Thirty First Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/31)

Video Teleconference - Bangkok, Thailand, 14 to 16 December 2020

Schedule: 10:00 – 13:15 Bangkok Time [UTC+7hrs]

Agenda Item 3: **Performance Framework for Regional Air Navigation Planning and Implementation**

3.2: **ATM**

ATM/SG/8 OUTCOMES

(Presented by the ATM/SG Chair)

SUMMARY

This paper provides a summary of the key outcomes from the Eighth Meeting of the Air Traffic Management Sub-Group (ATM/SG/8), and its contributory bodies. One Draft Conclusion is presented to APANPIRG/31's consideration from the meeting.

Strategic Objectives:

A: ***Safety*** *– Enhance global civil aviation safety*

B: ***Air Navigation Capacity and Efficiency*** *— Increase the capacity and improve the efficiency of the global aviation system*

E***: Environmental Protection*** *— Minimize the adverse environment effects of civil aviation activities.*

1. INTRODUCTION

1.1 The Eighth Meeting of the Air Traffic Management Sub-Group (ATM/SG/8) of the Asia Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) was held by Video Teleconference (VTC, 23 – 27 November 2020) from the ICAO Regional Office, Bangkok, Thailand.

1.2 The meeting was attended by 220 registered participants from 27 States, two Special Administrative Regions of China and five International and ATM-related organizations, including Afghanistan, Australia, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Hong Kong China, Macao China, Fiji, France (French Polynesia), India, Indonesia, Japan, Lao People's Democratic Republic (PDR), Malaysia, Maldives, Mongolia, Myanmar, Nepal, New Zealand, Pakistan, Philippines, Republic of Korea (ROK), Singapore, Sri Lanka, Thailand, United States of America (USA), Viet Nam, CANSO, IATA, IFALPA, IFATCA, and ICAO.

1.3 The ATM Sub-Group met as a virtual plenary meeting throughout the meeting. The working language of the meeting was English for all documentation. A total of 32 Working Papers (WPs), 17 Information Papers (IPs), one flimsy and eight presentations were considered by the meeting.

1.4 The full ATM/SG/8 Report is available on the ICAO APAC Regional Office website at: https://www.icao.int/APAC/Meetings/2020%20ATMSG8/Final%20Report.pdf.

2. DISCUSSION

FIT-Asia and RASMAG Outcomes

2.1 ICAO had provided a summary of the outcomes from the Tenth Meeting of the FANS Interoperability Team-Asia (FIT-Asia/10, VTC, 03 – 06 August 2020) and the Twenty-Fifth Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/25, VTC, 27 – 30 October 2020).

Call sign confusion

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

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

Draft Conclusion RASMAG/25-3: Alphanumeric Call Sign Initiative

Noting:

1) the extreme safety risks associated with pilot-ATC miscommunication and the number of Category D (ATC Loop Error) Large Height Deviations (LHDs);

2) APANPIRG Conclusion 27/15. ATMSG Conclusions 5-5 and 5-6 regarding the Asia Pacific Alpha Numeric Call-Sign (ANCS) call sign project; and

3) alphanumeric call signs were a well-established call sign confusion mitigation, that:

leading Air Navigation Service Providers (ANSPs) and aerodrome operators, in coordination with CANSO and ACI, were urged to consider a trial to identify and overcome any barriers for the implementation of alphanumeric call signs, with a view to developing a project for the Asia/Pacific (APAC) Region.

AKARA – FUKUE Corridor

2.4 Referring to the RASMAG/25 report that detailed concerns with the AKARA – FUKUE Corridor and potential safety reporting issues, China stated that safety reporting was not an issue as 'Just Culture' had been implemented in China, meaning that there was no punishment for reporting of safety incidents. China recalled that the AKARA-FUKUE Corridor had been established in 1983, and had maintained a high level safety record, so it was not a new airspace structure. They also stated that there were different views with regard to the Corridor's compliance with Annex 11. China suggested that the relevant issues were not suitable for discussion at APAC meetings before the TWG determined a formal solution, as many participants did not know about the background and detailed information.

2.5 In response, ICAO noted that RASMAG/25 had identified that China's Category E (*Coordination errors in the ATC-to-ATC transfer or control responsibility as a result of human factors issues*) reporting had been well below what could be expected for an environment with only partial AIDC implementation [in 2018 and 2019]. ICAO also noted that with increased scrutiny from multiple States concerned, there had been a major increase in safety reports near position SADLI, at the interface between Chinese and Japanese service within the AKARA – FUKUE Corridor.

Seamless ANS Plan and Monitoring Update

2.6 The meeting had noted that the Asia/Pacific Region's primary means of planning to support the ICAO Doc 9750 *Global Air Navigation Plan* (GANP) was the *Asia/Pacific Seamless ANS Plan*, which required the involvement and active participation of States and all stakeholders.

2.7 As 2019 had been a review year for the *Asia/Pacific Seamless ATM Plan*, the meeting noted that it had been renamed as the *Asia/Pacific Seamless ANS Plan*, and now included a need to develop a National Air National Plan (NANP). A template for the development of a NANP is at https://www.icao.int/APAC/Documents/edocs/National%20Air%20Navigation%20Template%20V6.0.docx.

2.8 The ten priorities had been updated by APANPIRG/30 to 16 priorities. However, the Seamless reporting portal had not been able to be updated thus far to match the 6th Edition of GANP and Version 3.0 of the *Asia/Pacific Seamless ANS Plan*, meaning that data was now unfortunately out-of-date. At the meeting States with ICAO Council Members were requested to advocate for an updated portal to be provided as soon as possible, in accordance with APANPIRG Conclusion 30-6. In response to an enquiry from Hong Kong China, ICAO clarified that States/Administrations should withhold updates until the new Seamless Reporting Portal was ready.

ANS USOAP Update

2.9 ICAO had provided information on the 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.

2.10 The average ANS Effective Implementation (EI) of the Asia and Pacific (APAC) region at February 2020 was 68.52%. **Figure 1** illustrates the ANS-related PQs EI ratings of APAC States:

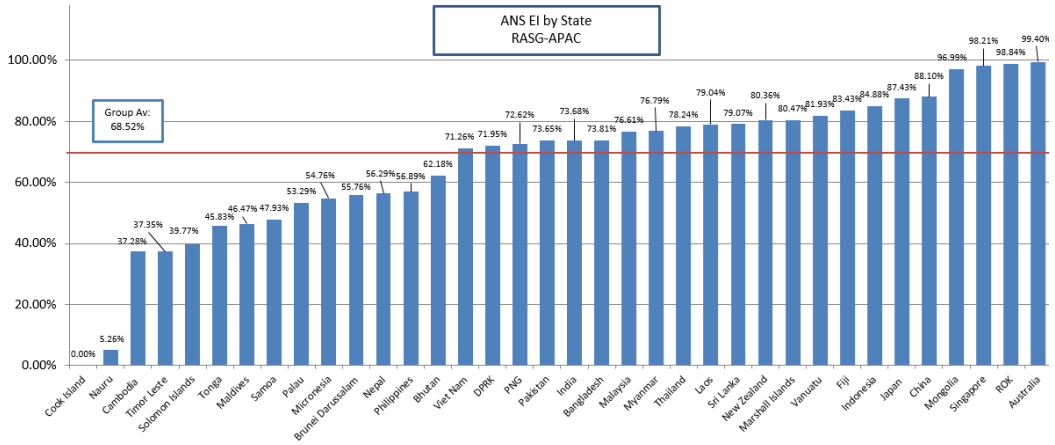


Figure 1: USOAP ANS EI Comparisons by State (July 2020)

Application of ATC Separation Standards

2.11 ICAO had presented data on ATC separation standards being applied within the APAC Region, compared to the *Asia/Pacific Seamless ANS Plan*'s provisions. When improvements to Air Traffic Services (ATS) surveillance and communications are planned, a core principle of the *Plan* is to provide operational benefits to airspace users for the cost of these improvements.

2.12 However, in many cases, no benefit had been provided, other than safety monitoring of procedural separations. Except for China, according to survey data, no State in Asia had been applying ATC separation standards based on the provisions of the *Asia/Pacific Seamless ANS Plan* and ICAO Document 4444 – *PANS ATM*. Therefore, the ICAO Asia Region as a whole had failed to deliver the service levels new CNS systems were capable of.

2.13 **Figure 2** provided an indication of the efficiency of ATC separations as they were theoretically being applied within Flight Information Regions (FIRs) and at Transfer of Control (TOC) points as at the ATM/SG/8, according to the latest data available to the ICAO Regional Office.

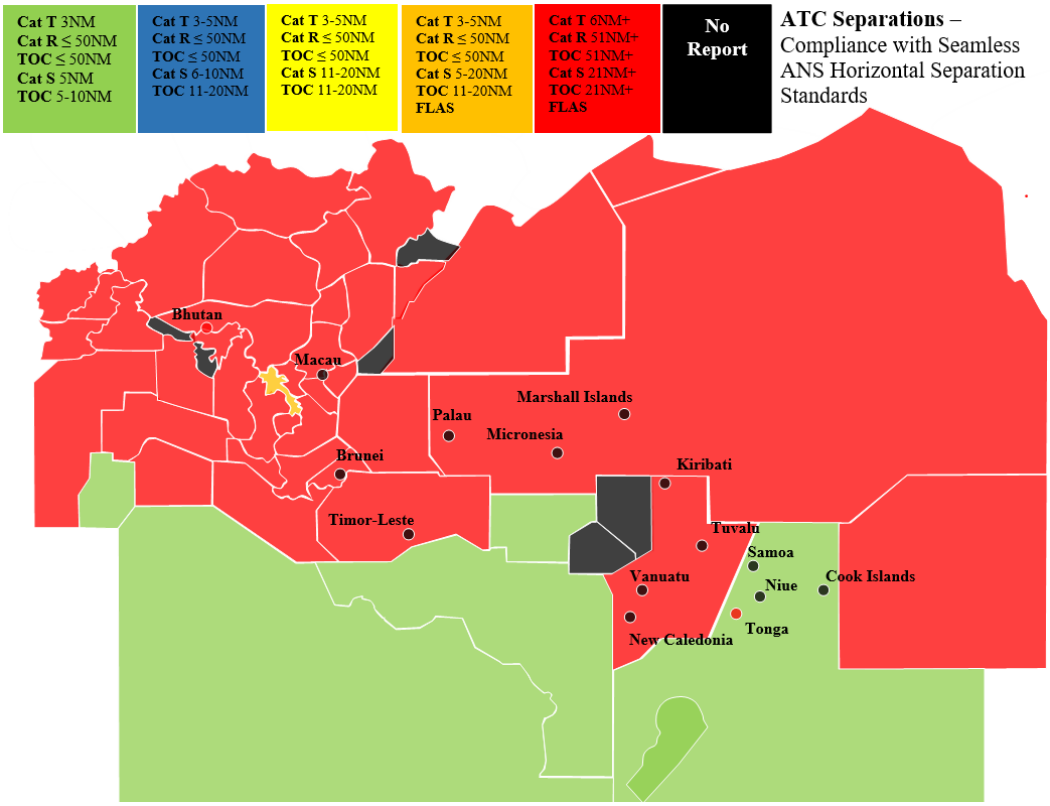


Figure 2: Compliance with Seamless ANS Horizontal Separation Standards

2.14 In particular, ICAO had noted that there were significant weaknesses in many Asian State's application of terminal separations. This inefficiency, and the failure to implement proper Air Traffic Flow Management (ATFM), sequencing mechanisms such as Arrival Manager (AMAN) and efficient Standard Terminal Arrival Routes (STARs) and use of runways for departures between arrivals, meant that many terminal airspace operations were operating well below potential capability.

2.15 The ATM/SG/8 had an extensive discussion on the most appropriate ATC separations and TOC spacing, against the background of the need for greater efficiency to respond to COVID-19. Discussion included the background, barriers and the need for efficiency improvements that:

- utilised 5NM enroute and 3NM in terminal airspace, if ATS surveillance is in place and controllers are trained (given that PANS ATM separations included a buffer);
- declared the minimum separation standard for use within an FIR as being based on the State's capability, not that of neighbouring FIRs;
- recognised that the minimum separation standard was expected to be used only as appropriate, as required by controllers on an individual conflict pair basis;
- noted that the assessment of Flight Level Allocation Scheme (FLAS) did not include airspace within 50NM of an FIR boundary;
- recognised that procedural separations based on Performance-based Navigation (PBN) and Performance-based Communications and Surveillance (PBCS) are not a factor in the application of ATS surveillance-based separations within VHF coverage; and
- recognised that possible degradation of normal performance should not be used to set the default separation standard, as this is a contingency situation.

Air Navigation Service Deficiencies List

2.16 The current List of APANPIRG Air Navigation Deficiencies in the ATM, AIS and SAR fields was reviewed by the meeting. The ATM/SG/8 agreed to the following change proposals for APANPIRG/31's consideration under Agenda Item 4:

- AIS (WGS84) – Thailand deletion;
- AIS (Quality Assurance) – Indonesia and Thailand deletion; and
- SAR capability – India and Indonesia deletion;

Air Traffic Flow Management Steering Group Outcomes (WP11)

2.17 The meeting was informed of the outcomes of the 10th Meeting of the Air Traffic Flow Management Steering Group (ATFM/SG/10), held by Video Teleconference from 04 to 08 May 2020.

Regional ATFM Systems

2.18 The meeting recalled the development of the APAC Flight Information Exchange Model (FIXM) 4.1 Extension (https://fixm.aero), also posted on the Regional Office eDocuments webpage.

2.19 The ATFM/SG/10 meeting had been informed of Bay of Bengal Cooperative ATFM (BOBCAT) traffic demand for the period from January 2018 – March 2020. Overall, the percentage of flights achieving BOBCAT slot-allocated (or better) flight levels had been in the range 73 – 94%. Major causes of flights not entering the Kabul FIR at the BOBCAT slot-allocated level were non-compliance with Calculated Time Over (CTO, 46%), or Calculated Take Off Time (CTOT, 29%).

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

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

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

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

Regional ATFM Implementation Status

2.24 APAC ATFM implementation status was reported to the ATM/SG/8 against the performance expectations of the *Regional Framework for Collaborative ATFM*. States were assessed as having *Robust* (90-100%), *Marginal* (70-89%) or *Incomplete* (0-69%) implementation as follows:

- India, Singapore and USA were assessed as having *Robust* implementation;
- *Marginal* implementation was recorded for Australia, Cambodia, China, Japan, Republic of Korea, and Thailand; and
- Bangladesh, Hong Kong China, Macao China, Indonesia, Maldives, Myanmar, Nepal, New Caledonia, New Zealand, Pakistan, Papua New Guinea, Philippines and Viet Nam were assessed as *Incomplete*.

Missing Departure (DEP) Messages

2.25 The meeting was provided with an update on the issue of missing Departure (DEP) messages. ANS Deficiencies had been agreed by APANPIRG/30, where the most recent regional analysis indicated 5% or more of the required DEP messages were not being received by en-route and/or destination ATS units for: Bangladesh, India, Malaysia, Maldives, Nepal and the USA.

2.26 Due to the impact of the COVID-19 pandemic on traffic volumes, the DEP message data gathering and analysis activity planned for March-April 2020 would render any such analysis unrepresentative. The activity was deferred until such time as international traffic reached more normalized levels. However, in response to a request from ICAO, Thailand had provided a detailed analysis of the monthly non-receipt of DEP messages for the period January 2018 to March 2020, for the Bangkok FIR. While the non-receipt of DEP messages from all originators had reduced from 17% to 10%, the overall performance of APAC Administrations had improved from 12% to 3%.

ATFM Post-Operations Analysis Recommended Framework

2.27 The meeting agreed to the following Conclusion, adopting the final version of the ATFM Post-Operations Analysis Recommended Framework, initially developed for ATFM/SG by the core team of AMNAC and further improved by input from Australia, India and Japan:

<table>
<tr><th colspan="3">Conclusion ATF/SG/8-1: ATFM Post-Operations Analysis Recommended Framework Version 1.0</th></tr>
<tr><td colspan="2">What: That:
1. The ATFM Post-Operations Analysis Recommended Framework Version 1.0 at ATM/SG/8 WP11 Attachment 2 be uploaded to the ICAO Asia/Pacific Regional Office eDocuments web-page, to replace the existing working draft version; and
2. States are urged to utilize the guidance provided in the document when implementing ATFM post-operations analysis in accordance with the performance expectations of the Regional Framework for Collaborative ATFM.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: To update and replace the guidance material provided in the working draft version of the ATFM Post-Operations Analysis Recommended Framework, as currently published on the ICAO Asia/Pacific e-Documents web-page</td><td colspan="2">Follow-up: ☒Required from States</td></tr>
<tr><td>When: 26-Nov-20</td><td colspan="2">Status: Adopted by Subgroup</td></tr>
<tr><td colspan="3">Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:</td></tr>
</table>

Asia/Pacific Unmanned Aircraft Systems Update

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

2.29 The UAS Advisory Group (UAS-AG) of the Remotely-Piloted Aircraft Systems (RPAS) Panel had developed the ICAO UAS Toolkit, which was a repository of information on the management of UAS that fell outside the scope of Standards and Recommended Practices (SARPs) and Procedures for Air Navigation Services (PANS) developed for RPAS operations. The toolkit was available at https://www.icao.int/safety/UA/UASToolkit/Pages/default.aspx.

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

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

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

Establishment of ADS-B Out Exclusive Airspace

2.32 Singapore had presented its plan to establish Automatic Dependent Surveillance-Broadcast (ADS-B) out exclusive airspace within the Singapore FIR in phases, to fulfil the objectives of the *Asia/Pacific Seamless ANS Plan* to enhance safety and optimise airspace. The implementation Plan expected to mandate ADS-B out exclusive airspace requiring aircraft operating at and above FL290 within the north-eastern portion of the Singapore FIR to be ADS-B equipped from January 2022. An extension of the mandate to the whole Singapore FIR was planned from January 2023.

2.33 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 Proposal for Amendment (PfA). The Chair encouraged a Small Working Group of interested States to work on the PfA.

Regional Air Navigation Plan Update

2.34 ICAO presented an update on the progress of the electronic Air Navigation Plan (eANP) development for the Asia/Pacific, which was intended to replace ICAO Doc. 9673. Meeting participants were invited to review the FIR and Search and Rescue Region (SRR) data affecting their administration, and provide feedback to ICAO on the data's accuracy.

2.35 By 01 April 2021, the FIR data review from States was expected to be completed, and the data that had been verified for the eANP FIR Table after approval by the President of the Council on behalf of the ICAO Council. The SRR review was expected to be conducted in 2021.

2.36 The ANP was currently in the form of pdfs on the APAC website. The electronic ANP (eANP) with full hyperlink and html functionality was expected to be available at the end of 2021.

2.37 As at November 2020, thirty-one FIRs were either in the process of completing their verification by PfA to the ANP, or had been verified already (**Figure 3**).

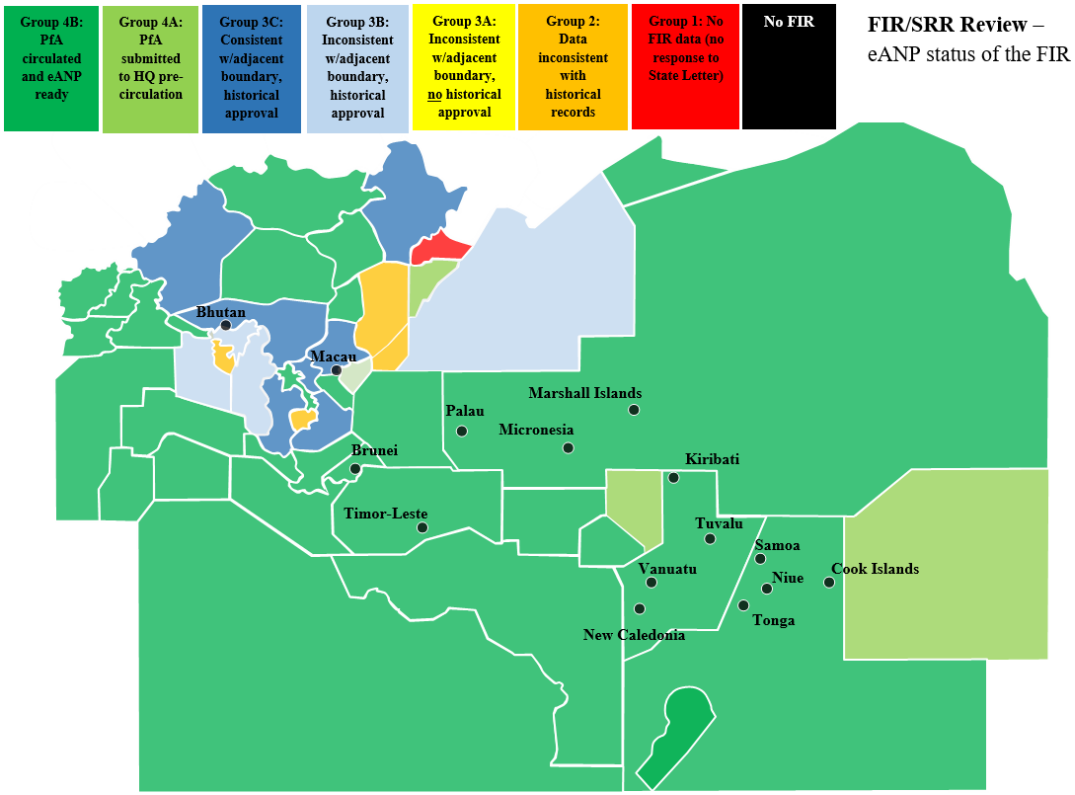


Figure 3: FIR Review Status

2.38 Thirteen PfAs that were pending the validation of coordinates had been received.

2.39 China recalled the strict process that governed the PfA process, including the final entry into the eANP in the FIR Table after approval by the President of the Council on behalf of the ICAO Council. ICAO confirmed that this process as described was being followed for the Vol. I amendments, noting that only a couple of PfAs had been processed by the President, even though a large number of PfAs had been circulated successfully.

2.40 China stated the Shanghai and Taibei FIR PfAs had been based on historical documents, so were not new proposals. Since 1983 a note had been published in its State Aeronautical Information Publication (AIP): *The present delineation of the boundaries of Shanghai and Taibei FIRs over the sea area is unreasonable and unfavourable to safety, regularity and cost-effectiveness of flight operations and is therefore unacceptable to China....*'. ICAO responded by advising that State AIPs were not a legal source of FIR information, unless supported by an approved PfA.

2.41 India asked about the status of the Kolkata FIR's verification, stating that the PfA had been submitted after validating the data published in the AIP of all adjacent FIRs, and as such there was no difference at the date of submission. ICAO advised that significant work needed to be conducted before PfA circulation, to ensure that the possibility of an objection was minimised.

2.42 ICAO had noted that there were issues in four areas affecting the resolution of 11 FIRs affecting progress, each with a political dimension. Thus it was appropriate for APANPIRG to be involved in terms of overseeing the process to be used to resolve the issues. The areas are as follows:

a) one coordinate between the Lahore/Karachi FIRs and the Delhi FIR (ICAO proposes to resolve this by bilateral negotiation between India and Pakistan as the national border is between the two coordinates each nation proposes (**Attachment A**));

b) two coordinates, one coordinate between the Dhaka and Kolkata FIRs and one between the Dhaka and Yangon FIRs, at the point where the common national boundaries meet the shoreline (ICAO proposes to resolve this by bilateral negotiation between India and Bangladesh, and between Bangladesh and Myanmar, noting that discussion through 'diplomatic' channels may hinder progress due to the possible time taken when this was not a matter of sovereign airspace but service delivery, thus the bilateral discussion should be conducted at an operational/technical level (**Attachment B**));

c) one single coordinate between the Russian Federation's Khabarovsk FIR and the Fukuoka FIR (ICAO proposes to discuss this with the EUR/NAT Office as suggested by ICAO HQ in order to conduct bilateral discussion between the Russian Federation and Japan, with the two ROs supporting as required (**Attachment C**)); and

d) a narrow sliver of airspace claimed by Cambodia in the Gulf of Thailand based on three coordinates, affecting the Bangkok, Phnom Penh and Ho Chi Minh FIRs (ICAO proposes to conduct this with a trilateral discussion between the States concerned, noting that this is international airspace and the two options presented by ICAO in **Attachment D**).

2.43 APANPIRG/31 is invited to discuss and confirm the process, including timelines if appropriate, to be used to resolve these FIR issues.

Space-Based ADS-B Coverage Over Indian FIRs

2.44 India provided the meeting with news of Space-based (SB) ADS-B surveillance over the entire Indian oceanic airspace, commencing 01 January 2021, describing its many benefits, including traffic awareness and monitoring during Phase I. During Phase II, more efficient separation minima would be introduced to enhance airspace capacity, maintaining the same or improved level of safety.

Trans-Regional ATS Coordination

2.45 ICAO presented information on trans-regional ATS coordination, focusing on Asia/Pacific Region's (APAC's) interfaces with the ICAO African (AFI), Middle East (MID) and European Regions (EUR). No specific ATM-related trans-regional meeting had taken place in 2020.

ATS Route Catalogue

2.46 The meeting reviewed the *Asia/Pacific Region ATS Route Catalogue*. The update had been prepared by the ICAO APAC Regional Sub-Office (RSO) after correspondence with all concerned States/Administration and IATA, requesting status updates on relevant route proposals. Feedback had been incorporated into the draft *Catalogue*, which was reviewed and agreed by the meeting as Version 20, to be uploaded to the APAC website.

2.47 IATA requested States to urgently conduct 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. IATA advocated that flexibility and efficiency were key areas to support a recovery for aviation, noting that 'we should be aiming to come out of this crisis stronger and more efficient than we went into it'.

Civil/Military Cooperation Update

2.48 ICAO highlighted Asia/Pacific's civil-military cooperation issues and initiatives, which were critical for safety and efficient procedures relevant to COVID-19 recovery to support airlines. The meeting recalled that civil-military cooperation remained one of the highest priority items in the Asia/Pacific Region, as evidenced by the eleven Seamless ATM elements on this subject.

2.49 Unlike past years, during 2020 the ICAO Regional Office had not received reports of significant disruptions or rocket debris from launches originating from China's Jiuquan and Taiyuan sites landing near populated areas in other States. However, the meeting reviewed details of ballistic launch and re-entry activities emanating from Hainan Island that had been notified by China affecting Viet Nam's international and national (territorial) airspace during July and September 2020. The meeting noted that it appeared that these notifications and the process of expected consultation did not comply with regional policy set out by APANPIRG and the *Asia/Pacific Seamless ATM Plan*. ICAO HQ was involved in discussing this matter with China.

2.50 Viet Nam expressed its thanks to ICAO for highlighting the significant concerns related to ballistic launch and space re-entry from Hainan Island. According to Viet Nam, the space flight activities from China potentially created significant hazards to the safety of flight operations within its FIRs (especially those operations on high density ATS routes). Moreover, 'restricted areas' were established by China outside its sovereign airspace, and civil flight activity was 'forbidden' over the high seas, which was inconsistent with the Chicago Convention and the UN Convention on the Law of the Sea (UNCLOS), to which China is a Party. Viet Nam requested China to strictly comply with international law, ICAO SARPS and regional policy set out by APANPIRG and the *Asia/Pacific Seamless ATM Plan*, to ensure the safety of flight operations. Viet Nam stated that it supported ICAO having a leading role in resolving this matter.

2.51 In response, China stated that it had strictly followed the regional policy, and that issues relating to civil-military operations were too sensitive and political to be discussed at the ATM/SG. China proposed to have a bilateral meeting between China and Viet Nam to resolve this issue.

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

2.53 The meeting noted that there had been no change to the Air Defence Identification Zone (ADIZ) ad hoc conditions that had been imposed by Bangladesh within international airspace in 2018.

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

Regional ATM Contingency Planning and Status Reporting

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

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

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

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

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

2.59 The meeting was informed of APAC activities relating to ATM contingency planning in response to the COVID-19 pandemic. Activities included ATM-specific seminars held by VTC, and presentations and proposed recommendations to the Asia/Pacific COVID-19 Contingency Recovery and Planning Group (ACCRPG). Outcomes of these activities included the development of the APAC Regional Strategy for COVID-19-related ATM Contingency Recovery (**ATM/SG/8 WP/24 Attachment B**). The meeting was particularly urged to consider the impact of re-opening of traffic to service travel bubbles or city pairs, and the need to ensure that the ATM capacity of all affected FIRs was taken into account, as described in the list of ANSP and ICAO actions in the strategy document.

2.60 ICAO stressed that ANSPs needed to be aware of the imminent increase of freight flights delivering vaccines worldwide, so they should consider the capacity and contingency ramifications of this as part of their planning in the next few weeks. IATA expressed its thanks to the ICAO Regional Office for its efforts to strengthen contingency planning. IATA estimated that about 8,000 extra flights would be undertaken over a period of some months for vaccine distribution, depending on the production of vaccines. IATA informed the meeting that vaccine guidance material was available at:

- https://www.iata.org/en/programs/covid-19-resources-guidelines/; and
- https://www.iata.org/en/programs/cargo/

AIS – AIM Implementation Task Force Outcomes

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

AIS-Related Air Navigation Service Deficiencies

2.62 The AAITF/15 meeting agreed that deficiencies be deleted as proposed by Indonesia and Thailand, subject to further offline coordination of documented evidence of implementation, and subsequent sampling of aeronautical information products by the ICAO Regional Office. The criteria used by ICAO Regional Office were provided at **ATM/SG/8 WP26 Attachment A**. The following deficiencies were proposed for deletion by the ATM/SG/8:

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

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

NOTAMS

2.64 Information was provided on NOTAM proliferation, and on the Regional Office process for recording Air Navigation Deficiencies for non-compliance with the relevant provisions of Annex 15 and PANS-AIM relating to NOTAM management. In this regard, the meeting was reminded of Conclusion ATM/SG/6-14: Management of NOTAMs which had urged States to take immediate action to reduce the large numbers of permanent or long duration NOTAMs (more than 90 days' validity). A detailed analysis was provided in **ATM/SG/8 WP/26 Attachment B**.

2.65 As of 01 September 2020 a total of 6,844 NOTAMs were valid in the APAC Region, and 1469 of them had been published before 01 June 2020. In comparison with the data reported in 2019, by September 2020 the total number of valid NOTAMs in the APAC Region had increased by 17%, while the number of old-aged NOTAMs had decreased by 14.8%. The percentage of valid NOTAMs that were old-aged had decreased by 8%, remaining unacceptably high. **Figure 4** illustrated the APAC Administrations having more than 10 old-aged NOTAMS at April and September 2020.

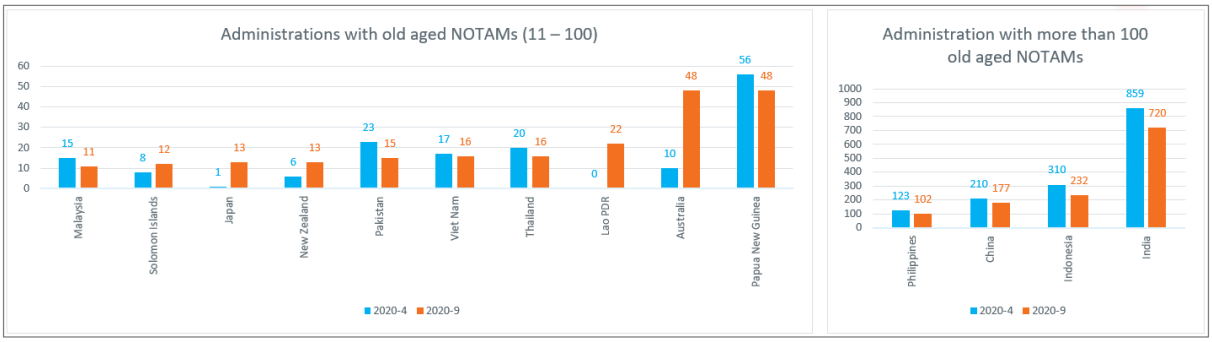


Figure 4: Administrations with more than 10 old aged NOTAMs – April/September 2020

2.66 In addition to globally coordinated ICAO efforts to reduce NOTAM proliferation, local action within the APAC Region would include direct action to encourage compliance with the provisions of Annex 15 and PANS-AIM, in addition to consideration of APANPIRG ANS Deficiencies where appropriate. The meeting was also informed of the NOTAMETER application at (under construction): https://www.icao.int/safety/iStars/Pages/Notameter.aspx.

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

Regional Implementation Status of AIM Performance Expectations

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

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

2.69 **Figures 5 and 6** illustrated overall regional implementation of Phase I (immediate implementation expected) and Phase II (implementation expected by November 2019) elements of the *Regional Plan for Collaborative AIM*; approximately 51% percent for Phase I, and 38% for Phase II.

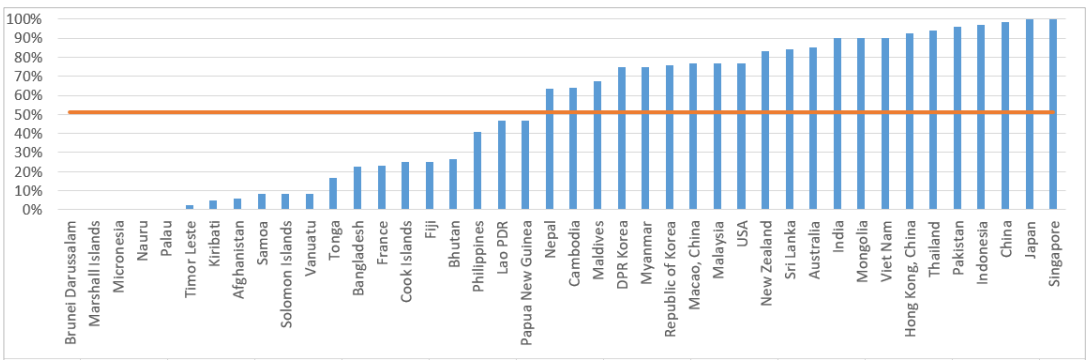


Figure 5: Regional Phase I Implementation Progress (updated on 17 November, 2020)

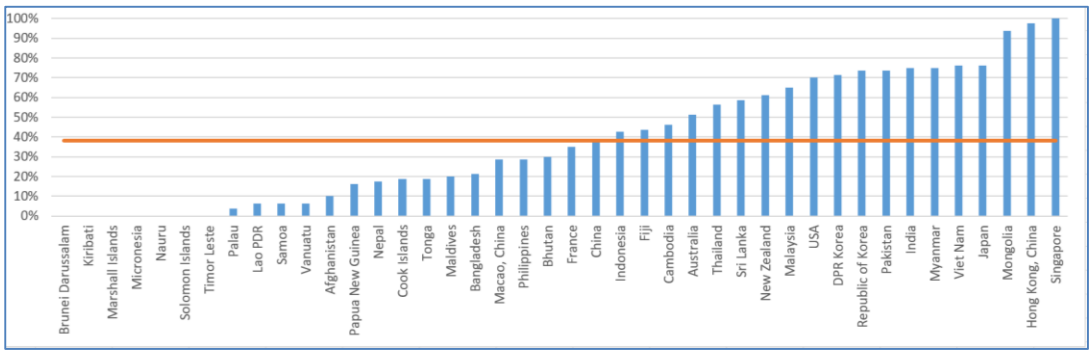


Figure 6: Regional Phase II Implementation Progress (updated on 11 November, 2020)

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

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

APAC ICARD Status and 5LNC Duplicate Resolution

2.72 AAITF/15 had been informed of the status of the ICAO International Codes and Route Designators (ICARD) application and the resolution of APAC 5-letter name code (5LNC) duplicates.

2.73 ICAO Headquarters had compiled a full global list of duplicated 5LNC in 2018. At that time there were 3,905 duplicated 5LNCs worldwide, of which 2,733 had been within the APAC Region.

2.74 **Figure 7** illustrated the number of 5LNCs registered globally, and in the APAC Region.

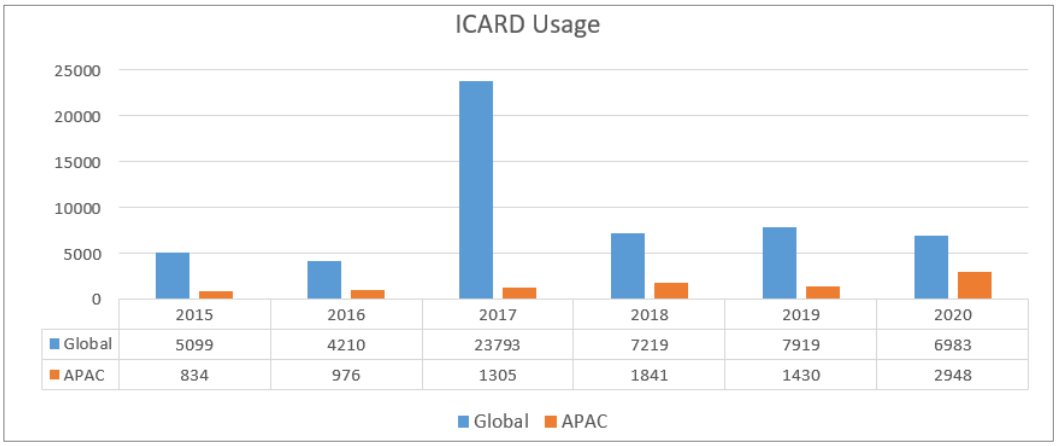


Figure 7: ICARD Usage, 2015 – 2020

SNOWTAM

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

PBN Approach Chart Identification Transition

2.76 The AAITF/15 meeting was informed of ICAO Electronic Bulletin (EB) 2020/21. The EB advised States to limit as far as possible new or amended information provided under the Aeronautical Information Regulation and Control (AIRAC) system, due to the COVID-19 pandemic and consequent contingency operations of aeronautical data houses. However, noting the significant number of charts that some APAC Administrations would have to transition and *Conclusion APANPIRG/30/14*, the AAITF/15 stressed that APAC Administrations should continue to process chart changes in accordance with the *APAC Regional Transition Plan for RNP APCH Chart Identification* plan, as part of a globally coordinated and agreed plan to ensure implementation by the November 2022 applicability date.

AIS Points of Contact

2.77 AIS Points of Contact (POC) were included in the consolidated APAC ATM Contact List. The following APAC Administrations had not yet nominated any AIS POC:

Brunei Darussalam, France (French Polynesia and New Caledonia), Kiribati, Marshall Islands, Micronesia, Nauru, Palau, Samoa, Solomon Islands and Tonga.

AAITF Terms of Reference

2.78 The meeting agreed to minor changes to the AAITF TOR to incorporate reference to PANS-AIM, and to reflect the renaming of the *Asia/Pacific Seamless ANS Plan*:

<table>
<tr><td colspan="3">Draft Decision ATM/SG/8-2: Amend AAITF Terms of Reference</td></tr>
<tr><td colspan="2">What: That, the amended Terms of Reference for AAITF at Appendix X to the Report (Attachment E to APANPIRG/31/WP10) be adopted.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: To incorporate reference to ICAO Doc 10066 Procedures for Air Navigation Services – Aeronautical Information Management (PANS-AIM), and to reflect the renaming of the Asia/Pacific Seamless ANS Plan (formerly the Seamless ATM Plan)</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
<tr><td>When: 26-Nov-20</td><td colspan="2">Status: Draft to be adopted by PIRG</td></tr>
<tr><td colspan="3">Who: ☒Sub groups ☐APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:</td></tr>
</table>

Asia/Pacific Search and Rescue Update

2.79 The Fifth Meeting of the Asia/Pacific Regional Search and Rescue Work Group (APSAR/WG/5) had been held from 09 to 11 June 2020 by VTC.

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

2.81 States had provided updates on their SAR-related APANPIRG Deficiencies to the meeting. The USA had commented on Indonesia's positive progress. Indonesia had expressed its desire to conclude a SAR Letter of Agreement (LOA) with India. India also expressed its desire to have a LOA with Indonesia at the earliest opportunity. The APSAR/WG/5 had agreed that India and Indonesia's status reports were sufficient to recommend the deletion of the current SAR-related Deficiency to the ATM/SG/8 and APANPIRG/31.

2.82 The meeting had noted that in 2018, the SAR false alert rate was 96.85%, or about one real alert confirmed in 32 alerts received. The rate of false reports had not changed substantially since 2014. Cospas-Sarsat had reported an increase in the number beacons that report location in an alert message (87.4% in 2018), and the number of 406 MHz beacons worldwide by about 7%.

2.83 An analysis of the 26 USOAP SAR-related PQs indicated that the overall SAR EI had risen for the Asia/Pacific Region since 2015 from 50.7% to 60% in May 2020. The APSAR/WG/5 noted that this represented positive progress, although the average achieved fell well short of what would be a satisfactory level to SAR experts.

2.84 The SAR Plan-based 41 element assessment provided a metric of *Asia/Pacific SAR Plan* implementation as at November 2020, taking into account updates from Afghanistan, Cook Islands, Fiji, French Polynesia, New Caledonia, Pakistan, Republic of Korea and Viet Nam (**Figure 8**).

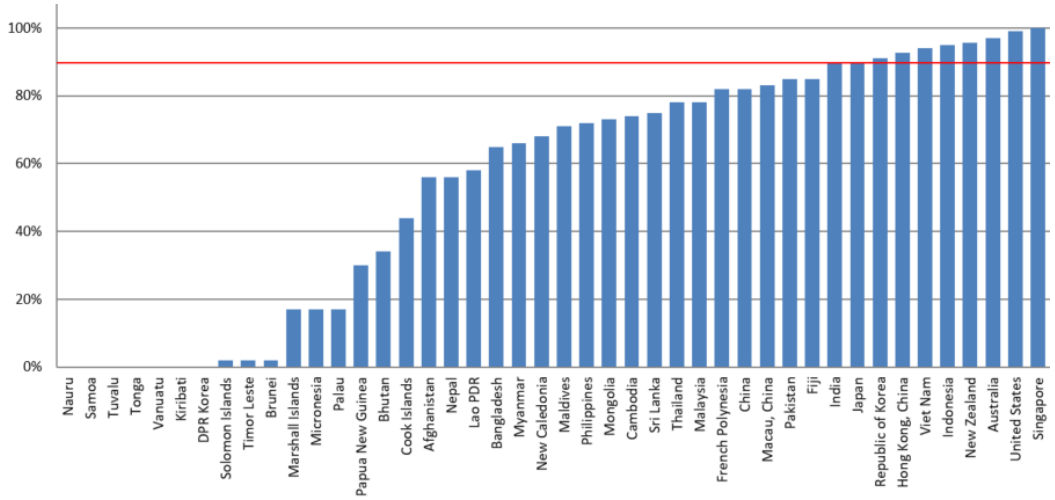


Figure 8: *Asia/Pacific SAR Plan* Implementation Status (November 2020, average 55%)

2.85 The overall *Asia/Pacific SAR Plan* compliance is illustrated in **Figure 9**.

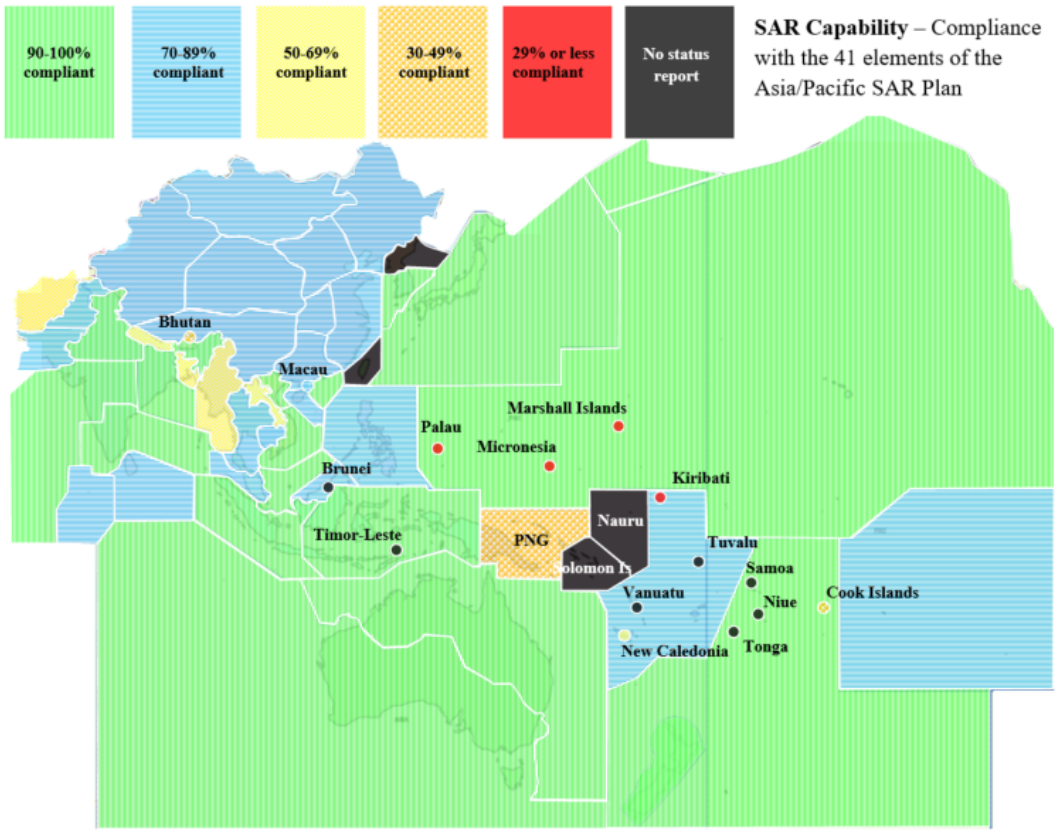


Figure 9: Asia/Pacific SAR Plan Implementation Status (November 2020)

2.86 The USA congratulated the APAC Region for its continued work to support SAR, which had been recognised at HQ level.

APANPIRG ATM Subgroup Task List

2.87 The meeting had agreed to the updated Task List.

ATM Security Requirements

2.88 ICAO presented information on ANSP/ATM ICAO security requirements, and additional information relating to the establishment and dissemination of the 1st Edition of the *ICAO Cyber Security Action Plan* and ongoing developments in related guidance material and resources.

2.89 Noting the output of the ICAO Cyber Security Study Group and the provisions of the *Cybersecurity Action Plan*, *Training Roadmap* and *Trust Framework*, States were urged to disseminate the *Cybersecurity Action Plan* and coordinate its implementation with all relevant national agencies, industry, and stakeholders in accordance with State Letter AS8/1.9.1-20/114 (05 November 2020).

COVID-19 ATM Economics

2.90 IATA had stressed that airlines were in an extremely precarious financial position (data: https://www.iata.org/en/iata-repository/publications/economic-reports/airline-industry-economic-performance---november-2020---report/), so costs must deliver a benefit. To ensure the significant benefits offered by air transport continue, they noted that a whole-of-government response is required to recover from COVID-19. This must include government support for key system enablers like ANSPs in order to avoid unsustainable cost increases that airlines would be unable to absorb.

2.91 Regarding Capital Projects (CAPEXs) or an Operational Initiatives (OPEXs), IATA also stated that a post-COVID-19 review of services required consideration of rationalisation of services or an assessment of graduated services to reflect the reality of the new operating environment. Most importantly, any change must ensure a tangible benefit to airspace users with safety improvements, and efficiency or fuel savings.

2.92 IATA stated that to help drive growth, ANSPs should reduce current charges in order to stimulate flights, which drives revenue. In analysing the elasticity of demand, analysis had shown that a combination of lower rates driving more rapid growth in flight numbers can increase ANSP revenue more rapidly. However, maintaining or increasing charges is likely to stymie any recovery, as most airlines will be unable to operate. The meeting agreed to the following Draft Conclusion, for APANPIRG/31's consideration:

<table>
<tr><td colspan="3">Draft Conclusion ATM/SG/8-3: Review of National Air Navigation Plans (NANPs)</td></tr>
<tr><td colspan="2">What: That, States should review their NANPs in accordance with a whole-of-government approach and the requirements of the Regional Air Navigation Plan to:
(1) include airspace user consultation to determine post COVID-19 service provision levels and the related investment and expenditure required, including identifying temporary or permanent service provision modification to reduce operational costs; and
(2) seek government support for their Air Navigation Service Providers (ANSPs) during the post-COVID-19 recovery.</td><td>Expected impact:
☒ Political / Global
☐ Inter-regional
☒ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: Review of service provision can support reductions in ANSP cost-base and therefore a reduction in target revenue required for cost-recovery, which drives ANS charges. Effective market stimulation and recovery can reduce the financial exposure of the government.</td><td colspan="2">Follow-up: ☒Required from States</td></tr>
<tr><td>When: 18-Dec-20</td><td colspan="2">Status: Draft to be adopted by PIRG</td></tr>
<tr><td colspan="3">Who: ☐Sub groups ☒APAC States ☐ICAO APAC RO ☐ICAO HQ ☐Other:</td></tr>
</table>

ATM Economics Seminar Outcomes

2.93 The outcomes of the COVID-19-Related ATM Economics Seminar (VTC, 08 October 2020) were presented to the meeting. Nine presentations were made during the Seminar, which are available at: https://www.icao.int/APAC/Meetings/Pages/2020-COVID-19-ATM-Seminar.aspx.

2.94 The Seminar had noted that if ANS losses during the pandemic had been high at USD 7.5 billion by October 2020, then this had only been 3.7% of airline losses (APAC the most). ICAO had noted the positive efforts of some ANSPs to improve efficiencies to support airlines, including India and Indonesia. However, in general, ICAO hadn't noted many ANSPs taking action in accordance with the Council's Aviation Recovery Task Force (CART) Recommendation 10, which requested States to consider appropriate extraordinary emergency measures to support financial viability and to maintain an adequate level of safe, secure and efficient operations.

2.95 ICAO had stressed that the pandemic taught that it was necessary to work together across traditional lines for a cohesive national response – bringing together different government agencies, civil and military entities; and understanding the public need, as this is the national interest. The Seminar had noted that the Indian Government had supported airline recovery by establishing a civil/military cooperation Airspace Review Committee for a significant optimisation of airspace.

2.96 CANSO had stated that with reduced traffic levels, there were opportunities to review current airspace restrictions and to look for ways to improve service provision to minimise operational delays and inefficient routings. CANSO noted that ANSPs were likely to be dealing with more modern and better equipped fleets, so this was an opportunity for ANSPs to advance projects such as PBN and ADS-B which typically required relatively lower capital, leading to modernised airspace while potentially reducing ATM costs.

2.97 The New Zealand ANSP described actions such as stakeholder engagement, government assistance and capital raising programmes at the high level, while also addressing operational matters such as capital programme delays, operating cost savings and staff rationalization. Airways NZ also offered discounted services or products, reasoning that any cash flow was better than none, and 'as an industry we are all in this together'.

2.98 Singapore described measures to reduce fuel burn such as direct routings. Singapore had also offered significant rebates to airlines on landing charges, airport rentals, parking charges and regulatory fees.

2.99 Of the many actions taken to enhance efficiency by India, the most significant were the release of Special Use Airspace (SUA) under Flexible Use Airspace (FUA) provisions above FL325 north of latitude 16N, and all airspace south of latitude 16N above FL255, removal of FLAS restrictions over the Indian Ocean, and extensive provision of direct routes.

2.100 Some examples of the innovations pursued during the COVID-19 pandemic by Indonesia in order to stimulate traffic growth and enhance operational efficiency included flexibility of slot management policies, remote ATS services, use of Traffic Information Broadcast by Aircraft (TIBA) procedures, availability of User Preferred Routes (UPR) and online coordination meetings between Indonesian and Australian regulators and ANSPs.

2.101 IATA had expressed its appreciation to ICAO for holding the ATM Economics Seminar, and for the participation of States and their presentations. IATA noted that savings facilitated by States had been extremely valuable, for economic and environmental benefits.

3. ACTION BY THE MEETING

3.1 The Meeting is invited to:

a) note the information in this paper;

b) urge States to improve their application of ICAO standard ATC separations, especially to support the COVID-19 recovery;

c) agree to the APANPIRG ATM-related Deficiencies under Agenda Item 4;

d) discuss the process for FIR boundary resolution in the four areas identified;

e) note **Conclusion ATM/SG/8-1: ATFM Post-Operations Analysis Recommended Framework Version 1.0**; and

f) Discuss and agree to:

i. **Draft Decision ATM/SG/8-2: Amend AAITF Terms of Reference**; and

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

— END —

Lahore-Karachi-Delhi FIRs

Background

During the APAC RAN/1 Meeting held in 1973, the meeting had noted that Pakistan was providing flight information and other air navigation services within a portion of airspace over Jammu and Kashmir State which is shown in the ICAO MID/SEA Air Navigation Plan Publication under the Delhi FIR. The Meeting recognized that the area within which air traffic services are provided by Pakistan should be delineated. The Meeting recommended-

Recommendation 7/7 - Boundaries of Delhi and Lahore FIRs

That the Government of India and Pakistan arrange an early meeting with a view to delineating the boundaries of the Delhi and Lahore Flight Information Region.

Current Situation

In April 2019, Pakistan had submitted a PfA with the following Lahore FIR description (**Figure 1**):

30 00 00 N, 073 35 00 E
30 00 00 N, 066 19 00 E
thence following the national boundary to
30 00 00 N, 073 35 00 E.

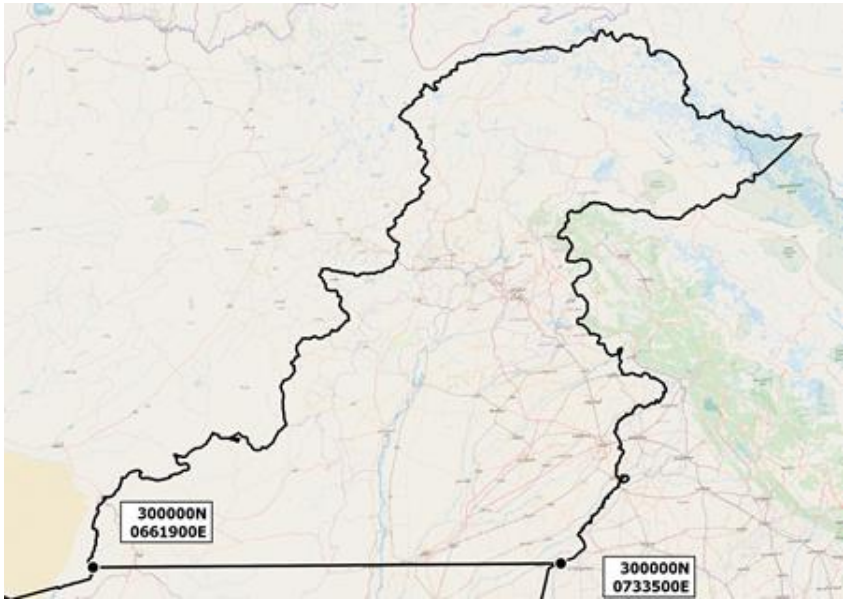
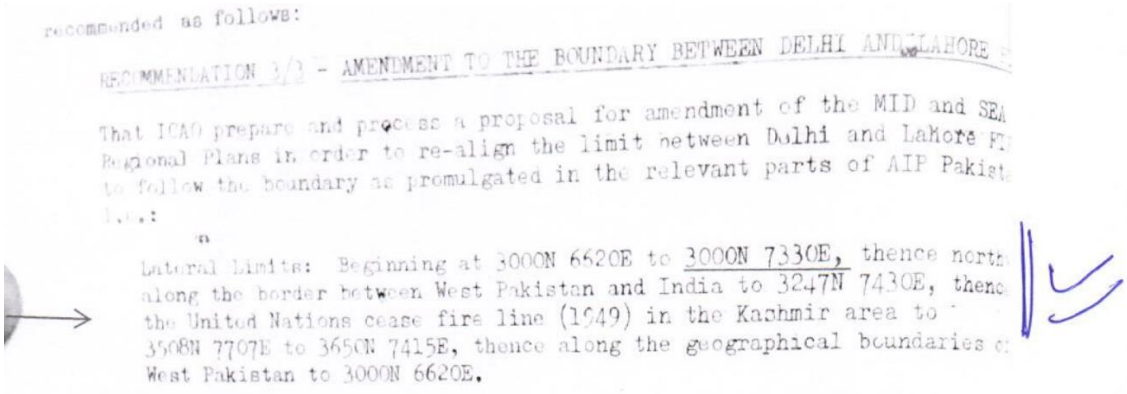


Figure 1: Pakistan's PfA Image

The PfA was circulated to ICAO HQ and was approved, as it aligned with the records held by HQ and the Geographic Information Service (GIS). Subsequently, the PfA had been circulated to APAC States and International Organizations (IOs) for comments in March 2020. The following comments were received from India in April 2020:

Reference may please be made to ICAO APAC State letter T 3/2.6, T 3/3.6.21- AP058/20 (ATM) (Serial No: APAC 19115-ATM) dated 12th March, 2020 regarding Lahore FIR and copy of the same is attached herewith for ready reference.

The proposal was examined with documents from India, which included a copy of a Middle East (MID) RAN Meeting held in Geneva, 4 - 23 October 1965 (eight years before the APAC RAN 1 Meeting). It was observed that the coordinates highlighted above differed from the coordinates recommended in in MID RAN Meeting. The MID RAN meeting held in 1965 agreed to a recommendation 3/3) realignment of Lahore FIR of Pakistan to 30 00 N, 073 30 E and 30 00 N, 66 20 E (**Figure 2**).


recommended as follows:

RECOMMENDATION 3/3 - AMENDMENT TO THE BOUNDARY BETWEEN DELHI AND LAHORE

That ICAO prepare and process a proposal for amendment of the MID and SEA Regional Plans in order to re-align the limit between Delhi and Lahore FI to follow the boundary as promulgated in the relevant parts of AIP Pakist i.e.:

Lateral Limits: Beginning at 3000N 6620E to 3000N 7330E, thence north along the border between West Pakistan and India to 3247N 7430E, thence the United Nations cease fire line (1949) in the Kashmir area to 3508N 7707E to 3650N 7415E, thence along the geographical boundaries o West Pakistan to 3000N 6620E.

Figure 2: MID RAN Meeting, 1965

The MID RAN Meeting Reported had also noted that:

> *The Committee, having been advised of an agreement between India and Pakistan to re-align the boundary between Karachi and Delhi and Bombay along the national border of Pakistan, agreed to revise the Regional Plans accordingly.*

Notwithstanding this, it is unclear from the records the nature of the agreement between Pakistan and India reported to the 1965 MID RAN Meeting. It is further noted that during the period from 1965 to 1973 there had been two major wars between Pakistan and India, which could have affected the boundary.

ICAO Proposal

ICAO propose to solve this mismatch between RAN meeting outcomes in terms of the 30 00 N, 073 30 E coordinate through bilateral negotiation between India and Pakistan, facilitated if necessary by the Regional Office and APANPIRG. ICAO noted that the national border is between the two coordinates that each nation recognizes – at approximately 30 00 00 N, 073 32 42 E (**Figure 3**).

Figure 3: National Border, Pakistan - India

Regarding the 30 00 00 N, 066 19 00 E coordinate between the Tehran and Karachi/Lahore FIRs, this will be double-checked with the ICAO MID regional Office as is not a matter for dialogue with India.

……..

Kolkata-Dhaka-Yangon FIRs

Background

According to the historical records for the Kolkata FIR (previously, Calcutta), and the Yangon FIR (previously, Rangoon), the 1973 Regional Air Navigation Meeting (RAN/1) provided some definitions as follows (**Figure 1**):

x) Amend the boundaries of the Madras, Calcutta and Rangoon FIRs as follows:

FIR Madras : Eastern boundary: 1630N 8300E, 1400N 9200E, 1330N 9425E, 0600N 9425E, 0600N 9200E, 1000N 9200E;

FIR Calcutta - Southern boundary: 1630N 8300E, 1400N 9200E;

Western boundary: 2500N 8200E, 1715N 8200E;

FIR Rangoon - Western boundary: 2100N 9200E, 1400N 9200E, 1330N 9425E, 1000N 9425E.

Figure 1: RAN 1 Meeting Report Excerpt

At the 1993 RAN/3 Meeting, the Calcutta FIR was amended, the Dhaka FIR was mentioned (but only so far as its southern boundary was defined), and there were also amendments to the Yangon FIR (**Figure 2**):

Recommendation 5/7 - Realignment of Calcutta, Dhaka, Madras and Yangon FIR boundaries

That the ICAO *Air Navigation Plan – Middle East and Asia Regions* (Doc 8700) be amended as follows:

a) *Amend* Calcutta flight information region (FIR) boundary as follows:

Beginning of the intersection of the 08340E meridian with the common border of India/Nepal, then East along the border of India/Nepal to the point on common border of Nepal/China/India, then along the border of India/China to the point on common border of India/China/Myanmar, then along the border of India/Myanmar to 2157N 09232E, then North along the common border of India/Bangladesh to 2138N 08910E to 2000N 09200E then South along 09200E meridian to 1400N 09200E to 1630N 08300E to 1715N 08200E to 2500N 08200E to 2500N 08300E to 2710N 08300E to 2715N 08340E, then along the 08340E meridian to its intersection with the common border of India/Nepal.

b) *Amend* the southern boundary of Dhaka FIR as follows:

2138N 08910E to 2000N 09200E to 2100N 09200E to 2157N 09232E.

c) *Amend* Yangon FIR boundary as follows:

Straight lines joining 2100N 09200E, 2157N 09232E, thence North along the border of India/Myanmar to the point on common border of China/India/Myanmar, then along the border of China/Myanmar to the point of common border of China/Lao PDR/Myanmar, then along the border of Lao PDR/Myanmar to the point of common border of Lao PDR/Myanmar/Thailand, then along the border of Myanmar/Thailand to 1000N 09830E to 1000N 09600E to 1100N 09425E to 1330N 09425E to 1400N 09200E to 2100N 09200E.

d) *Amend* the eastern boundary of Madras FIR as follows:

From 0600N 09425E to 1000N 09425E to 1000N 09600E to 1100N 09425E to 1330N 09425E.

Figure 2: RAN/3 Meeting Report Excerpt

Current Situation

Bangladesh submitted a Proposal for Amendment (PfA) for the Dhaka Flight Information Region (FIR) in February 2019, with the intention of re-aligning the FIR (**Figure 3**).

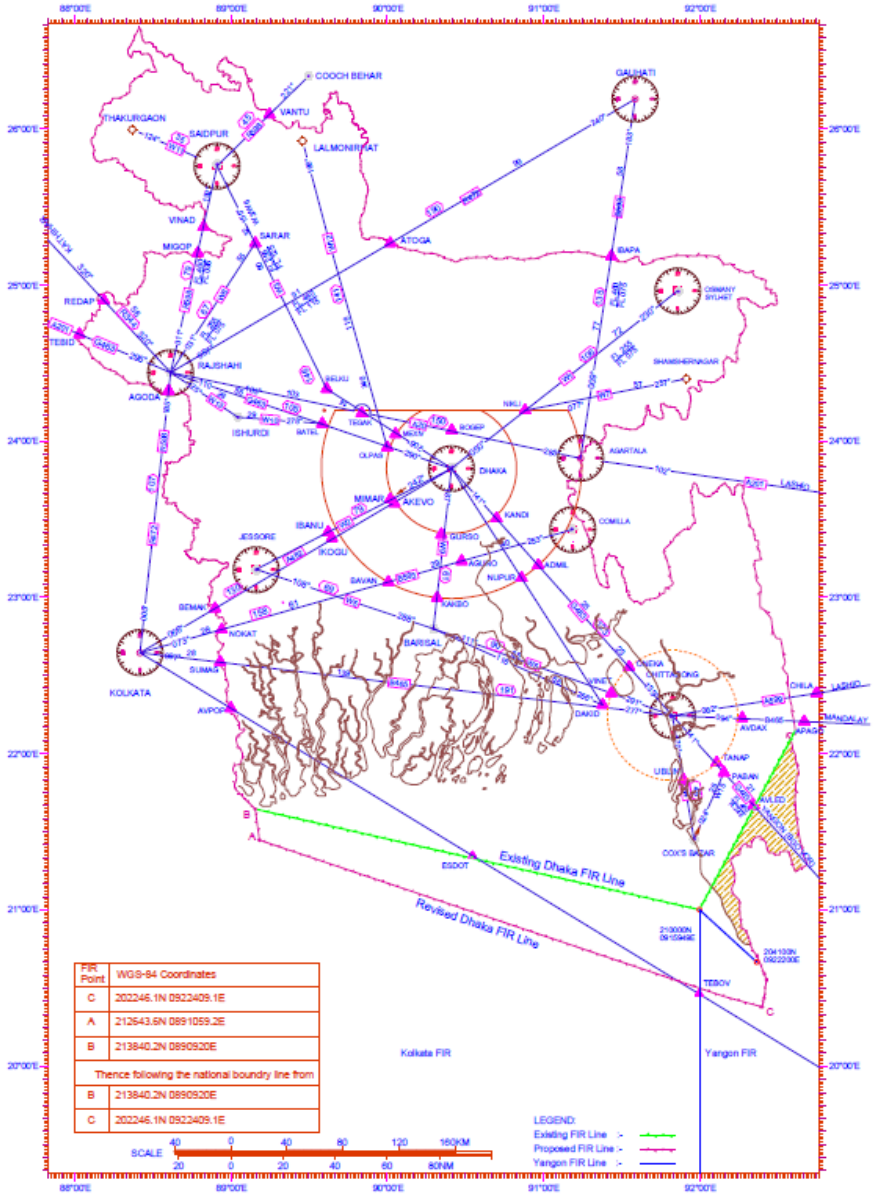


Figure 3: Bangladesh's PfA Proposal

During informal discussions pre-circulation of the PfA, the proposal was not accepted by India and Myanmar, as there had been no prior formal discussion between the three States.

During the ATM/SG/7 (August 2019), Bangladesh approached ICAO for advice. ICAO informed Bangladesh that the delineation of FIR should be based on technical and operational reasons. In order to achieve re-alignment, Bangladesh would have to justify technically and operationally that it would be an improvement over the high seas (international airspace) portion of the proposal, as is always the case.

Bangladesh informed ICAO that they would discuss this matter with India and Myanmar during the BIMT/7 meeting (February 2020, Dhaka).

ICAO requested updates from Bangladesh in October 2020 and the following comments were received:

> *Although India is not seeking to alter/realign Kolkata FIR's dimensions, but the submitted PfA has some coordinates which are inside the Sovereign airspace of Bangladesh territory.*
>
> *Your good office is well informed about Bangladesh FIR issue, specifically some portion of sovereign airspace of Bangladesh which is not included in existing Dhaka FIR. As advised by ICAO APAC office, we have started initiatives to resolve the issue through Diplomatic channel. But there are no responses from both of the States.*
>
> *In light of above, we would like to request you to hold up the FIR PfA of Kolkata and Myanmar.*

ICAO Proposal

ICAO had stated on several occasions to the parties that the current FIR review process was focused on the validation of the current FIR, and this any proposed changes should be managed with a subsequent PfA.

ICAO proposed to solve the identification of the two key coordinates where the national boundaries meet the coastline (possibly Points B and C on **Figure 3**, to be confirmed), in order to resolve the current FIR definitions by bilateral confirmation of these points between Bangladesh and India, and between Bangladesh and Myanmar.

However, as previously noted, Bangladesh had been conducting this discussion through 'diplomatic' channels, which may take a very long time. Without a volume being formally recognized in the APAC Regional Air Navigation Plan, there were significant potential legal consequences. Furthermore, ICAO noted that FIRs are concerned about Air Traffic Services (ATS) service volume, so are not necessarily aligned with sovereign airspace, and even less so for an Exclusive Economic Zone (EEZ), which has no consequences for airspace.

Therefore, ICAO recommends that the bilateral discussion between Bangladesh and India, and between Bangladesh and Myanmar should be conducted with these points in mind, and in accordance with any expectations from APANPIRG.

……

Khabarovsk-Fukuoka FIRs

Background

In 1996, the boundary between the Pyongyang FIR and Vladivostok (current Khabarovsk) FIR was changed. One of the points was N40°30' E135°56'. However, at that time, Japan did not amend its Aeronautical Information Publication (AIP). Japan and Russia then found a difference in coordinates of the Tokyo (current Fukuoka)/ Yuzhno-Sakhalinsk (current Khabarovsk) FIR

in 2002, Japan also found that the boundary between Tokyo/ Vladivostok FIR was different. Then, ICAO (Headquarters) found that the coordinates were different in ANPs of ASIA/PAC and EUR and concluded that the coordinates in AISA/PAC ANP were correct and in EUR ANP were wrong. In response to the conclusions of ICAO, Japan amended the AIP.

Japan noted that from 16 – 18 June 2014, the Japan-Russia ATC Operation Working Group Meeting had held in Khabarovsk. In coordination of the agenda, Japan found that some coordinates of FIR boundary between Fukuoka and Khabarovsk were different in Japanese and Russian AIPs. Japan gave notice of it to Russia immediately, and the parties agreed to investigate the facts.

In the Japanese AIP, the FIR boundary is shown as "N45°45' E140°00', N40°30' E135°56', N38°38' E133°39', …". In Russian AIP, is shown as "N45°45' E140°00', N40°33' E136°00', N40°30' E135°56', N41°40' E131°31', …" (**Figure 1**).

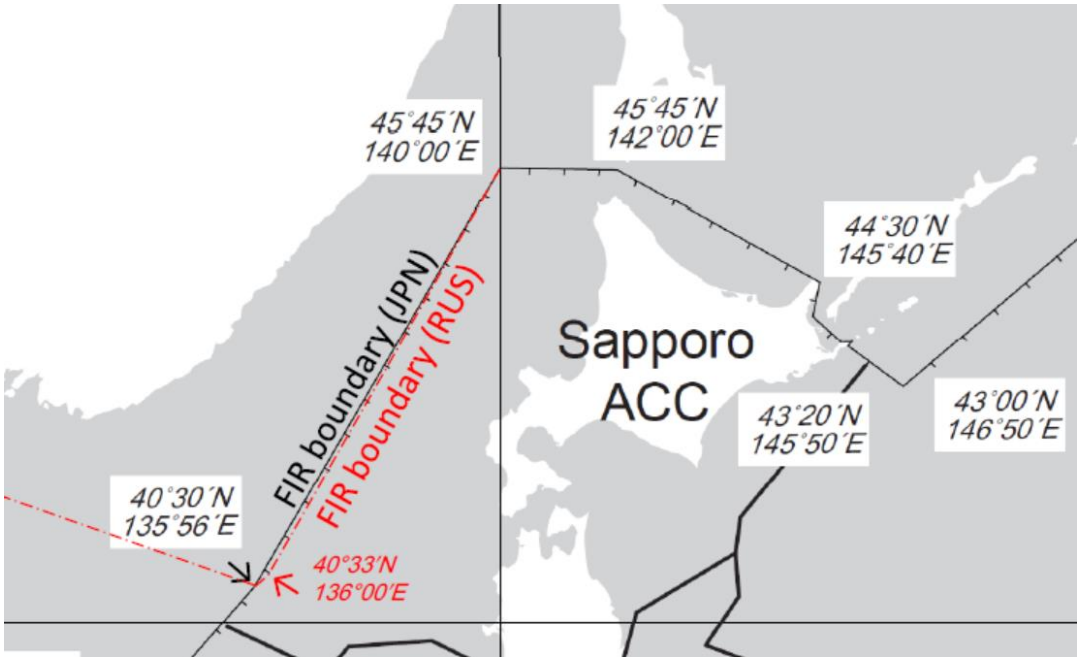


Figure 1: FIR Boundary Difference – Khabarovsk and Fukuoka FIRs

Current Situation

As it appears that the Council had approved, first for Japan and then for Russia, two separate PfAs with different boundary coordinates, the ICAO Regional Office had communicated with ICAO HQ to request advice on whether this matter would be resolved by HQ or by the Regional Offices involved. ICAO HQ advised that it would be preferable for the Regional Offices to coordinate to resolve the situation.

ICAO Proposal

ICAO proposes that the Russian Federation and Japan discuss the small difference in the single coordinate under the auspices of the ICAO European and North Atlantic (EUR/NAT) Office and Asia and Pacific (APAC) Offices, to determine which coordinate should be acceptable to the parties, either –

1. the Japanese coordinate (as approved by the President of the Council on 04 November 1996 as APAC 96/5 (**Figure 3**) and later in APAC 05/1-ATS related to the consolidation of the Tokyo and Naha FIR to Fukuoka FIR); or
2. the coordinate used by the Russian Federation (as approved by the President EUR/NAT 08/11-ATS on 03 September 2009); or
3. a compromise such as that shown in **Figure 2**.

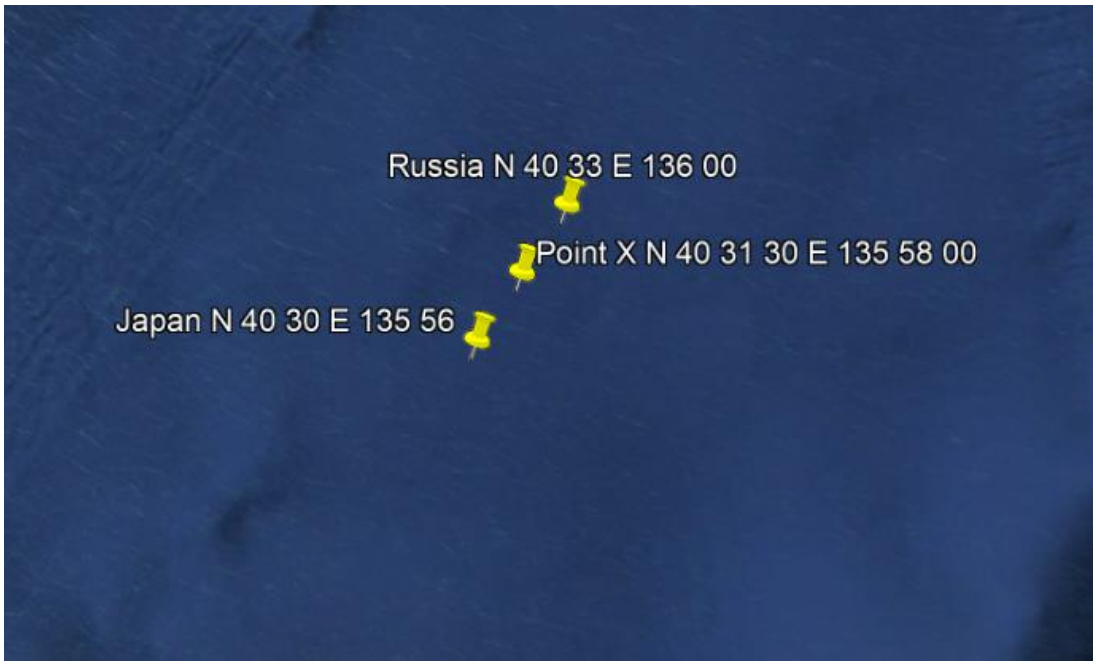


Figure 2: Point X

Proposal for Amendment of Air Navigation Plan
(Serial No. APAC 96/5 - ATS)

a)	**Plan:**	MID/ASIA, Doc 8700, as amended by the ASIA/PAC RAN/3 Meeting, Bangkok, 19 April - 7 May 1993 (Doc 9614, ASIA/PAC/3) and EUR, Doc 7754, as updated by Amendment No. 22 dated 25 September 1994
b)	**Proposed amendment**	*Amend* the requirement for the common boundary between Pyongyang and Vladivostok flight information regions (FIRs) as follows; Along the State frontier between the Democratic People's Republic of Korea and the Russian Federation to the point 4217.6N 13041.8E and further along straight lines connecting this point with the following points: 4209.0N 13053.0E to 4140.0N 13131.0E to 4030.0N 13556.0E. (cf. Doc 8700 Chart ATS 1, ATS 2, ATS 3 and ATS 3B) (cf. Doc 7754 Chart ATS 1C)
c)	**Originated by:**	Democratic People's Republic of Korea and Russian Federation.
d)	**Originator's reasons for amendment:**	To realize more economic and safe international ATS routes for the development of international civil aviation in the future.
e)	**Intended date of implementation:**	Upon approval of the Council
f)	**Proposal circulated to the following States and International Organizations:**	Canada China Democratic People's Republic of Korea * Japan Republic of Korea Russian Federation * United States IATA IFALPA

* For information only

Figure 3: APAC 96/5

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Bangkok-Phnom Penh-Ho Chi Minh FIRs

Background

The Phnom Penh FIR has never been formally designated by a Regional Air Navigation (RAN) Meeting or a Proposal for Amendment (PfA) to the Regional Air Navigation Plan (RANP). The only reference in ICAO formal documents is in ICAO Doc 7030 – Regional Supplementary Procedures, which shows the Phnom Penh FIR being only over the mainland portion of Cambodia's territory (**Figure 1**).

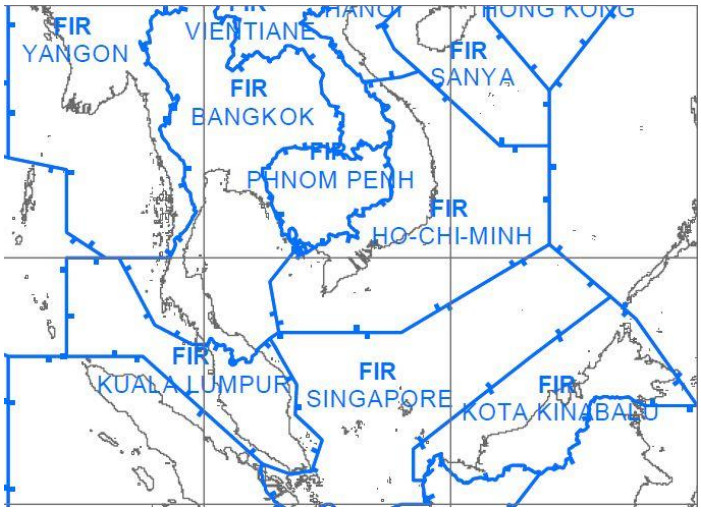

Figure 1: Doc 7030 Excerpt

The informal (and often incorrect) ICAO Geographic Information Service (GIS) maps show an extension of the Phnom Penh FIR over Sihanoukville Province's islands (**Figure 2**).

Figure 2: ICAO GIS Excerpt

Current Situation

In addition to the extension over the Sihanoukville Province's islands, Cambodia have submitted a PfA that also includes a 'sliver' of airspace to position 07ºN, 103ºE, shown outlined in yellow (**Figure 3**).

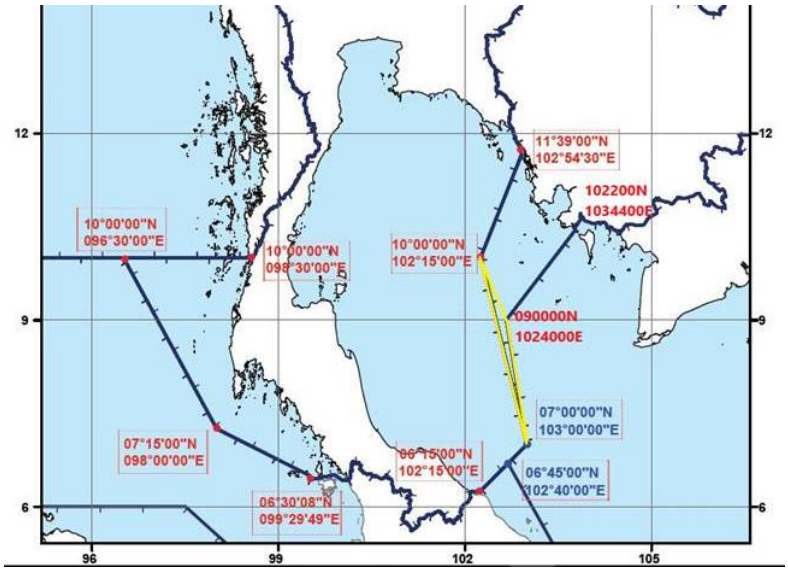

Figure 3: Airspace 'Sliver' Extension

There does not appear to be any sovereign territory within the 'sliver' of airspace. It should be noted that under the UN Convention on the Law of the Sea, artificial islands and installations such as oil rigs are not taken into account to determine sovereign territory UNCLOS Article 60, Section 8). In any case, there did not appear to be any oil rigs within the airspace concerned (**Figure 4**).

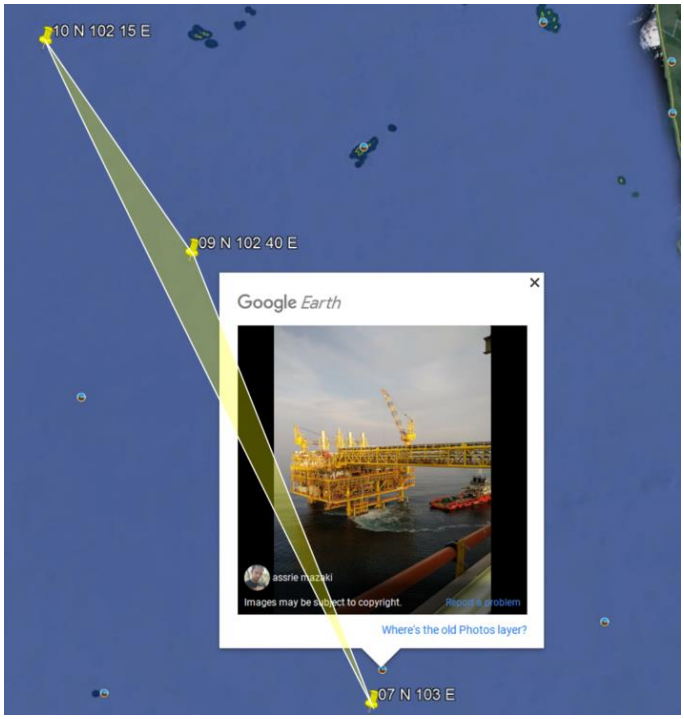

Figure 4: Airspace Sliver Enlargement

Cambodia advised that the sliver of airspace had been historically 'delegated' to the Ho Chi Minh Area Control Centre (ACC) and had been 'returned' to the Phnom Penh ACC on 10 November 2016 by a Letter of Agreement (LOA). As the airspace concerned over the high seas had not been delegated to Cambodia by the ICAO Council, there does not appear to be any legal basis on which Cambodia, and then Viet Nam concerned 'delegated' the airspace.

ICAO Proposal

ICAO has no objections to the extension of the Phnom Penh FIR to encompass the Sihanoukville Province's islands. However, ICAO had not determined any operational or technical basis for the 'sliver' of airspace extension to be part of the Phnom Penh FIR. Moreover, this airspace is an potential impediment to safe and efficient air traffic in terms airspace complexity and unnecessary airways charges.

ICAO proposes that the Phnom Penh be established either extending to 10 N, 102 15 E – 09 N, 102 40 E to encompass the Sihanoukville Province's islands with the Bangkok ACC providing services within the 'sliver' of airspace (**Figure 5**), or as a second option, or slightly beyond this as shown in **Figure 6** if Viet Nam and Cambodia share provision within this airspace. The States should discuss this and advise ICAO.

Figure 5: Bangkok ACC Option

Figure 6: Phnom Penh/Ho Chi Minh ACCs Option

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ATM/SG/8
Appendix D to the Report

Terms of Reference of the AIS-AIM Implementation Task Force (AAITF)

The objectives of the Task Force are to:

a) study means of aeronautical data management by civil aviation authorities and/or ATS providers in other regions including the aeronautical information exchange model (AIXM) and the electronic AIP (eAIP), promote the implementation of these methods/models in the Asia/Pacific Region;

b) examine the means of aeronautical data exchange used in other regions and application in the Asia/Pacific Region;

c) assist States to implement Quality Management Systems for aeronautical information in an expeditious manner;

d) develop training material and conduct workshops on the Guidance Manual for AIS in the Asia/Pacific Region;

e) develop guidance material for Static Data Procedures and the AIS Automation Plan;

f) review and update the Guidance Manual taking into account amendments to ICAO SARPs, procedures and guidance material;

g) monitor and review technical and operating developments in the AIS field especially in the area of automation and database management; and

h) monitor the transition from AIS to AIM, and in particular monitor development of the replacement of Annexes 4 & 15, PANS-AIM (Doc 10066) and guidance documents under development by ICAO.

To achieve the above objectives, the Task Force shall consider:

1. results of the ICAO Information Management Panel (IMP);

2. amendments to Annex 4, Annex 15, PANS-AIM, the AIS Manual (Doc 8126), and the Aeronautical Chart Manual (Doc 8697); and

3. revisions to the EUROCONTROL *Operating Procedures for AIS Dynamic Data* (OPADD); and

4. implementation of the regional priorities and the performance objectives of the Asia/Pacific Seamless ~~ATM~~ ANS Plan.

The Task Force will report to the ATM Sub-Group of APANPIRG

(Adopted by the 14th Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group, 2003, and amended by the 20th and 21st Meetings of the ATM/AIS/SAR/SG and the 4th Meeting of the ATM/SG)