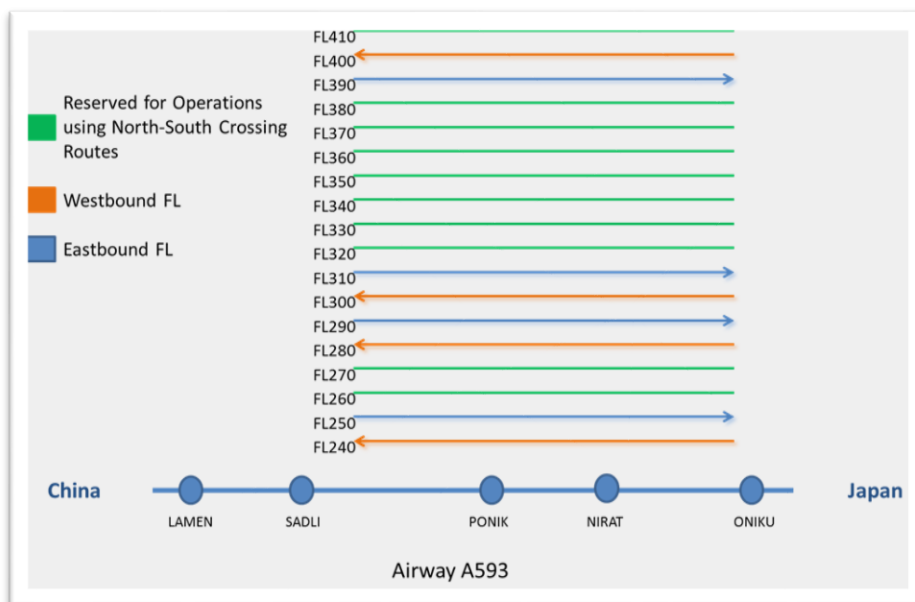


Figure 10: Flight Level Allocation Scheme (FLAS) in the AKARA Corridor airspace

6.22 The meeting was informed of discussion at RASMAG/26 relating to Seamless ANS Plan element 7.35, and the discussion outcomes of the RASMAG/26 breakout session on the AKARA corridor airspace.

6.23 Japan requested that ICAO consider looking into how ATS surveillance covered the AKARA corridor airspace, and whether paragraph 7.35 of the Seamless ANS Plan justified the use of the FLAS. ICAO was also asked to comment on the rationale for the Seamless ANS Plan 50 NM parameter for determining whether a FLAS should be implemented.

6.24 The matters raised in this paper were discussed after presentation of a response provided by Republic of Korea (Flimsy 03).

Republic of Korea's View Regarding WP/25 Presented by Japan (Flimsy 03)

6.25 Responding to WP/25, Republic of Korea provided information discussing the small scale of improvement in the airspace technical risk that would result from removal of the FLAS, the non-sharing of ATS surveillance data, surveillance coverage of the Incheon FIR, some matters of procedure for traffic handling on ATS routes A5983 and Y590/Y591, the current LOA between Japan and Republic of Korea, and suggestions.

6.26 Republic of Korea stated that the consensus on 25 December 2020 was that Republic of Korea would consider Japan in ensuring fair and equitable use of optimum flight levels, the new single ATC unit at crossing points in the Incheon FIR was applying the increased use of non-FLAS flight levels, and that the FLAS issue should be discussed in a bilateral meeting.

6.27 Responding to the requests for ICAO comments, the meeting was informed as follows:

- The Seamless ANS Plan paragraph 7.35 had initially been developed in the consultative process used by the Asia/Pacific Seamless ATM Planning Group (APSAPG) when drafting and finalizing the first version of the Seamless ATM Plan in 2012/2013. ICAO considered FLAS did not meet expectations for seamless airspace, particularly in airspace that was well-served by surveillance and VHF communications coverage. The inclusion of the FLAS element and its limitations in the Seamless ANS Plan (formerly the Seamless ATM Plan) was a compromise reached after considerable offline discussion;
- ICAO did not have information to hand on how the 50 NM from the boundary parameter in element 7.35 had been arrived at, but it seemed likely that it was related to the 50 NM lateral separation minimum for RNAV 10/RNP 10-capable flights;
- The intent of the statement in Seamless ANS Plan element 7.35 b) was that FLAS in Category S airspace should only be utilized for safety and efficiency reasons where crossing track conflicts occurred within 50 NM of the FIR boundary. However, if surveillance coverage or surveillance data sharing was available to provide the State with surveillance covering the boundary airspace, then FLAS should not be applied.
- ICAO agreed that further discussion of the FLAS should be conducted in bilateral meetings between the affected States. However, the meeting noted that Japan considered trilateral discussion of the matter between China, Japan and Republic of Korea should be considered;
- While ICAO considered FLAS in Category S airspace should not be necessary, the current AKARA airspace project was the primary consideration. Completion of Phase 2 of that project should be the first priority, with the FLAS issue addressed separately and at a later time.

IPACG NOPAC Route System Redesign Update (IP/6)

6.28 This paper provided details on the planned revision of the NOPAC Route System between Japan and Alaska. The redesign would take advantage of the 23 NM lateral separation minimum to optimize the movement of aircraft through the NOPAC Route System. The NOPAC routes would be compressed into a smaller volume of airspace, providing more efficient NOPAC route flight planning and increased opportunity for optimized routes south of the NOPAC Routes. The NOPAC redesign Phases would require aircraft to have RNP4, RSP180 and RCP240 approval.

Activation of Danger Areas over High Seas for Prolonged Duration (WP/27)

6.29 IATA presented concerns regarding continued prolonged hours of Danger Area activation over the high seas (over international waters outside territorial seas), and suggested there was a need to enhance processes for the management of such areas in line with the *as civil as possible, as military as necessary* principle of the ICAO Doc 10088 *Manual on Civil-Military Cooperation in Air Traffic Management*.

6.30 Blanket, prolonged activation of Danger areas ignored the needs of other airspace users, and indicated gaps in the coordination mechanisms between States, ATS Units and military authorities. Enhanced coordination between civil and military authorities should focus on minimizing the Danger Area activation window, considering activation timings in periods of less air traffic, accommodating preferred flight levels for civil traffic as far as practicable, and the implications of weather-related factors.

6.31 The meeting was reminded that PANS-AIM procedure required that NOTAMs for Danger Area activation shall be published for all affected FIRs with at least seven days' advance notice. The activation window should be the minimum needed to successfully complete the planned exercise/event. Japan supported the application of seven days' advance notice.

6.32 It was critical that, where any temporary Special Use Airspace (SUA) extended into other FIRs, NOTAMs were published by all FIRs, with the seven days' advance notice as was required in the PANS-AIM procedure.

6.33 A case study was provided in **AI06 WP/27 Attachment A**.

6.34 In relation to the case study, Bangladesh informed the meeting that States may declare Danger Areas in high seas airspace, there was a standard operating procedure applied to reduce negative impacts, it was a sensitive matter, and the only issue was that it did not align with Annex 15 requirements. ICAO responded that the non-alignment with Annex 15 standard was a critical safety issue which had been discussed in multiple ICAO APAC meetings since March 2018 (SAIOACG/8), and was the subject of an APANPIRG Air Navigation Deficiency, agreed by APANPIRG/29 in September of that year and which had not yet been addressed by the State concerned.

6.35 In discussing the Draft Conclusion proposed by IATA, China stated that it was not necessary as the matter had already been covered in ***Conclusion APANPIRG/29/10: Minimizing the Impact of Non-ICAO Procedures and Requirements for Military Activities Affecting Civil Aviation***.

6.36 ICAO informed the meeting that Conclusion APANPIRG/29/10, which was displayed to the meeting for information, related to non-ICAO military airspace and procedures, particularly Air Defence Identification Zones (ADIZ) and State requirements for flights to obtain Air Defence Clearances (ADC), neither of which were recognized under ICAO SARPS, and the coordination of such matters between civil and military authorities. In clear contrast, the Draft Conclusion proposed by IATA was related to the management of, and promulgation of information about, Danger Areas that were a special-use airspace recognized by ICAO that were covered by SARPS in the Annexes to the Convention.

6.37 Japan supported the IATA and ICAO position.

6.38 The meeting agreed to the following Conclusion:

Conclusion ATM/SG/9-4: Management of Danger Areas situated over the High Seas

That, acknowledging that safe and sustainable aviation is the prime goal of all stakeholders, and that airspace is a very important shared resource, States are urged to:

1. act in accordance with the ICAO DOC 10088 principle *as civil as possible, as military as necessary*; and refrain from prolonged activation of Danger Areas over the High Seas, particularly activations that are repetitive in nature and impact almost all useable flight levels within the given volume of airspace;
2. give due consideration to the requirements of other airspace users (e.g. air traffic density, flight levels, enroute weather factors) during the planning, promulgation and activation of Danger Areas;
3. establish robust co-ordination between civil and military authorities, as well as with neighboring FIRs; and
4. ensure all affected FIRs provide appropriate AIS (NOTAM) notification regarding activation of the Danger Area

Airline Feedback to Airspace Closures and Contingency Response and the Importance of Contingency Planning (WP/29)

6.39 The meeting was presented airline feedback on recent interruptions to ATS in APAC FIRs, provided by IATA, emphasizing the importance of contingency planning for all States. ATM Contingency events in 2021 had served as good reminders for all States to have relevant, updated and practiced ATM contingency plans in place at all times, with clear agreements and instructions for their timely activation.

6.40 IATA provided information on the Yangon (Myanmar) FIR contingency response to the unavailability of ATC services from 08 to 16 February 2021, and on the current, ongoing contingency operations in the Kabul (Afghanistan) FIR that had commenced on 16 August 2021.

6.41 Feedback was provided on positive aspects of the contingency operations, challenges, and on the additional costs to airlines. Operational and safety challenges included limited contingency routes and flight levels, increased en-route holding, confusion as to applicable Traffic Information Broadcast by Aircraft (TIBA) frequencies, restricted communication with States, and confusing NOTAM management at the resumption of normal operations.

6.42 **Table 9** summarized additional costs to airlines avoiding the Kabul FIR:

Costs*	Time (mins)	Fuel (ton)	Distance (NM)	CO2 (ton)	Fuel (USD)
Max	120	13.7	825	206.1	10378
Min	5	0.5	26.8	51	2168
Ave	55	4	245	111	5574
Mean	39	3	109	96	4958
Median	47.5	3.8	71.5	92.6	5116.5
* columns are not always directly related to each other - they represent a range of individual figures provided for each category.					

Table 9: Summary of Additional Flight Costs – Avoidance of Kabul FIR

6.43 IATA feedback included a list of considerations for future contingency planning including the layering of plans, inclusion of all stakeholders in plan development, safety assessment of plans and the entry/exit of contingency operations, alternative communications, annual review of plans and associated safety assessments in collaboration with all stakeholders, publication of relevant components of the plan in AIP, NOTAM management and the use of NOTAM to activate plans, and the availability of IATA to coordinate international airline input into the development and review of plans.

6.44 India informed the meeting that the Yangon contingency operation had been an eye-opener, and had served to emphasize the importance of using sub-regional coordination group meetings such as the Bangladesh India Myanmar Thailand ATM Coordination Group (BIMT) to establish working relationships with the relevant ATM personnel of other States.

6.45 Afghanistan informed the meeting that a draft revision of the Kabul FIR ATM Contingency Plan had been shared with ICAO, and response to proposed Letters of Agreement with neighbouring States was being awaited.

6.46 ICAO thanked Pakistan for its valuable assistance in the Kabul FIR contingency operation, and also the other States that were handling the additional traffic resulting from flights avoiding the Kabul FIR.

Regional ATM Contingency Planning and Status Reporting (WP/30)

6.47 ICAO presented information on the *Asia/Pacific Regional ATM Contingency Plan* with regard to State reporting of implementation of its performance expectations, a brief outline of recent ATM contingency events in the APAC Region, and a proposal to conduct an update of the Regional contingency plan.

6.48 The Regional ATM Contingency Plan, available on the ICAO Asia/Pacific Regional Office eDocuments web-page, included among its performance expectations the expectation that States would report their implementation status at least once annually, by not later than 31 May each year, using the Regional ATM Contingency Plan Monitoring and Reporting Form. The performance expectations of the plan were expected to be implemented by 10 November 2016, reflecting the Annex 11 standard that had been applicable since November 2003.

6.49 Implementation status was assessed as *robust* (90 – 100% of expectations implemented), *marginal* (70 – 89%) or *incomplete* (0 – 69%).

6.50 Only Indonesia, Singapore and United States were assessed as having robust implementation.

6.51 22 Administrations had never provided an implementation status report.

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, Vanuatu.

6.52 **Figure 11** illustrated the overall regional implementation status:

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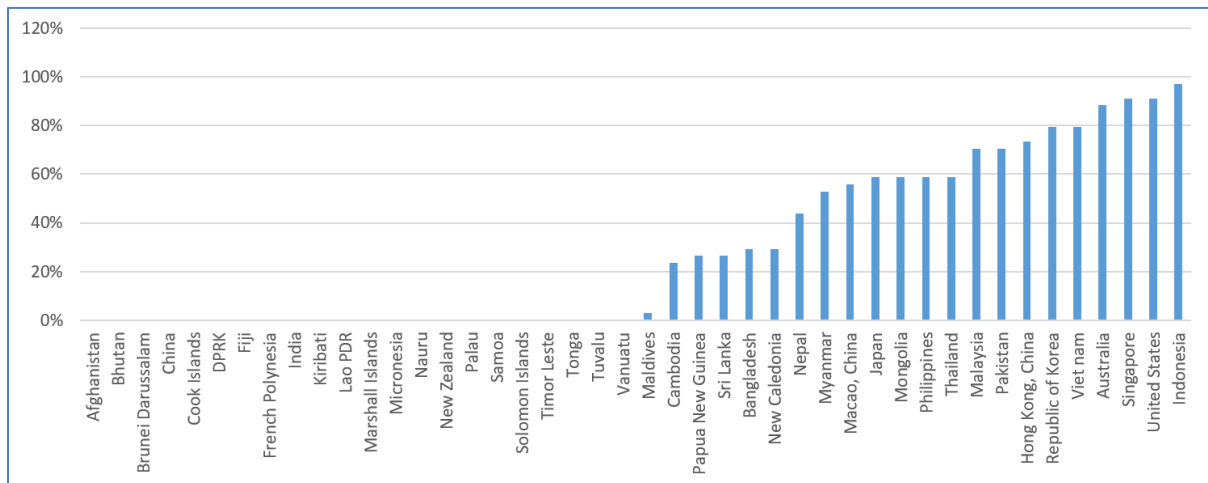


Figure 11: Regional ATM Contingency Plan – Overall Implementation Status

6.53 The meeting was reminded of COVID-19 pandemic-related contingency information, and the *APAC Regional Strategy for COVID-19-related ATM Contingency Recovery*.

6.54 Relevant States were invited to update their Contingency Coordination Team (CCT) details for the *Inter-Regional Afghanistan Contingency Arrangements (ATM/SG/9 WP/30 Attachment B)* and the East Asia and North Pacific CCT.

6.55 The meeting was provided with the ICAO APAC Regional Office summary of the Yangon FIR contingency operations of February 2021, including discussion of Annex 11 provisions and the formation of CCTs, the communications (or lack thereof) during the contingency operation, CCT bulletins, the validity, update and publication of the Myanmar Level 2 contingency plan, CCT teleconference, NOTAM management, operational impact and key issues to be considered among lessons learned.

6.56 A Regional Office summary of the current, ongoing ATM contingency operations in the Kabul FIR was also provided. Information provided included the sequence of events leading up to the withdrawal of all ATS and AIS on 16 August 2021 and the formation of the Kabul FIR CCT, current flight operations in the Kabul FIR, CCT bulletins and key issues for lessons learned.

6.57 The Asia/Pacific Region had experienced three major ATM contingency events in the last three years. Some lessons learned from the 2019 Pakistan airspace closure had been included in a 2019 update of the Regional ATM Contingency Plan. Lessons learned from the Yangon and Kabul FIRs' contingency operations would be included in a planned review of the Regional contingency plan, which would also include editorial corrections and amendments where necessary to ensure full alignment with Annex 11 provisions. The meeting was invited to nominate experts to participate in the review of the Regional contingency plan.

Refresher Training To Support Resumption of Traffic Demand (WP/31)

6.58 Noting the unprecedented disruption to global air travel and associated drastic and sustained drop in air traffic volume, Singapore's experience in the implementation of continuous and preparatory training for ATC readiness to handle post-COVID-19 traffic surges was shared with the meeting. Singapore proposed that the Region consider sharing experiences to enhance regional collective readiness for resumption of normal traffic levels.

6.59 The meeting was informed of the ICAO roadmap to ops normal, Singapore's experience in ATC training based on an established traffic matrix for pre-COVID-19 traffic patterns, taking into consideration workforce availability, workplace distancing measures, the expected sporadic/uneven resumption of normal air traffic, and the potential for situations where ATC was required to manage high traffic levels at short notice.

6.60 Singapore proposed that the experience of ANSPs be shared either through an update of the Asia/Pacific Regional Strategy for COVID-19-related ATM Contingency Recovery, or other platform as appropriate.

Agenda Item 7: AOP, AIM, MET, SAR

Asia/Pacific Search and Rescue Update (WP/32)

7.1 The meeting was provided with an update of Search and Rescue (SAR) matters for the Asia/Pacific Region, including outcomes from the Asia/Pacific SAR Working Group (APSAR/WG).

7.2 Updates were provided on APANPIRG outcomes relating to the review of National Air Navigation Plans (NANPs, *Conclusion APANPIRG/31-10: Review of National Air Navigation Plans* referred), and the need for States to establish an action plan for the resolution of APANPIRG Air Navigation Deficiencies (*Conclusion APANPIRG/31-19*).

7.3 The meeting was also informed of global SAR developments, Autonomous Distress Tracking (ADT) implementation and the Location of Aircraft in Distress Repository (LADR), the status of the Cospas-Sarsat programme, air operators workshops, and the SAR operation following the crash of Sriwijaya Air flight SJ189 on 09 January 2021.

7.4 Regarding SRR verification (also discussed in AI5 WP/4), following Administrations (21 of 42 in APAC) had submitted Proposals for Amendment (PfAs) to the Asia/Pacific Regional Air Navigation Plan (ANP) Volume I, which were pending circulation to ICAO Headquarters Secretariat for approval before circulation to all States:

Afghanistan, Australia, China, Fiji, French Polynesia, India, Indonesia, Lao PDR, Malaysia, Maldives, Mongolia, Nauru, Nepal, New Zealand, Pakistan, Papua New Guinea, Philippines, Singapore, Solomon Islands, Sri Lanka and USA.

7.5 **Figure 12** indicated the status of SRR verification as at 04 May 2021:

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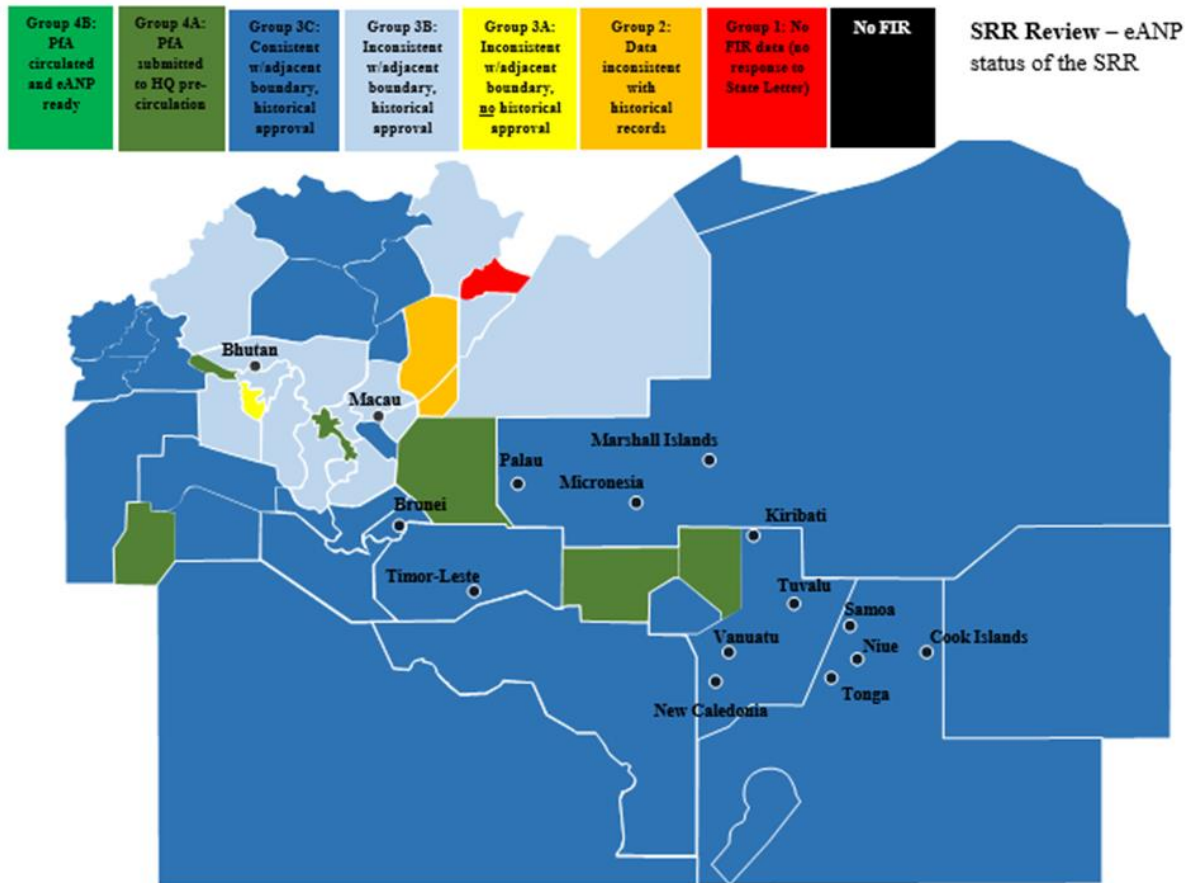


Figure 12: SRR Verification Status as at 04 May 2021

7.6 **Figure 13** illustrated the implementation status of the 41 elements of the Asia/Pacific Regional SAR Plan as at 04 May 2021. Only 10 APAC Administrations had reported *robust* implementation of 90% or more:

Australia, Hong Kong China, India, Indonesia, Japan, New Zealand, Republic of Korea, Singapore, USA and Viet Nam

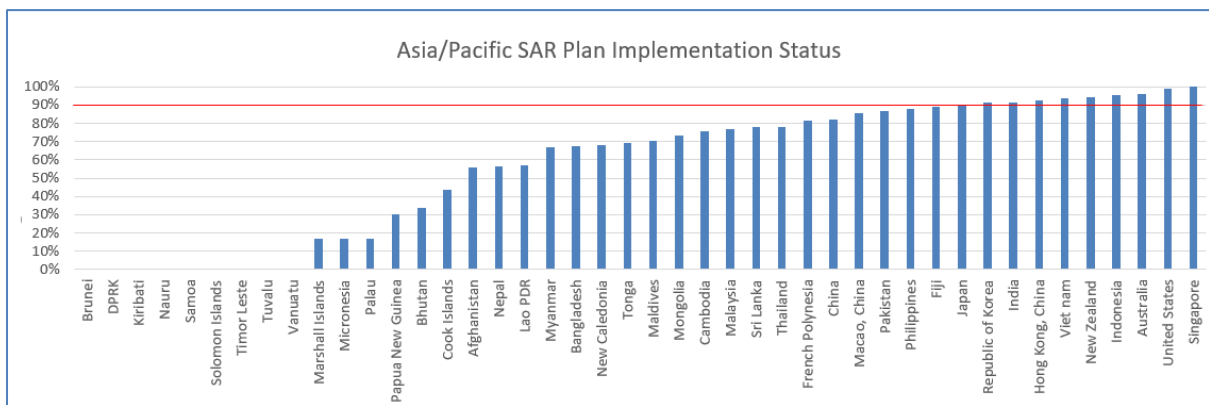


Figure 13: Asia/Pacific SAR Plan Implementation Status as at 04 May 2021

7.7 All other APAC Administrations had APANPIRG Air Navigation Deficiencies recorded in the field of SAR Capability.

7.8 The details of SAR implementation status for each APAC Administration, the SAR Agreements List and the SAR Agreement Matrix were provided in **ATM/SG/9 WP/32 Attachments A, B and C**.

7.9 APSAR/WG was developing a template Memorandum of Understanding (MoU) between national SAR and Accident Investigation authorities for inclusion in the APAC SAR Plan, with a view to its later inclusion in the International Aeronautical and Maritime SAR (IAMSAR) Manual.

7.10 The APAC SAR Plan was due for its triennial update in 2022. The Draft APAC SAR Plan Version 3.2 provided in ATM/SG/9 WP/32 Attachment D included comments from ICAO Headquarters, and tracked changes resulting from those comments and other feedback received. The meeting was invited to provide submissions for the update of the Plan.

AIS – AIM Implementation Task Force Outcomes (WP/34)

7.11 Outcomes from the 16th Meeting of the ICAO AIS – AIM Implementation Task Force (AAITF/16, 07 to 11 June 2021) were provided to the meeting.

7.12 AAITF/16 had reviewed APANPIRG Air Navigation Deficiencies in the AIS/AIM field. AAITF recommendations for changes to the List of Deficiencies were discussed in **ATM/SG/9 WP/10**. 10 APAC States had Deficiencies recorded for non-implementation of World Geodetic System 1984 (WGS-84), two for non-implementation of AIP Format, and 20 for non-implementation of AIS Quality Management System (QMS).

7.13 The meeting was again reminded of 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. The criteria used by the Regional Office to determine whether an AIS QMS-related Deficiency may be recommended for deletion were provided in **ATM/SG/9 WP/34 Attachment A**.

7.14 An update was provided on the status of implementation of the performance expectations of the *APAC Regional Plan for Collaborative AIM*, which were expected to be implemented in three phases: Phase I (immediately), Phase II (07 November 2019) and Phase III, (27 November 2025).

7.15 Japan and Singapore had reported implementation of all Phase I elements. Only Singapore reported implementation of all Phase II elements. **Figures 14 and 15** illustrated overall regional implementation of Phases I and II.

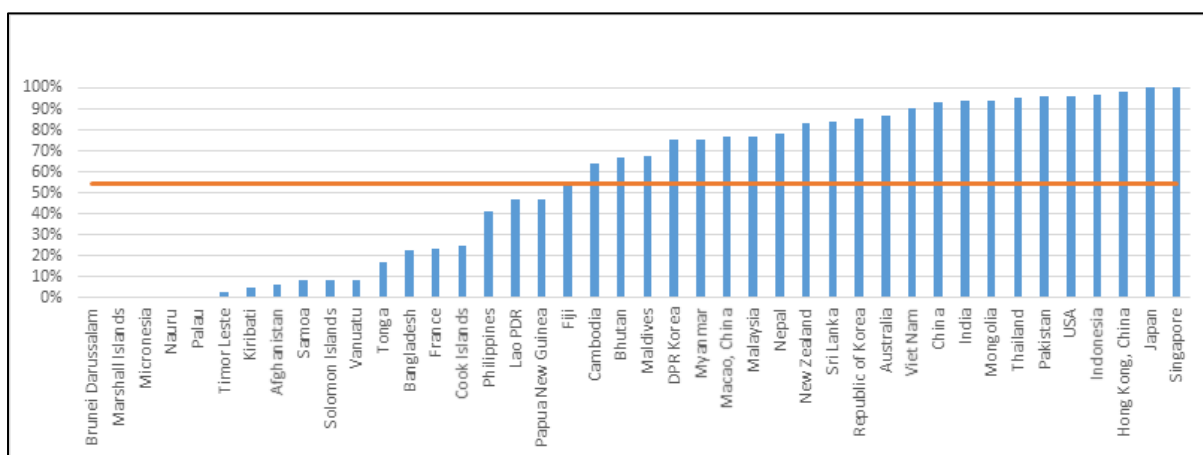


Figure 14: Regional Plan for Collaborative AIM - Phase I Implementation Progress (updated on 28 October, 2021)

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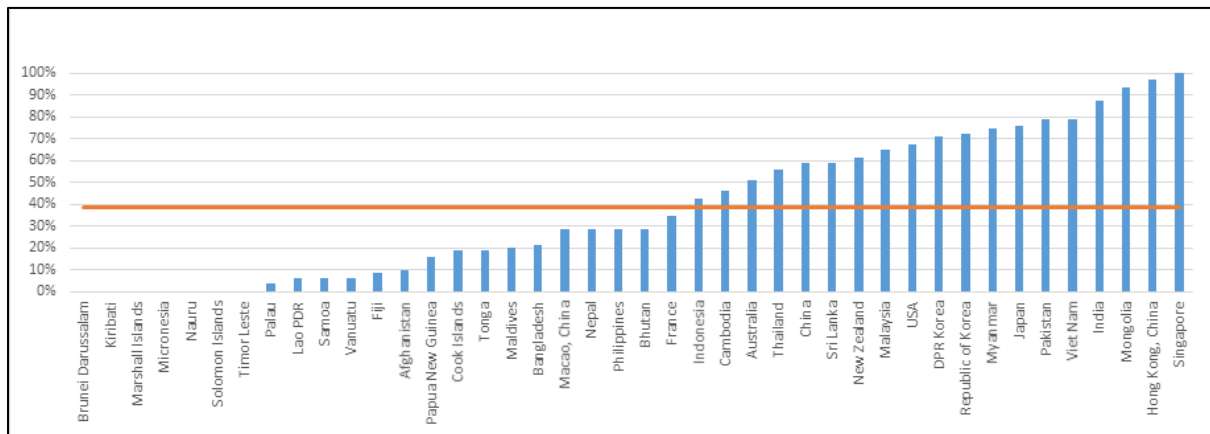


Figure 15: Regional Phase II Implementation Progress (updated on 28 October 2021)

7.16 AAITF/16 had discussed the proliferation of NOTAMs, using information provided by IFAIMA in collaboration with ICAO and referencing the ICAO Global Campaign on NOTAM Proliferation. **Figures 16 and 17** provided information on the total number of NOTAMs ‘old’ NOTAMs (more than three months’ duration) and ‘very old’ NOTAMs (more than one year duration) issued by APAC NOTAM Offices (NOFs).

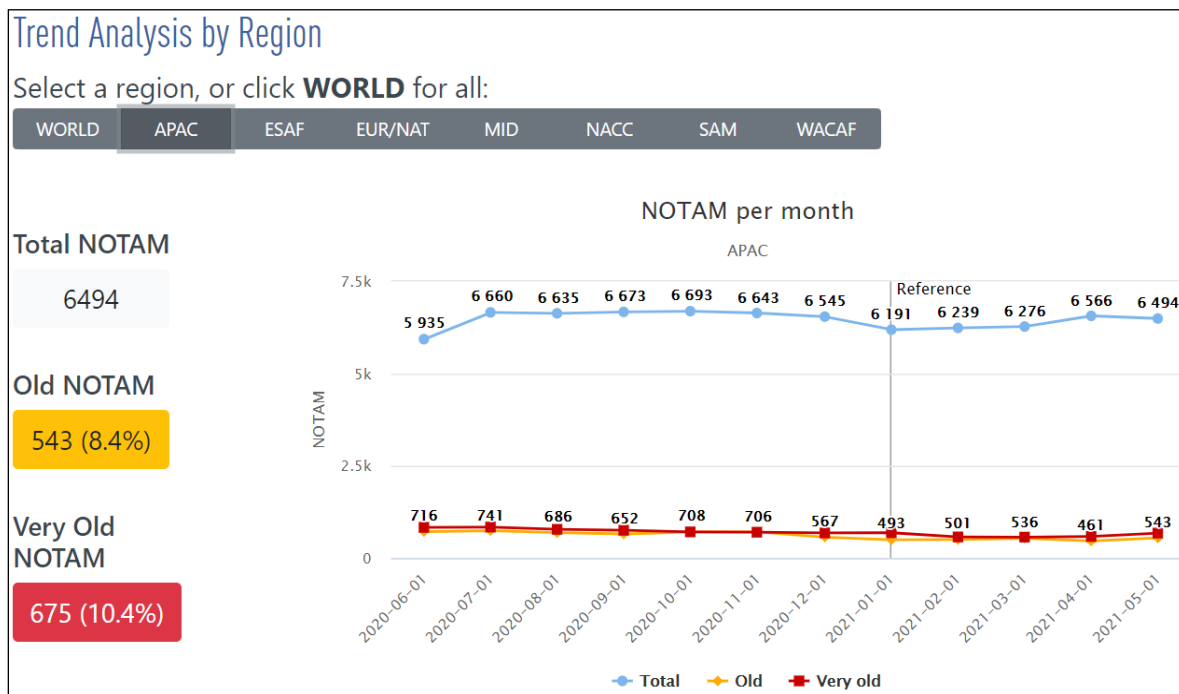


Figure 16: APAC NOTAM Statistics (Total, old and very old) – 01 May 2021
Source: ICAO NOTAMETER (<https://www.icao.int/airnavigation/information-management/Pages/NOTAMeter.aspx>)

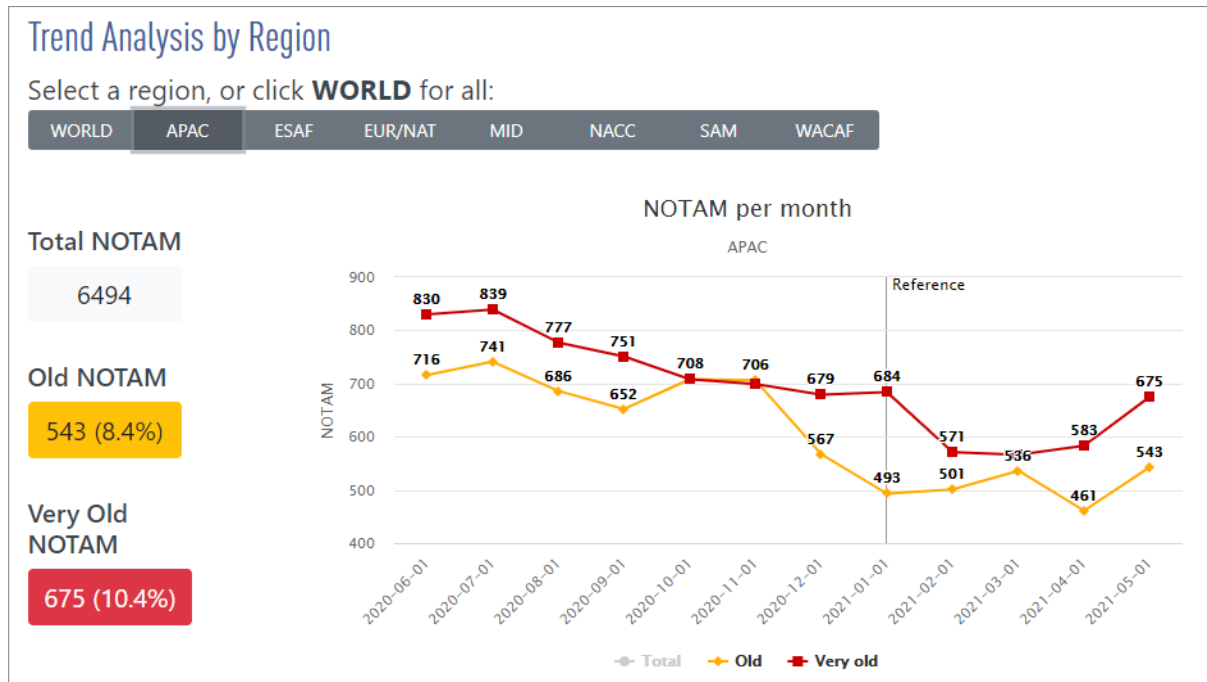


Figure 17: APAC NOTAM Statistics (old and very old) – 01 May 2021

7.17 ICAO reminded the meeting of SNOWTAM applicability and guidance, referring to ICAO State Letter 2020/73 which had postponed applicability of the Global Reporting Format (GRF) for runway surface conditions from 05 November 2020 to 04 November 2021. APAC regional guidance was available on the ICAO Asia/Pacific Regional Office eDocuments web-page.

7.18 Japan provided an update to the APAC Operating Procedures for Aeronautical Dynamic Data (OPADD), which were periodically updated in alignment with EUROCONTROL OPADD updates. The EUROCONTROL OPADD Edition 4.1 responded to changed ICAO provisions relating to the GRF and the associated revision of SNOWTAM format. Noting that EUROCONTROL no longer provided a MS Word version of their OPADD updates, and did not agree to amendments for any local adaptation, the meeting adopted the following Conclusion:

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.

7.19 The meeting was also informed of the progress made by the AAITF Small Working Group (SWG) on guidance for Postponement of aeronautical information distributed under the AIRAC system, the submission by Singapore on behalf of AAITF of a working paper to the Information Management Panel (IMP) proposing amendment of ICAO provisions for AIP GEN 0.3, and the development of regional guidance on AIP AD 1.5 Status of Certification of Aerodromes.

7.20 Information was also provided on AAITF/16 discussion of the coordination and promulgation of information on space vehicle launch and re-entry, and on Amendment 1 to PANS-AIM

Outcomes from MET SG/25 Relevant to ATM/SG (WP/35)

7.21 ICAO presented some of the outcomes from the 25th Meeting of the Meteorology Sub-Group of APANPIRG (MET SG/25, 18 to 22 October 2021) for further review and consideration by the ATM/SG/09. In presenting the paper ICAO focused on areas most relevant to the ATM/SG, including the following matters: Draft Conclusions on APAC implementation of IWXXM and SWIM, and global development of space weather advisory information; a Draft Decision concerning the APAC SWIM Task Force (SWIM/TF); and progress on the survey of MET information to support ATM, regional guidance for MET information to support ATM, resolution of SIGMET deficiency, international SIGMET coordination, and support for SWX advisory users.

7.22 The following Draft Conclusions/Draft Decisions of MET SG/25 were brought to the attention of the meeting:

Draft Conclusion MET SG/25-03: Updating Online Register of IWXXM Exchange Status;

Draft Conclusion MET SG/25-07: SWIM architecture to enable the cost-effective and efficient provision and consumption of MET information services;

Draft Decision MET SG/25-08: Meteorological expert contribution to SWIM/TF;

Draft Conclusion MET SG/25-09: Update on the provision of Space Weather Advisory

AOP Sub-Group Outcomes (WP/33)

7.23 The meeting was informed of the outcomes of the Fifth Meeting of the Aerodromes Operations and Planning Sub-Group of APANPIRG (AOP/SG/5, 29 June to 02 July 2021).

7.24 AOP/SG/5 discussion of the dissolution of APA-CDM/TF and the proposed transfer of responsibility for APAC A-CDM work to ATFM/SG (***Draft Decision AOP/SG/5-4: Dissolution of the APA-CDM/TF***) was separately discussed under ATM/SG/9 WP/11.

7.25 AOP/SG/5 had agreed to the following A-CDM related Conclusions:

Conclusion AOP/SG/5-1: A-CDM Frequently Asked Questions (FAQs)

Conclusion AOP/SG/5-2: Framework for Monitoring the Implementation of A-CDM

Conclusion AOP/SG/5-3: Amendment to APAC A-CDM Implementation Plan

7.26 Information was also provided on the status of certification of aerodromes, noting that there were a number of States that had yet to publish the status in AIP AD 1.5.

7.27 Extensive information was also provided on the GRF, including the availability of training, global guidance materials, a flyer providing information on Automatic Terminal Information Service (ATIS) and the ICAO GRF implementation monitoring tool and implementation map. In order to reflect actual progress towards implementation of GRF AOP/SG/5 formed ***Draft Conclusion AOP/SG/5-11: GRF Implementation Monitoring and Status***, for consideration by APANPIRG/32. In this regard ICAO State Letter AN 3/3 – AP/168/21 dated 20 October 2021 had invited Administrations to submit an update on actual implementation of the GRF Implementation Action Plan by 04 November 2021.

7.28 Information was also provided on the poor rate of response to the ICAO Runway Safety Team (RST) survey, and associated **Conclusion APANPIRG/31/6: Runway Safety Team**, the inclusion of PQs related to RST establishment in the 2020 edition of the USOAP CMA Protocol Questions, and the ICAO Runway Safety Go-Team (RSGT) methodology.

7.29 In relation to the GRF, IATA informed the meeting that it would be useful to airspace users to get a better understanding of which States had implemented, which States had not, and which States had implemented differing interpretations of the procedures. This could include any supporting evidence from studies conducted to form interpretations different to that of ICAO guidance (e.g.: standing water). In response ICAO informed the meeting that these matters would be raised in a post-implementation meeting that would be conducted by ICAO headquarters in the near future. The matter of the proposed monthly implementation status report would be raised at APANPIRG/32, to discuss whether this should and/or could be instead made quarterly.

7.30 India informed the meeting that there was some confusing guidance on cases where the runway contaminant coverage was less than 25% of the runway, and the associated use of Runway Contaminant Code (RWYCC) 6. The matter would be followed up by ICAO in the post-implementation review. The following references were provided by IFAIMA:

- ICAO Doc 9981 – PANS-Aerodromes 2.1.3.8;
- ICAO Circular 355 4.47; and
- ICAO Doc 10066 PANS-AIM App 4-8 2.

Agenda Item 8: Update the ATM Task List

APANPIRG ATM Sub-Group Terms of Reference and Task List (WP/36)

8.1 The ATM/SG Terms of Reference (TOR) were presented for review by the meeting.

8.2 The ATM/SG Task List was reviewed by the meeting, and is provided in **Appendix F to the Report**.

Agenda Item 9: Any Other Business

Development of Indonesia Air Navigation Carbon Emission Calculator (INAVCEC, IP/8)

9.1 The meeting was provided with an update of progress made by Indonesia to develop the *Indonesia Air Navigation Carbon Emission Calculator* (INAVCEC) application, to calculate carbon emissions by aircraft solely from the air navigation aspect. Information was also provided on how INAVCEC could be used to predict carbon emissions on the basis of flight plans, to provide an annual report to DGCA.

Air Traffic Management Security Requirements (IP/9)

9.2 ICAO provided information on security requirements relating to ATS Providers and ATM, additional information relating to the establishment and dissemination of the First Edition of the ICAO Cyber Security Action Plan (CyAP), and ongoing developments in related guidance material and resources.

Proposals for ATM Safety Management Activities in the APAC Region (WP/37)

9.3 ICAO provided information on ATM safety management activities, with the aim of stimulating discussion on what activities should be undertaken in the region to support the application of safety risk management processes in ATM operations and projects.

9.4 The ICAO APAC Regional Sub-Office had conducted two rounds of workshops on *ATM Safety Risk Assessment in Change Management* and *Safety Culture in ATM*. The workshops focused on ICAO requirements and practical guidance, referencing ICAO Doc 9859 – *Safety Management Manual*. Australia, India, Singapore, Republic of Korea, USA, EASA, IFALPA and IFATCA had contributed by sharing their experience and lessons learned in three workshops.

9.5 Based on the results of surveys conducted during the series of workshops, the challenges identified included hazard identification and safety risk mitigation, lack of resources, and lack of experienced, competent experts with relevant knowledge and capabilities. More practical guidance was needed on ‘how to’, methodologies, tools and safety data analysis when assessing and mitigating safety risks. The meeting agreed to the proposal that an APAC region-wide ATM safety management survey be conducted, and that regional ATM safety management activities be continued.

ATM Points of Contact Update (WP/39)

9.6 The current APAC ATM Points of Contact list, maintained by the ICAO Regional Office, was circulated by email to all participants for update.

Agenda Item 10: Date and venue for the next meeting

ATM/SG/10

10.1 The tentative timeframe and venue for ATM/SG/10 was July - August 2022, in Bangkok, Thailand. However, the timing of all ICAO APAC meetings in 2022 would be subject to the scheduling and modality of the triennial meeting of the ICAO Assembly.

Closing

10.2 The Chairman thanked meeting participants for their valuable work.

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List of Participants

	STATE/NAME		TITLE/ORGANIZATION
1.	AFGHANISTAN (4)		
	1.	Mr. Obaidullah Rashidee	ATM Director ACAA <u>AFGHANISTAN</u>
	2.	Mr. Bashmat Bakhtiari	ACC Manager ACAA <u>AFGHANISTAN</u>
	3.	Mr. Abdul Fahim Hashimi	Approach Manager ACAA <u>AFGHANISTAN</u>
	4.	Mr. Toryalai Himat	AIS Manager ACAA <u>AFGHANISTAN</u>
2.	AUSTRALIA (3)		
	5.	Mr. Brad Parker	Manager CNS/ATM Civil Aviation Safety Authority <u>AUSTRALIA</u>

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	STATE/NAME		TITLE/ORGANIZATION
	6.	Mr. Neil Bain	ATM Standards Manager Airservices Australia <u>AUSTRALIA</u>
	7.	Mr. Chris Kumar	ATS Specialist Lead Airservices Australia <u>AUSTRALIA</u>
3.	BANGLADESH (5)		
	8.	Mr. Md Masud Rana	Deputy Director (ATM) Civil Aviation Authority of Bangladesh <u>BANGLADESH</u>
	9.	Mr. Md Kamal Miah Sarker	Deputy Director (SMS) Civil Aviation Authority of Bangladesh <u>BANGLADESH</u>
	10.	Ms. Sabera Rahman	Assistant Director (ATS) Civil Aviation Authority of Bangladesh <u>BANGLADESH</u>
	11.	Mr. Sushanta Datta	Assistant Director (E & QA) Civil Aviation Authority of Bangladesh <u>BANGLADESH</u>
	12.	Mr. Md. Abdun Noor Khan	Assistant Director Civil Aviation Authority of Bangladesh <u>BANGLADESH</u>

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	STATE/NAME		TITLE/ORGANIZATION
4.	BHUTAN (3)		
	13.	Mr. Karma Gayley	CNS Officer Bhutan Civil Aviation Authority <u>BHUTAN</u>
	14.	Ms. Phuntsho Yeozar	ATC Officer Ministry of Information and Communications/ Department of Air Transport <u>BHUTAN</u>
	15.	Mr. Karma Yonten	ATCO/AIS National Air Navigation Services Company (NANSC) <u>BHUTAN</u>
5.	BRUNEI DARUSSALAM (1)		
	16.	Ms. Norhidayah Ismail	ATCO 1 /ATS Inspector Department of Civil Aviation Ministry of Transport and Info communication <u>BRUNEI DARUSSALAM</u>
6.	CHINA (12)		
	17.	Ms. Ying Zhang	Director Civil Aviation Administration of China Air Traffic Management Bureau <u>CHINA</u>

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	STATE/NAME		TITLE/ORGANIZATION
	18.	Mr. Yongqiang Fu	Director of Sanya Area Control Office Civil Aviation Administration of China Air Traffic Management Bureau <u>CHINA</u>
	19.	Mr. Hang Xu	Director of Airspace Management Office of Middle & Southern Regional ATMB Air Traffic Management Bureau <u>CHINA</u>
	20.	Mr. Sun Yi	Deputy Director ATFM Department, Shanghai ATCC, East China Civil Aviation Administration of China Air Traffic Management Bureau <u>CHINA</u>
	21.	Mrs. Hu Huiling	Deputy Director of ATC Division Of Middle & Southern Regional ATMB Air Traffic Management Bureau <u>CHINA</u>
	22.	Mr. Wei Tan	Assistant to Director of ATC Division Civil Aviation Administration of China Air Traffic Management Bureau <u>CHINA</u>

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	STATE/NAME		TITLE/ORGANIZATION
	23.	Mr. Wu Changle	Assistant to Director of Safety Management Office of Guangzhou Air Traffic Control Center, Middle & Southern Regional ATMB Air Traffic Management Bureau <u>CHINA</u>
	24.	Mr. Wang Jun	Senior Officer of ATC Division Civil Aviation Administration of China Air Traffic Management Bureau <u>CHINA</u>
	25.	Mr. Lin Guang	Assistant of ATC Division Civil Aviation Administration of China Air Traffic Management Bureau <u>CHINA</u>
	26.	Ms. Minxin Wang	Assistant Civil Aviation Administration of China Air Traffic Management Bureau <u>CHINA</u>
	27.	Mr. Chen Wenchao	Engineer Civil Aviation Administration of China Air Traffic Management Bureau <u>CHINA</u>

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	STATE/NAME		TITLE/ORGANIZATION
	28.	Mr.Chen Yanyan	Strategy Planning Officer of Middle & Southern Regional ATMB Air Traffic Management Bureau <u>CHINA</u>
7.	HONG KONG, CHINA (12)		
	29.	Mr. Tommy AU YEUNG	Chief Air Traffic Control Officer (Procedures and Evaluation) Civil Aviation Department, Hong Kong <u>HONG KONG, CHINA</u>
	30.	Ms. Sarah WONG	Senior Evaluation Officer Civil Aviation Department, Hong Kong <u>HONG KONG, CHINA</u>
	31.	Mr. Alex NG	Senior Safety & Quality Officer Civil Aviation Department, Hong Kong <u>HONG KONG, CHINA</u>
	32.	Ms. Angel KWAN	Senior Electronics Engineer Civil Aviation Department, Hong Kong <u>HONG KONG, CHINA</u>
	33.	Mr. Alexander Honig	Senior Operations Officer (Strategic Planning) Civil Aviation Department, Hong Kong <u>HONG KONG, CHINA</u>

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	STATE/NAME		TITLE/ORGANIZATION
	34.	Mr. Henry CHEUNG	Evaluation Officer Civil Aviation Department, Hong Kong <u>HONG KONG, CHINA</u>
	35.	Mr. Franklin LI	Evaluation Officer Civil Aviation Department, Hong Kong <u>HONG KONG, CHINA</u>
	36.	Ms. Wei Shuen Cheryl Chan	Evaluation Officer Civil Aviation Department, Hong Kong <u>HONG KONG, CHINA</u>
	37.	Mr. Anthony TSUI	En-route Supervisor Civil Aviation Department, Hong Kong <u>HONG KONG, CHINA</u>
	38.	Ms. Grace WONG	Safety & Quality Officer Civil Aviation Department, Hong Kong <u>HONG KONG, CHINA</u>
	39.	Ms. Suet Chui KOON	Electronics Engineer Civil Aviation Department, Hong Kong <u>HONG KONG, CHINA</u>
	40.	Ms. Michelle SIU	Electronics Engineer Civil Aviation Department, Hong Kong <u>HONG KONG, CHINA</u>

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	STATE/NAME		TITLE/ORGANIZATION
8.	MACAO, CHINA (3)		
	41.	Mr. Kuan Hou Chiu	Safety Officer Civil Aviation Authority - Macao, China <u>MACAO, CHINA</u>
	42.	Ms. Vai Man Choi	Senior Head of AIC CAM - Macau International Airport Co. Ltd. <u>MACAO, CHINA</u>
	43.	Mr. Wai Kuan Lam	Head of ATC Service CAM - Macau International Airport Co. Ltd. <u>MACAO, CHINA</u>
9.	FIJI (5)		
	44.	Ms. Theresa Levestam	Acting. CEO Civil Aviation Authority of Fiji (CAAF) <u>FIJI</u>
	45.	Mr. Makiti Raratabu	Air Navigation Service Inspector – ATM/MET Civil Aviation Authority of Fiji (CAAF) <u>FIJI</u>
	46.	Mr. Amit Singh	Assistant GM ATM & Operations Fiji Airports <u>FIJI</u>

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	STATE/NAME		TITLE/ORGANIZATION
	47.	Mr. Ilimeleki Navula	Controller Standards/SAR – ATM Fiji Airports <u>FIJI</u>
	48.	Mr. Ivan Wong	ATM Head of Operations Fiji Airports Limited <u>FIJI</u>
10.	INDIA (8)		
	49.	Mr. K. Vasudevan	General Manager (ATM-ASM) Airports Authority of India <u>INDIA</u>
	50.	Mr. Himanshu Joshi	General Manager (ATM) Airports Authority of India <u>INDIA</u>
	51.	Mr. Sambath Kumar Govindan	Joint General Manager (ATM) Airports Authority of India <u>INDIA</u>
	52.	Mr. Asit Kumar Sinha	Joint General Manager (ATM) Airports Authority of India <u>INDIA</u>
	53.	Mr. Sanjeev Gupta	Joint General Manager (ATM) Airports Authority of India <u>INDIA</u>

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	STATE/NAME		TITLE/ORGANIZATION
	54.	Mr. M P Rajasekharan	Joint General Manager (ATM) Airports Authority of India <u>INDIA</u>
	55.	Mr. Manjunath Nelli	Joint General Manager (ATM) Airports Authority of India <u>INDIA</u>
	56.	Mr. Sandeep Joshi	Joint General Manager (ATM) Airports Authority of India <u>INDIA</u>
11.	INDONESIA (28)		
	57.	Mr. Indra Gunawan	Deputy Director of Air Navigation Operation DGCA Indonesia, Directorate of Air Navigation <u>INDONESIA</u>
	58.	Mr. Tian Kusdinar	Chief of Air Traffic Management DGCA Indonesia, Directorate of Air Navigation <u>INDONESIA</u>
	59.	Mr. Nur Said Eko Nugroho	Air Navigation Inspector (ATS) DGCA Indonesia <u>INDONESIA</u>
	60.	Ms. Suyanti Aviary	Air Navigation Inspector DGCA Indonesia, Directorate of Air Navigation <u>INDONESIA</u>

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	STATE/NAME		TITLE/ORGANIZATION
	61.	Ms. Nurdini Tambunan	Air Navigation Inspector DGCA Indonesia, Directorate of Air Navigation <u>INDONESIA</u>
	62.	Mr. Achmad Toha Muslimin	Chief of Early Detection Section National Search and Rescue of Indonesia <u>INDONESIA</u>
	63.	Mr. Otty Rusinarsetyo	Chief of International Cooperation Sub-Section National Search and Rescue of Indonesia <u>INDONESIA</u>
	64.	Mr. I Kadek Dedi Karyadi	SAR Officer BASARNAS <u>INDONESIA</u>
	65.	Mr. Ronald Halasan Sibarani	Inspector of Safety AirNav Indonesia <u>INDONESIA</u>
	66.	Mr. Ulul Azmi	AIS General Manager AirNav Indonesia <u>INDONESIA</u>
	67.	Mr. Hermawan Novitriyanto	Manager of ACC - TMA AirNav Indonesia <u>INDONESIA</u>

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	STATE/NAME		TITLE/ORGANIZATION
	68.	Mr. Alit Yuliawan Prihadhi	Manager of Compliance and Safety Information AirNav Indonesia <u>INDONESIA</u>
	69.	Mr. Eka Doni Prasetya	Jr. Manager Centralized FPL Services AirNav Indonesia <u>INDONESIA</u>
	70.	Ms. Veranty	ANS Standards AirNav Indonesia <u>INDONESIA</u>
	71.	Mr. Cahyadi Widodo	Manager of Aeronautical Communication Services AirNav Indonesia <u>INDONESIA</u>
	72.	Mr. Tri Adianto Hendro Rehtomo	Senior Manager PT Angkasa Pura II (Persero) <u>INDONESIA</u>
	73.	Ms. Elsa Hisnah Utami,	Staff of Executive General Manager PT Angkasa Pura II (Persero) <u>INDONESIA</u>
	74.	Mr. Andika Wicaksono	ARFF Officer PT Angkasa Pura II (Persero) <u>INDONESIA</u>

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	STATE/NAME		TITLE/ORGANIZATION
	75.	Mr. Fahmi Kurniawan,	Airport Slot Management Officer PT Angkasa Pura II (Persero) <u>INDONESIA</u>
	76.	Mr. Akhmad Hermawan Sampurno	Airport Slot Management Officer PT Angkasa Pura II (Persero) <u>INDONESIA</u>
	77.	Mr. Vidya surya Wiracipta	Airside & Landside Operation J.O PT Angkasa Pura II (Persero) <u>INDONESIA</u>
	78.	Mr. Aziz Ismail	Airport Security SO PT Angkasa Pura II (Persero) <u>INDONESIA</u>
	79.	Mr. P. Edwin Toemeungte	Senior Officer PT Angkasa Pura II (Persero) <u>INDONESIA</u>
	80.	Mr. Sulkarnaini Sulkarnaini,	Officer PT Angkasa Pura II (Persero) <u>INDONESIA</u>
	81.	Ms. Gokmaria Elisabeth	Officer PT Angkasa Pura II (Persero) <u>INDONESIA</u>

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	STATE/NAME		TITLE/ORGANIZATION
	82.	Mr. Maluwi Prabowo	Officer PT Angkasa Pura II (Persero) <u>INDONESIA</u>
	83.	Mr. Tri Setyo Hananto	MET Information Officer BMKG Indonesia <u>INDONESIA</u>
	84.	Mr. Rajasain Edralin	Weather Forecaster – Indonesian Agency for Meteorology, Climatology and Geophysics BMKG Indonesia <u>INDONESIA</u>
12.	JAPAN (17)		
	85.	Ms. Kyoko Sato	Special Assistant to the Director Ministry of Land, Infrastructure, Transport and Tourism of Japan <u>JAPAN</u>
	86.	Mr. Kyotaro Harano	Director, Air Traffic International Affairs Office Japan Civil Aviation Bureau (JCAB) <u>JAPAN</u>
	87.	Mr. Toshinyuki Masuda	Deputy Director Japan Civil Aviation Bureau (JCAB) <u>JAPAN</u>

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	STATE/NAME		TITLE/ORGANIZATION
	88.	Mr. Yasuteru Kishimoto	Special Assistant to the Director Air Traffic International Affairs Office Japan Civil Aviation Bureau (JCAB) <u>JAPAN</u>
	89.	Ms. Ikuko Wakamatsu	Special Assistant to the Director, Operations and Flight Inspection Division Japan Civil Aviation Bureau (JCAB) <u>JAPAN</u>
	90.	Mr. Yasuhiro Marutsuka	Special Assistant to the Director Japan Civil Aviation Bureau (JCAB) <u>JAPAN</u>
	91.	Ms. Miho Itou	Special Assistant to the Director Japan Civil Aviation Bureau (JCAB) <u>JAPAN</u>
	92.	Mr. Yukio Imada	Special Assistant to the Director Japan Civil Aviation Bureau (JCAB) <u>JAPAN</u>
	93.	Mr. Nobuteru ISAKA	Special Assistant to the Director Japan Civil Aviation Bureau (JCAB) <u>JAPAN</u>
	94.	Mr. Takahisa Hamada	Special Assistant to the Director Japan Civil Aviation Bureau (JCAB) <u>JAPAN</u>

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	STATE/NAME		TITLE/ORGANIZATION
	95.	Mr. Junya Tanaka	Special Assistant to the Director Japan Civil Aviation Bureau (JCAB) <u>JAPAN</u>
	96.	Mr. Hajime Aoto	Special Assistant to the Director Japan Civil Aviation Bureau (JCAB) <u>JAPAN</u>
	97.	Mr. Yukinobu Ryu	Special Assistant to the Director Japan Civil Aviation Bureau (JCAB) <u>JAPAN</u>
	98.	Mr. Yukio Imada	Special Assistant to the Director Japan Civil Aviation Bureau (JCAB) <u>JAPAN</u>
	99.	Mr. Yohei ITOH	Chief Japan Civil Aviation Bureau (JCAB) <u>JAPAN</u>
	100.	Mr. Hisashi Shiomi	Special Assistant to the Director, Aeronautical Information and Flight Inspection Planning Office, Operations and Flight Inspection Division Japan Civil Aviation Bureau (JCAB) <u>JAPAN</u>

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	101.	Ms. SANO Atsushi	Special Assistant to the Director Air Traffic Control Division Japan Civil Aviation Bureau (JCAB) <u>JAPAN</u>
13.	KIRIBATI (1)		
	102.	Mr. Tiamwa Teaiwa	Air Navigation and Aerodrome Inspector Civil Aviation Authority of Kiribati <u>KIRIBATI</u>
14.	LAO PDR (5)		
	103.	Mr. Sohnsacksit Khamkeo	Director of Air Navigation Standards Division Department of Civil Aviation of Laos <u>LAO PDR</u>
	104.	Mr. Maity Sylitammavong	Director of Air Traffic Services Division Lao Air Navigation Services <u>LAO PDR</u>
	105.	Mr. Moukphamay Thammavongsa	CNS Engineer Lao Air Navigation Services <u>LAO PDR</u>
	106.	Ms. Inseelee Bouapao	Flight Procedure Designer Lao Air Navigation Services <u>LAO PDR</u>

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	107.	Mr. Thanongdeth Nalisak	Deputy Director of Air Navigation Standards Division Department of Civil Aviation of Lao PDR <u>LAO PDR</u>
15.	MALAYSIA (10)		
	108.	Mr. Md Nastain Mahazur	Deputy Director ATM Civil Aviation Authority of Malaysia <u>MALAYSIA</u>
	109.	Ms. Dayang Zarina Abang Alli Abd Rahman	Deputy Director (Operation), KL ATCC Civil Aviation Authority of Malaysia <u>MALAYSIA</u>
	110.	Ms. Azlin A. Aziz	Deputy Director, KK ATCC Civil Aviation Authority of Malaysia <u>MALAYSIA</u>
	111.	Ms. Noorashikin Haron	Deputy Director, Kuching ATCC Civil Aviation Authority of Malaysia <u>MALAYSIA</u>
	112.	Mr. Abdul Rali Kassim	Principle Assistant Director Civil Aviation Authority of Malaysia <u>MALAYSIA</u>
	113.	Mr. Sahrol Nizal Ab Rashid	Principle Assistant Director Civil Aviation Authority of Malaysia <u>MALAYSIA</u>

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	114.	Mr. Muhammad Hafidz Ibrahim	Senior Assistant Director Civil Aviation Authority of Malaysia <u>MALAYSIA</u>
	115.	Ms. Nur A'fifah Mansor	Senior Assistant Director Civil Aviation Authority of Malaysia <u>MALAYSIA</u>
16.	MALDIVES (1)		
	116.	Mr. Ibrahim Hameed	General Manager ATS Maldives Airports Company Ltd. <u>MALDIVES</u>
17.	MONGOLIA (15)		
	117.	Mr. Kh.Odkhuu	ANS officer Civil Aviation Authority of Mongolia <u>MONGOLIA</u>
	118.	Mr. Ch.Odgerel	Director of ATFM Division National Civil Aviation Authority of Mongolia <u>MONGOLIA</u>
	119.	Mr. E.Turbayar	Director of ANS National Civil Aviation Center <u>MONGOLIA</u>

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	120.	Mr. D.Lkhagvajav	Manager of ANS National Civil Aviation Center <u>MONGOLIA</u>
	121.	Mr. P.Purevsukh	Director of ATS National Civil Aviation Center <u>MONGOLIA</u>
	122.	Mr. Ts.Batsaikhan	Head of Area Control Section (ATS) National Civil Aviation Center <u>MONGOLIA</u>
	123.	Mr. B.Mandukhai	Head of SMS section National Civil Aviation Center <u>MONGOLIA</u>
	124.	Mr. B.Boldbayar	Senior officer of ANS National Civil Aviation Center <u>MONGOLIA</u>
	125.	Mr. G.Batbulgan,	Senior officer of Area Control Section National Civil Aviation Center <u>MONGOLIA</u>
	126.	Mr. B.Uyanga	ANS officer National Civil Aviation Center <u>MONGOLIA</u>

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	127.	Mr. J.Battungalag	ANS officer National Civil Aviation Center <u>MONGOLIA</u>
	128.	Mr. G.Otgonjargal	ANS officer National Civil Aviation Center <u>MONGOLIA</u>
	129.	Mr. R.Erdenechuluun	ANS officer National Civil Aviation Center <u>MONGOLIA</u>
	130.	Mr. E.Enkhmunkh	CNS policy officer National Civil Aviation Center <u>MONGOLIA</u>
18.	MYANMAR (5)		
	131.	Mr. Soe Naing	Assistant General Manager Human Resources Department of Civil Aviation, Myanmar <u>MYANMAR</u>
	132.	Mr. Tin Maung Kyi	Assistant General Manager (ATM) Department of Civil Aviation, Myanmar <u>MYANMAR</u>
	133.	Mr. Aung Zaw Thein	Assistant General Manager (En route ATM) Department of Civil Aviation, Myanmar <u>MYANMAR</u>

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	134.	Mr. Kyaw Aye Maung	Manager (ATM), Chief of FPDO Department of Civil Aviation, Myanmar <u>MYANMAR</u>
	135.	Mr. Aung San Oo	SMS Department of Civil Aviation, Myanmar <u>MYANMAR</u>
19.	NEPAL (11)		
	136.	Mr. Suwarna Raj Upadhyaya	Officiating Director Civil Aviation Authority of Nepal (CAAN) <u>NEPAL</u>
	137.	Mr. Sitaram Bhandari	Deputy Director Civil Aviation Authority of Nepal (CAAN) <u>NEPAL</u>
	138.	Mr. Dipak Kumar Bajaracharya	Deputy Director Civil Aviation Authority of Nepal (CAAN) <u>NEPAL</u>
	139.	Mr. Nabin Prasad Acharya	Deputy Director, ATM Department Civil Aviation Authority of Nepal (CAAN) <u>NEPAL</u>
	140.	Mr. Sanjay Kumar	Dy. Director Civil Aviation Authority of Nepal (CAAN) <u>NEPAL</u>

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	141.	Mr. Devendra Prasad Shrestha	Manager Civil Aviation Authority of Nepal (CAAN) <u>NEPAL</u>
	142.	Mr. Dinesh Raj Ghimire	Manager Civil Aviation Authority of Nepal (CAAN) <u>NEPAL</u>
	143.	Mr. Mukesh Raj Dahal	Manager Civil Aviation Authority of Nepal (CAAN) <u>NEPAL</u>
	144.	Ms. Rita Shrestha	Manager Civil Aviation Authority of Nepal (CAAN) <u>NEPAL</u>
	145.	Mr. Nawin Adhikari	Manager Civil Aviation Authority of Nepal (CAAN) <u>NEPAL</u>
	146.	Mr. Rajendra Singh Nayak	Manager Civil Aviation Authority of Nepal (CAAN) <u>NEPAL</u>
20.	NEW ZEALAND (2)		
	147.	Mr. Sean Rogers	Manager Aeronautical Services Civil Aviation Authority of New Zealand <u>NEW ZEALAND</u>

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	148.	Mr. Mark Blanchard	Head of Policy and Standards Airways New Zealand <u>NEW ZEALAND</u>
21.	PAKISTAN (5)		
	149.	Mr. Iftikhar Ahmed	Director Operations Pakistan Civil Aviation Authority <u>PAKISTAN</u>
	150.	Mr. Shabbir Ahmed	Additional Director (AANS) Pakistan Civil Aviation Authority <u>PAKISTAN</u>
	151.	Mr. Zulfiqar Alam	Joint Director (ATS) Pakistan Civil Aviation Authority <u>PAKISTAN</u>
	152.	Mr. Syed Fakheem Ahmed	Deputy Director (Air Traffic Services) Pakistan Civil Aviation Authority – Ops. Directorate <u>PAKISTAN</u>
	153.	Mr. Abdul Musawwer	Dy. Director (ATS) Pakistan Civil Aviation Authority – Ops. Directorate <u>PAKISTAN</u>

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22.	PHILIPPINES (10)		
	154.	Ms. Amneris G. Gabriel	Department Manager III, AICD Air Traffic Services Civil Aviation Authority of the Philippines <u>PHILIPPINES</u>
	155.	Ms. Jessica Adeline D. Jamero	Acting Department Manager III, ATCAMD Air Traffic Services Civil Aviation Authority of the Philippines <u>PHILIPPINES</u>
	156.	Mr. Romel Y. Matnog	Division Chief, Approach Control Division Air Traffic Services Civil Aviation Authority of the Philippines <u>PHILIPPINES</u>
	157.	Mr. Robin F. Alzona	Acting Division Chief, Aerodrome Control Division Civil Aviation Authority of the Philippines <u>PHILIPPINES</u>
	158.	Mr. Joselito D. Mamuad	Assistant Division Chief, Approach-Surveillance, Air Traffic Service Civil Aviation Authority of the Philippines <u>PHILIPPINES</u>
	159.	Mr. Joseph Tyrone R. Arias	ATMO V/FIC, Manila ACC Air Traffic Service Civil Aviation Authority of the Philippines <u>PHILIPPINES</u>

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	160.	Mr. Edgardo I. Estrivo	ATMO V/Asst. FIC for Operations, Manila ACC Air Traffic Services Civil Aviation Authority of the Philippines <u>PHILIPPINES</u>
	161.	Mr. George Don M. Narvaez	ATMO IV/FIC, AIS OPS Air Traffic Service Civil Aviation Authority of the Philippines <u>PHILIPPINES</u>
	162.	Ms. Cyndi S. Balucating	ATMO IV/Asst. FIC for Operations, AIS OPS Air Traffic Service Civil Aviation Authority of the Philippines <u>PHILIPPINES</u>
	163.	Ms. Joyce B. Santos	ATMO IV/Asst. FIC for Operations, PARCC Air Traffic Service Civil Aviation Authority of the Philippines <u>PHILIPPINES</u>
23.	REPUBLIC OF KOREA (25)		
	164.	Mr. Young-Min Kim	Deputy Director, Air Traffic Division, Korea Office of Civil Aviation (KOCA), Ministry of Land, Infrastructure and Transport (MOLIT) <u>REPUBLIC OF KOREA</u>

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	STATE/NAME		TITLE/ORGANIZATION
	165.	Ms. Sohyun Park	Assistant Director Air Traffic Division, Korea Office of Civil Aviation (KOCA), Ministry of Land, Infrastructure and Transport (MOLIT) <u>REPUBLIC OF KOREA</u>
	166.	Ms. Gakyoung Min	Assistant Director Air Traffic Division, Korea Office of Civil Aviation (KOCA), Ministry of Land, Infrastructure and Transport (MOLIT) <u>REPUBLIC OF KOREA</u>
	167.	Mr. Jaekyung Im	Assistant director Air Traffic Command Center, Air Traffic Management Office(ATMO), Ministry of Land, Infrastructure and Transport (MOLIT) <u>REPUBLIC OF KOREA</u>
	168.	Mr. Song Kyungjin	Safety Manager Air Traffic Management Office, Ministry of Land, Infrastructure and Transport of the Republic of Korea <u>REPUBLIC OF KOREA</u>

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	169.	Mr. Hyeong-cheol Kwon	Assistant Director, Airspace and Flight Procedure, Air Traffic Management Office, Ministry of Land, Infrastructure and Transport of the Republic of Korea (MOLIT) <u>REPUBLIC OF KOREA</u>
	170.	Ms. Sojin Lim	Assistant Director, Air Traffic Command Center, Air Traffic Management Office Ministry of Land, Infrastructure and Transport of the Republic of Korea (MOLIT) <u>REPUBLIC OF KOREA</u>
	171.	Mr. Jongmin Kim	ATFM Officer, Air Traffic Command Center, Air Traffic Management Office, Ministry of Land, Infrastructure and Transport of the Republic of Korea (MOLIT) <u>REPUBLIC OF KOREA</u>
	172.	Mr. Seongmin Lee	Air Traffic Flow Management, Air Traffic Command Center, Air Traffic Management Office, Ministry of Land, Infrastructure and Transport of the Republic of Korea (MOLIT) <u>REPUBLIC OF KOREA</u>

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	173.	Mr. Che Hyung Oh	Air Traffic Flow Management, Air Traffic Command Center, Air Traffic Management Office, Ministry of Land, Infrastructure and Transport of the Republic of Korea (MOLIT) <u>REPUBLIC OF KOREA</u>
	174.	Ms. Jiwoo Chae	Aeronautical Communication, Air Traffic Command Center, Air Traffic Management Office, Ministry of Land, Infrastructure and Transport of the Republic of Korea (MOLIT) <u>REPUBLIC OF KOREA</u>
	175.	Mr. Boyeong Oh	Aeronautical Communication, Air Traffic Command Center, Air Traffic Management Office, Ministry of Land, Infrastructure and Transport of the Republic of Korea (MOLIT) <u>REPUBLIC OF KOREA</u>
	176.	Mr. Junho Lee	Assistant Director Air Traffic Division, Korea Office of Civil Aviation (KOCA), Ministry of Land, Infrastructure and Transport (MOLIT) <u>REPUBLIC OF KOREA</u>

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	177.	Ms. Jihyang Kim	AIS Officer Air Traffic Management Office, Ministry of Land, Infrastructure and Transport (MOLIT) <u>REPUBLIC OF KOREA</u>
	178.	Ms. Kim Jaehong	Assistant Officer Air Traffic Management Office, Ministry of Land, Infrastructure and Transport (MOLIT) <u>REPUBLIC OF KOREA</u>
	179.	Mr. Heonju Lee	Assistant Manager Korea Airport Corporation <u>REPUBLIC OF KOREA</u>
	180.	Ms. Nam Hyojeon	Air Traffic Flow Management Korea Airport Corporation <u>REPUBLIC OF KOREA</u>
	181.	Mr. Kim Hyun Woo	Air Traffic Flow Management Korea Airport Corporation <u>REPUBLIC OF KOREA</u>
	182.	Mr. Hohyun Song	Air Traffic Controller Korea Airport Corporation <u>REPUBLIC OF KOREA</u>
	183.	Mr. Heonju Lee	Airside Operator Korea Airport Corporation <u>REPUBLIC OF KOREA</u>

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	184.	Mr. Jae-Hyun Han	Director Korea Transport Institute <u>REPUBLIC OF KOREA</u>
	185.	Mr. Hyunsoo Cho	Researcher Korea Transport Institute <u>REPUBLIC OF KOREA</u>
	186.	Mr. Oungseob Shin	Aviation Safety Researcher Korea Institute of Aviation Safety Technology <u>REPUBLIC OF KOREA</u>
	187.	Mr. Hyojung Yoon	Engineer Korea Institute of Aviation Safety Technology <u>REPUBLIC OF KOREA</u>
	188.	Mr. Seung Ok Hwang	Research Director Inosky <u>REPUBLIC OF KOREA</u>
24.	SINGAPORE (12)		
	189.	Mr. Kong Beng Kuah	Director (Special Project) Civil Aviation Authority of Singapore (CAAS) <u>SINGAPORE</u>
	190.	Mr. Yeo Peng Hok Thomas	Senior Chief – Singapore Air Traffic Control Center Civil Aviation Authority of Singapore (CAAS) <u>SINGAPORE</u>

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	191.	Mr. Khung Hui Yeo	Chief (ATM) Civil Aviation Authority of Singapore (CAAS) <u>SINGAPORE</u>
	192.	Mr. Sivapirakasam R	Deputy Chief (Ops, Area) Civil Aviation Authority of Singapore (CAAS) <u>SINGAPORE</u>
	193.	Ms. Peiru He	Senior ATC Manager (ATM – SEA 1) Civil Aviation Authority of Singapore (CAAS) <u>SINGAPORE</u>
	194.	Mr. Victor Lee	Principal Manager (CNS Regulation) Civil Aviation Authority of Singapore (CAAS) <u>SINGAPORE</u>
	195.	Ms. Xu Ting Lim	Manager (Air Navigation Service Group) Civil Aviation Authority of Singapore (CAAS) <u>SINGAPORE</u>
	196.	Ms. Carol Teo	Head (Data Science) Civil Aviation Authority of Singapore (CAAS) <u>SINGAPORE</u>
	197.	Mr. Kevin Koh	Manager (AIS) Civil Aviation Authority of Singapore (CAAS) <u>SINGAPORE</u>

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	198.	Ms. Qi Chen	Principal Engineer Civil Aviation Authority of Singapore (CAAS) <u>SINGAPORE</u>
	199.	Ms. Erin Siah	Engineer Civil Aviation Authority of Singapore (CAAS) <u>SINGAPORE</u>
	200.	Mr. Victor Tan Yong Meng	Air Traffic Controller Civil Aviation Authority of Singapore (CAAS) <u>SINGAPORE</u>
25.	SRI LANKA (9)		
	201.	Ms. Sherina Casseer	Deputy Director General Aeronautical Services Regulations Civil Aviation Authority of Sri Lanka <u>SRI LANKA</u>
	202.	Mr. Kalum Prasanna	Director Air Navigation Services Civil Aviation Authority of Sri Lanka <u>SRI LANKA</u>
	203.	Ms. Thilini Herath	Senior Civil Aviation Inspector – ATMSP Civil Aviation Authority of Sri Lanka <u>SRI LANKA</u>
	204.	Mr. Thilina Warnasinghe	Senior Civil Aviation Inspector Civil Aviation Authority of Sri Lanka <u>SRI LANKA</u>

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	205.	Ms. Sarojanie S.A.N.	Civil Aviation Inspector – AIS Civil Aviation Authority of Sri Lanka <u>SRI LANKA</u>
	206.	Mr. Indika Bandupriya	Senior Manager ATS Airport and Aviation Services (Sri Lanka) Ltd <u>SRI LANKA</u>
	207.	Mr. Nishan Abeywardena	Head of Air Navigation Services Airport and Aviation Services (Sri Lanka) Ltd <u>SRI LANKA</u>
	208.	Mr. Jananath Konara	Head of Electronics and Air Navigation Engineering Airport and Aviation Services (Sri Lanka) Ltd <u>SRI LANKA</u>
	209.	Mr. Vidura Thammitage	Senior Electronics Engineer Airport and Aviation Services (Sri Lanka) Ltd <u>SRI LANKA</u>
26.	TAJIKISTAN (2)		
	210.	Mr. Bakhtiyor SHERALIEV	Head of Development Department SUE Tajikairnavigation <u>TAJIKISTAN</u>
	211.	Mr. Pairav KHUSENOV	Head of ATC SUE Tajikairnavigation <u>TAJIKISTAN</u>

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27.	THAILAND (18)		
	212.	Mr. Punlop Sungsilert	Transport Technical Officer, Senior Professional Level Office of the Search and Rescue Commission, Ministry of Transport <u>THAILAND</u>
	213.	Mr. Patompong Wongsakda	Transport Technical Officer, Practitioner Level Office of the Search and Rescue Commission, Ministry of Transport <u>THAILAND</u>
	214.	Mr. Sophonwich Somchai	Transport Technical Officer, Practitioner Level Office of the Search and Rescue Commission, Ministry of Transport <u>THAILAND</u>
	215.	Ms. Phattaraporn Sarikkha	Transport Technical Officer, Practitioner Level Office of the Search and Rescue Commission, Ministry of Transport <u>THAILAND</u>
	216.	Ms. Phoichanee Saelim	Transport Technical Officer, Practitioner Level Office of the Search and Rescue Commission, Ministry of Transport <u>THAILAND</u>

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	217.	Ms. Awassada Phopratab	Transport Technical Officer, Practitioner Level Office of the Search and Rescue Commission, Ministry of Transport <u>THAILAND</u>
	218.	Ms. Parichat Thongkleang	Head of Aeronautical Chart - AIS The Civil Aviation Authority of Thailand (CAAT) <u>THAILAND</u>
	219.	Mr. Pawat Harnbumrungkit	Head of Airspace and Flight Procedures Oversight Division The Civil Aviation Authority of Thailand (CAAT) <u>THAILAND</u>
	220.	Ms. Haruethai Pattanapisudtichai	ANS Officer The Civil Aviation Authority of Thailand (CAAT) <u>THAILAND</u>
	221.	Ms. Vanatta Noipan	Officer, Airspace and Flight Procedures Oversight Division The Civil Aviation Authority of Thailand (CAAT) <u>THAILAND</u>
	222.	Ms. Thitibhorn Prathumchai	Officer, Air Traffic Oversight Division The Civil Aviation Authority of Thailand (CAAT) <u>THAILAND</u>
	223.	Mr. Jirakrit Thamnarak	Officer, Air Traffic Oversight Division The Civil Aviation Authority of Thailand (CAAT) <u>THAILAND</u>

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	224.	Ms. Achiraya Dechanuntasin	Officer, Air Traffic Oversight Division The Civil Aviation Authority of Thailand <u>THAILAND</u>
	225.	Mrs. Sirikes Niemloy	Vice President (Air Traffic Management) Aeronautical Radio of Thailand Ltd. (AEROTHAI) <u>THAILAND</u>
	226.	Ms. Sujin Promduang	Director, Aeronautical Information and Flight Data Management Center Aeronautical Radio of Thailand Ltd. (AEROTHAI) <u>THAILAND</u>
	227.	Mr. Suvichan Sathitkitpichet	Director, Network Operations Air Traffic Management Center Aeronautical Radio of Thailand Ltd. (AEROTHAI) <u>THAILAND</u>
	228.	Mr. Piyawut Tantimekabut	Air Traffic Management Network Manager Aeronautical Radio of Thailand Ltd. (AEROTHAI) <u>THAILAND</u>
	229.	Ms. Amornrat Jirattigalachote	Strategic Planning Manager (Engineering) Aeronautical Radio of Thailand Ltd. (AEROTHAI) <u>THAILAND</u>

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28.	UNITED STATES (7)		
	230.	Mr. Michael Watkins	Senior Air Traffic Representative, Asia Pacific Federal Aviation Administration (FAA) Air Traffic Organization, System Operations <u>SINGAPORE</u>
	231.	Mr. Jim Webb	Manager, Oceanic Operations Air Traffic Services Technical Advisory Group Federal Aviation Administration <u>UNITED STATES</u>
	232.	Mr. Harrie Copeland	Air Traffic Control Specialist Technical Advisory Team Federal Aviation Administration <u>UNITED STATES</u>
	233.	Mr. Duane Freer	ATO Space Operations Manager Federal Aviation Administration <u>UNITED STATES</u>
	234.	Ms. Hannah Browne	Space Operations Specialist Federal Aviation Administration <u>UNITED STATES</u>
	235.	Mr. James Duke	Chief Airspace Management United States Air Force <u>UNITED STATES</u>

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	236.	Mr. James Morimoto	Command Airspace Manager United States Air Force <u>UNITED STATES</u>
29.	VIET NAM (15)		
	237.	Mr. Nguyen Huu Duc	Official The Civil Aviation Authority of Vietnam (CAAV) <u>VIET NAM</u>
	238.	Ms. Ho Doan Trang	Officer The Civil Aviation Authority of Vietnam (CAAV) <u>VIET NAM</u>
	239.	Mr. Dam Tuan Toi	Official The Civil Aviation Authority of Vietnam (CAAV) <u>VIET NAM</u>
	240.	Mr. Dinh Cong Nguyen	Deputy Director General Viet Nam Air Traffic Management Corporation (VATM) <u>VIET NAM</u>
	241.	Ms. Ngo Thi Thuy Van	Deputy Director of Viet Nam Aeronautical Information Center Viet Nam Air Traffic Management Corporation (VATM) <u>VIET NAM</u>

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	242.	Ms. To Thu Trang	Deputy Manager of AIS Operation Viet Nam Air Traffic Management Corporation (VATM) <u>VIET NAM</u>
	243.	Mr. Pham Xuan Thanh	Deputy Manager, ATFMS Division Viet Nam Air Traffic Management Corporation (VATM) <u>VIET NAM</u>
	244.	Ms. Nguyen Thi An Thuy	Deputy Manager, Ha Noi Area Control Center Viet Nam Air Traffic Management Corporation (VATM) <u>VIET NAM</u>
	245.	Mr. Dong Anh Nguyen	ATFM Viet Nam Air Traffic Management Corporation (VATM) <u>VIET NAM</u>
	246.	Mr. Truong Nguyen Xuan	ATS Official Viet Nam Air Traffic Management Corporation (VATM) <u>VIET NAM</u>
	247.	Ms. Hanh Hoa Bui	Official Viet Nam Air Traffic Management Corporation (VATM) <u>VIET NAM</u>
	248.	Ms. VU Thi Cam Anh	Official Viet Nam Air Traffic Management Corporation (VATM) <u>VIET NAM</u>

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	249.	Ms. Ly Dang Hong	Official, Corporation Office Viet Nam Air Traffic Management Corporation (VATM) <u>VIET NAM</u>
	250.	Ms. Vu Thi Thanh Bach	Officer, ATS Department Viet Nam Air Traffic Management Corporation (VATM) <u>VIET NAM</u>
	251.	Mr. Le Cuong Nguyen Xuan	Official Viet Nam Air Traffic Management Corporation (VATM) <u>VIET NAM</u>
30.	CANSO (1)		
	252.	Mr. Poh Theen Soh	Director, Asia Pacific Affairs CANSO <u>SINGAPORE</u>
31.	IATA (14)		
	253.	Mr. Honghai Yang	Regional Director North Asia, Safety and Flight Operations International Air Transport Association (IATA) <u>CHINA</u>
	254.	Mr. John Moore	Assistant Director, Safety & Flight Operations, ASPAC International Air Transport Association (IATA) <u>SINGAPORE</u>

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	255.	Mr. Zhengli Dong	Assistant Director IATA <u>CHINA</u>
	256.	Mr. Prashant Sanglikar	Assistant Director – Safety and Flight Operations IATA <u>INDIA</u>
	257.	Mr. Ti Zhang	Manager Safety and ATFM Liaison International Air Transport Association (IATA) <u>CHINA</u>
	258.	Mr. Bin Hu	Manager, Operations Safety and Security International Air Transport Association (IATA) <u>CHINA</u>
	259.	Mr. Yoshiki Imawaka	Executive Advisor, Flight Operations Standards IATA/All Nippon Airways (ANA) <u>JAPAN</u>
	260.	Mr. Julian FUNG	International Operations Manager IATA/Cathay Pacific Airways <u>CHINA</u>
	261.	Mr. George Chan	Regulatory Affairs Manager - Industry and Flight Operations IATA/Cathay Pacific Airways <u>CHINA</u>

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	262.	Mr. Imshik Shin	Deputy General Manager – CNS/ATM – Korean Air <u>REPUBLIC OF KOREA</u>
	263.	Mr. Sunil Prasad	AVP-Flight Operations Spice Jet Ltd <u>INDIA</u>
	264.	Mr. Leonard Wee	Head of operations Singapore Airlines <u>SINGAPORE</u>
	265.	Mr. Steve Kelly	Manager Flight Operations Regulatory Affairs Operations Support Air New Zealand <u>NEW ZEALAND</u>
	266.	Mr. Daniel Smith	Manager ATM Qantas Group <u>AUSTRALIA</u>
32.	IFAIMA (1)		
	267.	Mr. Erdenebaatar Davaasuren	APAC Regional Director IFAIMA <u>MONGOLIA</u>

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33.	IFALPA (2)		
	268.	Captain Amornvaj Mansumitchai	Deputy President IFALPA <u>THAILAND</u>
	269.	Captain Max Matsumoto	RVP NOP IFALPA
34.	IFATCA (2)		
	270.	Ms. Cheryl YC Chen	Acting Executive Vice - President Asia Pacific Region IFATCA <u>CANADA</u>
	271.	Mr. John Wagstaff	Representative IFATCA – Asia and Pacific <u>CANADA</u>
35.	ICAO (22)		
	272.	Mr. Tao Ma	Regional Director ICAO Asia and Pacific Regional Office <u>THAILAND</u>
	273.	Dr. Manjit Singh	Deputy Regional Director ICAO Asia and Pacific Regional Office <u>THAILAND</u>

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	274.	Mr. Raphael Guillet	Chief, Regional Sub-Office ICAO Asia and Pacific Regional Sub-Office, <u>CHINA</u>
	275.	Mr. Shane Sumner	Regional Officer, Air Traffic Management ICAO Asia and Pacific Regional Office <u>THAILAND</u>
	276.	Mr. Hiroyuki Takata	Regional Officer, Air Traffic Management ICAO Asia and Pacific Regional Office <u>THAILAND</u>
	277.	Mr. Peter Dunda	Regional Officer, Aeronautical Meteorology ICAO Asia and Pacific Regional Office <u>THAILAND</u>
	278.	Dr. Punya Raj Shakya	Regional Officer, Aerodrome and Ground Aids ICAO Asia and Pacific Regional Office <u>THAILAND</u>
	279.	Mr. Ross Lockie	Regional Officer, Aviation Security ICAO Asia and Pacific Regional Office <u>THAILAND</u>
	280.	Mr. Yi Luo	Regional Officer, Communications, Navigation, and Surveillance ICAO Asia and Pacific Regional Office <u>THAILAND</u>

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	STATE/NAME		TITLE/ORGANIZATION
	281.	Ms. Soniya Nibhani	Regional Officer, Communications, Navigation, and Surveillance ICAO Asia and Pacific Regional Office <u>THAILAND</u>
	282.	Mr. Susantha DeSilva	Regional Officer, Flight Safety ICAO Asia and Pacific Regional Office <u>THAILAND</u>
	283.	Mr. SM Nazmul Anam	Regional Officer, Flight Safety ICAO Asia and Pacific Regional Office <u>THAILAND</u>
	284.	Mr. Ahmad Amireh	Regional Officer, Air Traffic Management/Search and Rescue ICAO Middle East Regional Office <u>EGYPT</u>
	285.	Mr. Mior Adli Bin Mior Sallehuddin	Regional Officer, Air Traffic Management (AOM-ASM) ICAO Asia and Pacific Regional Sub-Office <u>CHINA</u>
	286.	Ms. Sunok Lee	Regional Officer, Air Traffic Management ICAO Asia and Pacific Regional Sub-Office <u>CHINA</u>
	287.	Mr. Vijay Kumar Mishra	Regional Officer, PBN ICAO Asia and Pacific Regional Sub-Office <u>CHINA</u>

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	STATE/NAME		TITLE/ORGANIZATION
	288.	Mr. Han Chee Chew	Air Traffic Management Officer ICAO Asia and Pacific Regional Office <u>THAILAND</u>
	289.	Mr. Sayuta Senobua	Regional Officer, Environment and Climate Change ICAO Asia and Pacific Regional Office <u>THAILAND</u>
	290.	Mr. Sze Lung How	Regional Officer, Communications, Navigation, and Surveillance ICAO Asia and Pacific Regional Office <u>THAILAND</u>
	291.	Ms. Wenhan Zhong	Regional Officer, Communications, Navigation, and Surveillance ICAO Asia and Pacific Regional Office <u>THAILAND</u>
	292.	Ms. Prakayphet Chalayonnawin	Programme Analysis Associate, Air Traffic Management ICAO Asia and Pacific Regional Office <u>THAILAND</u>
	293.	Ms. Siqi Yang	Program Assistant ICAO Asia and Pacific Regional Sub-Office <u>CHINA</u>



ICAO

LIST OF WORKING AND INFORMATION PAPERS

(Presented by the Secretariat)

WORKING PAPERS

No.	Subject	Presented by
AI1 WP01	Election of Chair/Provisional Agenda	Secretariat
AI2 WP02	ATM/SG/8 and APANPIRG/31 Outcomes	Secretariat
AI2 WP03	RASG and APRAST Meeting Outcomes	Secretariat
AI3 WP04	FIT-Asia and RASMAG Outcomes	Secretariat
AI3 WP05	Seamless ANS Plan and Monitoring Update	Secretariat
AI3 WP06	ANS USOAP Update	Secretariat
AI3 WP07	Application of ATC Separation Minimums	Secretariat
AI4 WP08	Civil-Military Cooperation to Eliminate Indonesia's ANS Deficiency	Indonesia
AI4 WP09	Special Use Airspace Improvement in Japan	Japan
AI4 WP10	Air Navigation Service Deficiencies List	Secretariat
AI5 WP11	Air Traffic Flow Management Steering Group Outcomes	Secretariat
AI5 WP12	Missing Departure Messages	Secretariat
AI5 WP13	Indonesia Corrective Action to Manage Missing Departure Messages	Indonesia
AI5 WP14	Regional Air Navigation Plan Update	Secretariat
AI5 WP15	Resolution Effort for FIR Boundary Difference in Japan	Japan
AI5 WP16	Main Outcomes of CNS SG/25	Secretariat
AI5 WP17	<i>withdrawn</i>	-
AI5 WP18	Amendments to Annexes and PANS Relating to the Global Reporting Format for Runway Surface Conditions	Secretariat
AI5 WP19	Implementation Status of SID/STAR Phraseology	Secretariat
AI5 WP20	Asia/Pacific Unmanned Aircraft Systems Update	Secretariat
AI6 WP21	SAIOACG and SEACG Meeting Outcomes	Secretariat
AI6 WP22	ATS Route Catalogue	Secretariat
AI6 WP23	Asia Pacific Region ATS Route Catalogue – IATA Review	IATA

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No.	Subject	Presented by
AI6 WP24	Optimisation of the Capacity of Air Routes L642 and M771	Hong Kong China
AI6 WP25	Consideration on FLAS Elimination in AKARA Corridor	Japan
AI6 WP26	Implementation of Enhanced Wake Turbulence Separation at Hong Kong International Airport	Hong Kong China
AI6 WP27	Activation of Danger Areas over High Seas for Prolonged Duration	IATA
AI6 WP28	<i>withdrawn</i>	-
AI6 WP29	Airline Feedback to Airspace Closures and Contingency Response	IATA
AI6 WP30	Regional ATM Contingency Planning, Status Reporting and Contingency Operations Update	Secretariat
AI6 WP31	Refresher Training to Support Resumption of Traffic Demand	Singapore
AI7 WP32	Asia/Pacific Search and Rescue Update	Secretariat
AI7 WP33	AOP Subgroup Outcomes	Secretariat
AI7 WP34	AIS – AIM Implementation Task Force Outcomes	Secretariat
AI7 WP35	Outcomes from MET SG/25 Relevant to ATM/SG	Secretariat
AI8 WP36	APANPIRG ATM Sub Group Terms of Reference and Task List	Secretariat
AI9 WP37	Proposals for ATM Safety Management Activities in the APAC Region	Secretariat
AI9 WP38	<i>withdrawn</i>	-
AI9 WP39	ATM Point of Contact Update	Secretariat

INFORMATION PAPERS

No.	Subject	Presented by
AI2 IP02	Conference of Directors General of Civil Aviation Outcomes	Secretariat
AI5 IP03	Cross-Border ATFM Procedure Research in China	China
AI5 IP04	The Long-Term Vision for the Future Air Traffic Systems of Japan (CARATS)	Japan
AI5 IP05	Future of the Ocean 2035 (FOTO35) Program Overview and Alignment with ICAO Global Initiatives	USA
AI6 IP06	IPACG NOPAC Route System Redesign Update	Japan and USA
AI6 IP07	ADS-C CDP Implementation in Fukuoka FIR	Japan
AI9 IP08	Development of Indonesia Air Navigation Carbon Emission Calculator (INAVCEC)	Indonesia
AI9 IP09	Air Traffic Management Security Requirements	Secretariat

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No.	Subject	Presented by
AI5 IP10	The Progress toward Trial Operation of Domestic CPDLC in Japan	Japan

PRESENTATIONS

No.	Subject	Presented by
SP01	(WP24) Optimisation of the Capacity of Air Routes L642 and M771	Hong Kong China
SP02	(WP26) Implementation of Enhanced Wake Turbulence Separation at Hong Kong International Airport	Hong Kong China
SP03	(WP37) Proposals for ATM Safety Management Activities in the Asia Pacific Region	ICAO APAC RSO

FLIMSIES

No.	Subject	Presented by
Flimsy 01	Excerpt from APAC ANP Vol II	Secretariat
Flimsy 02	Draft Decision SAIOSEACG TOR	Secretariat
Flimsy 03	Republic of Korea's View Regarding WP25	Republic of Korea

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ATM and Airspace Safety Deficiencies List (Updated 27 October 2021)

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

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

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

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

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States/facilities	Deficiencies			Corrective Action		
	Description	Date first reported	Remarks	Executing body	Target date	Priority **
Indonesia	Designation of Restricted Areas Above the Land Areas or Territorial Waters of a State—Not implemented	29/03/2019 SAIOACG /9	Danger areas within international airspace that is part of a State's responsibility is acceptable The relevant authorities in Indonesia had agreed for the concerned restricted areas to be re-designated as danger areas.	Indonesia	TBD	A
	<u>Airspace Classification Requirements of Paragraph 2.6 of Annex 11</u>					
China	Airspace Classification - Not implemented	7/7/99	Difference to Annex 11 is published in AIP, China.	China	APANPIRG/19 updated, implementation planned by end 2010.	A
Macau, China	Airspace Classification - Not implemented	05/09/2018		Macau, China	TBD	A
Nauru	Airspace Classification - Not implemented	7/7/99		Nauru	TBD	A
Solomon Islands	Airspace Classification - Not implemented	7/7/99		Solomon Islands	TBD	A

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States/facilities	Deficiencies			Corrective Action		
	Description	Date first reported	Remarks	Executing body	Target date	Priority **
	<u>ATS Message Addressing Requirements of Doc 4444 PANS-ATM Section 11.4 (Message Types and their Application)</u>		Note: the threshold for a Deficiency is 5% or more DEP messages reported to have not been sent, and where the analysed data provided evidence of a systemic (either systems or human factors) failure to send the message			
Bangladesh	DEP message transmission	05/09/2018	DEP messages inconsistently transmitted Conclusion APANPIRG/27/12 and ICAO correspondence	Bangladesh	TBD	A
India	DEP message transmission	05/09/2018	DEP messages inconsistently transmitted Conclusion APANPIRG/27/12 and ICAO correspondence	India	TBD	A
Malaysia	DEP message transmission	05/09/2018	DEP messages inconsistently transmitted Conclusion APANPIRG/27/12 and ICAO correspondence	Malaysia	TBD	A
Maldives	DEP message transmission	09/08/2019	DEP messages inconsistently transmitted Conclusion APANPIRG/27/12 and ICAO correspondence	Maldives	TBD	A
Nepal	DEP message transmission	09/08/2019	DEP messages inconsistently transmitted Conclusion APANPIRG/27/12 and ICAO correspondence	Nepal	TBD	A

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States/facilities	Deficiencies			Corrective Action		
	Description	Date first reported	Remarks	Executing body	Target date	Priority **
USA	DEP message transmission	05/09/2018	DEP messages inconsistently transmitted Conclusion APANPIRG/27/12 and ICAO correspondence	USA	TBD	A
	SAR capability: Requirements of Annex 12 as defined in the Regional Air Navigation Plan Volume II Part I – GENERAL PLANNING ASPECTS Section 3 SPECIFIC REGIONAL REQUIREMENTS, failure to reach 90% or more implementation of the Asia/Pacific SAR Plan					
Afghanistan	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 45%	Afghanistan	2016 -2019	U
Bangladesh	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/5 65% APSAR/WG/6 67%	Bangladesh	2019	U
Bhutan	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 34%	Bhutan	2016 -2019	U
Brunei	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/4 63%	Brunei	2019	U
Cambodia	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 76%	Cambodia	2019	U
China	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/4 82%	China	2019	U
Cook Islands	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Cook Islands	2019	U
DPR Korea	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 66%	DPR Korea	2019	U

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States/facilities	Deficiencies			Corrective Action		
	Description	Date first reported	Remarks	Executing body	Target date	Priority **
Fiji	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 80% APSAR/WG/6 89%	Fiji	2019	U
French Polynesia	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/4 84%	French Polynesia	2019	U
Kiribati	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 26%	Kiribati	2019	U
Lao PDR	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 57%	Lao PDR	2019	U
Macau, China	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 85%	Macao, China	2019	U
Malaysia	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/5 78% APSAR/WG/6 77%	Malaysia	2019	U
Maldives	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 71% APSAR/WG/6 71%	Maldives	2019	U
Marshall Islands	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/5 17%	Marshall Islands	2019	U
Micronesia	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/5 17%	Micronesia	2019	U
Mongolia	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/4 63% APSAR/WG/6 73%	Mongolia	2019	U
Myanmar	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 67%	Myanmar	2019	U
Nauru	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Nauru	2019	U

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States/facilities	Deficiencies			Corrective Action		
	Description	Date first reported	Remarks	Executing body	Target date	Priority **
Nepal	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/5 56%	Nepal	2019	U
New Caledonia	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/4 54%	New Caledonia	2019	U
Palau	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/5 17%	Palau	2019	U
Pakistan	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/4 84% APSAR/WG/6 87%	Pakistan	2019	U
Papua New Guinea	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Papua New Guinea	2019	U
Philippines	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 61% APSAR/WG/6 88%	Philippines	2019	U
Samoa	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Samoa	2019	U
Solomon Islands	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Solomon Islands	2019	U
Sri Lanka	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/5 75% APSAR/WG/6 78%	Sri Lanka	2019	U
Thailand	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/5 78% APSAR/WG/6 78%	Thailand	2019	U
Timor-Leste	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Timor-Leste	2019	U
Tonga	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Tonga	2019	U
Vanuatu	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Vanuatu	2019	U

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States/facilities	Deficiencies			Corrective Action		
	Description	Date first reported	Remarks	Executing body	Target date	Priority **
	<u>Non Provision of Safety-related Data Requirement of Paragraph 3.3.5.1 of Annex 11 (provision of data for monitoring the height-keeping performance of aircraft) and APANPIRG Conclusion 16/6 – Non Provision of safety related data by States</u>					
Afghanistan	Non-provision of safety related data	12/07/2019	Failure to submit Kabul LHD data for January-December 2018 and 2020 RASMAG/26 supported deletion of this deficiency provided Afghanistan continued to provide monthly data in September and October 2021, noting the significant disruption to ANS in Afghanistan since mid-August 2021	Afghanistan	RASMAG26	U
	State Responsibility to comply with the Annex 6 Height-Keeping Monitoring Requirement Annex 6 Part I Section 7.2.9 (10th Ed.) and Part II Section 2.5.2.10 (9th Ed.)					
Afghanistan	Non-compliance with LTHM requirement (remaining monitoring burden more than 30%)	RASMAG/23	Remaining monitoring burden of 85% (RASMAG/25) 42% (RASMAG/26)	Afghanistan	RASMAG24	A
Pakistan	Non-compliance with LTHM requirement (remaining monitoring burden more than 30%)	RASMAG/22	Remaining monitoring burden of 46% (RASMAG/25)	Pakistan	RASMAG24	A
	Data Link Performance Monitoring and Analysis Requirements of					

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States/facilities	Deficiencies			Corrective Action		
	Description	Date first reported	Remarks	Executing body	Target date	Priority **
	Paragraph 2.28 and/or 3.3.5.2 of Annex 11 not met					
Fiji	Post-implementation monitoring not implemented	25/06/2018	Problem reports not provided to CRA. RASMAG24	Fiji	TBD	A
India	Post-implementation monitoring not implemented	13/07/2017	Performance monitoring and analysis was reported for the Chennai FIR, but was not reported for the Kolkata and Mumbai FIRs.	India	TBD	A
Maldives	Post-implementation monitoring not implemented	29/5/2015	Problem Reports not provided to CRA. Performance monitoring and analysis not reported to FIT.	Maldives	TBD	A

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

DRAFT AMENDMENT -Terms of Reference

AIR TRAFFIC FLOW MANAGEMENT STEERING GROUP (ATFM/SG)

1. Having considered relevant documents such as the *Manual on Collaborative Air Traffic Flow Management* (Doc 9971), regional air traffic data and the Asia/Pacific Region city pairs and associated airspace and ATS routes and aerodromes experiencing the most significant traffic demand, and noting the Asia/Pacific Seamless ATM Plan provisions for structural airspace capacity increasing measures, develop an Asia/Pacific Regional ATFM Framework which addresses ATFM implementation and ATFM operational issues in the Asia/Pacific Region;
2. Identify, research and recommend appropriate guidance regarding:
 - a. capacity assessment and adjustment mechanisms;
 - b. regular review for all aerodromes and ATC sectors where traffic demand is expected to reach capacity, or is resulting in traffic congestion;
 - c. mechanisms for ATFM and A-CDM data gathering, collation and sharing between States, International Organizations and ICAO, which may include;
 - i. capacity assessments, including factors affecting capacity such as special use airspace status, runway closures and weather information;
 - ii. traffic demand information which may include flight schedules, flight plan data, repetitive flight plan data as well as associated surveillance updates of flight status; and
 - iii. ATFM Daily Plan;
 - d. compliance by airspace and aerodrome users with ATFM and A-CDM measures; and
 - e. any other guidance relevant to the Regional ATFM Framework and Asia/Pacific A-CDM Implementation Plan.
3. Maintain an overview of CDM/ATFM and A-CDM programs being conducted within the Region, with a view to facilitating their coordination and alignment, and to promote;
 - a. harmonized procedures;
 - b. Implementation of the performance expectations of the Regional ATFM Framework and Asia/Pacific A-CDM Implementation Plan;
 - c. Interoperability of A-CDM with ATFM
4. Review the effectiveness of existing and planned ATFM and A-CDM programs in the Asia and Pacific Region, and make specific recommendations regarding ATFM, including any adjacent airspace affecting the Asia and Pacific Regions, and research and recommend appropriate mechanisms for the on-going review of such programs.

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

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TERMS OF REFERENCE

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

- 1) The objective of the SAIOSEACG is to identify the need for, plan and implement Air Traffic Management (ATM) improvements in the Indian Ocean, South Asia and Southeast Asia areas.
- 2) To meet this objective, the Group shall:
 - a. Promote and facilitate implementation of the provisions of ICAO Doc 7030 – *Regional Supplementary Procedures* and the *Asia/Pacific Regional Air Navigation Plan*, and the performance expectations of the *Asia/Pacific Seamless ANS Plan*, by:
 - i. reviewing and recommending improvements to airspace and Air Traffic Services (ATS) route structures, in order to optimise safety and efficiency;
 - ii. review and recommend improvements to ATS facilities such as communication and surveillance capability in support of flight operations; and
 - iii. research and plan airspace and facility requirements based on future technologies, Performance-based Navigation (PBN) and other advanced capabilities;
 - b. Assist SAIOSEACG Administrations in the development of action plans to rectify APANPIRG Air Navigation Service (ANS) Deficiencies.
 - c. coordinate and collaborate with other APANPIRG groups and relevant technical groups from other ICAO regions as required; and
 - d. form Small Working Groups as required to conduct specific ATM-related projects.
- 3) The SAIOSEACG reports to the Air Traffic Management Subgroup of APANPIRG (ATMSG).

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

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ATM Sub Group of APANPIRG — TASK LIST

The priorities assigned in the list have the following connotation:

A = Tasks of a high priority on which work should be expedited; and

B = Tasks of a medium priority on which work should be undertaken as soon as possible but not to the detriment of Priority “A” tasks.

*(Last update November 2020, amendments are shown in **highlight**)*

ACTION ITEM & PRIORITY	DESCRIPTION	TARGET DATE	RESPONSIBLE PARTY	STATUS	REMARKS
18/8 Priority A	<p><u>Identify and manage Deficiencies in the ATM, AIS and SAR fields</u></p> <p>a) Develop and maintain Deficiencies list,</p> <p>b) Identify unimplemented items in the ANP,</p> <p>c) Assist States to correct deficiencies,</p> <p>d) Promote timely resolution of safety-critical items identified by APANPIRG</p>	ONGOING	<p>Functional Responsibility: No specific working group established, all parties have responsibilities in this area (States, Users, International Organisations, Regional Office, ATMSG APANPIRG)</p>	OPEN	

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ACTION ITEM & PRIORITY	DESCRIPTION	TARGET DATE	RESPONSIBLE PARTY	STATUS	REMARKS
18/9 Priority B	<p><u>SAR Matters</u></p> <p>Assist appropriate provision of SAR facilities, services and procedures within the Asia Pacific Region by:</p> <p>a) Periodic review of SAR facilities, services and procedures in the region,</p> <p>b) Encourage States to delegate or negotiate SAR services,</p> <p>c) Asia/Pacific SAR Plan Assessment be kept up to date and distributed to States for information and action.,</p> <p>d) Asia/Pacific “Register of SAR Agreements” be kept up to date and distributed to States for information and action</p>	ONGOING	<p>States, Regional Office, APSARWG ATM/AIS/SAR/SG APANPIRG</p>	OPEN	<p>States to update the ATM/SG and APSAR/WG each year on SAR capability</p>
<u>22/1</u> Priority B	<p><u>Review and Update the Asia/Pacific Route Catalogue</u></p>	On-going	<p>IATA, ATM Coordination Groups, ATM/SG</p>	OPEN	
<u>4/1</u>	<p>Analysis of ANSPs which failed to send Departure (DEP) messages, notify the States and raise deficiencies</p>	<p><u>ATM/SG/9</u> <u>ATM/SG/10</u></p>	<p>ICAO</p>	Open	<p>Some States were not Asia/Pacific so were just subject to notification</p>

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ACTION ITEM & PRIORITY	DESCRIPTION	TARGET DATE	RESPONSIBLE PARTY	STATUS	REMARKS
<u>5/5</u>	Phase 2 of the Alphanumeric Call Sign Project report to ATM/SG/7	ATM/SG/9 ATM/SG/10	IATA/States/ CANSO/ACI	Open	ATM/SG/9 update: Conclusion APANPIRG/31/11 urged aerodrome operators, in coordination with CANSO and ACI, to consider a trial to identify and overcome barriers, with a view to developing a project for the APAC Region.
<u>5/8</u>	Follow-up on Mumbai/Mogadishu/Seychelles FIR route PFA	ATM/SG/9 ATM/SG/10	India, ICAO	Open	Coordinate with ICAO ESAF and States.
<u>6/1</u>	After discussions about the Ministerial Declaration's priorities, the meeting agreed that an effective means of monitoring would be a publically-available implementation progress report.	ATM/SG/9	ICAO	Open CLOSED	
<u>7/1</u>	A survey of Asia/Pacific implementation of the new SID/STAR phraseology would be circulated in Q3 2019 and Q1 2020	ATM/SG/9	ICAO	Open Completed	
<u>7/2</u>	ICAO suggested that Afghanistan provide an outline of its action plan to ICAO that demonstrated how they would overcome the surveillance and communication issues.	ATM/SG/9	Afghanistan	Open Closed	Overtaken by events of 2021.
<u>7/4</u>	India was requested to provide a draft of a contingency ATFM response concept.	ATFM/SG/10 ATFM/SG/12	India Thailand Secretariat	Open Closed	Updated at ATM/SG/9 Transferred to ATFM/SG Task List

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<u>8/1</u>	The ATM/SG/8 meeting noted that ICAO intended to circulate a new survey to update the data on separations/TOC/ Flight Level Allocation Scheme (FLAS) held by the Regional Office in December 2020 or January 2021.	February 2021	ICAO	Open Completed	
<u>8/2</u>	ICAO recalled the need for a Doc. 7030 amendment to contain a regional air navigation agreement for a mandate within that portion of international airspace over the 'high seas'. The meeting also noted that there were a number of other States contemplating the use of ADS-B within international airspace, including SB ADS-B, so it would be better to have several States jointly submit a PfA. The Chair encouraged a Small Working Group of interested States to work on the PfA.	February 2021	ICAO/States (including Hong Kong China, India)	Open Closed	Coordination with ICAO HQ indicates that Doc 7030 support for this may not be necessary. Further coordination being undertaken within ICAO.
<u>9/1</u>	Provide relevant sections of AIP to ICAO Regional Office, re replacement of R Area in international airspace with D area	12 November 2021	Indonesia	Open	ATM/SG/9 report 4.3 Support removal of APANPIRG Deficiency
<u>9/2</u>	Provide IFALPA with ICAO List of Contacts for Deficiencies. Discuss IFALPA provision of separate paper introducing IFALPA Deficiencies at future ATM/SG meetings	ATM/SG/10	ICAO/IFALPA	Open	ATM/SG/9 report 4.15
<u>9/3</u>	Follow up on Fukuoka/Khabarovsk FIR boundary discrepancy	30 November 2021	ICAO	Open	ATM/SG/9 report 5.48
<u>9/5</u>	Review 2 x parallel processes of updating the ATS Route Catalogue with two papers	ATM/SG/10	ICAO/IATA/ICAO APAC RSO	Open	ATM/SG/9 report 6.12

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<u>9/6</u>	Consider sharing experience and lessons learned in implementation of enhanced wake turbulence separation	SAIOSEACG/1 ATM/SG/10	ICAO Hong Kong China Japan Republic of Korea	Open	ATM/SG/9 report 6.19 ATM/SG/10 – explore option of a workshop activity on ATM/SG/10 Day 4 afternoon
<u>9/7</u>	Review Regional ATM Contingency Plan	ATM/SG/10	ICAO/IATA Australia Nepal	Open	ATM/SG/9 report 6.57
<u>9/8</u>	Workshop to share experience of ANSPs in planning and readiness for COVID-19-related ATM Contingency Recovery	Q1/2 2022	ICAO Singapore Indonesia Nepal Others?	Open	ATM/SG/9 report 6.60
<u>9/9</u>	Conduct ATM Safety Management survey and workshop	Q4 2022	ICAO	Open	ATM/SG/9 report 9.5
<u>9/x</u>	Clarification of the effect on activity periods with the change from R areas to D areas in high seas airspace	SAIOSEACG/1	ICAO	Open	

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