

**INTERNATIONAL CIVIL AVIATION ORGANIZATION****TWENTY EIGHTH MEETING OF THE ASIA/PACIFIC  
AIR NAVIGATION PLANNING AND IMPLEMENTATION  
REGIONAL GROUP (APANPIRG/28)***Bangkok, Thailand, 11 to 14 September 2017***Agenda Item 3: Performance Framework for Regional Air Navigation Planning and Implementation****3.2: ATM****ATM/SG/5 REPORT**  
(Presented by the Secretariat)**SUMMARY**

This paper presents the outcomes of the Fifth Meeting of the APANPIRG Air Traffic Management Sub-Group (ATM/SG/5) for review by APANPIRG/28.

**1. INTRODUCTION**

1.1 The Fifth Meeting of the APANPIRG Air Traffic Management Sub-Group (ATM/SG/5) of the Asia Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) was held at the ICAO Regional Office, Bangkok, Thailand from 31 July to 04 August 2017.

1.2 The meeting was attended by 102 participants from 24 States, two Special Administrative Regions of China and three International Organizations, including Australia, Bangladesh, Cambodia, China, Hong Kong China, Macao China, France (French Polynesia), France (New Caledonia), India, Indonesia, Japan, Kiribati, Lao People's Democratic Republic (PDR), Maldives, Malaysia, Myanmar, Nepal, New Zealand, Philippines, Republic of Korea (ROK), Singapore, Sri Lanka, Thailand, Tonga, USA, Viet Nam, SITA, IATA and ICAO.

1.3 Mr. Kuah Kong Beng, Director (Special Project) Singapore Air Navigation Services Group Civil Aviation Authority of Singapore presided over the meeting throughout its duration as Sub-Group Chairman. He was assisted by Mr. Mukesh Chand Dangi, Executive Director (ATM-ASM) Airports Authority of India.

1.4 A total of 37 Working Papers (WP), 25 Information Papers (IP) and three flimsies were considered by the meeting.

1.5 The ATM/SG/5 developed five Draft Conclusions and two Draft Decisions to be considered by APANPIRG/28. The ATM/SG/5 also agreed to ten Conclusions under the delegated authority vested in the Subgroup by APANPIRG for Conclusions that were of a technical or purely operational nature (note: no technical Decisions were made by the ATM/SG/5). Notwithstanding the differentiation between the Conclusions and Decisions in draft and those already agreed by the Subgroup, all Draft Conclusions, Draft Decisions and Conclusions are provided in full at **Appendix 1**.

## **2. DISCUSSION**

### APRAST/10 and RASG/5 Meeting Outcomes (WP03)

2.1 ICAO presented information on the Tenth Meeting of the Asia/Pacific (APAC) Regional Aviation Safety Team (APRAST/10, Bangkok, 17 – 21 April 2017) and the RASG-APAC/5 Meeting (Bangkok, 03 – 04 July 2017).

2.2 APRAST/10 discussed coordination between APANPIRG and RASG-APAC subsidiary bodies, noting that Large Height Deviations (LHDs), English language proficiency and terrain/obstacle databases were possible areas for initial coordination. During post-meeting internal discussion, ICAO acknowledged that terrain/obstacle database issues to support Enhanced Ground Proximity Warning System (EGPWS) were already being discussed at the ATM/SG.

2.3 Recalling that APANPIRG had the lead on matters relating to Unmanned Aircraft Systems (UAS) and the establishment of the Asia/Pacific UAS Task Force (APUAS/TF) that reported to the ATM/SG, the ATM/SG/5 meeting noted that the APUAS/TF would discuss the following RASG Conclusion at its next meeting:

***Conclusion RASG-APAC 7/2 — Regulation of Small Unmanned Aircraft in Hong Kong, China***

### RASMAG/22 Outcomes (WP05)

2.4 The meeting discussed the outcomes of the Twenty-Second Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/22, Bangkok, 10 – 13 July 2017).

2.5 The safety assessment of the AKARA Corridor in the southern portion of the Incheon Flight Information Region (FIR) was analysed. Due to the high opposite direction passing frequency, only one vertical deviation per annum of more than 0.125 minutes (approximately 7.5 seconds) would breach the Corridor Target Level of Safety (TLS), highlighting the extreme sensitivity of the airspace to any LHD event. Moreover, operational factors which may contribute to deviations should be taken into account when considering the probability and severity of any safety event included the:

- a) operation of several Area Control Centres (ACCs) in the same portion of airspace on different frequencies, which is non-compliant with Annex 11;
- b) possible presence of non-RVSM approved airframes;
- c) possibility of turbulence (reported regularly southwest and south of Japan), either not allowing adequate height-keeping, or necessitating a descent or climb;
- d) lack of any emergency descent procedures;
- e) possibility of non or under-reporting (in some cases due to lack of awareness of all traffic due to the Flight Level Allocation Scheme FLAS);
- f) reported lack of a voice communication link between Shanghai and Incheon ACCs (and possibly Air Traffic Service (ATS) Inter-facility Datalink Communication – AIDC); and
- g) inconsistent use of Strategic Lateral Offset Procedure (SLOP).

2.6 The ATM/SG/5 noted that China, ROK, Japan and ICAO should endeavor to normalize ICAO standard compliance within the AKARA Corridor. Until the AKARA Corridor arrangements were such that the safety risks were acceptable and compliant with ICAO standards, the ATM/SG urged that States should consider the short-term measures emphasised by RASMAG/22 in WP05 paragraph 2.82.

2.7 The ATM/SG/5 were advised that a meeting to discuss the AKARA Corridor would take place between the ROK and Japan at the end of August 2017 at Tokyo. IATA acknowledged and thanks the States involved for the work being conducted by the States involved to improve the AKARA Corridor.

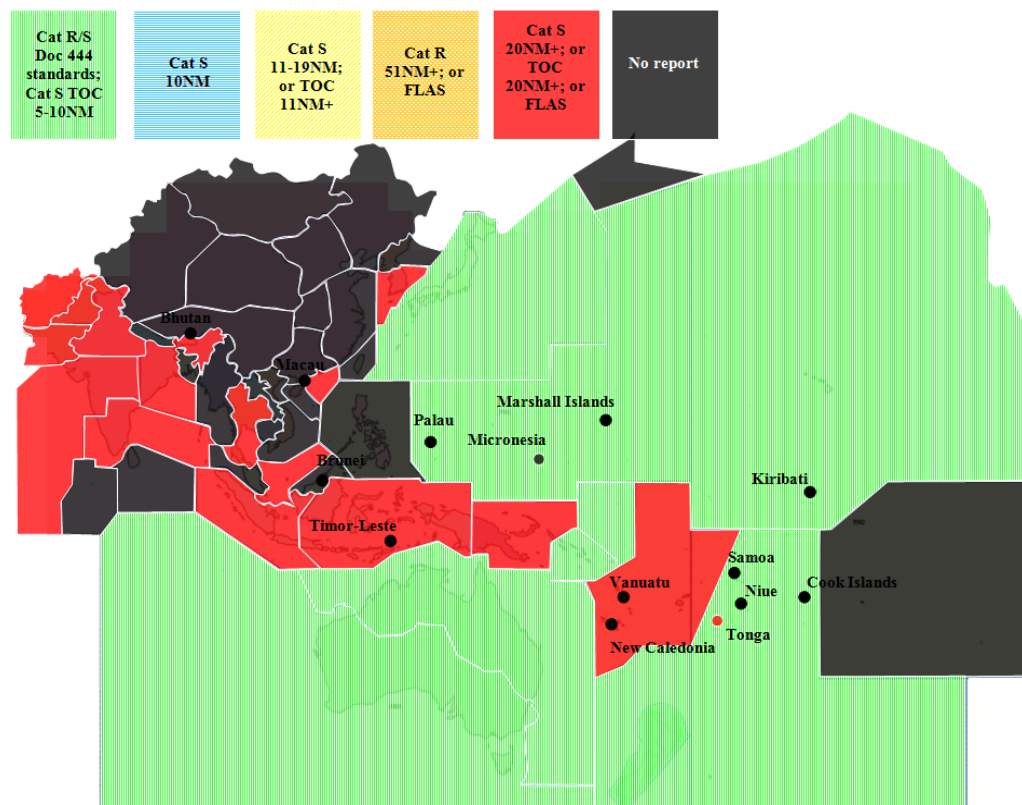
2.8 China stated that it had noted the safety risk in the airspace near AKARA, and China and Japan would enhance their AIDC capability. Hong Kong, China stated that they had recently conducted AIDC technical and operational tests with Guangzhou ACC in April and June 2017 respectively and would operationalise this capability soon upon written agreement with Guangzhou.

2.9 Regarding airspace safety reporting, the ATM/SG/5 noted with concern the inconsistent results evident within some Asia/Pacific States, and the Conclusion to determine whether States had established written policies and rules to ensure that, *inter alia*, personnel who reported airspace safety incidents were not subjected to punitive action: *Conclusion RASMAG22-12: Airspace Safety Reporting Policy Survey*. India advised that it was implementing ‘just culture’ based reporting and that this was explicitly mentioned in the Air Navigation Service Providers (ANSPs)’s Safety Management Manual.

#### Application of ATC Separation Standards (WP07)

2.10 In an endeavour to track the effectiveness implementation of the Seamless ATM element related to the use of tactical ATC separation standards, a survey had been conducted that requested respondents to advise the minimum horizontal separation standards authorized for use by controllers in Category R (remote) and Category S airspace (ATS surveillance by radar, Automatic Dependent Surveillance – Broadcast (ADS-B) or multilateration) and at FIR Transfer of Control (TOC) Points.

2.11 **Figure 1** provides an indication of the ATC separation applied reported by 20 respondent administrations (red indicated not meeting the *Asia/Pacific Seamless ATM Plan*’s expectations, green indicated meeting expectations). The survey results are at **Attachment A**.



**Figure 1:** Compliance with Seamless ATM Horizontal Separation Standards

2.12 Administrations not responding to the survey were: Bangladesh, Bhutan, Brunei, China, Cook Islands, DPR Korea, Kiribati, Macau China, Malaysia, Maldives, Marshall Islands, Micronesia (Federated State of), Mongolia, Myanmar, Nauru, Nepal, Palau, Samoa, Solomon Islands, Timor Leste, Vanuatu and Viet Nam. China informed the meeting that the separation standards applied in China strictly corresponded to ICAO Document 4444 (PANS ATM).

2.13 WP07 noted that there appeared to be no specific technical reasons why developed States were able to provide more efficient levels of service than States in Asia, using essentially the same Communications, Navigation and Surveillance (CNS)/ATM equipment. It would be inappropriate to suggest that Asian air traffic controllers were not as capable as their counterparts providing services in the Pacific; therefore only human decision-making at management level could be responsible for this poor result, indicating a region-wide paradigm shift in organisational culture was necessary.

2.14 As the cost of new CNS/ATM systems were generally not providing a commensurate increase of efficiency in service, the ATM/SG/5 observed that States should consider the ramifications of this in terms of safety (especially ATC workload), efficiency for airlines and environmental consequences, which ultimately had a political dimension when the public became aware of the comparatively poor performance. Given the increasing air traffic, ICAO urged that Asian States should recognise the problem and establish policies, rules and procedures for ANSPs to improve the benefits from CNS/ATM systems, including training for senior managers to recognise the gap between current and best practices.

#### RAPMF/SWG Outcomes (WP08)

2.15 China presented a paper on the outcomes of the Regional ATM Performance Measurement Framework Small Working Group (RAPMF/SWG). The RAPMF/SWG had identified Six Key Performance Areas (KPIs) for the performance measurement framework: capacity, efficiency, predictability, safety, environment and cost-efficiency.

2.16 Noting the ongoing implementation of such programs as the Aviation System Block Upgrades (ASBU) and collaborative Air Traffic Flow Management (ATFM), and the efforts being made in performance analysis in Europe and North America by entities established to conduct performance reviews, it was proposed that a Asia/Pacific ATM Performance Analysis Review Work Group was necessary in the Asia/Pacific Region in order to deal with the large volume of data generated in daily operations.

2.17 Japan did not support the proposal as ICAO was working on Key Performance Indicators (KPIs) at the global level, so would prefer to wait until the *Global Air Navigation Plan* (GANP) was revised, otherwise the global and regional Key Performance Indicators (KPIs) could be divergent.

2.18 ICAO commended China for refining the KPIs but expressed caution about the difficulties of data collection, also noting that the KPIs should not be too complex for less developed States to implement. ICAO suggested that the SWG continue its work to mature the KPIs and methodology, and better define what was meant by a formal monitoring agency, before the ATM/SG could endorse a region-wide system.

2.19 New Zealand asked the meeting to consider the relevancy of KPIs to some States. The United States advised that they had variable KPIs, dependent on complexity, and offered to support the SWG to mature the proposed system.

Air Traffic Flow Management Steering Group Outcomes (WP10)

2.20 The meeting was informed of the outcomes of the Seventh Meeting of the ATFM Steering Group (ATFM/SG/7, Fukuoka, Japan, 15 to 19 May 2017).

2.21 During the Joint Plenary Session of ATFM/SG/7 and the Sixth Meeting of the Meteorological Requirements Working Group (MET R/WG/6) The *Asia/Pacific Regional Guidance for Tailored Meteorological Information and Services to Support ATM Operations*, developed by an ad hoc group of the MET R/WG to support State implementation of the performance expectations of the Regional Framework for Collaborative ATFM, was presented. The meeting noted that the guidance document was to be presented to the next meeting of the Meteorology Sub-Group of APANPIRG (MET/SG/21, Bangkok, Thailand, 29 May to 01 June 2017) for approval. The MET/SG/21 meeting discussed the document, and noted concerns expressed by the World Meteorological Organization (WMO) relating to the use of the term ‘guidance’ in the title of the document. The ATM/SG/5 was informed that further coordination was being conducted by the Chair and Secretary of the MET R/WG, before presentation of the guidance document to APANPIRG/28 for approval. Noting the different levels of complexity and demand/capacity imbalance at airports and in airspace, the meeting agreed to the following technical Conclusion:

***Conclusion ATM/SG/5-2: Asia/Pacific Regional Guidance for Meteorological Information Supporting ATM***

2.22 The meeting was informed of ATFM/SG/7 discussions noting that there were parallel ATFM projects in the Asia/Pacific Region, some using different means of achieving demand-capacity balancing including the extensive use of tactical ATC interventions rather than the use of ground delay programs (GDPs) emphasized in the *Regional Framework for Collaborative ATFM*. ICAO had reminded ATFM/SG/7 that the distributed multi-nodal ATFM network and focus on use of GDP/Calculated Take-Off Times (CTOT) formed the core concepts and expectations of the *Regional Framework for Collaborative ATFM*, as adopted by APANPIRG.

2.23 ATFM/SG/7 had identified that the Cross Regional ATFM Collaborative Platform under development for use by China, Japan and ROK and its supporting Interface Control Document (ICD) had significant differences from the regionally agreed multi-nodal ATFM network concept and other provisions of the *Regional Framework for Collaborative ATFM*, particularly the Framework emphasis on GDP to improve predictability and reduce fuel used in airborne delays when managing flows to constrained destination airports.

2.24 The ATM/SG/5 agreed to the use of a Regional ATFM Monitoring and Reporting Form that would be used to analyse ATFM implementation against the performance objectives of the Regional Framework for Collaborative ATFM with the following technical Conclusions:

***Conclusion ATM/SG/5-3: Asia/Pacific Regional Framework for Collaborative ATFM Amendment***

2.25 The meeting agreed the following Draft Decision amending the Terms of Reference (TOR) of ATFM/SG, to reflect changes in the groups with which ATFM/SG had linkages:

**Draft Decision ATM/SG/5-4: ATFM/SG Terms of Reference**

That, the ATFM/SG Terms of Reference at **APANPIRG/28/WP07 Attachment B** be adopted.

Achieving Operational Predictability for M771 Flow Restrictions (WP11)

2.26 Singapore presented a proposal to address operational issues arising from flow restrictions from downstream ACCs on ATS Route M771, to enhance predictability for all stakeholders in the upstream FIRs and better manage traffic on the route. Flow restrictions ranging from 25 to 240 minutes, regardless of flight level had been imposed for flights bound for airports such as Fuzhou, Pudong, Quanzhou and Xiamen, and were typically imposed with little or no notice for other stakeholders to make necessary adjustments to traffic flow.

2.27 Due to the convergence of flights joining ATS Route M771, scheduled flights would often experience delays of between two to 20 hours, greatly affecting the operations of multiple airports, airlines and ANSPs. Singapore was conceptualising the implementation of ATFM measures on M771, including the back-calculation of GDP from a Calculated Time-Over (CTO) a waypoint. This would require the full cooperation from all involved ANSPs, departure aerodromes and airlines.

CRACP Project in Northeast Asia (WP13)

2.28 China, Japan and the ROK presented an outline of the operational procedure of their Cross Region ATFM Collaborative Platform (CRACP), which was an ATFM/CDM tool that had been proposed by China in 2015. The three participating States planned to use the CRACP for cross-border ATFM information exchange in a first stage by the end of 2017. China, Japan and ROK would use their own ATFM systems, calculating CTOT from an assigned CTO and electing to assign delay on the ground or in the air according to their traffic situation and constraints. Considering that Hong Kong China was managing a large number of departures from Hong Kong/Macao airports as well as overflights into China's airspace, Hong Kong, China suggested the North Asia Region ATFM Harmonisation Group (NARAHG) consider its participation.

2.29 It was observed that the Distributed Multi-Nodal ATFM network concept, and the *Regional Framework for Collaborative ATFM*, included the future use of CTO for airborne flights, and CTOT for flights which had not departed<sup>1</sup>. It was also noted that the use of CTO for flights crossing many FIR boundaries between the departure aerodrome and the en-route fix (RFX) at which the CTO applied presented significant challenges.

2.30 Singapore suggested that the NARAHG States would be invited to attend the next meeting of the Distributed Multi-Nodal ATFM Network Operational Trial in order to work on a harmonized ICD. It was further proposed that the groups should be invited to each other's meetings to work on harmonization of ATFM measures. China, Japan and the ROK would continue to promote the CRACP project within the NARAHG group under the facilitation of ICAO and discuss with other working groups for the operating procedure and draft ICD (**ATM/SG/5/WP13 Attachment A** refers).

2.31 The meeting was reminded that the agreed date for implementation of cross-border ATFM was 2018<sup>2</sup>, and that any proposal to amend the *Regional Framework for Collaborative ATFM* should be agreed by ATFM/SG and have due regard for the 08 November 2018 milestone. China, Japan and the ROK would prepare an amendment proposal for the *Regional Framework for Collaborative ATFM* to be presented to the ATFM/SG/8 meeting for consideration.

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<sup>1</sup> Regional Framework for Collaborative ATFM Section 7 – Performance Improvement Plan – Regional ATFM Capability Phase II (expected implementation 08 November 2018) paragraph 7.35.

<sup>2</sup> ATFM/SG Decision 4/1: Asia/Pacific Regional ATFM Concept of Operations and Timeline

### C-ATFM Implementation in India (IP13)

2.32 India elucidated its progress in establishing the Central ATFM (C-ATFM) function, which was being implemented in a phase-wise manner to cover the entire Indian airspace. Phase I ATFM operations commenced regular operations from April 2017 for selected domestic major city pairs (Delhi, Mumbai, Bengaluru, Chennai, Kolkata and Hyderabad). Phase II was planned to commence in 2018, which would involve widening the scope to other Indian airspace using ATFM measures such as Miles-In-Tail (MIT), Minutes-In-Tail (MINT), fix balancing, re-routing etc., which would greatly facilitate efficient handling of tactical scenarios.

2.33 ICAO requested information on planning for cross-border ATFM capability, which was mentioned in IP13 as a post-Phase II capability.

### Centralised Flight Plan Processing Project (CFPP) (WP14)

2.34 China presented information on a centralized flight plan processing project, intended to address problems in flight plan management that had impacted on the safety of ATC operations and the implementation of traffic flow predictions. Statistical analysis from the Beijing ATC area from 01 January to 31 December 2016 indicated there were 2,732 foreign flights landing or overflying for which a flight plan (FPL) message had not been received, and 14,552 foreign flights for which no DEP message was received. Of approximately 70,000 messages processed every day, there were about 4,000 with errors requiring manual intervention.

2.35 Since 08 December 2016, China had required that aircraft movement messages for all departure, arrival or overflights should be addressed to the additional AFTN addressees ZBPEZMFP and ZSHAZMFP. China informed that all such messages should be sent to those two AFTN addresses only from the end of June 2018, the exact date would be published in AIP or through NOTAM. In discussion, China advised that two years ago a NOTAM had been issued reminding aircraft operators and States of the requirement to correctly submit and address flight plans, but many cases of missing flight plans continued to occur. The meeting agreed that the current ATFM/SG work to analyse missing DEP messages should be expanded to address the issue of missing FPL messages. China was invited to participate in this activity.

2.36 ICAO stated that FPL addressing requirements and other ATS messages were determined by the standards and procedures detailed in Annex 10 – *Aeronautical Telecommunications* Vol. II and ICAO Doc 4444 – *Procedures for Air Navigation Services – ATM* (PANS-ATM). A summary of relevant sections of Annex 10, PANS-ATM and ICAO Doc 8585 – *Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services* was provided in **ATM/SG/5/Flimsy 1**.

2.37 IATA expressed concern about the number of FPL messages that were not available to ATC in China, and welcomed the expansion of the ATFM/SG analysis to include missing FPL. IATA supported the following of ICAO policies and procedures for the addressing of FPL and ATS messages as they formed the foundation of ATM, ensuring consistency and standardization.

### Transition to the New ATMS (WP15)

2.38 Hong Kong, China provided information sharing their experience of transition to the new Air Traffic Management System (ATMS) commissioned on 14 November 2016, and the benefits observed in terms of safety, efficiency and workload management.

2.39 Hong Kong, China would conduct an airspace and air route structure review which would take into traffic growth and ICAO regional initiatives such as the Seamless ATM Plan into consideration, with the expectation of reduced traffic complexity, increased overall capacity and lower likelihood of ATC sector overload.

Risk-Based Implementation to Achieve Interoperability of ATM Systems (IP15)

2.40 Hong Kong, China suggested the Asia/Pacific Region might consider organizing workshops for subject matter experts and ATMS suppliers to share their experiences, in order to incorporate relevant lessons into the forthcoming revision of the GANP. ICAO encouraged Hong Kong, China and its new systems user group to submit such lessons as guidance for the next update of the *Asia/Pacific Seamless ATM Plan* (2019), which could in turn influence the GANP.

2.41 ICAO also urged Hong Kong, China to fully implement measures that provided increased benefits from the advanced features of the ATMS, such as the operation of Minimum Safe Altitude Warning (MSAW) and ATC services commensurate with advanced surveillance capability. Hong Kong, China advised the meeting that as a prudent measure, a period of no changes to systems and procedures had been instituted as a part of the transition plan, and they would continue to implement more ATMS features, taking into account human factors.

Alphanumeric Call Signs (WP16)

2.42 The Secretariat presented information on the use of alphanumeric aircraft identification to avoid radiotelephony call-sign confusion, recalling ***Conclusion APANPIRG/27/15 – Use of Alphanumeric Call Signs for Scheduled Airline Operations***. A survey on State readiness to accept and process alphanumeric aircraft identification had been conducted, with responses from 16 administrations: Australia, Fiji, French Polynesia, Hong Kong China, Indonesia, India, Japan, ROK, Malaysia, Maldives, New Zealand, Pakistan, Philippines, Papua New Guinea, Singapore and Thailand. Issues highlighted from the survey included:

- inability of pilot briefing/flight plan submission systems of some airlines to process alphanumeric aircraft identification (one administration);
- lack of regulations and/or procedures in State AIPs supporting the use of alphanumeric aircraft identification (four administrations);
- lack of operational procedures to mitigate radiotelephony call sign similarity/confusion in ATC and related air-ground communications (one administration); and
- no processes in place to ensure that flight plans with alphanumeric aircraft identification were correlated correctly with the associated flight number used for overflight/arrival/departure approvals (four administrations).

2.43 The ATM/SG/5 meeting agreed to the following technical Conclusion:

***Conclusion ATMSG/5-5: State Readiness for Alphanumeric Aircraft Identification***

Alphanumeric Call Sign Project Phase Two (WP17)

2.44 IATA proposed to commence Phase Two of the Asia/Pacific Alphanumeric Call Sign Project. Etihad Airways had agreed to be the airline lead, building on their successful involvement in a similar project in the ICAO Middle East (MID) Region.

2.45 A draft Alphanumeric Call Sign Phase 2 Project Plan was provided in **ATM/SG/5 WP/17 Attachment A**. The ATM/SG/5 agreed to the following technical Conclusion:

***Conclusion ATMSG/5-6: Asia Pacific Alphanumeric Call-Sign Project***



### SID STAR New Procedure and Phraseology (WP18)

2.46 The meeting was provided with information on changes to Standard Instrument Departure (SID) and Standard Arrival Route (STAR) procedures, particularly phraseologies, specified in ICAO Doc 4444 – PANS-ATM, applicable from 10 November 2016. The State Letter informing States of the new procedures together with other explanatory information on the new phraseology was available on the ICAO website. A technical Conclusion on SID/STAR phraseology was agreed by the meeting under WP25 (*Conclusion ATM/SG/5-17: SID/STAR Phraseology*).

2.47 IATA commented that there was a significant lack of implementation of this standard around the world, and urged everyone to properly comply. NZ noted that the STAR steps were not always a matter for ATC restrictions and were often there for terrain. Australia mentioned that it would be implementing in November 2017 but noted that it was a significant body of work to implement the new phraseology, given the short timeframe for implementation and one State that implemented but then withdrew the phraseology following implementation issues. Hong Kong, China highlighted that there would be a need to consider systems and necessary modification in order to facilitate the implementation.

### Pacific Airspace Reorganisation (WP19)

2.48 Kiribati discussed the proposal for the re-organisation of upper airspace as recommended in several reports dating back to 1999 as a new ‘Pacific FIR’, noting that this had been discussed at the diplomatic level in by the Pacific Islands Forum (PIF), with ANS being provided by a third party following a tender process.

2.49 WP19 stated that the establishment of a large FIR, rather than several smaller FIRs was consistent with the ICAO policy on improving airspace efficiency. The paper also stated that ATS in the proposed FIR would be provided more efficiently than at present.

2.50 Kiribati requested the ATM/SG/5 to consider establishing a Taskforce to examine the proposals by Kiribati and associated issues, and to make recommendations for airspace change to the 2018 Air Navigation Conference. ICAO stated that the task of determining the merits of any such change requests were managed by the Air Navigation Plan Proposal for Amendment (PfA) process, with information and analysis from the States and airspace users concerned.

2.51 The meeting agreed that concerned States should make a formal joint PfA submission if they wished to further this proposal, noting that only Kiribati had submitted the paper to ATM/SG/5. Moreover, it was clarified that the meaning of the term *task force* as proposed in this paper related to the formation of an informal group of stakeholders to discuss and potentially advance the proposal. French Polynesia, the United States and IATA indicated that they would like to participate in the discussions.

### Recent CNS-Related Developments in APAC (WP20)

2.52 ICAO updated the meeting on recent developments in the Communications, Navigation and Surveillance (CNS) fields. The ATM/SG/5 reviewed the Conclusions and Draft Conclusions stemming from the Twenty-First meeting of the CNS Subgroup (CNS/SG/21, Bangkok, 17 – 21 July 2017).

2.53 Myanmar reported to the CNS/SG/21 that it had been making efforts to improve air/ground communication facilities and services. Further improvements would be made at Sittwe and Pathin in August 2017. IFALPA had requested Myanmar to investigate the problem of readability with voice echo and continuity of Very High Frequency (VHF) voice communications. IATA advised the ATM/SG/5 that it intended to conduct another survey after further improvements in August 2017.

2.54 Efforts had also been made by Pakistan and China to improve the ATS communication between the Lahore and Urumqi ACCs. Both sides were requested to monitor the performance of the enhanced hotline circuit.

2.55 India described its plan to establish an ADS-B receiver in the Nicobar Islands (Campbell Bay) to cover a hot spot identified by RASMAG between the Chennai and Kuala Lumpur FIRs. India further advised that it was planning to share surveillance data with Indonesia for this airspace.

#### Indonesia ADS-B Implementation Progress Report (IP08)

2.56 Indonesia updated the meeting on its ADS-B implementation progress. Since 2014 when ADS-B was first installed, the system had been used as a monitoring (traffic awareness) tool. Until 31 December 2017, the carriage of ADS-B in both Jakarta and Ujung Pandang FIRs between FL290-FL460 was optional, but would become mandatory on 01 January 2018 so ATC could utilise ADS-B for traffic separation purposes.

2.57 ICAO encouraged Indonesia to continue with their ADS-B data sharing program with neighbouring States when they implemented ADS-B, in accordance with the *Asia/Pacific Seamless ATM Plan's* expectations.

#### Indonesia AIDC Implementation Progress Report (IP09)

2.58 Indonesia presented a paper on the progress of AIDC implementation in the Jakarta and Ujung Pandang ACCs. The Jakarta system would be implemented later, while the Ujung Pandang system which had been operating since 2008 had been experiencing problems, related to the communication link via Jakarta. Indonesia's AIDC had been improved by the installation a new AMHS system in Jakarta and a direct AFS link between Brisbane and Makassar was being progressed. Voiceless coordination trials would commence by end of 2017.

2.59 In addition, the Ujung Pandang ACC link to Manila and Kota Kinabalu ACCs had existing problems, and there was no connection with Oakland and Port Moresby ACCs. Testing had been on-going; however the communications uplink remained a problem and discussion between the States concerned was continuing.

#### New Indonesia PBN Implementation Plan (2017-2022) (IP10)

2.60 Indonesia provided an update to their PBN Implementation Plan for the period 2017 – 2022, which involved international, domestic and remote airports throughout the Indonesian FIRs. The Plan included training of staff and instructors.

2.61 ICAO noted the use of RNAV 5 for en-route application in Indonesia's Plan, which was expected to be phased out by 2019 in accordance with the *Asia/Pacific Seamless ATM Plan*.

#### Progress Status of PBN Implementation in Nepal (IP11)

2.62 Nepal presented an update of its PBN implementation status. In regard to emerging airspace and ATS Routes requirements, India and Nepal had a side meeting.

2.63 Nepal informed that Bhairahawa airport near the Indian-Nepalese border was being developed for A320 operations and similarly there was a plan to develop Simara and Pokhara airports in the near future. India assured Nepal that it would consider the additional ATS Route requirements or modifying the existing ATS Route in consultation with Indian military authorities.

Safety Regulation in the OneSKY Australia Joint Program (WP21)

2.64 Australia's approach to the safety regulation of the OneSKY Australia Joint Program (OSAJP) was discussed in WP21 as a joint effort between the civil and military air navigation service providers to procure and operate a common ATM platform for Australia: the Civil Military Air Traffic Management System (CMATS).

2.65 The meeting acknowledged the OSAJP as a leading example of civil/military cooperation in an important area – procurement and common development of systems for optimal harmonisation and integration, as espoused by the *Asia/Pacific Seamless ATM Plan*.

Civil/Military Cooperation Update (WP22)

2.66 ICAO stated that civil/military cooperation remained one of the highest priorities in the Asia/Pacific Region, as referenced in the *Asia/Pacific Seamless ATM Plan*.

2.67 ICAO observed that it had received reports of ballistic launch in several places around the Asia/Pacific Region which had caused significant delays and disruption to civil air traffic, and recalled the coordination element in the *Asia/Pacific Seamless ATM Plan* related to this activity.

2.68 ATM/SG/5 participants were requested to update details contained within the [Kabul FIR bypass] Inter-regional Afghanistan ATM Contingency Arrangements if possible. Unfortunately Afghanistan did not attend, so there was no opportunity to update the ATM/SG/5 on its current air navigation air navigation and aerodrome facilities and services and civil/military cooperation status.

2.69 Recalling that civil/military cooperation issues have been reported in parts of the Asia/Pacific had been reported to ATM/SG/3 (Bangkok, 03 – 07 August 2015) and also in 2016, ICAO noted that the Regional Office continued to receive reports from States and IATA of major delays and arrangements/procedures that may be considered for improvement by States concerned, as part of a region-wide effort to improve traffic capacity (the meeting noted that China requested deletion of reference to ATM/SG/3 discussions):

- the need for centralised ATFM systems within States and participation in regional Cross Border ATFM initiatives;
- a need for more ATS routes to be available for international airlines;
- the need for more FIR boundary waypoints; and
- the need for minimisation of short-notice closures of airspace.

2.70 Examples of significant delays to airlines were provided in ATM/SG/5/WP22. At RASMAG/22, the Philippines had also described the lengthy holding delays as causing safety issues, such as aircraft diverting for fuel, en-route conflicts, and controller workload in already busy sectors.

2.71 ICAO clearly acknowledged that only part of the delays and capacity issues may be attributable to civil/military cooperation issues, thus urged concerned States to consider appropriate measures, to alleviate the reported problems. As China had previously assured the ATM/SG/3 that measures were being implemented to address such issues, ICAO suggested the possibility of supporting China with a closed civil/military cooperation conference at Beijing. China would consider this when necessary.

2.72 China updated the meeting with its efforts and improvements in airspace optimization to accommodate the major growth of traffic flow in its airspace. IATA expressed its appreciation to China for its efforts.

2.73 China understood the concern about the delays but stated that the delays were due to many factors and by pointing out the civil/military cooperation issues as the root cause of delay according to WP22 could be confusing because according to the report of the CAAC, about 56% of flight delays were due to weather in 2016. The growth in the Chinese aviation system had been achieved with the close cooperation between civil aviation authorities and the military.

2.74 China informed the ATM/SG/5 that a high level ATM meeting had been held with Hong Kong, China and Macao, China to enhance cooperation. Hong Kong, China acknowledged the efforts made by China and welcomed all measures which could enhance civil operations.

2.75 China noted that its ATFM policies were harmonised but acknowledged that improvement was necessary. China also described anecdotal examples of tactical civil/military cooperation.

2.76 IATA, while acknowledging that regional delay issues remained and needed addressing, thanked China for its efforts to try and improve matters. IATA noted that NOTAM issued by some States referenced flow control restrictions from China and were extremely restrictive on flight operations. IATA urged that the *ATFM Framework* be utilised to reduce delays, mentioning the example of delays of more than five hours for flights departing from Tokyo/Haneda.

2.77 China further advised the meeting that China and Japan had signed a new ATFM LOA in March 2017 agreeing to pre-tactical measures. China noted that it had a plan to construct a centralized ATFM system with three levels, and advised that a new National ATFM Centre was under construction.

2.78 The Chairman requested that States provide information to ICAO on the measures being undertaken and progress to reduce delays and stressed the importance of sharing this information at ICAO meetings so neighbouring States were aware of progress and initiatives were coordinated.

#### Indonesian Civil Military Cooperation and FUA (IP18)

2.79 Indonesia discussed its progress in civil/military cooperation, including Flexible Use Airspace (FUA) and the 'domestic' PBN T1 conditional route from CLP to Bali via PROGO and KIDUL that passed through a restricted area (WA-R1). IATA noted the conditional route was restricted to Indonesian aircraft only. ICAO noted that restrictions on international flights on ATS routes over the high seas did not conform to the Convention. Indonesia informed the meeting that future consideration would be given to making the route available to international flights.

2.80 ICAO noted that this portion of the route was high seas airspace, and there was no legal basis for the establishment of a restricted area beyond territorial waters, although a danger area was acceptable under Annex 2. ICAO further observed that ATS route T1 was entirely within surveillance coverage, so it was difficult to understand why Indonesia was using an oceanic navigation standard of 50NM instead of conforming to the *Asia/Pacific Seamless ATM Plan*. Moreover, IP18 described the use of a 'surveillance' separation of 20NM rather than the 5NM global standard in PANS-ATM.

2.81 Indonesia advised that this was a first step in establishing FUA, and further work in the future would include a reduction in the separation minimum applied after safety analysis.

#### Freedom of Overflight and Navigation (IP21)

2.82 The USA submitted IP21 to the meeting, which was intended to raise awareness of ANSPs of freedom of air navigation principles and ATC services provided to State aircraft operating in delegated international airspace in accordance with international law, rules and regulations.

2.83 China submitted the following statement: the Chicago Convention shall be applicable only to civil aircraft and the ATM/SG/5 was not the appropriate arena to discuss issues related to the freedom of overflight of State aircraft.

2.84 ICAO submitted in response: the *Convention on International Civil Aviation* Article 3 bis deals with obligations of military aircraft with regard to civil aircraft and ICAO has been actively assisting States to implement civil/military cooperation, which has been a vital discussion point at the ATM/SG since its inception. The IP provides information on the responsibilities of a civil ANSP to any aircraft operating in airspace delegated to the State over the high seas to provide ATS by ICAO.

#### eANP (FIRs/SRRs) (WP23)

2.85 WP23 provided an update on the electronic Air Navigation Plan (ANP) for the Asia/Pacific. ATM/SG/5 participants were invited to review the data affecting their administration and urged to provide feedback to ICAO on the data's accuracy.

2.86 In the past two years, three State Letters had been issued to determine the current status of the FIR and Aeronautical Search and Rescue Region (SRR) boundaries. Although 60% of States had now responded, this is still far from satisfactory, given the importance of FIRs and SRRs. Moreover, only one FIR description had been determined to be accurate for inclusion in the eANP (Fukuoka). Therefore, the eANP FIR table would not be able to be submitted in 2017, which meant there had been little progress since 2015.

2.87 Given the lack of progress, the Seventh South Asia/Indian Ocean ATM Coordination Group (SAIOACG/7, Bangkok, 01 – 03 March 2017) and the Twenty-Fourth Meeting of the South-East Asia ATM Coordination Group (SEACG/24, Bangkok, 03 – 06 March 2017) meetings had agreed to a Draft Conclusion to highlight the need for greater resources and urgency in responding to the FIR/SRR review for the ANP, which was endorsed by the ATM/SG/5, for consideration by APANPIRG/28:

#### **Draft Conclusion ATM/SG/5-7: FIR/SRR Air Navigation Plan Review**

That, Asia/Pacific States and Administrations having responsibility for the provision of services within a Flight Information Region (FIR) or Aeronautical Search and Rescue Region (SRR), should conduct a review of the ICAO data related to the FIR or SRR and provide a verification to the ICAO Regional Office as early as possible, but in any event not later than 31 December 2017.

#### Regional ATM Contingency Planning Status Reporting (WP24)

2.88 ICAO presented a proposal for a Regional ATM Contingency Plan status reporting strategy to enable the tracking of State implementation of the performance expectations of the Plan. Similar to the proposal discussed under WP10 relating to ATFM implementation reporting, it was intended that this reporting strategy would enhance current Seamless ATM monitoring and reporting.

2.89 The ATM/SG/5 meeting agreed to the following technical Conclusion:

#### ***Conclusion ATM/SG/5-8: Asia/Pacific Regional ATM Contingency Plan Amendment***

#### Indonesian ATM Contingency Plan Implementation (IP20)

2.90 Indonesia first published an ATM Contingency Plan in 2007. A Level I (domestic) contingency plan became effective in 2015 after satisfactory table top simulation had been conducted. A Level II (inter-State) contingency Plan which covered both the Jakarta FIR and Ujung Pandang FIR was effective in March 2017.

2.91 Given that the Regional ATM Contingency Plan included template examples of contingency plans, the ATM/SG/5 agreed to remove the previous Indonesian template from the Asia/Pacific website with the following technical Conclusion:

***Conclusion ATM/SG/5-9: Indonesian ATM Contingency Plan Template***

SAIOACG/7 and SEACG/24 Meeting Outcomes (WP25)

2.92 ICAO presented the key outcomes relevant to the ATM/SG from the SAIOACG/7 and the SEACG/24.

2.93 Afghanistan, India, Iran and Pakistan were urged to provide capacity enhancements for daily improvement, not just for contingency – this included the urgent implementation of at least 20NM longitudinal spacing all along the axis formed by Iran-Pakistan-India and Afghanistan-Pakistan-India routes. It was noted that Afghanistan, India and Pakistan had not been able to attend the SAIOACG/7.

2.94 The outcomes from the Fourth Meeting of the South China Sea Traffic Flow Review Group (SCSTFRG/4) had been presented to the SEACG/24 meeting. ICAO noted the progress of the SCSTFRG, and asked about the non-standard Flight Level Orientation Scheme (FLOS) used in the SCS, which had been a past safety concern of IFALPA and RASMAG. SEACG/24 was informed that the FLOS (and Flight Level Allocation Schemes) would be considered after the first steps to develop greater capacity. Hong Kong, China asked that the MAAR and RASMAG be requested to study the safety issues associated with the FLOS, to determine if any improvement could be made.

2.95 Regarding safety hot spots related to RASMAG reports, Malaysia informed the meeting that a tri-partite meeting between India, Indonesia and Malaysia had discussed the LHD hotspots, and agreement had been reached on AIDC coordination messaging that would help to address this issue. India informed the meeting that one of the hotspots had arisen during the period when ATS in the Sana'a FIR was not available, but this was no longer an issue. Further, recently implemented arrangements for early contact with Mumbai by aircraft crossing the Mogadishu FIR eastbound had improved the situation for that hotspot.

2.96 India also advised that updated RVSM approval data in respect of 45 aircraft was recently provided to MAAR, as requested by RASMAG. Indonesia proposed providing assistance to mitigate the hot spot issues with reference to the Indonesian capabilities of surveillance and communication in the area.

2.97 India and Bangladesh had a side line meeting to discuss measures addressing the LHDs occurring at Kolkata/Dhaka/Yangon airspace interface. The States also discussed to harmonize ATM Contingency Planning, the possibility of holding periodic teleconferences between ATS managers of Dhaka and Kolkata ACCs, a working level SAR Agreement as India and Bangladesh had airports which were located adjacent to the Dhaka/Kolkata FIR Boundary, and danger areas in the high seas.

2.98 The meeting was informed of ***Decision SAIOACG/7-2: Bay of Bengal Traffic Flow Review Group***, forming a group to identify and implement airspace safety and efficiency initiatives.

2.99 With reference to the SAIOACG/7 meeting discussion of a new ATS route for traffic from Singapore and Medan (Indonesia) to the Middle East, Europe and Africa, Malaysia advised the meeting of concerns regarding convergence of ATS routes and consequent congestion of traffic, so would be further discussed between the States. ICAO advised that the route (L762) had been included in the Asia/Pacific Air Navigation Plan following the conclusion of the normal PfA process.

Initiatives to Reduce Safety Risks within BOBASIO Airspace (WP26)

2.100 India informed the meeting about recent initiatives taken by India to reduce the increasing safety risk in the Bay of Bengal Arabian Sea Indian Ocean (BOBASIO) airspace, such as:

- Muscat ATC creating an additional Sector near the Mumbai/Muscat FIR boundary;
- Mumbai trialing four oceanic FIR sectors, operational by September 2017;
- additional voice communication between Mumbai and Muscat ATC;
- establishing an LHD and a joint ATM/CNS Task Force in Muscat and Mumbai; and
- AIDC trial operations between Mumbai and Muscat were to start in July 2017.

ATS Route Catalogue (WP27)

2.101 ICAO presented the *Asia and Pacific Region ATS Route Catalogue* Version 16 for review and update. States were urged to categorise route proposals as ‘not possible’, ‘short term’ (within 12 months), ‘medium term’ (within 12-36 months) and ‘long term’ (possible after 36 months).

Trans-regional ATS Route Proposals (EUR-APAC) (IP17)

2.102 IP17 presented several proposals of new routes from Europe to the Asia/Pacific region. These were discussed at the Route Development Group-Eastern (RDGE/26) meeting in Paris, France and required coordination from various Asia/Pacific States, namely: Afghanistan, China and Pakistan.

2.103 China advised that proposals for routes connecting China were the subject of bi-lateral meetings, which had been held and those subjects would be further discussed in the future.

Asia/Pacific Unmanned Aircraft Systems Task Force Outcomes (WP28)

2.104 The meeting was informed of the outcomes from the First Meeting of the Asia/Pacific Unmanned Aircraft Systems Task Force (APUAS/TF/1, Bangkok, Thailand 03 to 05 April 2017).

2.105 The meeting was informed of ***Decision APUAS/TF/1-1 – APUAS/TF/SWG***, to form a small working group of experts who would draft the *Asia/Pacific Regional Guidance for the Regulation and Safe Operation of Small Unmanned Aircraft*.

2.106 A second meeting of APUAS/TF had been tentatively planned in November 2017. However, there may be global developments arising from the Second Global Remotely-Piloted Aircraft Systems (RPAS) and DRONE ENABLE symposiums (Montreal, Canada, 19 – 23 September 2017) relating to defining a global framework for regulation of unmanned aircraft system (UAS) in a UAS traffic management systems (UTM) environment. Therefore, the ATM/SG/5 meeting noted that the APUAS/TF/2 would be deferred in order to avoid duplication of work that may be conducted at the global level, and to avoid any potential divergence between global and regional policies.

2.107 Noting that a number of Asia/Pacific States had either commenced or finalized regulations for the safe operation of small UAS in their national airspace, the APUAS/TF/1 agreed to the following technical Conclusion:

***Conclusion ATM/SG/5-10: State UAS Regulations***

2.108 A web resource of information relating to UAS had been developed, including a UAS Toolkit of information on operations, rules, guidelines and special authorizations. The resource was available on the ICAO website.

2.109 APUAS/TF/1 had proposed some amendments to its TOR. Australia requested elaboration on the need to include development of model regulations for the import of UAS in the group's TOR. The meeting noted that there would be considerable difficulty for States to manage the inter-agency coordination of the regulation of the import of small UAS, which was included in the proposed TOR. ATM/SG/5 amended the wording of the proposal, and agreed to the following Draft Decision:

**Draft Decision ATM/SG/5-11: APUAS/TF Terms of Reference**

That, the amended Terms of Reference for the Asia/Pacific UAS Task Force at **APANPIRG/28/WP07/Attachment C** be adopted.

AIS – AIM Implementation Task Force Outcomes (WP30)

2.110 The outcomes of the Twelfth Meeting of the Aeronautical Information Services (AIS) – Aeronautical Information Management (AIM) Implementation Task Force (AAITF/12, Bangkok, Thailand, 05 to 09 June 2017) were provided to the meeting.

2.111 The AAITF/12 proposed changes to AIS-related deficiencies as follows:

- World Geodetic System 1984 not implemented – Kiribati removed from the list;
- AIP Format – Papua New Guinea removed from the list; and
- Quality Management System not implemented – Papua New Guinea removed from the list, and Myanmar and Sri Lanka added to the list.

2.112 The meeting was informed of ongoing issues relating to poor adherence to Annex 15 *Aeronautical Information Services* Standards and Recommended Practices (SARPS) relating to Aeronautical Information Regulation and Control (AIRAC) and the Quality Management (QM) of aeronautical information. In all cases where evidence of significant failure of AIRAC adherence or quality management processes was provided, ICAO Regional Office would:

- raise a new AIS Air Navigation Deficiency against the State concerned;
- amend the Regional AIM Implementation Table to reflect that the State had not implemented AIRAC and QM-related AIM Roadmap transition steps:
  - P-03 – AIRAC adherence monitoring;
  - P-17 – Quality;
  - P-01 – Data quality monitoring;
  - P-02 – Data integrity monitoring;
  - P-18 – Agreements with data originators; and
- formally notify the Director-General of Civil Aviation of the State.

2.113 ATM/SG/5 agreed to the following Draft Conclusion, for consideration by APANPIRG/28:

**Draft Conclusion ATM/SG/5-12: State Actions to Ensure the Quality Management of Aeronautical Information**

That, States are urged to:

1. Examine and update where necessary the relevant primary legislation and aviation regulations to ensure that all originators and publishers of aeronautical information are required to comply with the Annex 15 standards and recommended practices relating to quality management and promulgation of aeronautical information;



2. Examine all available guidance for quality management of aeronautical information, including the *Guidance Manual for Aeronautical Information Services in the Asia/Pacific Region*; and
3. Ensure that robust quality management procedures are developed, implemented and used by all originators and publishers of aeronautical information, supported by formal agreements to ensure timeliness and quality.

2.114 An analysis of Universal Safety Oversight Audit Programme – Continuous Monitoring Approach (USOAP-CMA) AIS/AIM protocol question (PQ) responses indicated an average compliance of 58.92% with AIS/AIM-related PQs. The major areas of weakness were in the areas of Safety Management Systems (SMS) applicability for AIS services, AIS data quality and resolution, and training of both AIS inspectors and the staff that provided the AIS and charting services.

2.115 Regional AIM transition progress, as reported to the ICAO, was tracked in the AIM Transition table available on the APAC Regional office website. Overall implementation of Phase 1 of the ICAO Roadmap for Transition from AIS to AIM was approximately 71%, compared to 61% at AAITF/11 (2016). Phase 2 implementation was approximately 34% compared to 32% at AAITF/11. Overall implementation of Phases 1 and 2 of the Roadmap, expected to be implemented by November 2013, was poor, at only 41%.

2.116 In response to reported difficulty in State AIS procuring copies of the AIP of other States, the ATM/SG/5 agreed to the following technical Conclusion:

***Conclusion ATM/SG/5-13: Provision of AIP to other Contracting States***

2.117 The International Codes and Route Designators (ICARD) application was the sole global source of unique, pronounceable 5-letter name codes (5LNC) marking significant points not associated with a radio-navigation aid, to ensure compliance with Annex 11 *Air Traffic Services* paragraphs 3.1 to 3.5. Bhutan, Cook Islands, Marshall Islands, Micronesia, Nepal, Palau, Samoa and Tonga had no ICARD\_5LNC\_PLANNER registered.

2.118 ICAO presented a proposal to include additional AIM provisions that were supported by a range of previous APANPIRG Conclusions in the Asia/pacific Region Air Navigation Plan. The ATM/SG/5 agreed to the following Draft Conclusion for consideration by APANPIRG/28:

**Draft Conclusion ATM/SG/5-14: Proposal for Amendment to the Asia and Pacific Regions Air Navigation Plan**

That, ICAO prepares and circulates for Regional Air Navigation Agreement a proposal for amendment (PfA) to the Asia and Pacific Regions Air Navigation Plan Volume II, as provided in **APANPIRG/28/WP07/Attachment D**.

2.119 The meeting discussed the need for conclusion of the work on a range of important and long-delayed ICAO publications, both new and updated, and agreed that there was a need for a strong statement on this issue. The following Draft Conclusion was agreed by the ATM/SG/5, for further consideration by APANPIRG/28:

**Draft Conclusion ATM/SG/5-15: AIM-specific Working Group to Finalize ICAO Guidance Material**

That, ICAO be urged to form an AIM-specific working group to focus on the finalization of overdue AIS-related guidance material, with Doc 9839 *Manual of the QMS for AIM*, Doc 9991 *AIM Training Development Manual* and Doc 8126 *Aeronautical Information Service Manual* having the highest priority.

Meteorology Issues Relevant to ATM (WP31)

2.120 ICAO provided an overview of aviation meteorology (MET) issues relevant to ATM arising from the Twenty-First Meeting of the Meteorology Subgroup (MET SG/21, Bangkok, Thailand, 29 May – 01 June 2017). WP31 related to proposals for amendment of ICAO Annex 3 – *Meteorological Services for International Air Navigation* and the Asia/Pacific Air Navigation Plan.

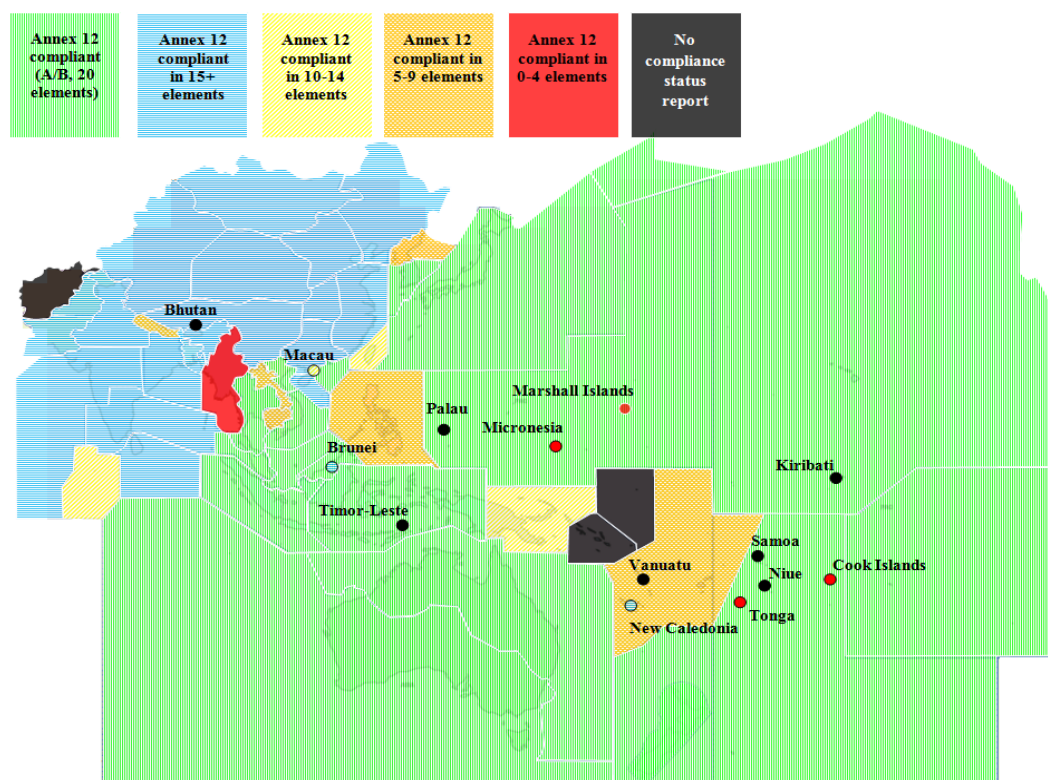
2.121 The ATM/SG/5 meeting noted the outcome from the Fourth Meeting of the Volcanic Ash Exercises Steering Group (VOLCEX/SG/4, Bangkok, Thailand, 15 – 17 March 2017), and recommended the amendment of the *Asia/Pacific Regional ATM Contingency Plan* to include background information and an associated performance expectation relating to the maintenance of a current list of volcanoes at NOTAM Office.

Asia/Pacific Search and Rescue Update (WP33)

2.122 ICAO provided an update on Search and Rescue (SAR) for the Asia/Pacific, noting the outcomes of the Second Meeting of the Asia/Pacific SAR Workgroup (APSAR/WG/2, Bangkok, 30 May – 01 June 2017). The update included SAR status information as follows:

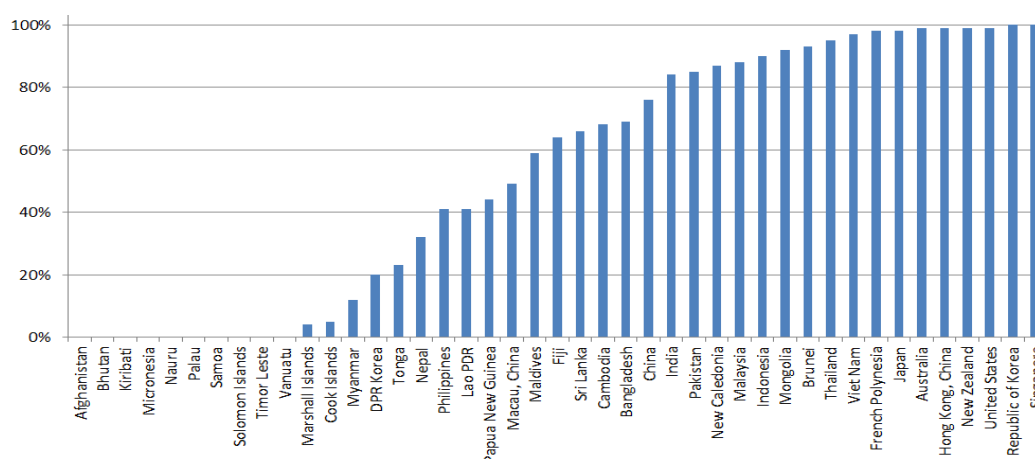
- h) the SAR Agreement Matrix; and
- i) the 20 element SAR Capability Matrix Table.

2.123 **Figure 2** provides the current overview for SAR capability based on the 20 element Annex 12 assessment (noting that the image is based on FIRs, not Search and Rescue Regions for ease of comparison with other performance metrics), which highlighted that significant weaknesses existed in the Southwest Pacific and some parts of South and Southeast Asia.



**Figure 2:** Asia/Pacific Regional SAR Overview

2.124 The Asia/Pacific SAR Plan-based 41 element assessment as agreed by APANPIRG/27 in **Figure 3** was provided to familiarize the 16 States which had not yet responded to the survey (Bhutan, Brunei, China, Cook Islands, DPRK, Kiribati, Micronesia, Mongolia, Nauru, Palau, Papua New Guinea, Samoa, Solomon Islands, Timor Leste, Tonga and Vanuatu). The meeting was informed that updated information would be provided by Cook Islands and Kiribati in the near future.



**Figure 3: Asia/Pacific SAR Capability Ranking**

2.125 The APSARWG/2 meeting discussed the continued lack of progress in key areas of SAR capability and agreed to a Draft Conclusion, which was endorsed by the ATM/SG/5, for consideration by APANPIRG/28:

**Draft Conclusion ATM/SG/5-16: Search and Rescue Capability Focus Areas**

That, given the continuing overall poor levels of implementation of Search and Rescue (SAR) coordination with adjacent States, effective SAR regulatory oversight and the training of both SAR inspectors and personnel that provide the SAR services, Asia/Pacific States should provide greater resources and high level support to enable a focus on these areas

2.126 The United States emphasised the importance of the Asia/Pacific monitoring systems for SAR. ICAO commented that the monitoring enabled States to place a greater focus on reviewing the Asia/Pacific SAR Plan.

2.127 India complimented the APSAR/WG for its work and highlighted the importance of SAR coordination. Indonesia and Sri Lanka noted the difficulties of signing SAR agreements at a high level. ICAO recalled that the SAR Plan provided guidance on this aspect, emphasising that SAR agreements did not need to be formally signed at high level, but ATM/SG/5 WP33 paragraph 2.13 and the Asia/Pacific SAR Plan could be referenced for developing a working level technical arrangement.

**Air Navigation Service Deficiencies List (WP34)**

2.128 The meeting reviewed and discussed the ATM/AIS/SAR Deficiency List also incorporating RASMAG Deficiencies) and agreed to forward the list for consolidation and presentation by APANPIRG/28 (**APANPIRG/28/WP07 Attachment E**).

2.129 New Zealand advised that some deficiencies recorded against Cook Islands and Samoa might no longer be valid, and that New Zealand would contact those States to encourage them to report accordingly. India advised that work was underway to enable data link monitoring and reporting in all of India's FIRs, and the related deficiencies would be addressed soon. Indonesia advised that a QMS had been implemented but there had been challenges in its implementation and in the handling of a large quantity of data.

### 3. ACTION BY THE MEETING

#### 3.1 The Meeting is invited to:

- a) note the information in this paper;
- b) urge the concerned States to take actions that reduce risk and normalize ICAO standard compliance within the AKARA Corridor (paragraphs 2.5 – 2.6);
- c) urge States that had not implemented horizontal separation standards consistent with the Seamless ATM element related to the use of tactical ATC separation standards to do so and report progress to the ICAO Regional Office (2.10 – 2.11);
- d) urge States implementing ATFM to do so in conformance with the *Regional Framework for Collaborative ATFM* (2.22);
- e) endorse Draft Decision ATM/SG/5-4: ATFM/SG Terms of Reference (2.25);
- f) note the FPL and other ATS messages addressing requirements (2.36);
- g) support the alphanumeric aircraft identification initiative (2.43 – 2.44);
- h) urge States to implement the new SID/STAR Phraseology (2.46);
- i) note the proposals for a ‘Pacific FIR’ (2.48 – 2.51);
- j) urge concerned States to urgently improve East Asian capacity (2.69 – 2.78);
- k) note the requirements for provision ANS within international airspace (2.84);
- l) endorse Draft Conclusion ATM/SG/5-7: FIR/SRR Air Navigation Plan Review (2.87);
- m) endorse Draft Decision ATM/SG/5-11: APUAS/TF Terms of Reference (2.109);
- n) endorse Draft Conclusion ATM/SG/5-12: State Actions to Ensure the Quality Management of Aeronautical Information (2.113);
- o) endorse Draft Conclusion ATM/SG/5-14: Proposal for Amendment to the Asia and Pacific Regions Air Navigation Plan (2.117);
- p) endorse Draft Conclusion ATM/SG/5-15: AIM-specific Working Group to Finalize ICAO Guidance Material (2.119);
- q) endorse Draft Conclusion ATM/SG/5-16: Search and Rescue Capability Focus Areas (2.125);
- r) agree to the updated ATM/AIS/SAR Deficiency List (2.129); and
- s) discuss any other relevant matters.

— END —

**Appendix 1: List of ATM/SG/5 Conclusions and Decisions**List of ATM/SG/4 Draft Conclusions

<b>Draft Conclusion ATM/SG/5-7: FIR/SRR Air Navigation Plan Review</b>	
<b>What:</b> That, Asia/Pacific States and Administrations having responsibility for the provision of services within a Flight Information Region (FIR) or Aeronautical Search and Rescue Region (SRR), should conduct a review of the ICAO data related to the FIR or SRR and provide a verification to the ICAO Regional Office as early as possible, but in any event not later than 31 December 2017.	<b>Expected impact:</b> <input checked="" type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
<b>Why:</b> The poor response from States and Administrations has resulted in insufficient verification of the data for the ANP Volume I FIR and SRR Tables.	<b>Follow-up:</b> <input checked="" type="checkbox"/> Required from States
<b>When:</b> 31-Dec-17	<b>Status:</b> Draft to be adopted by PIRG
<b>Who:</b> <input 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:	

<b>Draft Conclusion ATM/SG/5-12: State Actions to Ensure the Quality Management of Aeronautical Information</b>	
<b>What:</b> That, States are urged to: 1. Examine and update where necessary the relevant primary legislation and aviation regulations to ensure that all originators and publishers of aeronautical information are required to comply with the Annex 15 standards and recommended practices relating to quality management and promulgation of aeronautical information; 2. Examine all available guidance for quality management of aeronautical information, including the <i>Guidance Manual for Aeronautical Information Services in the Asia/Pacific Region</i> ; and 3. Ensure that robust quality management procedures are developed, implemented and used by all originators and publishers of aeronautical information, supported by formal agreements to ensure timeliness and quality.	<b>Expected impact:</b> <input checked="" type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
<b>Why:</b> To improve state performance in the promulgation and quality management of aeronautical information.	<b>Follow-up:</b> <input type="checkbox"/> Required from States
<b>When:</b> 4-Aug-17	<b>Status:</b> Draft to be adopted by PIRG
<b>Who:</b> <input 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:	

<b>Draft Conclusion ATM/SG/5-14: Proposal for Amendment to the Asia and Pacific Regions Air Navigation Plan</b>		
What:	That, ICAO prepares and circulates for Regional Air Navigation Agreement a proposal for amendment (PfA) to the Asia and Pacific Regions Air Navigation Plan Volume II, as provided in <b>APANPIRG/28/WP07/Attachment D</b> .	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input checked="" type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why:	To improve APAC regional performance in aeronautical information services and the transition to aeronautical information management by encouraging better State focus on aeronautical information requirements.	Follow-up: <input checked="" type="checkbox"/> Required from States
When:	14-Sep-17	Status: Draft to be adopted by PIRG
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 checked="" type="checkbox"/> Other:		

<b>Draft Conclusion ATM/SG/5-15: AIM-specific Working Group to Finalize ICAO Guidance Material</b>		
What:	That, ICAO be urged to form an AIM-specific working group to focus on the finalization of overdue AIS-related guidance material, with Doc 9839 <i>Manual of the QMS for AIM</i> , Doc 9991 <i>AIM Training Development Manual</i> and Doc 8126 <i>Aeronautical Information Service Manual</i> having the highest priority.	Expected impact: <input checked="" type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why:	To communicate APAC concerns on the continuing, rolling delay of key AIM-related publications, and to request appropriate global action be taken by ICAO HQ.	Follow-up: <input checked="" type="checkbox"/> Required from States
When:	4-Aug-17	Status: Draft to be adopted by PIRG
Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input checked="" type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: APANPIRG		

<b>Draft Conclusion ATM/SG/5-16: Search and Rescue Capability Focus Areas</b>		
What:	That, given the continuing overall poor levels of implementation of Search and Rescue (SAR) coordination with adjacent States, effective SAR regulatory oversight and the training of both SAR inspectors and personnel that provide the SAR services, Asia/Pacific States should provide greater resources and high level support to enable a focus on these areas.	Expected impact: <input checked="" type="checkbox"/> Political / Global <input checked="" type="checkbox"/> Inter-regional <input checked="" type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why:	APSAR/WG has noted systemic weaknesses in these vital SAR focus areas.	Follow-up: <input type="checkbox"/> Required from States
When:	5-May-17	Status: Draft to be adopted by PIRG
Who: <input 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:		

List of ATM/SG/4 Draft Decisions

<b>Draft Decision ATM/SG/5-4: ATFM/SG Terms of Reference</b>		
What:	That, the ATFM/SG Terms of Reference at <b>APANPIRG/28/WP07 Attachment B</b> be adopted.	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
Why:	To update the APANPIRG groups with which ATFM/SG closely coordinates.	Follow-up: <input type="checkbox"/> Required from States
When:	4-Aug-17	Status: Draft to be adopted by PIRG
Who:	<input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:	

<b>Draft Decision ATM/SG/5-11: APUAS/TF Terms of Reference</b>		
What:	That, the amended Terms of Reference for the Asia/Pacific UAS Task Force at <b>APANPIRG/28/WP07/Attachment C</b> be adopted.	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
Why:	To update the TOR of APUAS/TF as a result of discussions from the APUAS/TF/1 meeting	Follow-up: <input checked="" type="checkbox"/> Required from States
When:	4-Aug-17	Status: Draft to be adopted by Subgroup
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 checked="" type="checkbox"/> Other: APANPIRG	

List of Conclusions

<b>Conclusion ATM/SG/5-1: Transfer of CPDLC Connections</b>	
<b>What:</b> That, States are urged to ensure that: 1. ATM automation systems are configured for the automated transfer of CPDLC connections in accordance with the guidance provided in ICAO Doc 10037 – <i>Global Operational Data Link (GOLD) Manual</i> Section 1.2.3; and 2. ATC procedures and training are implemented to ensure that the CPDLC end-of-service message is sent manually by the releasing ATC centre, promptly in the event of the absence or failure of automated CPDLC transfer processes.	<b>Expected impact:</b> <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
<b>Why:</b> To mitigate against safety risks associated with a previous ATC sector/centre maintaining continuous CPDLC communications with an aircraft that was already established in the airspace of another ATC sector/centre.	<b>Follow-up:</b> <input type="checkbox"/> Required from States
<b>When:</b> 4-Aug-17	<b>Status:</b> Adopted by Subgroup
<b>Who:</b> <input 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:	

<b>Conclusion ATM/SG/5-2: Asia/Pacific Regional Guidance for Meteorological Information Supporting ATM</b>	
<b>What:</b> That, on approval of the <i>Asia/Pacific Regional Guidance for Tailored Meteorological Information and Services to Support Air Traffic Management Operations</i> Version 1 by the appropriate body and its uploading to the ICAO Asia/Pacific Regional Office website, the Regional Guidance should be referenced for the provision of Meteorological Information to ATM: 1. at ATFM Program Airports as defined in the <i>Regional Framework for Collaborative ATFM</i> ; 2. in Enroute sector airspace supporting the busiest Asia/Pacific city pairs as defined in the Asia/Pacific Seamless ATM Plan; and 3. at other airports or in airspace designated by the relevant authority.	<b>Expected impact:</b> <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
<b>Why:</b> Specific regional guidance is necessary to assist States in developing and implementing tailored MET information and services supporting effective ATM, including ATFM	<b>Follow-up:</b> <input type="checkbox"/> Required from States
<b>When:</b> 4-Aug-17	<b>Status:</b> Adopted by Subgroup
<b>Who:</b> <input 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:	



<b>Conclusion ATM/SG/5-3: Asia/Pacific Regional Framework for Collaborative ATFM Amendment</b>		
<b>What:</b> That, 1. the <i>Regional Framework for Collaborative ATFM</i> be amended to include the information and performance objectives in <b>Appendix D to the Report</b> ; and 2. the ATFM Implementation Status Report form provided in <b>Appendix E to the Report</b> be included in the Regional Framework for Collaborative ATFM as an appendix and made available on the ICAO Asia/Pacific Regional Office website; and 3. Asia/Pacific Administrations are urged to report their ATFM implementation status at least once annually by no later than 30 April each year, using the ATFM Implementation Status Report Form.		<b>Expected impact:</b> <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
<b>Why:</b> 1. To improve equity in ATFM delay and predictability of operations for ATC by enabling ground delay at airports located in all APAC States regardless of their need to implement ATFM functions; 2. to include a Regional ATFM Implementation Status monitoring regime in the Regional Framework for Collaborative ATFM of implementation status, and the identification of priority areas of ATFM for inclusion in Seamless ATM monitoring for the attention of APANPIRG.		<b>Follow-up:</b> <input checked="" type="checkbox"/> Required from States
<b>When:</b> 4-Aug-17		<b>Status:</b> Adopted by Subgroup
<b>Who:</b> <input 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:		

<b>Conclusion ATMSG/5-5: State Readiness for Alphanumeric Aircraft Identification</b>		
<b>What:</b> That, States are urged to ensure that ATM and related system capability, regulations, approval processes, and published procedures are implemented to enable the use of alpha numeric aircraft identification in flight plans, in any combination of alpha and/or numeric characters, by not later than 31 December 2019.		<b>Expected impact:</b> <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
<b>Why:</b> To enable Asia/Pacific Regional capability to use alpha numeric call signs to reduce the risk of call sign confusion.		<b>Follow-up:</b> <input type="checkbox"/> Required from States
<b>When:</b> 4-Aug-17		<b>Status:</b> Draft to be adopted by Subgroup
<b>Who:</b> <input 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: CANSO		

<b>Conclusion ATMSG/5-6: Asia Pacific Alphanumeric Call-Sign Project</b>	
What: That, 1) Phase Two of the Alphanumeric Call Sign project be commenced, using the project plan at <b>ATM/SG/5 WP/17 Attachment A</b> and with the participation of Australia, India, Malaysia, Maldives, Pakistan, Singapore and Sri Lanka; and 2) the results of Phase Two of the project be reported to ATM/SG/7.	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
Why: To continue the agreed alphanumeric call sign project for Asia/Pacific	Follow-up: <input checked="" type="checkbox"/> Required from States
When: 4-Aug-17	Status: Draft to be adopted by Subgroup
Who: <input 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: IATA	

<b>Conclusion ATM/SG/5-8: Asia/Pacific Regional ATM Contingency Plan Amendment</b>	
What: That, 1. the Regional ATM Contingency Plan be amended to include the information and performance objectives in <b>Appendix F to the Report</b> ; 2. the Regional ATM Contingency Plan Monitoring and Reporting Form provided <b>Appendix G to the Report</b> be included in the Regional Framework for Collaborative ATFM as an Appendix and be made available on the ICAO Asia/Pacific website; and 3. Asia/Pacific Administrations are urged to report their ATM Contingency Plan implementation status at least once annually, by no later than 31 May each year.	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
Why: To include a regional ATM Contingency Plan monitoring and reporting regime in the Regional ATM Contingency Plan and the identification of priority areas of ATFM for inclusion in Seamless ATM monitoring.	Follow-up: <input checked="" type="checkbox"/> Required from States
When: 4-Aug-17	Status: Adopted by Subgroup
Who: <input 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:	

<b>Conclusion ATM/SG/5-9: Indonesian ATM Contingency Plan Template</b>	
What: That, given the Regional ATM Contingency Plan included template examples of contingency plans, the Indonesian ATM Contingency Plan template be removed from the Asia/Pacific website.	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
Why: To ensure referencing of up-to-date template material.	Follow-up: <input type="checkbox"/> Required from States
When: 4-Aug-17	Status: Adopted by Subgroup
Who: <input 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:	

<b>Conclusion ATM/SG/5-10: State UAS Regulations</b>	
<b>What:</b> That, considering that some Asia/Pacific States are developing or have developed regulations for the safe operation of small UAS in their national airspace, and recognizing that sharing regulation and procedure information between States and APUAS/TF will lead to compatible development of State regulations and regional guidance, States are urged to: a) provide their State regulations and procedures relating to UAS to APUAS/TF; and b) keep informed of the draft <i>Asia/Pacific Regional Guidance for the Regulation and Safe Operation of Small UAS</i> as it develops in order to facilitate the alignment of their regulations with the regional guidance.	<b>Expected impact:</b> <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
<b>Why:</b> To ensure consideration of all relevant APAC State regulations by the APUAS/TF, and to facilitate alignment of State regulations with regional guidance.	<b>Follow-up:</b> <input checked="" type="checkbox"/> Required from States
<b>When:</b> 4-Aug-17	<b>Status:</b> Adopted by Subgroup
<b>Who:</b> <input 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:	

<b>Conclusion ATM/SG/5-13: Provision of AIP to other Contracting States</b>	
<b>What:</b> That, States are urged to ensure that, in accordance with the provisions of Annex 15 Section 2.3, a copy of each of the elements of the Integrated Aeronautical Information Package is made available in the mutually agreed form(s), without charge, when requested by a Contracting State.	<b>Expected impact:</b> <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
<b>Why:</b> To ensure States have access to the current AIP of neighbouring and other States.	<b>Follow-up:</b> <input type="checkbox"/> Required from States
<b>When:</b> 4-Aug-17	<b>Status:</b> Adopted by Subgroup
<b>Who:</b> <input 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:	

<b>Conclusion ATM/SG/5-17: SID/STAR Phraseology</b>	
<b>What:</b> That, States are urged to take action to implement the SID/STAR-related phraseology included in Amendment 7 to Doc 4444 – PANS-ATM, ensuring that: 1. Any phraseologies published in AIP are amended to comply with the new Doc 4444 standards relating to SID and STAR phraseologies; and 2. ATC and aircraft operator procedure manuals and training are updated to incorporate the new SID and STAR phraseologies	<b>Expected impact:</b> <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
<b>Why:</b> To comply with the provisions of PANS-ATM and ensure common phraseology is used in all APAC States	<b>Follow-up:</b> <input checked="" type="checkbox"/> Required from States
<b>When:</b> 10-Nov-17	<b>Status:</b> Draft to be adopted by Subgroup
<b>Who:</b> <input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:	

**Appendix 1: List of ATM/SG/5 Conclusions and Decisions**List of ATM/SG/4 Draft Conclusions

<b>Draft Conclusion ATM/SG/5-7: FIR/SRR Air Navigation Plan Review</b>	
<b>What:</b> That, Asia/Pacific States and Administrations having responsibility for the provision of services within a Flight Information Region (FIR) or Aeronautical Search and Rescue Region (SRR), should conduct a review of the ICAO data related to the FIR or SRR and provide a verification to the ICAO Regional Office as early as possible, but in any event not later than 31 December 2017.	<b>Expected impact:</b> <input checked="" type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
<b>Why:</b> The poor response from States and Administrations has resulted in insufficient verification of the data for the ANP Volume I FIR and SRR Tables.	<b>Follow-up:</b> <input checked="" type="checkbox"/> Required from States
<b>When:</b> 31-Dec-17	<b>Status:</b> Draft to be adopted by PIRG
<b>Who:</b> <input 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:	

<b>Draft Conclusion ATM/SG/5-12: State Actions to Ensure the Quality Management of Aeronautical Information</b>	
<b>What:</b> That, States are urged to: 1. Examine and update where necessary the relevant primary legislation and aviation regulations to ensure that all originators and publishers of aeronautical information are required to comply with the Annex 15 standards and recommended practices relating to quality management and promulgation of aeronautical information; 2. Examine all available guidance for quality management of aeronautical information, including the <i>Guidance Manual for Aeronautical Information Services in the Asia/Pacific Region</i> ; and 3. Ensure that robust quality management procedures are developed, implemented and used by all originators and publishers of aeronautical information, supported by formal agreements to ensure timeliness and quality.	<b>Expected impact:</b> <input checked="" type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
<b>Why:</b> To improve state performance in the promulgation and quality management of aeronautical information.	<b>Follow-up:</b> <input type="checkbox"/> Required from States
<b>When:</b> 4-Aug-17	<b>Status:</b> Draft to be adopted by PIRG
<b>Who:</b> <input 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:	

<b>Draft Conclusion ATM/SG/5-14: Proposal for Amendment to the Asia and Pacific Regions Air Navigation Plan</b>		
What:	That, ICAO prepares and circulates for Regional Air Navigation Agreement a proposal for amendment (PfA) to the Asia and Pacific Regions Air Navigation Plan Volume II, as provided in <b>APANPIRG/28/WP07/Attachment D</b> .	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input checked="" type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why:	To improve APAC regional performance in aeronautical information services and the transition to aeronautical information management by encouraging better State focus on aeronautical information requirements.	Follow-up: <input checked="" type="checkbox"/> Required from States
When:	14-Sep-17	Status: Draft to be adopted by PIRG
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 checked="" type="checkbox"/> Other:		

<b>Draft Conclusion ATM/SG/5-15: AIM-specific Working Group to Finalize ICAO Guidance Material</b>		
What:	That, ICAO be urged to form an AIM-specific working group to focus on the finalization of overdue AIS-related guidance material, with Doc 9839 <i>Manual of the QMS for AIM</i> , Doc 9991 <i>AIM Training Development Manual</i> and Doc 8126 <i>Aeronautical Information Service Manual</i> having the highest priority.	Expected impact: <input checked="" type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why:	To communicate APAC concerns on the continuing, rolling delay of key AIM-related publications, and to request appropriate global action be taken by ICAO HQ.	Follow-up: <input checked="" type="checkbox"/> Required from States
When:	4-Aug-17	Status: Draft to be adopted by PIRG
Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input checked="" type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: APANPIRG		

<b>Draft Conclusion ATM/SG/5-16: Search and Rescue Capability Focus Areas</b>		
What:	That, given the continuing overall poor levels of implementation of Search and Rescue (SAR) coordination with adjacent States, effective SAR regulatory oversight and the training of both SAR inspectors and personnel that provide the SAR services, Asia/Pacific States should provide greater resources and high level support to enable a focus on these areas.	Expected impact: <input checked="" type="checkbox"/> Political / Global <input checked="" type="checkbox"/> Inter-regional <input checked="" type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why:	APSAR/WG has noted systemic weaknesses in these vital SAR focus areas.	Follow-up: <input type="checkbox"/> Required from States
When:	5-May-17	Status: Draft to be adopted by PIRG
Who: <input 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:		

List of ATM/SG/4 Draft Decisions

<b>Draft Decision ATM/SG/5-4: ATFM/SG Terms of Reference</b>		
What:	That, the ATFM/SG Terms of Reference at <b>APANPIRG/28/WP07 Attachment B</b> be adopted.	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
Why:	To update the APANPIRG groups with which ATFM/SG closely coordinates.	Follow-up: <input type="checkbox"/> Required from States
When:	4-Aug-17	Status: Draft to be adopted by PIRG
Who:	<input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:	

<b>Draft Decision ATM/SG/5-11: APUAS/TF Terms of Reference</b>		
What:	That, the amended Terms of Reference for the Asia/Pacific UAS Task Force at <b>APANPIRG/28/WP07/Attachment C</b> be adopted.	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
Why:	To update the TOR of APUAS/TF as a result of discussions from the APUAS/TF/1 meeting	Follow-up: <input checked="" type="checkbox"/> Required from States
When:	4-Aug-17	Status: Draft to be adopted by Subgroup
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 checked="" type="checkbox"/> Other: APANPIRG	

List of Conclusions

<b>Conclusion ATM/SG/5-1: Transfer of CPDLC Connections</b>	
<b>What:</b> That, States are urged to ensure that: 1. ATM automation systems are configured for the automated transfer of CPDLC connections in accordance with the guidance provided in ICAO Doc 10037 – <i>Global Operational Data Link (GOLD) Manual</i> Section 1.2.3; and 2. ATC procedures and training are implemented to ensure that the CPDLC end-of-service message is sent manually by the releasing ATC centre, promptly in the event of the absence or failure of automated CPDLC transfer processes.	<b>Expected impact:</b> <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
<b>Why:</b> To mitigate against safety risks associated with a previous ATC sector/centre maintaining continuous CPDLC communications with an aircraft that was already established in the airspace of another ATC sector/centre.	<b>Follow-up:</b> <input type="checkbox"/> Required from States
<b>When:</b> 4-Aug-17	<b>Status:</b> Adopted by Subgroup
<b>Who:</b> <input 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:	

<b>Conclusion ATM/SG/5-2: Asia/Pacific Regional Guidance for Meteorological Information Supporting ATM</b>	
<b>What:</b> That, on approval of the <i>Asia/Pacific Regional Guidance for Tailored Meteorological Information and Services to Support Air Traffic Management Operations</i> Version 1 by the appropriate body and its uploading to the ICAO Asia/Pacific Regional Office website, the Regional Guidance should be referenced for the provision of Meteorological Information to ATM: 1. at ATFM Program Airports as defined in the <i>Regional Framework for Collaborative ATFM</i> ; 2. in Enroute sector airspace supporting the busiest Asia/Pacific city pairs as defined in the Asia/Pacific Seamless ATM Plan; and 3. at other airports or in airspace designated by the relevant authority.	<b>Expected impact:</b> <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
<b>Why:</b> Specific regional guidance is necessary to assist States in developing and implementing tailored MET information and services supporting effective ATM, including ATFM	<b>Follow-up:</b> <input type="checkbox"/> Required from States
<b>When:</b> 4-Aug-17	<b>Status:</b> Adopted by Subgroup
<b>Who:</b> <input 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:	

<b>Conclusion ATM/SG/5-3: Asia/Pacific Regional Framework for Collaborative ATFM Amendment</b>		
<b>What:</b> That, 1. the <i>Regional Framework for Collaborative ATFM</i> be amended to include the information and performance objectives in <b>Appendix D to the Report</b> ; and 2. the ATFM Implementation Status Report form provided in <b>Appendix E to the Report</b> be included in the Regional Framework for Collaborative ATFM as an appendix and made available on the ICAO Asia/Pacific Regional Office website; and 3. Asia/Pacific Administrations are urged to report their ATFM implementation status at least once annually by no later than 30 April each year, using the ATFM Implementation Status Report Form.	<b>Expected impact:</b> <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical	
<b>Why:</b> 1. To improve equity in ATFM delay and predictability of operations for ATC by enabling ground delay at airports located in all APAC States regardless of their need to implement ATFM functions; 2. to include a Regional ATFM Implementation Status monitoring regime in the Regional Framework for Collaborative ATFM of implementation status, and the identification of priority areas of ATFM for inclusion in Seamless ATM monitoring for the attention of APANPIRG.	<b>Follow-up:</b> <input checked="" type="checkbox"/> Required from States	
<b>When:</b> 4-Aug-17	<b>Status:</b> Adopted by Subgroup	
<b>Who:</b> <input 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:		

<b>Conclusion ATMSG/5-5: State Readiness for Alphanumeric Aircraft Identification</b>		
<b>What:</b> That, States are urged to ensure that ATM and related system capability, regulations, approval processes, and published procedures are implemented to enable the use of alpha numeric aircraft identification in flight plans, in any combination of alpha and/or numeric characters, by not later than 31 December 2019.	<b>Expected impact:</b> <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical	
<b>Why:</b> To enable Asia/Pacific Regional capability to use alpha numeric call signs to reduce the risk of call sign confusion.	<b>Follow-up:</b> <input type="checkbox"/> Required from States	
<b>When:</b> 4-Aug-17	<b>Status:</b> Draft to be adopted by Subgroup	
<b>Who:</b> <input 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: CANSO		



<b>Conclusion ATMSG/5-6: Asia Pacific Alphanumeric Call-Sign Project</b>	
What: That, 1) Phase Two of the Alphanumeric Call Sign project be commenced, using the project plan at <b>ATM/SG/5 WP/17 Attachment A</b> and with the participation of Australia, India, Malaysia, Maldives, Pakistan, Singapore and Sri Lanka; and 2) the results of Phase Two of the project be reported to ATM/SG/7.	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
Why: To continue the agreed alphanumeric call sign project for Asia/Pacific	Follow-up: <input checked="" type="checkbox"/> Required from States
When: 4-Aug-17	Status: Draft to be adopted by Subgroup
Who: <input 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: IATA	

<b>Conclusion ATM/SG/5-8: Asia/Pacific Regional ATM Contingency Plan Amendment</b>	
What: That, 1. the Regional ATM Contingency Plan be amended to include the information and performance objectives in <b>Appendix F to the Report</b> ; 2. the Regional ATM Contingency Plan Monitoring and Reporting Form provided <b>Appendix G to the Report</b> be included in the Regional Framework for Collaborative ATFM as an Appendix and be made available on the ICAO Asia/Pacific website; and 3. Asia/Pacific Administrations are urged to report their ATM Contingency Plan implementation status at least once annually, by no later than 31 May each year.	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
Why: To include a regional ATM Contingency Plan monitoring and reporting regime in the Regional ATM Contingency Plan and the identification of priority areas of ATFM for inclusion in Seamless ATM monitoring.	Follow-up: <input checked="" type="checkbox"/> Required from States
When: 4-Aug-17	Status: Adopted by Subgroup
Who: <input 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:	

<b>Conclusion ATM/SG/5-9: Indonesian ATM Contingency Plan Template</b>	
What: That, given the Regional ATM Contingency Plan included template examples of contingency plans, the Indonesian ATM Contingency Plan template be removed from the Asia/Pacific website.	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
Why: To ensure referencing of up-to-date template material.	Follow-up: <input type="checkbox"/> Required from States
When: 4-Aug-17	Status: Adopted by Subgroup
Who: <input 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:	

<b>Conclusion ATM/SG/5-10: State UAS Regulations</b>	
<b>What:</b> That, considering that some Asia/Pacific States are developing or have developed regulations for the safe operation of small UAS in their national airspace, and recognizing that sharing regulation and procedure information between States and APUAS/TF will lead to compatible development of State regulations and regional guidance, States are urged to: a) provide their State regulations and procedures relating to UAS to APUAS/TF; and b) keep informed of the draft <i>Asia/Pacific Regional Guidance for the Regulation and Safe Operation of Small UAS</i> as it develops in order to facilitate the alignment of their regulations with the regional guidance.	<b>Expected impact:</b> <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
<b>Why:</b> To ensure consideration of all relevant APAC State regulations by the APUAS/TF, and to facilitate alignment of State regulations with regional guidance.	<b>Follow-up:</b> <input checked="" type="checkbox"/> Required from States
<b>When:</b> 4-Aug-17	<b>Status:</b> Adopted by Subgroup
<b>Who:</b> <input 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:	

<b>Conclusion ATM/SG/5-13: Provision of AIP to other Contracting States</b>	
<b>What:</b> That, States are urged to ensure that, in accordance with the provisions of Annex 15 Section 2.3, a copy of each of the elements of the Integrated Aeronautical Information Package is made available in the mutually agreed form(s), without charge, when requested by a Contracting State.	<b>Expected impact:</b> <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
<b>Why:</b> To ensure States have access to the current AIP of neighbouring and other States.	<b>Follow-up:</b> <input type="checkbox"/> Required from States
<b>When:</b> 4-Aug-17	<b>Status:</b> Adopted by Subgroup
<b>Who:</b> <input 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:	

<b>Conclusion ATM/SG/5-17: SID/STAR Phraseology</b>	
<b>What:</b> That, States are urged to take action to implement the SID/STAR-related phraseology included in Amendment 7 to Doc 4444 – PANS-ATM, ensuring that: 1. Any phraseologies published in AIP are amended to comply with the new Doc 4444 standards relating to SID and STAR phraseologies; and 2. ATC and aircraft operator procedure manuals and training are updated to incorporate the new SID and STAR phraseologies	<b>Expected impact:</b> <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
<b>Why:</b> To comply with the provisions of PANS-ATM and ensure common phraseology is used in all APAC States	<b>Follow-up:</b> <input checked="" type="checkbox"/> Required from States
<b>When:</b> 10-Nov-17	<b>Status:</b> Draft to be adopted by Subgroup
<b>Who:</b> <input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:	

States/Administration	Category R Horizontal Separation	Category S Horizontal Separation	Category R-R TOC	Category R-S TOC	Category S-S TOC	FLAS
Afghanistan	N/A	50 NM	N/A	50 NM	50 NM	YES
Australia	30 NM	5 NM	5 - 50 NM or 10 minutes	30 - 50 NM	5 NM	NO
Cambodia	N/A	10 NM	N/A	N/A	10 NM or 10 mins	YES
Fiji	30 NM RNP 4	20 NM RNP 4	30 NM RNP 4; 50 NM RNP 10	20 - 30 NM	20 NM	NO
French Polynesia	30 NM	10-20 NM	50/100 NM	50/100 NM	100 NM	NO
Hong Kong	10 NM	5 NM	50 NM or 5 mins	16 - 50 NM	16 - 30 NM or 7 mins	YES
India	50 NM	20 NM	50 NM	50 NM	20 NM	YES
Indonesia	10 minutes	10 NM	10 -15 mins		20 NM	YES
Lao P D R	10 NM	10 NM	10 - 15 NM	10-15 NM	10-15 NM	YES
Japan	30 NM	5 NM	30 NM	30NM	15 NM	NO
New Zealand	30 NM RNP 4	5 NM	30 NM RNP 4; 50 NM RNP 10	30 - 50 NM	5 NM	NO*
Pakistan	N/A	15 NM	10 mins	15 - 50 NM	50 NM	YES
Papua New Guinea	50 NM	20 NM RNP 4	50 NM	50 NM	50 NM	NO
Philippines	50 NM	10 NM	50 NM	40 - 50 NM	40 NM	YES
Republic of Korea	N/A	5 NM	N/A	17 - 30 NM	17-60 NM	YES
Singapore	50 NM RNAV 10 30 nm RNP 4	5 NM	50 NM or 10 minutes MNT	50 NM	15 - 20 NM 10 mins MNT	YES
Sri Lanka	80 NM on MNT	5 NM CTA 8-10NM TMA	120 NM	80 - 120 NM	30-80 NM	YES
United States	30 NM	5 NM	30 NM	30 NM	5 NM	NO*
Thailand	N/A	5 NM	20 - 50 NM or 10 mins	40 - 50 NM	10-40 NM	NO
Tonga	N/A	25 NM	20 mins	N/A	N/A	NO

\*NZ responded regarding the Flight Level Orientation Scheme (FLOS), not a FLAS

\*United States responded regarding uni-directional routes using all levels, not a FLAS blocking levels for procedural separation

As at 7 Aug 2017

## Terms of Reference

### AIR TRAFFIC FLOW MANAGEMENT STEERING GROUP (ATFMSG)

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 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 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 users with ATFM measures; and
  - e. any other guidance relevant to the Regional ATFM Framework.
3. Maintain an overview of CDM/ATFM programs being conducted within the Region, with a view to facilitating their coordination and alignment.
4. Review the effectiveness of existing and planned ATFM 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 ~~has linkages to~~ coordinates closely with other relevant bodies such as the Airport Collaborative Decision-Making Task Force (APA-CDM/TF), ~~Aerodromes Operations and Planning Working Group (AOP/WG), Regional ATM Contingency Plan Task Force (RACP/TF) and the Meteorological Requirements Working Group Task Force (MET R/WGTF and System-Wide Information Management Task Force (SWIM/TF).~~
6. The Group reports to the ATM Sub-Group.

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Approved by APANPIRG/XX, September XXXX

## Terms of Reference

### Asia/Pacific Unmanned Aircraft Systems Task Force (APUAS/TF)

Objectives: the objective of the APUAS/TF will be to develop guidance material that supports an Asia/Pacific Seamless ATM Plan element: B1-UAS. This element is expected to incorporate Aviation System Block Upgrade (ASBU) BI-RPAS (Remotely Piloted Aircraft Systems) but in addition, to include regional expectations for the regulation and safe operation of small UAS within ~~national~~ non-segregated airspace from an ATM perspective by November 2019, for consideration by the ATM/SG and APANPIRG. The guidance material for small UAS (generally 25kg or less) may include, *inter alia*:

- reference to systems designed to ensure a commensurate safety against obstacles, protected airspace, aircraft and non-involved people;
- communication and surveillance systems for Air Traffic Services (ATS) that allow the effective management of safety risks in controlled and uncontrolled airspace; and
- model regulations that manage the manufacturing, import and sale and operation of UAS;  
*Note: This point to be discussed/amended ref. Draft Report paragraph 3.5*
- education processes to provide all UAS users or potential users with information on appropriate UAS operations; ~~and~~
- recommended methods of safety data collection and analysis for UAS incidents;
- integration of regulations for small UAS with existing regulations for model aircraft;
- Consideration of regulations relating to small UAS operation both within and beyond visual line of sight;
- Safety assessments for small UAS operations; and
- Coordination with the ~~SUAS-AG~~ and JARUS, or other appropriate specialist body.

The APUAS/TF should report its progress with an interim update at the ATM/SG/5 (2017) and ATM/SG/6 (2018).

Meetings: the APUAS/TF will normally meet at least once a year, but twice a year when agreed by the APUAS/TF if required.

#### Membership:

The APUAS/TF membership will be formed by Asia/Pacific States/Administrations and International Organizations. Other non-Asia/Pacific States, and organizations involved in UAS manufacturing, regulation and operations may join the APUAS/TF at the invitation of the ICAO Regional Office.

Reporting: the APUAS/TF reports to the ATM/SG. The ATM/SG will coordinate with the RASMAG, CNS/SG, and the APRAST/RASG as appropriate before consideration by APANPIRG.

**PROPOSAL FOR AMENDMENT OF THE  
ASIA AND PACIFIC REGIONS AIR NAVIGATION PLAN**

(Serial No.: APAC XX/X – ATS)

a) **Plan:**

Asia and Pacific Regions Air Navigation Plan Volume II Part VII Section 3

b) **Proposed by:**

[ATM Sub-Group of APANPIRG or APANPIRG]

c) **Proposed amendment:**

*Add* paragraphs as follows:

3.1 The priority regional requirements for AIM implementation are:

- a) Establishment of AIS either as a separate entity within or, ideally, separated from the civil aviation administration in accordance with the guidance provided in ICAO Doc 8126 – AIS Manual Chapter 3.
- b) Implementation of Quality Management Systems for aeronautical information;
- c) Establishment of formal agreements between AIS providers and aeronautical data originators specifying the content, quality, maintenance and timing of provision of aeronautical data that is required to be promulgated in AIP, and the quality management process that shall be applied.
- d) Implementation of internet-accessible electronic AIP generated from a digital database of aeronautical information.

*Note: some existing aeronautical information products may not be suitable for migration into digital datasets.*

- e) The taking of all necessary measures to develop and implement AIM training programs for AIS personnel, including training in digital data management, and end-to-end quality management processes.
- f) Provision of full access to the relevant ICAO Annexes and Documents to all personnel having responsibility for the origination, reception, management and/or distribution of aeronautical information and aeronautical data.

d) **Date when proposal received:**

[Regional Office Use Only]

e) **Proposers reason for amendment:**

Four priority AIM transition steps were identified by the ICAO Asia/Pacific AIS-AIM Implementation Task Force (AAITF), and the interim guidance material developed by AAITF was subsequently adopted by APANPIRG under **Conclusion APANPIRG/26/17 – Interim AIM Transition Guidance** and included in the *Guidance Manual for AIS in the Asia/Pacific Region*.

The four steps were:

P17 – Quality;

P-16 – Training;

P-18 – Agreements with data originators; and

P-11 – Electronic AIP.

AAITF identified that many States did not provide AIS personnel with necessary access to ICAO publications. **Conclusion APANPIRG/25-14: Access to ICAO Annexes and Documents** urged States to provide full access to relevant ICAO Annexes and Documents.

It is proposed that eANP be amended to include provisions for the four priority transition steps, and to ensure AIS personnel are appropriately equipped with the ICAO publications necessary for the understanding and performance of their functions.

The inclusion of these items among the Specific Regional Requirements of the eANP will provide AIS with an appropriate level of Regional planning support, with the intention of improving organizational focus in AIM. It will also provide APANPIRG with more support in advancing the Regional transition to AIM.

These items may appropriately be included in eANP due to their being supported by the following APANPIRG Conclusions:

**Conclusion 24/19: Electronic AIP**

*That, considering that Electronic AIP (eAIP) is part of Phase 2 of the AIS-AIM Transition Roadmap, due for completion by 14 November 2013 to coincide with the publication of Amendment 37 to Annex 15, and that few Asia/Pacific States' internet-accessible eAIP as reported to ICAO Regional Office comply with the Annex 15 requirements for Integrated Aeronautical Information Packages, States are urged to:*

- a) implement internet-accessible electronic AIP (eAIP) as soon as possible;*
- b) ensure the eAIP has the unconditional authority of the State, without disclaimers referring to a separately published paper product;*
- c) permit open access to the eAIP either without the need for registration or, if registration is required, access to eAIP is automatically and immediately available;*
- d) provide the facility to register for an update/amendment notification service;*
- e) ensure the eAIP complies with Annex 15 requirements for content and structure;*
- f) report eAIP implementation and its internet hyperlink to the ICAO Asia/Pacific Regional Office; and*

- g) *having implemented internet-accessible eAIP, on receipt of advice from the ICAO Asia/Pacific Regional Office, discontinue the forwarding of paper or CD copies of AIP, AIP SUP, AIC and NOTAM Checklists to the Regional Office.*

**Conclusion APANPIRG/25-14: Access to ICAO Annexes and Documents**

*That, States are urged to ensure that all personnel having responsibility for the origination, reception, management and/or distribution of aeronautical information and aeronautical data have full access to the relevant ICAO Annexes and Documents, either in up-to-date hard copy form or by arranging internet access through the ICAO Secure Portal.*

**Conclusion APANPIRG/26/16 – eAIP from Digital Database**

*That, States providing updated AIM transition information in accordance with Conclusion APANPIRG/25-15 should advise whether their eAIP is generated from a digital database of aeronautical information.*

**Conclusion APANPIRG/26/17 – Interim AIM Transition Guidance**

*That, the Guidance Manual for Aeronautical Information Services (AIS) in the Asia/Pacific Region be updated to include as an appendix the Interim AIM Transition Guidance appended at APANPIRG/26/WP07/Appendix J.*

AAITF also considered that organizational structures were in many cases impeding the development of full AIS/AIM capability. The meeting agreed to include in the PfA a specific regional requirement referencing the establishment of AIS as a separate entity, in accordance with the guidance provided in ICAO Doc 8126 – *AIS Manual* Chapter3.

This PfA is supported by the following Conclusion:

**Conclusion [xxxxx] – Proposal for Amendment to the Asia and Pacific Regions Air Navigation Plan**

That, ICAO prepares and circulates for Regional Air Navigation Agreement a proposal for amendment (PfA) to the Asia and Pacific Regions Air Navigation Plan Volume II, as provided in **Attachment A**.

- f) **Proposed implementation date of the amendment:**

Upon approval by the Council.

- g) **Action by the Regional Office:**

The proposal is circulated to the following States.

(i) xxxx, (ii) xxxx, (iii) xxxx, (iv) xxxx, .....

**Note:** The list should include the States or organisations affected by the route change. The proposal for amendment may also be circulated to some interested states, for information.

- h) **Secretariat's comments:**

1. xxxxxxxxxxxxxxxxxxxx
2. xxxxxxxxxxxxxxxxxxxx



**Note:** States should ensure that-

- a) detailed and accurate information with regard to the route is provided;
- b) an appropriate chart be provided for reference; and
- c) prior consultation and agreement is sought with the affected FIRs, and information on such consultation and agreement be provided (joint proposals are recommended).

ATM/AIM/SAR Deficiencies List (Updated 14 September 2017)

States/facilities	Deficiencies			Corrective Action		
	Description	Date first reported	Remarks	Executing body	Target date	Priority **
	<b>WGS-84 Requirements of Paragraph 3.7.1 of Annex 15</b>					
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
Cook Islands	WGS-84 - Not implemented	24/6/2014		Cook Islands	TBD	A
<del>Kiribati</del>	<del>WGS-84 - Not implemented</del>	<del>-</del>	<del>-</del>	<del>Kiribati</del>	<del>TBD</del>	<del>A</del>
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
Thailand	WGS-84 - Not implemented	24/6/2014		Thailand	TBD	A
Vanuatu	WGS-84 – Not implemented	2/7/1999	Implemented at main airports	Vanuatu	1999	A
	<b>AIP Format Requirements of Chapter 4 of Annex 15</b>					
<del>Cook Islands</del>	<del>AIP Format – Not implemented</del>	<del>7/7/99</del>	<del>ATM/AIS/SAR/G/16 (June 2006) updated – AIP COOK ISLANDS in new format in progress with</del>	<del>Cook Islands</del>		<del>A</del>

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			<del>assistance of New Zealand</del>			
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
<del>Papua New Guinea</del>	<del>AIP Format - Not implemented</del>	<del>7/7/99</del>		<del>Papua New Guinea</del>	<del>TBA</del>	<del>A</del>
	<b>AIS Quality Management System Requirements of Paragraph 3.2.1 of Annex 15 Quality Management System - Not implemented</b>					
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
Cook Islands	AIS Quality Management System - Not implemented	24/6/2014		Cook Islands	TBD	A
Indonesia	AIS Quality Management System - Not implemented	24/6/2014		Indonesia	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

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Maldives	AIS Quality Management System - Not implemented	24/6/2014		Maldives	TBD	A
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
Papua New Guinea	AIS Quality Management System - Not implemented	24/6/2014		Papua New Guinea	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

Thailand	AIS Quality Management System - Not implemented	24/6/2014		Thailand	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
	<b><u>Airspace Classification Requirements of Paragraph 2.6 of Annex 11</u></b>					
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
<del>Kiribati</del>	<del>Airspace Classification - Not implemented</del>	<del>7/7/99</del>	<del>-</del>	<del>Kiribati</del>	<del>TBD</del>	<del>A</del>
Nauru	Airspace Classification - Not implemented	7/7/99		Nauru	TBD	A
<del>Papua New Guinea</del>	<del>Airspace Classification - Not implemented</del>	<del>7/7/99</del>	<del>-</del>	<del>Papua New Guinea</del>	<del>Project in place</del>	<del>A</del>
Solomon Islands	Airspace Classification - Not implemented	7/7/99		Solomon Islands	TBD	A
	<b><u>SAR capability: Requirements of Annex 12</u></b>					
Afghanistan	SAR Capability Matrix	6/07/2015	SAR Capability (no data)	Afghanistan	2016	U
Bhutan	SAR Capability Matrix	6/07/2015	SAR Capability (no data)	Bhutan	2016	U
Cambodia	SAR Capability Matrix	6/07/2015	SAR Capability (14 of 20)	Cambodia	2016	U
Cook Islands	SAR Capability Matrix	6/07/2015	SAR Capability (19 of 20)	Cook Islands	2016	U

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Cook Islands	Annex 12 requirements not implemented. No agreements with adjacent States.	31/1/95	Cook Islands - implement Annex 12 requirements and co-ordinate LOA with adjacent States ICAO - assist to develop SAR capability and to co-ordinate with adjacent States	Cook Islands	2009. SAR agreement with New Zealand completed 2007.	U
DPR Korea	SAR Capability Matrix	6/07/2015	SAR Capability (15 of 20 elements non- compliant)	DPR Korea	2016	U
Fiji	SAR Capability Matrix	6/07/2015	SAR Capability (13 of 20 elements non- compliant)	Fiji	2016	U
Kiribati	SAR Capability Matrix	6/07/2015	SAR Capability (no data)	Kiribati	2016	U
Lao PDR	SAR Capability Matrix	6/07/2015	SAR Capability (10 of 20 elements non- compliant)	Lao PDR	2016	U
Macau, China	SAR Capability Matrix	6/07/2015	SAR Capability (10 of 20 elements non- compliant)	Macau, China	2016	U
Maldives	SAR Capability Matrix	6/07/2015	SAR Capability (9 of 20 elements non- compliant)	Maldives	2016	U
<del>Maldives</del>	<del>Annex 12 requirements not implemented. No agreements with adjacent States.</del>	<del>24/4/97</del>	<del>Maldives – implement Annex 12 requirements and co-ordinate LOA with adjacent States ICAO – assist to develop SAR capability and to co-ordinate with adjacent States. SAR services and facilities provided (details to be confirmed). SAR agreements with neighbouring States under development</del>	<del>Maldives</del>	<del>2009</del>	<del>U</del>
Marshall Islands	SAR Capability Matrix	6/07/2015	SAR Capability (no data elements non- compliant)	Marshall Islands	2016	U
Micronesia	SAR Capability Matrix	6/07/2015	SAR Capability (20 of 20 elements non- compliant)	Micronesia	2016	U

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Myanmar	SAR Capability Matrix	6/07/2015	SAR Capability (17 of 20 elements non- compliant)	Myanmar	2016	U
Nauru	SAR Capability Matrix	6/07/2015	SAR Capability (no data elements non- compliant)	Nauru	2016	U
Nepal	SAR Capability Matrix	6/07/2015	SAR Capability (12 of 20 elements non- compliant)	Nepal	2016	U
New Caledonia	SAR Capability Matrix	6/07/2015	SAR Capability (8 of 20 elements non- compliant)	New Caledonia	2016	U
Palau	SAR Capability Matrix	6/07/2015	SAR Capability (no data)	Palau	2016	U
Papua New Guinea	SAR Capability Matrix	6/07/2015	SAR Capability (11 of 20 elements non- compliant)	Papua New Guinea	2016	U
Philippines	SAR Capability Matrix	6/07/2015	SAR Capability (12 of 20 elements non- compliant)	Philippines	2016	U
Samoa	SAR Capability Matrix	6/07/2015	SAR Capability (no data elements non- compliant)	Samoa	2016	U
Solomon Islands	SAR Capability Matrix	6/07/2015	SAR Capability (no data)	Solomon Islands	2016	U
Timor Leste	SAR Capability Matrix	6/07/2015	SAR Capability (no data)	Timor Leste	2016	U
Tonga	SAR Capability Matrix	6/07/2015	SAR Capability (18 of 20 elements non- compliant)	Tonga	2016	U
Vanuatu	SAR Capability Matrix	6/07/2015	SAR Capability (no data)	Vanuatu	2016	U
	<b><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)</u></b>					
Bangladesh	Annex 11 requirement not implemented	13/07/2017	Conclusion 16/6 – Non Provision of safety related data by States, established by RASMAG/22	Bangladesh	TBD	A
India	Annex 11 requirement not implemented.	13/07/2017	Established by RASMAG/20-	India		U

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			failure to provide RVSM approvals summary data			
Lao PDR	Annex 11 requirement not implemented	13/07/2017	Conclusion 16/6 – Non Provision of safety related data by States, established by RASMAG/22	Lao PDR	TBD	A
Maldives	Annex 11 requirement not implemented	13/07/2017	Conclusion 16/6 – Non Provision of safety related data by States, established by RASMAG/22	Maldives	TBD	A
	<b>Failure to provide RVSM Approval Data to the RMA</b>					
India	Annex 6 paragraph 7.2.6	RASMAG/20 and 21	Established by RASMAG/21 - Relevant APANPIRG Conclusions: 19/15 ( <i>Enhanced communications between States and RVSM RMAs</i> ); 23/15 ( <i>Long-Term Non- RVSM Approved Aircraft</i> ); and 23/16 ( <i>Safety Monitoring Data Provision</i> ).	India		U
	<b>Data Link Performance Monitoring and Analysis Requirements of Paragraph 2.27.5 of Annex 11 not met.</b>					
China	Post implementation monitoring not implemented	29/5/2015	Problem Reports not provided to CRA	China	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
Indonesia	Post-implementation monitoring not implemented	29/5/2015	Problem Reports not provided to CRA. Performance monitoring and analysis not reported to FIT. Performance monitoring and analysis was conducted, but problem reports were not provided to the CRA.	Indonesia	TBD	A
Malaysia	Post-implementation monitoring not implemented	29/5/2015	Problem Reports not provided to CRA. Performance monitoring and analysis not reported to FIT.	Malaysia	TBD	A
Myanmar	Post-implementation monitoring not	29/5/2015	Problem Reports not provided to	Myanmar	TBD	A



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	implemented		CRA. Performance monitoring and analysis not reported to FIT.			
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
Sri Lanka	Post-implementation monitoring not implemented	29/5/2015	Problem Reports not provided to CRA. Performance monitoring and analysis not reported to FIT. Problem reports were not provided to CRA, performance monitoring and analysis was not reported to FIT, but Sri Lanka was now registered with a competent CRA. Agreed by FIT-Asia/5-6, endorsed by RASMAG/21-22	Sri Lanka	TBD	A
Viet Nam	Post-implementation monitoring not implemented	29/5/2015	Problem Reports not provided to CRA. Performance monitoring and analysis not reported to FIT. Performance monitoring and analysis was not reported to FIT, but problem reports had been submitted to CRA. Agreed by FIT-Asia/5-6, endorsed by RASMAG/21-22	Viet Nam	TBD	A