INTERNATIONAL CIVIL AVIATION ORGANIZATION

REPORT OF THE TWENTY-SECOND MEETING OF THE ATM/AIS/SAR SUB-GROUP of APANPIRG (ATM/AIS/SAR/SG/22)

BANGKOK, THAILAND, 25 – 29 JUNE 2012

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

Approved by the Meeting
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INTRODUCTION

Meeting

1.1 The Twenty-Second Meeting of the APANPIRG Air Traffic Management/Aeronautical Information Services/Search and Rescue Sub-Group (ATM/AIS/SAR/SG/22) was held at the Kotaite Wing of the ICAO Asia and Pacific (APAC) Regional Office, Bangkok, Thailand from 25 to 29 June 2012.

Attendance

2.1 The meeting was attended by 98 participants from 27 States, 2 Special Administrative Regions of China and 3 International Organizations. A list of participants is provided at **Attachment 1** to this Report.

Officer and Secretariat

3.1 Mr. Colman Ng, Assistant Director-General, Civil Aviation Department of Hong Kong, China presided over the meeting throughout its duration as Sub-Group Chairman.

3.2 Mr. Len Wicks, Regional Officer Air Traffic Management (ATM), ICAO Asia and Pacific Office, was the Secretary for the meeting. He was assisted by Mr. Shane Sumner, Regional Officer, ATM and Mr Soon Boon Hai, ATM Expert, ICAO Asia and Pacific Office.

Language and Documentation

4.1 The ATM/AIS/SAR Sub-Group met as a plenary throughout the meeting. The working language of the meeting was English inclusive of all documentation and this Report. A total of 46 Working Papers (WP) and 12 Information Papers (IP) were considered by the meeting. In addition, 6 Flimsies and 4 presentations were presented. The list of working and information papers is attached at **Attachment 2** to this report.

Opening of the Meeting

ICAO Regional Office

5.1 Mr. Mokhtar A. Awan, Regional Director of ICAO Asia and Pacific Office, welcomed all the participants to the meeting. Mr. Awan noted that 2012 was a very important year for aviation with such factors such as the fuel costs, flight plan changes and forthcoming APANPIRG structural changes.

Chairman of the Sub-Group

5.2 Mr. Colman Ng welcomed participants. He emphasised the importance of the Sub-Group's work in providing guidance to APANPIRG for a large number of fields.

Terms of Reference (TOR) of the ATM/AIS/SAR Sub-Group of APANPIRG

6.1 The Sub-Group Terms of Reference were as follows:

1. Ensure the continuing and coherent development of the ASIA/PAC Regional Air Navigation Plan in the ATM/AIS/SAR fields in accordance with the Global Air Navigation Plan and the Global Aviation Safety Plan;

2. Review and identify deficiencies that impede the implementation or provision of efficient ATM/AIS/SAR services in the Asia/Pacific region;

3. Monitor CNS/ATM systems research and development, trials and demonstrations in the fields of ATM/AIS/SAR and facilitate the transfer of this information and expertise between States;

4. Make specific recommendations aimed at improving ATM/AIS/SAR services by the use of existing procedures and facilities and/or through the evolutionary implementation of CNS/ATM systems;

5. Review and identify inter-regional co-ordination issues in the fields of ATM/AIS/SAR and recommend actions to address those issues; and

6. Ensure ATS environmental initiatives are consistently identified and progressed, and act as the Asia/Pacific regional focal point for the reporting of outcomes from ATS environmental initiatives.

(Last updated APANPIRG/19, September 2008)

Draft Conclusions, Draft Decisions and Decisions of ATM/AIS/SAR – Definition

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

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

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

c) **Decisions** of ATM/AIS/SAR Sub-Group relate solely to matters dealing with the internal working arrangements of the ATM/AIS/SAR Sub-Group.

List of Decisions and Draft Conclusions/Decisions

8.1 List of Draft Conclusions

Draft Conclusion ATM/AIS/SAR/SG/22/1 – Transition to NEW FPL Format

That, States are urged to commence operational acceptance and processing of both PRESENT and NEW format FPL and ATS messages as early as possible, and in any event no later than 0000 UTC on 12 November 2012, in order to avoid the risks involved in direct transition from PRESENT to NEW processing.

Draft Conclusion ATM/AIS/SAR/SG/22/2 – FPL Guidance Material Version 5

That, the Asia/Pacific Guidance Material for the Implementation of Amendment 1 to the 15th Edition of the Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc 4444) is updated as Version 5 in accordance with excerpts contained in **Appendix D** to this Report.

Draft Conclusion ATM/AIS/SAR/SG/22/5 – Asia/Pacific Air Navigation Concept of Operations Mandates

That, States intending to implement Performance-Based Navigation and Safety Nets may, after appropriate consultation with airspace users, designate portions of airspace within their area of responsibility:

a) as providing priority for access to such airspace for aircraft with prescribed Performance-Based Navigation (PBN) specifications and supporting data-link equipage (ADS/CPDLC); and

b) mandating the carriage and use of an operable Automatic Dependent Surveillance-Contract/ Controller Pilot Data-link Communications Systems (ADS-C/CPDLC) system, and mode A/C and/or mode S transponder.

Draft Conclusion ATM/AIS/SAR/SG/22/8 – Annex 15 Promulgation Requirements Compliance

That, States should be urged to recognise the importance of Annex 15 compliance in respect of aeronautical data affected by major projects, by:

a) establishing formal coordination between change originators and Aeronautical Information Service (AIS) units to ensure appropriate planning and that promulgation requirements were taken into account; and

b) creating a mechanism to allow AIS personnel to decline requests that did not comply with Annex 15, except for urgent corrections, emergencies, and matters of national security.

Draft Conclusion ATM/AIS/SAR/SG/22/9 – AIS-AIM Transition State Plans

That, States should develop a basic plan that identified when all the Aeronautical Information Service – Aeronautical Information Management (AIS-AIM) Transition elements in the AIS-AIM Roadmap would be completed, and submit these plans to the Asia/Pacific Regional Office prior to 1 January 2013.

Draft Conclusion ATM/AIS/SAR/SG/22/10 – AIM Quality Assurance Seminar

That, ICAO should conduct an AIM Quality Assurance Seminar in conjunction with the Aeronautical Information Services – Aeronautical Information Management Implementation Task Force (AAITF).

Draft Conclusion ATM/AIS/SAR/SG/22/11 – Duplication and Amendment of 5LNC

Recognising that with the increasing use of Five Letter Name Codes (5LNC), it was not practical to avoid any duplication of 5LNC worldwide, and that States often used discretion in managing both duplications and minor changes of waypoint position that may not strictly be in accordance with the provisions of Annex 11, Appendix 1, ICAO is requested to consider:

a) reviewing and updating Annex 11 to ensure its provisions related to 5LNC are appropriate; and

b) development of standards for Flight Management Systems (FMS) that ensure logic checks of inputted waypoints that are duplicated are highlighted to pilots.

8.2 List of Draft Decisions

Draft Decision ATM/AIS/SAR/SG/22/3 – Dissolution of the Southeast Asia Route Review Task Force

That, the South East Asia Route Review Task Force (SEARR/TF), be dissolved and any on-going tasks be delegated to existing bi-lateral or multilateral groups as identified in the South East Asia Implementation Plan.

Draft Decision ATM/AIS/SAR/SG/22/4 – Dissolution of the BOB-RHS/TF

That, the Bay Of Bengal Reduced Horizontal Separation Task Force (BOBRHS/TF) be dissolved and any outstanding tasks be delegated to South Asia/Indian Ocean ATM Coordination Group (SAIOACG).

Draft Decision ATM/AIS/SAR/SG/22/6 – Basic Air Navigation Plan Amendment Procedure Template

That, for ease of reference and reduction of submission errors, the ICAO Regional Office should provide the Doc 9673 Amendment Procedure on the Asia/Pacific website, including requirements to provide detailed and accurate information, an appropriate chart in the case of ATS route amendments, and information on prior consultation with any affected States.

Draft Decision ATM/AIS/SAR/SG/22/7 – Asia/Pacific Region ATS Route Catalogue Update

That, ICAO should update the Asia/Pacific Region ATS Route Catalogue (Version 5) by:

a) amending the administrative details as required;

b) incorporating any ANS Deficiency changes approved by APANPIRG;

c) incorporating new airspace user proposals presented at the ATM/AIS/SAR/SG/22 meeting;

d) undertaking a review of existing routes within the Route Catalogue, in collaboration with affected States and administrations in order to update this information; and

e) developing a new document structure organised by geographical reference that allows easy review.

Draft Decision ATM/AIS/SAR/SG/22/12 – Establishment of APSAR Workgroup

That, an Asia/Pacific Regional SAR Workgroup (APSAR/WG) be established, reporting to the ATM Sub-Group of APANPIRG, in accordance with the Terms of Reference as shown in **Appendix J** to this Report.

8.3 ATM/AIS/SAR/SG Action Items

Action Item 22/1: The Secretariat would prepare a working paper on the matter of appropriate Asia/Pacific Metrics for APANPIRG/23.

Action Item 22/2: China, DPRK, ROK, Mongolia would discuss whether a formal ATM Coordination Group was required with Russia to facilitate trans-regional and East Asian ATM Coordination, and report to the next Sub-Group meeting.

Action Item 22/3: The Secretariat would communicate with ICAO HQ to include consideration of the concept of the use of remotely-piloted aircraft/unmanned aircraft systems for search and rescue at the Air Navigation Conference, scheduled for November 2012.

Action Item 22/4: The Secretariat should report the progress of NEW flight plan implementation in other Regions to APANPIRG.

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REPORT ON AGENDA ITEMS

Agenda Item 1: Adoption of Provisional Agenda

1.1 The provisional agenda (WP01) was adopted by the meeting.

Agenda Item 2: APANPIRG and DGCA

APANPIRG/22 Outcomes (WP02)

2.1 The Secretariat presented information relevant to the ATM/AIS/SAR Sub-Group from the Twenty Second Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/22, Bangkok, Thailand, 5 to 9 September 2011).

2.2 The ATM/AIS/SAR Sub-Group noted the 2013 APANPIRG structure would include an Aerodrome Operations (AOP) Work-group, reporting to the renamed ATM Sub-Group (ATM/SG).

2.3 The meeting reviewed the APANPIRG/22 Conclusions/Decisions – Action Plan.

2.4 The meeting plan for 2013 was to hold APANPIRG/24 from Monday 24 to Wednesday 26 June 2013, followed by the Regional Aviation Safety Group (RASG) APAC on Thursday 27 to Friday 28 June. Due to the truncated period available before APANPIRG/24, some compression of normal ATM schedules was required, so a tentative 2013 ATM schedule was provided to assist planning.

2.5 The third edition of the APANPIRG Procedural Handbook was published in 1998 and was being amended to recognise the APANPIRG/22 Action Plan under Decision 22/53.

2.6 The meeting was apprised that the Global Air Navigation Plan (GANP, Doc 9750) would be revised and was expected to be endorsed by the 12th Air Navigation Conference (19-30 November 2012). As a consequence, the Asia/Pacific Regional Air Navigation Plan (ICAO Doc 9673) would also be revised to incorporate the outcomes of the GANP, and circulated to States for their comments, then submitted to APANPIRG/24 for endorsement.

2.7 Associated with this development and the migration by ICAO HQ to an electronic e-ANP format, the Regional Office had been requested to update the Basic Air Navigation Plan (BANP) to be consistent with a template that originated from the European Office. Significant material required updating to reflect recent changes, which would also be part of the material circulated for comment.

48th Conference of Directors General of Civil Aviation Outcomes (WP/07)

2.8 Information from the 48th Conference of Directors General of Civil Aviation Asia and Pacific Regions (DGCA/48) meeting (10 to 14 October 2011, New Caledonia) was presented.

2.9 The Conference endorsed the APANPIRG's establishment of the Asia/Pacific Seamless ATM Planning Group (APSAPG) to guide ATM modernization, collaboration and harmonization in the Asia/Pacific. The Conference also agreed on the need to identify the benefits, business case and the critical minimum system needs under the Aviation System Block Upgrade (ASBU) concept.

2.10 The Conference reaffirmed the need for expedited implementation of Performance-based Navigation (PBN), Continuous Descent Operations and Amendment 1 to ICAO Doc 4444, as well as deployment of other technology enablers. Hong Kong, China also highlighted the need for a regional Air Traffic Flow Management (ATFM) strategy within the Asia-Pacific in the future.

2.11 The Conference developed eight Action Items, which were reviewed by the Sub-Group.

Agenda Item 3: Performance Frameworks and Metrics

Regional and National Planning and Implementation Regional Group Outcomes (WP03)

3.1 The ATM/AIS/SAR Sub-Group meeting reviewed and updated the Asia/Pacific Performance Framework Forms (PFF) within the scope of the seven Regional Performance Objectives related to the ATM, AIS and SAR fields (APANPIRG Conclusion 20/3). The meeting noted that the PFF would be modified to the Air Navigation Report Form (ANRF), effective from 2013.

3.2 Regarding APANPIRG Conclusion 20/4, the meeting noted that only one of the four Asia/Pacific Performance Metrics were within the scope of the Sub-Group:

> **APAC Metric 4** - Average delays for departures at State's primary international airports for the busiest hour on a weekly basis.

3.3 The United States advised that the measurement of delays was heavily dependent on standardised metrics to ensure all aircraft operators, airports and ANSP are reporting against the same standard. The United States further advised that the definition and extraction of relevant data for 'primary international airports', and the separation of specific data relevant to any particular destination region may be problematic. Furthermore, the reporting of on-time departures may mask other en-route delays incurred by aircraft bound for distant ports, and the taxi start/pushback time delay source needed to be defined.

3.4 Thailand advised that CANSO has been working in this field by establishing benchmarking, and that it would be useful to align the work of ICAO and CANSO. The meeting discussed the need for guidelines on metrics, and requested that the Secretariat prepare a working paper on this topic for APANPIRG/23.

State Environmental Action Plans (WP38)

3.5 ICAO provided a summary of current ICAO activities related to initiatives to assist States in the preparation of action plans on carbon-dioxide (CO_2) emissions reduction activities, noting that in October 2010, the ICAO Assembly adopted Resolution A37-19 on climate change, encouraging States to submit their action plans to ICAO.

3.6 The paper advised that so far, the response from Asia/Pacific States in terms of providing ICAO Fuel Savings Estimation Tool (IFSET) data had been unsatisfactory. The meeting was reminded that the estimation and reporting of environmental benefits accrued from operational improvements was an important part in the global effort to reduce the consequences of aviation on the environment.

3.7 The meeting was reminded that Assembly Resolution A37-19 set a threshold (1% of total revenue ton kilometres of international aviation activity), so any State with aviation activity lower than the threshold was not required to submit an Action Plan to ICAO. Hong Kong, China recalled that the Resolution was intended to encourage States to submit action plans, rather than to impose a mandatory requirement, and that the issue was to find ways to encourage States.

3.8 Concerns were expressed about the limitations of the IFSET tool, lack of clarity in the reporting system, and how improvements were calculated for aircraft crossing several Flight Information Regions (FIRs). The meeting noted that States were expected to input the data to the ICAO HQ website.

Saving on Fuel and Emissions on Route W20 (IP02)

3.9 India presented the results of a study on fuel savings using the IFSET tool under different scenarios for the B737, A319 and A32X families of aircraft. The calculations demonstrated that the fuel savings for route and level improvements was more than 10%, and a two thousand foot change resulted in an average of 316 kg of CO_2 emissions being saved. The Chair congratulated India on this work, and the Secretariat encouraged this information to be submitted to ICAO HQ.

Regional Airspace Safety Monitoring Advisory Group Outcomes (WP04)

3.10 The key outcomes relevant to the Sub-Group from the RASMAG/15 (1-4 August 2010, Bangkok, Thailand) and RASMAG/16 (Bangkok, 20-23 February 2011) meetings were presented.

3.11 The Australian Airspace Monitoring Agency (AAMA) reported that the Indonesian Reduced Vertical Separation Minimum (RVSM) airspace total collision risk estimate was 5.47×10^{-9}. The risk had reduced notably since the last report to RASMAG, and remained marginally in excess of the overall Target Level of Safety (TLS). Indonesia was asked about the current status of ATS Inter-facility Data-link Communication (AIDC) in their Air Traffic Control (ATC) Centres. Indonesia stated that the recent AIDC trial revealed a technical problem which is being addressed, however currently the system was confined to Transfer of Control (TOC) and Acceptance (AOC) Messages between Makassar and Brisbane Centres. Indonesia informed the meeting that it was expected that full AIDC functionality would be trialled and restored from mid-2012.

3.12 China RMA (Regional Monitoring Agency) continued to assume a risk level for the Democratic People's Republic of Korea (DPRK), as the DPRK had not reported any Large Height Deviation (LHD) for the Pyongyang FIR, despite continued efforts to ensure the DPRK understood the LHD definition. To make a conservative estimate for the operational risk, China RMA applied the same operational risk value used in the preliminary assessment for Pyongyang FIR.

3.13 The Japan Airspace Safety Monitoring Agency (JASMA) provided information showing the effectiveness of AIDC in minimising Air Traffic Control (ATC) Category E/F cross-boundary transfer errors.

3.14 The RVSM safety assessment made by the Monitoring Agency for the Asia Region (MAAR) indicated Mongolian airspace RVSM collision risk estimates had reduced dramatically since the advent of ATS surveillance monitoring in mid-2011. The estimate of total risks at 3.47×10^{-9} was now below TLS. RVSM had been implemented within Mongolian airspace using cruising levels in metres (Annex 2, Appendix 3b). Mongolia stated that transition to the more commonly used cruising levels in feet (ft) scheme (Annex 2, Appendix 3a) would take place within 18 months, and there would be full radar control capability by June 2012, which had been delayed due to airspace organization and radio coverage issues. Mongolia intended to implement Automatic Dependent Surveillance – Broadcast (ADS-B) over the next five years to fill Air Traffic Services (ATS) surveillance gaps.

3.15 MAAR also presented RVSM safety assessment collision risk estimates for West Pacific/South China Sea (WPAC/SCS) airspace. The estimation of total risks was 5.28×10^{-9}, which was above the overall TLS. MAAR explained that this was mainly due to a number of high risk-bearing LHDs involving aircraft operating in the incorrect direction. In this regards, MAAR was coordinating with States to have preventive measures to minimise the likelihood of this type of incident re-occurring.

3.16 New Zealand presented information on Inmarsat Network Outages, noting a single outage of over 15 hours (910 minutes) on 22 October 2011. This was caused by a Single Event Upset on the Inmarsat 3F3 satellite that caused a total payload outage. The recovery was slow because of a lack of satellite telemetry and the temporary switching some services to two I2 satellites. Inmarsat

and the Communication Service Providers (CSP) were analysing the event to improve contingency processes.

3.17 Australia provided details of foreign-registered aircraft seen in the ADS-B Altimetry System Error (ASE) program, and therefore identified which fleets may immediately benefit from height-keeping performance monitoring. As well as enabling the monitoring of Australian registered aircraft, ADS-B data enabled ASE calculations, and hence the successful monitoring of a large number of aircraft registered in other States. The significant outcome was that the AAMA had been able to complete a large proportion of the identified Annex 6 monitoring burden for operators other than those from Australia.

3.18 RASMAG/15 had expressed significant concern about non-RVSM approved aircraft operating in RVSM airspace. Given the significance of the issue and the risk that such activity posed to the safety of RVSM operations, RASMAG had previously tasked the RMAs to continue with their work to identify so called 'rogue' operators so that State authorities could work to resolve the issue. The AAMA was able to provide the Australian Air Navigation Service Provider (ANSP) with current, validated lists of apparently non-compliant aircraft using an automated process. RASMAG/16 agreed that, wherever possible, ANSPs should provide details to their RMA on a monthly basis of all flight plans filed showing RVSM approval, and on the basis of validated data provided by their RMA, States were encouraged to take appropriate action.

3.19 The ATM/AIS/SAR Sub-Group noted the APANPIRG Decision 22/13 to form a data-link performance monitoring body for the Asian Region (FIT-Asia), and the development of two new safety monitoring agencies: the Bay of Bengal Airspace Safety Monitoring Agency (BOBASMA) and the JASMA.

Agenda Item 4: ATM Systems (Modernisation, Seamless ATM, CNS, ATFM)

Asia/Pacific Seamless ATM Planning Group Outcomes (WP05)

4.1 The Secretariat presented information from the First Meeting of the ICAO Asia/Pacific Seamless ATM Planning Group (APSAPG/1, Bangkok, 31 January to 3 February 2012), and Seamless ATM planning progress.

4.2 The 48th DGCA Conference Action Item 48/2 requested that APSAPG study the proposed ICAO ASBUs and provide advice on the benefits, business case and implications to States and Administrations and explore formulating a regional position prior to the 12th Air Navigation Conference. The economic aspects of ASBU were discussed, and although the APSAPG itself would not be able to provide detailed economic and business case data because each implementation situation would vary according to the operating environment, it was possible to provide high-level guidance such as the development of cost benefit analysis of implementation activity. The Asia/Pacific Regional Position on ASBU was expected to be an APSAPG/2 key deliverable.

4.3 Action Item 48/3 related to the request for APSAPG to identify the critical minimum operational and system needs under the ASBUs for implementation. The meeting noted that APSAPG was already tasked through its TOR to determine the key and minimum requirements (including but not limited to, technologies, regulations, training, and airspace organisation) for seamless ATM, which included ASBU elements.

4.4 The Sub-Group meeting noted the discussion on the definition of the term Seamless ATM and Seamless ATM Strategies. It was noted that some States in the region might face challenges not just involving operational issues, but also necessitating a change to their basic administrative and managerial model in terms of implementing Safety Management Systems (SMS) and 'Just Culture' principles. It was important that the APSAPG did not just focus on the Major Traffic Flows (MTF), but also included the airports, and terminal airspace elements. IFATCA also suggested that the 'first come, first served' concept needed to be reviewed, with some differentiation for lesser performing aircraft. IATA stressed that they were not pursuing a single sky, but seamless ATM.

4.5 Each MTF route and a number of short-haul city pair routes was intended to be analysed from airport gate to airport gate, with a focus on aerodrome operations. Each FIR that the ATS route passed through was intended to be examined in detail to determine the gap between:

- the current level of ATM capability and Asia/Pacific Air Navigation Concept of Operations requirements; and
- the Asia/Pacific Air Navigation Concept of Operations and the ASBU concept (Block Zero – 0) in terms of the ASBU elements and when the Blocks might be implemented in the Asia/Pacific Region.

4.6 In discussing Seamless ATM, the ATM/AIS/SAR Sub-Group meeting noted the 54 draft Principles from the Seamless ATM Ad Hoc Meeting, APSAPG/1 and subsequent Seamless ATM discussion. The Principles had also been reviewed by the Southeast Asia and South Asia/Indian Ocean ATM Coordination Groups. APSAPG/1 noted that ATM Coordination Groups were very important in terms of implementation of Seamless ATM planning outcomes.

4.7 It was noted that Satellite–Based Augmentation Systems (SBAS) were included under item 27 of the Draft Seamless ATM Principles, but Ground-Based Augmentation Systems (GBAS) were not. While GBAS was intended for more local implementation, it may be a component of seamless operations.

4.8 The meeting discussed whether there was a need for SARPS such as Amendment 1 to PANS/ATM to be included in the Draft Principles, as they were already widely known. The Secretariat agreed that reference to this Principle was not needed as the Seamless Plan was not due to be finalised until after the Amendment's implementation date.

4.9 The Sub-Group endorsed the continued development of the Seamless ATM Capabilities Matrix, which provided, *inter alia*, a target and means of monitoring the progress of ASBU implementation. The meeting noted that only 13 administrations had responded to the questionnaire that provided input to the Matrix and urged other administrations to respond accordingly.

Regional Civil/Military Coordination (WP06)

4.10 WP06 provided information from the Civil/Military Cooperation Seminar/Workshop (Bangkok, 28 February to 01 March 2012) and other civil/military initiatives relevant to ATM. The Seminar/Workshop noted that an important outcome of the Global ATM Forum on Civil/Military Cooperation was recognition that military representatives should participate at civil ATM conferences, so both civil and military viewpoints and needs were clear, consistent with DGCA Action Item 47/4.

4.11 A key recommendation from the Seminar/Workshop was that civil/military cooperation/coordination principles and practices should be elevated to the highest political level in the States in the Asia/Pacific regions, including the following:

a) civil/military working arrangements where discussion of both civil and military needs were able to be negotiated in a balanced manner;

b) the importance of the interoperability of civil air transport infrastructure and national security was recognized;

c) the interoperability of civil and military systems, including data sharing, was emphasized;

d) ICAO was requested to update existing provisions related to civil/military cooperation/coordination and further develop guidance material related to airspace planning and management, including Flexible Use Airspace (FUA);

e) Regular review of controlled airspace and special use airspace was encouraged to be undertaken by States to ensure its establishment, size, activation and operation is appropriate in terms of optimal civil/military operations.

ATM Automation in India (WP34)

4.12 India presented information on the progress of ATS automation systems infrastructure development in 38 Indian airports, including some Area Control Centres (ACC). The automation systems had multiple surveillance sensor integration to facilitate enhanced surveillance capability. In addition, Decision Support Tools (DST) such as Short Term Conflict Alert (STCA), Medium Term Conflict Detection (MTCD), Minimum Safe Altitude Warning (MSAW), and the monitoring of probable entry into Special Use Airspace (SUA) were provided.

4.13 The meeting noted that while ideally the ATM system should be common to all FIR within a State, the timing of each FIR's ATM system upgrade may lead to changed business and regulatory circumstances, resulting in the selection of a different system.

4.14 India stated that one of the major challenges in the near term included successful completion of AIDC trials and real time implementation within India, especially with interoperability issues between three different ATS Automation systems. Although Delhi, Ahmedabad, Varanasi, and Nagpur had different ATM systems, AIDC operations between these Centres commenced successfully from 01 June 2012.

4.15 India was ready to test AIDC with neighbouring ANSPs, and wanted to know if whether ICAO had a global AIDC Inter-Connection Document (ICD) yet. The meeting noted that the ICD for AIDC was being consolidated and updated by an informal group of experts. Version v.0.4 of the harmonised document was produced to include updates from the latest versions of the North Atlantic Common Coordination Interface Control Document (NAT CC ICD, NAT Doc 002) and APAC ICD. The NAT SPG Conclusion 48/28 proposed the establishment of an inter-regional APAC/NAT AIDC Task Force. The proposed joint Task Force and its Terms of Reference (TOR) would be further discussed at the CNS/MET SG/16 for endorsement and consideration by APANPIRG/23.

4.16 India was also making steady progress in its plan to migrate from multiple ACCs to two Upper ACCs in the final stage. The Upper Airspace Harmonization programmes were envisaged to be completed by December 2013.

Air Traffic Management Enhancements between Jakarta and Singapore FIRs (WP36)

4.17 The meeting took note of the collaborative efforts by Indonesia and Singapore to enhance Air Traffic Management (ATM) between Jakarta and Singapore FIRs. Jakarta (Soekarno Hatta – WIII) and Singapore (Changi – WSSS) was one of the top 10 busiest city pair routes in the world. The implementation of RNAV10 50/50NM separation on routes M635 and M774 with independent level allocation schemes increased the capacity with a reduction of longitudinal separation from the conventional 10 minutes, generating annual savings up to 1,500,000 kg fuel (IFSET) on these routes.

4.18 Recognising the high volume of traffic on ATS routes B470 and G579 and the availability of overlapping ATS surveillance coverage at the FIR boundary, both States had collaborated to implement ATS surveillance-based separation on these routes, to reduce the longitudinal separation from 10 minutes to 40NM as an initial step towards implementing further improved surveillance based separation standards.

Surveillance Based Service Requirements in the South China Sea (WP45)

4.19 IATA discussed progress on ATS surveillance separation capability in the South China Sea area. WP45 suggested that service delivery outcomes and efficiency objectives should drive efforts, and a focus was required to deliver surveillance-based outcomes for all MTF South China Sea routes. IATA stated that the key to delivering an optimized ATM service was ATS surveillance, with associated communications infrastructure using shared information (Collaborative Decision-Making – CDM) and AIDC.

4.20 IATA noted that within the South China Sea, planning for enhanced surveillance using radar, ADS-B and ADS-C (Contract) for remote areas had been underway for some time. However, planning had not progressed in a synchronized fashion in order to result in the development of a complete surveillance capability. Despite a positive business case, forthcoming ADS-B mandates, and equipage up 79% in the area, it was still not clear when users could expect surveillance-based service delivery.

4.21 IATA had conducted an analysis for the Singapore to Hong Kong, China city pair, and found that from 2004 to 2011 the average ‘block to block’ times had increased in the order of 2.9 to 3.9 minutes per flight; thus it was clear that the current ATM system was not providing the efficiencies of reduced fuel burn and emissions per flight that it needed to.

4.22 The meeting noted that the current planning for Seamless ATM through the APSAPG and the adoption of the Asia/Pacific Air Navigation Concept of Operations were initiatives developed to give an overall framework for implementation planning for the region. Moreover, SEACG/19 had taken an initiative to establish a number of small working groups, one of which focused on ATS Surveillance. IATA suggested that where direct surveillance was available, 10NM separation should be provided by December 2014, and 30NM separation on all other South China Sea routes by December 2016, supported by ADS-C and Controller Pilot Data-link Communications (CPDLC).

4.23 The meeting discussed concerns about the volume of traffic to be handled on the Hong Kong – Singapore City Pair routes if a 10NM surveillance based separation standard was implemented. The Secretariat explained that there was a clear distinction between a separation standard, and ATFM initiatives, which were tailored to suit the tactical situation. It was further noted by the meeting that implementation of surveillance-based separation standards would improve airspace capacity.

4.24 The meeting noted that there were a number of other significant city-pair routes crossing the Hong Kong – Singapore routes, and that surveillance based separation was also required at these route crossings to ensure safety and airspace capacity. The meeting noted that any separation based on either ADS-B or RNP4 was dependent on aircraft equipage.

4.25 IATA commented that there had been no capacity improvement in this area for ten years, and that the ATM system was not keeping pace with traffic growth. The capability to deal with rapid traffic growth, similar to the capability in Europe and North America, was needed.

4.26 Hong Kong, China commented that the following timelines were consistent with the Asia/Pacific Regional PBN Implementation Plan:

- 30NM surveillance based separation on all other South China Sea routes should be implemented by Dec 2016, supported by ADS-C and CPDLC; and
- the implementation of a full route redesign based on RNP4 (30NM Lateral) by December 2016 should be conducted to improve route efficiency.

Next Generation Air Transportation System (NextGen) Overview (IP07)

4.27 The United States provided an update on the progress of the NextGen initiative, including the development and implementation of systems and procedures to improve ATM within their National Airspace System (NAS). More than 300 ADS-B ground stations were providing weather and traffic situational awareness information to equipped aircraft. Air traffic controllers are also using ADS-B to provide air traffic separation services in some areas. Some of the other capabilities being developed within the NextGen programmes were:

- a network of PBN routes and procedures, including Optimized Profile Descents (OPD) and Wide Area Augmentation System (WAAS)-based procedures;
- Point-in-Space/Point-in-Time Metering;
- digital textual mode of communication; and
- ASBU integration.

Integration of UAS into the United States' National Airspace System (IP10)

4.28 IP10 provided an update of the work to integrate Unmanned Aircraft Systems (UAS) into the NAS. The FAA authorises UAS to fly outside SUA using either Special Airworthiness Certificates for civil aircraft and Certificates of Waiver or Authorization (COA) for UAS flown by public entities. Recreational users of model aircraft, usually radio-controlled, were covered by separate Federal Aviation Administration (FAA) guidance (Advisory Circular 91-57, which generally limits operations to below 400 feet above ground level and away from airports and air traffic).

4.29 The FAA was developing new policies, procedures and approval processes through the NAS UAS Aviation Rulemaking Committee and RTCA – a group that facilitates expert advice to the agency on technical issues – to assist in the development of UAS standards for communication, command and control and how they will 'sense and avoid' other aircraft. A recent regulation required the FAA to allow government public safety agencies to operate small UAS (2 kg or less) within the line of sight of the operator, less than 400ft above the ground, during daylight conditions, inside Class G (uncontrolled) airspace and more than 5NM from any airport or other location with aviation activities.

Satellite Communication Meetings and Seminar Outcomes (WP17)

4.30 Information relevant to ATM from the Satellite Data link Communication Seminar and Second Satellite Data–link Operational Continuity Meeting (SOCM/2, Bangkok, 8 to 10 February 2012), and the Inter-regional SATCOM Voice Task Force (IRSVTF/3, Bangkok, 13 to 16 February 2012) was presented by the Secretariat.

4.31 SOCM/2 was informed that the end of life of the I-3 constellation was expected in 2018; however Classic Aero H+ technology will be available through to the end of life of the I-4 constellation expected in 2023. Japan advised that the MTSAT-1R satellite was going to leave its orbit in 2015 and MTSAT-2 alone would continue to provide AMSS until 2020. The meeting noted the recommendation to use two or more satellite data-link communication services provided by different autonomous service providers to enhance availability of such services. It was also noted that Iridium based equipment was easier to retrofit on aircraft, drew less power, was lighter in weight and provided global coverage including over the polar region, Future Air Navigation Systems – FANS Over Iridium (FOI) was identified as a viable means for conducting ATS communications and FOI aircraft are eligible for CPDLC and ADS-C operations in the Asia/Pacific Region.

4.32 IRSVTF/3 noted that the AN Conf/12 discussion may lead to the recognition of Satellite Voice (SATVOICE) as a Long Range Communications System (LRCS) for the provision of 2-way ATS air-ground communications. The principles guiding the development of the draft SATVOICE Guidance Material (SVGM), included, *inter alia*:

a) the guidance material would provide for routine and emergency use of SATVOICE for ATS communications, procedures for the radio operator, controller and flight crew, performance specifications and qualification;

b) the guidance on the use of portable SATCOM phones would only indicate that their use is not advisable for ATS communications, and any special applications on their use would not be addressed;

c) the guidance material would not specifically address Minimum Equipment List (MEL) matters; and

d) the use of SATVOICE alone (i.e. without any HF capability) will not be considered by the Task Force, as it requires study beyond the target date for completing the first edition of the guidance material.

4.33 IATA informed the meeting that they currently did not support SATVOICE as a LRCS for routine ATS air-ground communications, as the removal of one High Frequency (HF) set, which was used as a justification for SATVOICE, did not provide sufficient cost benefit.

4.34 The meeting noted that the first edition of the Satellite Voice Guidance Material (SVGM) has not yet been finalised, but will be available before APANPIRG/23. The ATM/AIS/SAR Sub-Group reviewed the final draft version of the SVGM, and did not propose any changes.

Realisation of Increased Efficiency and Capacity via AIDC (WP32)

4.35 Hong Kong, China described their experience on trials of AIDC using a standalone system while engineering a new ATM System with integrated AIDC capability that would enable a smooth implementation of AIDC with all the neighbouring ANSPs in 2013. Hong Kong, China stated that despite ICAO AIDC guidance material, there were grey areas and different interpretations in data field and Cyclic Redundancy Check (CRC) algorithm mismatch settings by equipment manufacturers that could lead to compatibility issues. Hong Kong, China supported a coordinated regional AIDC plan and requested that capable neighbouring ANSPs to arrange AIDC tests with their system. IATA and IFATCA congratulated Hong Kong, China for their work on AIDC implementation.

4.36 The meeting was informed that NAT SPG Conclusion 48/28 proposed the establishment of an inter-regional APAC/NAT AIDC Task Force. The proposed joint TF and its TOR will be further discussed at the CNS/MET SG/16 for endorsement and consideration by APANPIRG/23.

Optimization of Airspace and Procedures in Major Metropolitan Regions (IP11)

4.37 The United States of America presented material on their Optimization of Airspace and Procedures in Major Metropolitan Regions (OAPM) initiative, which had a strong focus on PBN structures to reduce flight miles, delays and emissions. OAPM considered multiple airports and the airspace surrounding a metropolitan area, including all types of operations, as well as connectivity with other 'metroplex' areas. Design and Implementation (D&I) teams provide a systematic, effective approach to the design, evaluation and implementation of PBN-optimized airspace and procedures.

PBN/TF/9 Outcomes (WP10)

4.38 WP10 provided a summary of the outcomes from the Ninth Meeting of the Performance-Based Navigation Task Force (PBN/TF/9, Bangkok, 27 to 29 March 2012) and Asia/Pacific PBN implementation progress. The meeting noted there had been a significant improvement in the number of 'Robust' status plans, so one-third of administrations now had satisfactory PBN planning. Notwithstanding the overall improvement, a large number of States remained as either 'Marginal' or 'Incomplete' status plans, or had no plan. A PBN Workshop was intended to be held in the South Pacific in the fourth quarter of 2012 to assist small Pacific Island States to develop a PBN Plan.

4.39 The PBN/TF suggested that an Asia/Pacific Global Navigation Satellite System (GNSS) Landing System (GLS) seminar could be held, noting that all 'new generation' Boeing, Airbus and Bombardier aircraft already had GLS equipage. Moreover, the meeting noted that the Ground-Based Augmentation System (GBAS) design material in Doc 8168 was reserved. It was suggested that GLS could be included within State PBN Plans as part of a GNSS section. Moreover, information on expected GLS regional planning could form part of the Asia/Pacific Seamless ATM Plan.

4.40 The meeting noted the lack of guidance on conventional instrument flight procedures flown using GNSS/RNP aircraft and suggested that ICAO might consider developing such material, which should include guidance for ATC. IATA asked for more ICAO guidance on RNAV visual procedures, commenting that when weather conditions permit, these procedures were efficient.

GNSS Approaches for Non-Instrument Runways (IP04)

4.41 India presented information on the progress of GNSS approach procedures and augmentation support for GNSS procedures in India. They illustrated that the coverage of the GAGAN (GPS-aided geo-augmented navigation) system indicated that SBAS approach operations for APV1/1.5 operations at all airports in India could be supported.

4.42 India had implemented its first LNAV/LNAV-VNAV (Lateral/Vertical Navigation) procedure at Cochin International airport linked to Basic RNP-1 STARs (Required Navigation Performance-1 Standard Terminal Arrivals). An RNP-AR (Authorization Required) approach procedure had been developed for Runway 32 at Mumbai airport, with an RF (Radius to Fix) leg to avoid Trombay hill that was expected to reduce landing minima requirement from 4,000m to 2,400m.

Consideration of Obstructions beyond ILS Critical and Sensitive Areas (WP35)

4.43 India had completed a study on the critical and sensitive area of Instrument Landing Systems (ILS) maintained in accordance with Annex 10, whereby structures containing certain metallic structures, despite being below the coverage volume, caused ILS course quality problems. It was stated that the control of critical areas, designation of sensitive areas on the airport and the restriction of structures below the minimum elevation requirements may not be sufficient to protect an ILS from multipath effects caused by large, fixed ground structures.

4.44 The meeting noted that the Conventional Navigation Testing Group was responsible for guidelines for ILS critical areas, and recommended that India submit this paper to CNS/MET SG/16 for consideration.

ADS-B SI/TF Outcomes (WP16)

4.45 ICAO provided information on the ADS-B Seminar and Eleventh Meeting of the ADS-B Study and Implementation Task Force (ADS-B SITF/11, Jeju, Republic of Korea, 24 to 27 April 2012) relevant to ATM.

4.46 Based on discussions from ATM/AIS/SAR/SG/21, APANPIRG/22 adopted Conclusion 22/8 to allow States intending to implement ADS-B based services to mandate the carriage and use of ADS-B in a defined airspace or provide priority for access to such airspace for aircraft with operative ADS-B equipment over those aircraft not operating ADS-B equipment. The ADS-B SITF meeting noted the complexity of State rules and regulations for priority and also noted that the Air Navigation Concept of Operation would be helpful in guiding State planning.

4.47 The ADS-B SI/TF agreed that it was not useful to use a separate quality threshold (Navigation Uncertainty Category or Navigation Integrity Category, NUC/NIC) for monitoring of procedural standards. Few reports with NUC values less than 3 were transmitted and the value of building systems to use a separate threshold was not warranted. It was noted that the Australian regulator was in the process of approving NUC 3 for the application of 5NM separation.

4.48 The Seventh meeting of the SEA/BOB ADS-B Working Group meeting supported the proposed Australian ‘black list’ process, which removed the requirement for individual aircraft approvals, and listed aircraft not transmitting or capable of transmitting correct ADS-B data. The current ‘white list’ approval process could be slow and meant that some aircraft were not provided with an ADS-B based ATC separation service.

4.49 CANSO highlighted that the recent 48th DGCA Conference had urged the harmonization and expedition of ADS-B implementation in the region and called for the development of concrete plans for ADS-B implementation over the Bay of Bengal and enhanced ADS-B coverage over the South China Sea. In this regard, the meeting supported a proposal by CANSO to facilitate a two day focus group meeting in Singapore in July 2012 to focus on specific project deliverables.

4.50 Australia was requested to establish and maintain a regional database of identified ADS-B airframe problems. States were requested to share and provide information for the database. The meeting discussed the need for a single, global database of aircraft equipage such as PBN, ADS-B etc. IATA advised that ICAO HQ were creating such an integrated Airline Operating Certificate (AOC) database.

Report of Federal Aviation Administration (FAA) ADS-B Activities (IP08)

4.51 IP08 presented a brief summary of ADS-B implementation activities in the United States. Surveillance and Broadcast Services (SBS) were supported by two ADS-B links:

- 978 MHz Universal Access Transceiver (UAT) link per FAA TSO-C154c; and
- 1090 MHz Extended Squitter (1090ES) link per TSO-C166b, which was mandatory for ADS-B operations above Flight Level (FL) 180.

4.52 Aircraft broadcasting on one link (example: UAT) are not received by aircraft using only the other link (example: 1090ES) and vice versa, requiring an ADS Rebroadcast (ADS-R) service. To conserve radio spectrum, ADS-R identifies aircraft broadcasting that they are ADS-B-In equipped as 'client' aircraft.

4.53 Traffic Information Service – Broadcast (TIS-B) is a pilot advisory service for situation awareness, gathering data from ATC radars, Wide Area Multilateration (WAM) systems, and surface multilateration (MLAT) systems.

4.54 Flight Information Service - Broadcast **(**FIS-B) is a pilot advisory service that is only broadcast on the UAT link. The FIS-B message set contains information such as meteorological data, Notices to Airmen (NOTAM) and Status of SUA alerts.

4.55 The FAA was currently investing in development for three ADS-B applications: Oceanic In-Trail Procedures (ITP), Flight-deck-based Interval Management - Spacing (FIM-S), and Traffic Situation Awareness with Alerts (TSAA). Interval Management (IM) is intended to assist flight crews and ATC to achieve a desired spacing between aircraft in all phases of flight. TSAA is aimed at improving a pilot's identification of conflicting traffic by providing on-board alerts for aircraft without Traffic Alert and Collision Avoidance System (TCAS) equipment.

Global Air Traffic Flow Management Group (WP18)

4.56 The Secretariat informed the meeting about the ad hoc Air Traffic Flow Management (ATFM) Group managed by ICAO HQ, which was tasked with the development of Global ATFM Guidance Material. In late 2011, ICAO instigated a short-term project on the important development of a Global ATFM guidance material, which was planned to be presented to the 12th Air Navigation Conference. This would be a coordinated initiative between ICAO HQ, the Regional Offices in Lima, Paris and Bangkok, and major ATFM stakeholders. The deliverable was expected to address:

- measurement of ATM capacity;
- development of airspace and ATM system design to improve capacity; and
- ATFM principles, tools, practices and recommended procedures.

Implementation of Capacity Notification Scheme for Hong Kong International Airport (WP33)

4.57 Hong Kong, China reported the implementation of a Daily Capacity Notification Scheme at Hong Kong International Airport, which provided ATC units and airline operators with advance advice on the anticipated arrival acceptance rate and any associated delays, up to 8 hours in advance. Prior to the Scheme, traffic flow measures were typically reactive rather than proactive, resulting in short notification times, additional ATC workload and risk of aircraft diversion. Determination of runway and airspace capacity was made by supervisory staff at Hong Kong ACC on a twice-daily basis, using a standard template with reference to scheduled demand charts, then applying standardized flow guidance to determine the need for and extent of flow control.

4.58 The United States asked if the notification was specific to certain airlines or general. Hong Kong, China replied that the message was not specific to any airline in particular.

4.59 India shared their experience of dealing with variation in speeds during final approach by different types of aircraft. They stated that they had been experiencing problems with the variation of fleet performance in terms of speed, which they noted should be regulated. India asked how many approach control positions were used at Hong Kong, which was confirmed as two, with other controllers responsible for metering and sequencing of arriving plus one controller to monitor aircraft holding.

Operational Trial of SCAS (IP05)

4.60 Japan advised the meeting regarding their Specifying Calculated Fix Departure Time for Arrival Spacing Programme (SCAS), which was being tested on aircraft inbound for Tokyo International Airport (RJTT). SCAS will improve traffic congestion within the approach control area by implementing in-flight time adjustment.

Introduction of the Collaborative Trajectory Options Program (IP12)

4.61 The United States provided information on their efforts to improve ATFM services through the collaborative development and deployment of DST such as automated Traffic Management Initiatives (TMIs). The primary TMI concept was called the Collaborative Trajectory Options Program (CTOP), which utilised automation to share information with stakeholders on system constraints and identified optional routes that are available to mitigate these system constraints. The paper noted that CDM was utilized in the planning, designing, development, deployment, and sustainment of Traffic Flow Management products and services.

Status of Japan's Implementation of PANS-ATM (WP37)

4.62 Japan advised the testing schedule status for Amendment 1 to PANS/ATM, Doc 4444. Japan was conducting external ANSP to ANSP tests, to be completed by late July. Airline users were expected to complete tests in mid-October, and from 18 October to 14 November 2012, all users would be allowed to submit the flight plan in NEW or PRESENT format. Japan advised that, during the transition period, the responsibility for ensuring that PRESENT format was filed with ANSPs that had not yet transitioned to NEW format was a matter for the airspace users. Japan noted some problems in testing, such as character overflow might occur at PBN/ in item 18, due to the limitation of 16 characters.

Flight Plan & ATS Messages Implementation Task Force Outcomes (WP08)

4.63 The Secretariat presented WP08, regarding the Fifth Meeting of the Flight Plan & Air Traffic Services Messages Implementation Task Force and Seminar (FPL&AM/TF/5& Seminar, Manila, Philippines, 7 to 9 November 2011), and an update on current implementation issues.

4.64 Indonesia had advised that the ATM Systems used in Makassar ATS Center (MATSC) and ATC systems supporting some approach control units would be upgraded to be ready for handling NEW FPL format by September 2012. However, there would be a delay in the implementation plan for Ujung Pandang ACC, Surabaya Approach and Bali Approach until June 2013. Airlines would be able to file NEW format after 15 November 2012, which would be transformed using a converter in the Jakarta ACC. From September 2012 and June 2013 all messages sent to Ujung Pandang FIR would be converted to PRESENT format by the Flight Data Management Centre located in MATSC, except for Balikpapan Approach. IATA expressed concern regarding the use of manual handling for Ujung Pandang, due to workload.

4.65 After discussion, it was agreed that a paragraph should be added to Section 5 (Software Coding Considerations) of the Asia/Pacific Guidance Material to ensure that the flight planning of RVSM capability was consistent. The Guidance Material stated that the preferred option for delaying a flight Expected Off-Block Time (EOBT) over midnight UTC was to use a CHG (Change) message; however the option to use a DLA (Delay) message was available. Currently the Guidance Material contained the option to use either a CHG of a DLA message to provide advice of delays across midnight UTC, so States would needed to software code their systems to cater for the receipt of both messages types.

4.66 The meeting discussed the issue of DOF (Date of Flight) removal from item 18 of the flight plan when the EOBT was within 24 hours. New Zealand suggested removal of the first sentence in the Guidance Material, which was agreed.

4.67 It was recognised that ANSPs would have to determine their required changeover process when PRESENT plans would not be accepted after coordination with neighbouring affected States. The meeting noted that the European IFPS (Integrated FPL System) would not accept flight plans with EOBT more than 24 hours in advance during the period 12-15 November 2012

4.68 Australia had identified an issue relating to the submission of CHG messages (with changes to Field 18) that required conversion. Any change messages generated from a NEW format that would be 'down' converted containing changes to either field 10 or 18 in the amendment field 22 needed to be constructed from the NEW format, considering the dependent relationships of these two fields. IATA did not support transition with converter systems if it could be avoided. IATA's position was that converter systems should not be viewed as a long-term solution, and States with such systems should be encouraged to do so with a clear plan to implement capabilities to process NEW format as soon as practicable. The Guidance Material did not recommend the use of converters, especially 'up' conversion from PRESENT to NEW format.

4.69 IATA was further concerned about the filing of long-haul flight plans when the plan itself was complex and large. Generally this required a significant amount of information to be included and transmitted, so certain states lengthy flight plans were filed in two sections (two plans).

4.70 French Polynesia described an issue with DOF regarding AIDC messages being received when Field 18 was filed with zero '0', then FPL Field 18 could be overwritten. Australia had elected not to translate any AIDC messages during the transition, as the only fields applicable to Amendment 1 changes were 10 and 18, which were optional in AIDC messages.

4.71 Responses to the agreed quarterly questionnaire had generally been poor. Questionnaire responses were used to update the ICAO Flight Plan Implementation Tracking System (FITS) website. There had been considerable schedule slippage within the region. While thirteen States planned to conduct Phase 2 activities in accordance with the agreed schedule (1 Apr – 30 Jun 2012), none had yet reported completing this work.

4.72 In order to quantify the degree of concern about the Asia/Pacific Region's progress, and to prioritize any ICAO activities to assist States in their transition to NEW FPL and ATS message format, the Regional Office conducted a risk assessment to determine the level of risk to the regional ATM network inherent in any administration's potential failure to transition to NEW format on or before 15 November 2012. The risk was assessed by using a simple likelihood and consequence risk analysis model. In the case of States and Administrations which have not provided quarterly questionnaire updates, the maximum level of likelihood assessment was applied.

4.73 A revised questionnaire was circulated for completion by 11 May 2012. The revised questionnaire included specific questions on the planned or achieved timing of each of the three implementation phases. Only nine replies were received by the due date, and as at 15 June 2012 only seventeen States/Administrations had responded. Seventeen administrations had not provided a response to any questionnaire in 2012, and were thus invited to update the ATM/AIS/SAR Sub-Group on progress. The meeting noted that Myanmar, previously identified as not having responded to questionnaires, had recently provided a response to the updated questionnaire.

4.74 A table of the latest results from the risk analysis is appended as **Appendix A** to this Report. An overall chart of Asia/Pacific risk results effective 15 June 2012 is provided at **Appendix B** to this Report.

4.75 Information received in the updated questionnaire of April 2012 indicated that some States may now be planning a 'hard' cutover from PRESENT to NEW format message processing on 15 November, without a transitional phase of operational mixed mode processing. This strategy would introduce a number of risks, including those associated with the volume of traffic being handled by Asia/Pacific States at the cutover time (0000 UTC on 15 November). It may also cause significant difficulty for airspace users in determining when all ANSPs along their planned routes had commenced accepting NEW format FPL.

4.76 Timelines of planned system capability for and operational implementation of the acceptance of NEW format FPL, as reported to the ICAO Asia/Pacific Regional Office, are provided at **Appendix C** to this Report. In order to avoid the risks involved in a rapid cutover, and to align with strategies from other Regions, the meeting agreed to the following Draft Conclusion for approval by APANPIRG:

Draft Conclusion ATM/AIS/SAR/SG/22/1 – Transition to NEW FPL Format

That, States are urged to commence operational acceptance and processing of both PRESENT and NEW format FPL and ATS messages as early as possible, and in any event no later than 0000 UTC on 12 November 2012, in order to avoid the risks involved in direct transition from PRESENT to NEW processing.

4.77 Amendment 1 required that RNAV5 en-route navigation capability was indicated by insertion of the letter 'R' in field 10 of the flight plan, and the following indicators after PBN/ in field 18. As LORAN was rarely used, this would require the flight plans of most RNAV 5 aircraft to file PBN/B2B3B4B5 in Field 18. When added to other combinations of PBN indicators applicable to Oceanic, Terminal and Final flight phases, this may exceed the 16 character limit specified in PANS/ATM.

4.78 The solution being considered was to use B1 to indicate all permitted sensors except LORAN. As ICAO HQ was currently considering a globally coordinated response, the Regional Guidance Material may need to be amended to address this issue.

4.79 Table 5.1 of the Regional Guidance Material states that the Field 18 Estimated Elapsed Time (EET) string should be constructed in a manner that could be misleading as it may be read to mean that the 4-digit elapsed time was only required if a LAT/LONG position was used. The following minor editorial amendment to the Regional Guidance Material was agreed:

One or more strings. Each string is:

2-5 alphanumeric characters or a LAT/LONG; followed by

a 4-digit elapsed time, from 0000 to 9959 (i.e. 0-99 hours followed by 0-59 minutes)

4.80 Table 5.1 also specified that Field 18 Route Information (RIF) information should be consistent with the format of a valid Field 15c. As Field 15c may also include oblique strokes, this contravenes the provisions of PANS/ATM, which precludes the use of oblique strokes in Field 18, other than as the final character in the indicator, e.g. STS/, PBN/, NAV/, RIF/. The purpose of the RIF/ element was to direct flight plan forwarding in the event of an in-flight re-file. It was therefore proposed that the Guidance Material was amended to reflect the requirements of PANS/ATM 11.4.2.2.2 for information following the Field 18 RIF/ indicator:

> The route details to the revised destination aerodrome, followed by the ICAO four-letter location indicator of the aerodrome.
>
> Examples: RIF/DTA HEC KLAX; RIF/ESP G94 CLA YPPH

4.81 The ATM/AIS/SAR Sub-Group meeting agreed to the following Draft Conclusion:

Draft Conclusion ATM/AIS/SAR/SG/22/2 – FPL Guidance Material Version 5

That, the Asia/Pacific Guidance Material for the Implementation of Amendment 1 to the 15th Edition of the Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc 4444) is updated as Version 5 in accordance with excerpts contained in **Appendix D** to this Report.

4.82 The meeting requested that ICAO report to APANPIRG on the new flight plan implementation progress in other Regions.

4.83 Successful implementation of the Amendment 1 changes were the highest priority ATM activity currently being undertaken in the Asia/Pacific Region. States were urged to ensure that all necessary resources are applied to this work, and to keep the ICAO Regional Office informed of progress and developments.

Indonesian New Flight Plan Format Converter Test (WP39)

4.84 Indonesia presented test results from Flight Plan converters used to convert from PRESENT to NEW format. Indonesia advised that they would use the current Flight Data Processing System (FDPS) and converter to process flight plan data, rather than using the emergency backup system. Internal testing within the Jakarta FIR using the converter had been performed and the result was satisfactory. Indonesia urged adjacent States and ANSPs to undertake testing with Jakarta ACC.

Flight Plan 2012 Progress Report: Thailand (Presentation 3)

4.85 Thailand presented an update on progress towards the implementation of Amendment 1.

Implementation Status of ICAO New Flight Plan in China (Flimsy 1)

4.86 China also provided an update on implementation of Amendment 1 to PANS/ATM.

Indonesia – Malaysia AIDC Trial (Flimsy 2)

4.87 Indonesia and Malaysia provided information on the AIDC trial between Ujung Pandang and Kota Kinabalu.

Republic of Korea Amendment 1 Update (Flimsy 6)

4.88 The Republic of Korea presented an update on their progress regarding Amendment 1 implementation.

Agenda Item 5: ATM Coordination (Meetings, Route Development, Contingency Planning)

RACPTF Outcomes (WP11)

5.1 ICAO presented information from the First Meeting of the Regional ATM Contingency Plan Task Force (RACP/TF/1, Bangkok, 17 to 19 April 2012). The meeting was chaired by Mr. Rosly Saad, Chief Air Traffic Control Officer, Civil Aviation Authority of Singapore.

5.2 The link between the RACP/TF and METWARN/I TF was discussed, including the requirement for each of these Task Forces to develop an understanding of the other's needs. While primarily considered in response to Volcanic Ash Cloud (VAC), this link was also a necessary facilitator to the contingency response to other catalysts such as nuclear emergencies (radioactive cloud).

5.3 The meeting discussed the proposed three-tiered arrangement of contingency plans, consisting of domestic plans (Level 1 plans, forming the lower tier), bi-lateral plans such as those already existing between several States (Level 2 plans) and Sub-Regional or Regional Plans (Level 3). Furthermore, categories of contingency plans were agreed as follows:

a) Category A – Airspace Safe, but Restricted or No ATS, due to causal events such as industrial action, pandemic, earthquake, nuclear emergency affecting the provision of ATS, or ATM system failure or degradation;

b) Category B – Airspace Not Safe, due to causal events such as VAC, nuclear emergency, military activity; and

c) Category C – Airspace Not Available, due to causal events such as pandemic, national security – normally a political decision.

5.4 It was agreed that Level 1 (internal State) plans would not be part of the Regional ATM Contingency Plan, but could be referred to in that document. Level 2 (Inter-State) planning, was considered to be a priority for the RACP/TF analysis, as it was these that needed to be harmonised to allow a seamless Level 3 (Regional) Plan. Moreover, it was recognised that Level 1 and 2 plans needed to address all three categories of contingency response (A, B or C), even if the category B procedures were simple and of a tactical nature to deal with a changing situation. A proposed set of standardized Basic Plan Elements (BPE) were discussed, which would be further developed to assist assessment of Level 1 and 2 plans.

5.5 The meeting noted that ICAO Annex 11 Attachment C had requirements for the development of contingency arrangements, which should be based on Safety Management System (SMS) principles. States were urged to ensure that they complete a full threat assessment of their ATM systems, from deliberate acts to unplanned events such as fire, natural catastrophes or sub-contractor malpractice.

5.6 It was agreed by the meeting that a key part of the future Regional ATM Contingency Plan was the development of Principles and Practices that would further harmonise State Contingency responses as far as practical. The meeting considered a general scheme including such items as standardized minimum lateral and longitudinal spacing, Flight Level Allocation Scheme (FLAS), standardized ATS and pilot phraseologies and procedures, and a template for Inter-State and sub-Regional plans based on an updated version of the Regional Model Plan.

5.7 The meeting noted that temporary delegation of airspace in a contingency situation did not mean that full Air Traffic Control (ATC) services would be provided, and that there were possible legal, communication and ATS surveillance issues associated with this. In spite of this, delegation where necessary was viewed by the meeting as a positive, especially if data sharing could be instigated.

5.8 The meeting was provided with information on the status of contingency plans for Asia/Pacific States, which was updated and appended at **Appendix E** to this Report.

5.9 The meeting agreed to a Review Team which, with the support of the Secretariat, would work via electronic communication to assess and analyse Level 1 and Level 2 Contingency Plans using a questionnaire to provide information related to the draft BPEs so sensitive material did not need to be disclosed. India, Indonesia, Singapore and Thailand offered to be members of the Contingency Task Force Review Team in accordance with the following Decision:

Decision RACP/TF1/1 – ATM Contingency Plan Review Team Formation

That, an ATM Contingency Task Force Review Team be established from the Task Force, that reviewed relevant portions of Level 1 (internal State) and Level 2 (Inter-State) ATM Contingency Plans, and identified areas where ATM contingency planning required improvement, in order to support the development of a Level 3 (Regional) ATM Contingency Plan, based on Basic Planning Elements agreed by the Task Force.

South-East Asia Route Review Task Force Outcomes (WP12)

5.10 The Secretariat described the outcomes of the Sixth Meeting of the South-East Asia Route Review Task Force (SEA-RR/TF/6, Bangkok, 30 April 2012).

5.11 Hong Kong, China advised that 30NM longitudinal separation minimum on Routes A1 and A202 had been implemented since 5 April 2012. The meeting noted that while 30NM was a good improvement, the area was covered by ATS surveillance, so separation should be based on this capability.

5.12 Hong Kong, China stated that they needed a six month 'no procedure change' either side of their new 2013ATM system implementation. Regarding reduction in separation standard and track shortening, IATA stated that track shortening was more important due to saving of fuel and emissions. However, IATA also stated that a reduction of separation was helpful, especially managing capacity.

5.13 The Task Force reviewed the task list and resolved all outstanding tasks. Hong Kong, China noted that within its own constraints, the Task Force had completed a lot of work. Indonesia was concerned about the continued work needed to address route improvements. The meeting noted that any outstanding work would continue in other bodies, and an 'empowered' SEACG would be able to maintain a strategic view of the tasks as they progressed. The ATM/AIS/SAR Sub-Group meeting agreed to the following Draft Decision:

Draft Decision ATM/AIS/SAR/SG/22/3 – Dissolution of the Southeast Asia Route Review Task Force

That, the South East Asia Route Review Task Force (SEARR/TF), be dissolved and any on-going tasks be delegated to existing bi-lateral or multilateral groups as identified in the South East Asia Implementation Plan.

5.14 The meeting reviewed the Southeast Asia Implementation Plan developed at SEA-RR/TF/4. **Table 1** indicates the overall results of the SEA-RR/TF/6 route review, and the delegation of on-going tasks to either Bilateral Groups, the Mekong ATM Coordination Group, or the East Asia Air Traffic Management Coordination Group (EATMACG):

Route Proposal	Complete	SEACG	Bilateral	Mekong	EATMCG
1	✓				
2	✓	✓			
3	✓				
4	✓				
5		✓			
6			✓		
7				✓	
8				✓	
9		✓			
10		✓			
11		✓			
12			✓		
13					✓
14		✓			
15		✓			
16	✓				
Total	**5**	**7**	**2**	**2**	**1**

Table 1: SEA/RR/TF Review Results

South-East Asia ATM Coordination Group Outcomes (WP13)

5.15 The Secretariat presented the outcomes from the Nineteenth Meeting of South-East Asia ATM Coordination Group (SEACG/19, Bangkok, 1 to 4 May 2012).

5.16 SEACG noted the continued lack of compliance in the West Pacific/South China Sea and Indonesian airspace with the RVSM TLS. Recalling the importance of AIDC to minimize LHD, which constituted a major cause or factor of RVSM safety issues, a SEACG Capability Planning ad hoc survey was conducted of matters such as AIDC implementation status. The survey revealed that no SEACG administrations were using AIDC operationally except for China (Sanya) and Hong Kong, China – partial implementation. Only two other trials (Singapore-Viet Nam and Malaysia-Indonesia) were taking place, despite APANPIRG *Conclusion 19/19*, urging administrations to expedite AIDC implementation.

5.17 Hong Kong, China highlighted good progress in aircraft equipage of ADS-B along two ATS routes, L642 and M771. Within the Hong Kong FIR for the same period, a total of 2,163 ADS-B airborne targets had been detected out of 3,041 aircraft (71% equipped), and 66% (2,008) of these had good NUC values. Hong Kong, China felt that ADS-B mandates provided a very clear message to aircraft operators to plan for retro-fitting and forward-fitting their fleets. IATA advised that they saw ADS-B as the key for long-term height keeping monitoring.

5.18 The Philippines advised that resumption of Manila FIR ADS/CPDLC trial operations could not commence until the Department of Transportation and Communications had finalized its review. As soon as issues with the equipment had been settled, the Philippines would be working to resume the ADS/CPDLC trial.

5.19 IATA acknowledged the extraordinary traffic growth in Asia, and stated that it was time to approach planning and start providing an ATC service like Europe using ATS surveillance as the basis. IATA further noted the increasing delays, so suggested that we needed to make major changes

to the way ATM was conducted. The meeting was asked, as a first step to provide a more effective and seamless service to flights, to commit to providing surveillance separation where surveillance capability was available, and where areas with overlapping radar coverage existed, commit to providing seamless surveillance separation between the busy city pairs that they serve.

5.20 Hong Kong, China would consider a proposal to amend ATS route A583 (designated as RNP) to the northeast, allowing an additional RNP4 route east of M771. The Philippines were not able to consider this proposal at this juncture due to its issues with the current radar system.

5.21 Hong Kong, China provided the meeting with the results of an evaluation which indicated the proposed track shortening of L642 would merge with A1/P901 at the Hong Kong/Sanya FIR boundary, resulting in a loss of combined capacity on these two routes. China advised that the reconfiguration of these two routes could not be realised within a relatively long period, considering other stakeholder's interests. However, China was willing to consider a reduction of longitudinal spacing along these two routes. IATA disagreed with this, due to the severe cost implications, and pointed out that airlines expected to receive the benefit from overflight charges.

5.22 Hong Kong, China clarified that the reconfiguring of A461 and A583 to a pair of unidirectional routes was made in response to IATA's request in SEA-RR/TF/1 and SEA-RR-TF/2. A study was being made on implementation of a FLAS to complement the route reconfiguration.

5.23 The meeting was informed of plans to also implement RNAV5 routes between Jakarta and Singapore, enabling closer spaced routes to segregate traffic between these airports against overflights in both directions. IATA congratulated Indonesia and Singapore for their collaborative efforts. Malaysia advised the meeting about the implementation of an RNAV route structure over the southern portion of Kuala Lumpur FIR and portions of Singapore FIR to segregate arrival traffic into Kuala Lumpur and Singapore from overflying flights by 23 August 2012. Malaysia thanked Singapore for their cooperation.

5.24 Singapore informed the meeting that there had been recurring instances of ad hoc air traffic flow restrictions which were not in accordance with expected Large Scale Weather Deviation (LSWD) procedures. The meeting noted the lack of a formalised Air Traffic Flow Management (ATFM) system to respond to such events.

5.25 During adverse weather conditions, many flights between Hong Kong and Ho Chi Minh were diverted through the Manila FIR, even though they were not flight planned through this airspace; hence no flight plan details would be available to Manila ACC. The issue was satisfactorily resolved by the controlling ACCs providing the original flight plan information and the incorporation of the weather contingency route scheme into the Philippines AIP. The Philippines issued NOTAM B0794/12 on 17 May 2012 promulgating the contingency route scheme, which was applied on 19 and 20 June 2012 with the passage of Severe Tropical Storm TALIM. Hong Kong, China had conveyed suggestions for further enhancement to Philippines for consideration.

5.26 The SEACG meeting noted that although the Asia/Pacific Air Navigation Concept of Operations included reference to certain PBN airspace capabilities[1] and expected safety net standards (such as Airborne Collision Avoidance Systems), there was no equivalent to *Conclusion 22/8 - ADS-B Airspace Mandate* for these areas in terms of airspace mandates and application of priorities. As some administrations were planning to mandate requirements within international airspace such as RNP4

[1] Air-routes above FL195 and within terminal controlled airspace (CTA and CTR) associated with major international aerodrome must be PBN-based with an appropriate specification determined by the Airspace Authority (such as en-route RNP2, terminal RNP1/0.3) based on the GANP and Regional Navigation Strategy.

and other PBN specifications, the SEACG developed Draft Conclusion SEACG 19/1 – *Asia/Pacific Air Navigation Concept of Operations Mandates* for APANPIRG's consideration. However, this was later superseded by an amendment from the South Asia/Indian Ocean ATM Coordination Group.

5.27 The SEACG/19 ad hoc survey revealed a large number of States were either not planning to use AIDC in the near future or did not have this capability. It was also clear from the survey that all States except one had the capability of using a separation standard based on ATS surveillance.

5.28 The Philippines used 40NM longitudinal separation within radar coverage due to lack of redundancy concerns, but advised that it was planning to reduce this separation with the future installation of additional ATS surveillance.

5.29 The survey indicated that those administrations which had airspace not served by radar, MLAT or ADS-B and Very High Frequency (VHF) communications had either already implemented 50NM separation using ADS-C and CPDLC, or planned to do so. Only Indonesia and Viet Nam had not planned to implement the 30NM standard based on RNP4. However, it was evident that none of these separation applications had been planned from a regional or sub-regional basis, which had led to a fragmented approach in the Southeast Asian and South China Sea area

5.30 Vietnam clarified that while the Ha Noi FIR was entirely within radar coverage, some parts of the Ho Chi Minh FIR were not. Vietnam was ready to implement 30NM horizontal separation for suitably equipped aircraft in accordance with regional agreements.

5.31 The inconsistency in approach in the AIDC, ATFM and ATS surveillance fields meant it was important to approach the planning, development and implementation of these areas in a much more disciplined and coordinated manner, with regular appraisal of the status of progress, barriers, and solutions that supported SEACG future planning. The ATM/AIS/SAR/SG noted the following Decision, as agreed by SEACG/19, which established three Small Working Groups (SWG) regarding AIDC, ATFM and ATS surveillance:

SEACG Decision 19/2 – Establishment of SEACG Small Working Groups

That, SEACG AIDC, ATFM/LSWD and ATS Surveillance Small Working Groups (SWG) be established to:

a) assess the current status and planning of implementation;

b) identify barriers to implementation;

c) make recommendations to assist harmonized ATM procedures and applications; and

d) make recommendations that assist implementation in accordance with the Asia/Pacific Air Navigation and ATFM Concepts of Operations, and the Asia/Pacific Seamless ATM initiatives, related to the AIDC, ATFM/LSWD and ATS Surveillance fields.

Bay of Bengal Reduced Horizontal Separation Task Force Outcomes (WP14)

5.32 WP14 provided the outcomes from the Bay of Bengal Reduced Horizontal Separation Task Force (BOB-RHS/TF/7), Bangkok, 21 May 2012).

5.33 The first phase of the BOB-RHS project was implemented on 30 June 2011. Due to operational issues, 50NM separation was only implemented on two ATS routes (N571 and P762) of the proposed four routes. The second phase was planned in three tranches on 15 December 2011, 12 January 2012 and 08 March 2012 on the majority of RNP10 routes transiting through Bay of Bengal, Arabian Sea and the Kabul FIR. However, 50NM was not implemented in accordance with the agreed schedule within the following FIRS: Chennai, Colombo, Jakarta, Kuala Lumpur, Mumbai, and Muscat.

5.34 India, Malaysia, and Indonesia were still finalizing the ATS Letter of Agreement (LOA) and the date of 50NM implementation on four routes. The BOB-RHS/TF meeting agreed that an ATS LOA could be signed before an ANSP was capable, as the usage could be described as conditional on availability.

5.35 It was advised that the Sultanate of Oman had three issues: airlines not filing their data-link status properly ('J' in the PRESENT format), training and the ATM system capability. Oman had issues with identifying RNP10 capable aircraft from flight plan information but stated that they would be able to accept 50NM for westbound flights by July 2012.

5.36 The final phase of 50/50NM horizontal separation was partially implemented on 08 March 2012. However, there were some route connectivity problems, so a Special Coordination Meeting was held with Afghanistan, India (by telephone), and Pakistan at the ICAO Regional Office in Bangkok from 19 to 20 March 201 to resolve these issues.

5.37 India identified the following problems for the post-implementation review:

- low percentage of data-link equipped aircraft and VHF coverage limitations;
- non-RNAV route segments within RNP 10 routes selected for 50NM;
- controllers in adjacent FIRs reluctant to accept aircraft with 50NM separation;
- staggered availability of route timings in different States due to military restrictions;
- different dates of implementation on same route; and
- commissioning of new ATM automation systems which had interoperability issues.

5.38 The Secretariat noted that the aircraft equipage, communications and non-RNAV issues should have been identified in the State safety assessment. The latter was not an issue as long as the route waypoints were able to be coded in RNAV databases. India suggested that non-RNAV route segments should be converted to PBN, consistent with the Air Navigation Concept of Operations.

5.39 The meeting noted that the reluctance of controllers to use the standard could be improved with appropriate training, especially simulation, so States needed to have a stronger focus on human factors in future. Regarding the lack of ATM system inter-operability, this was a key area for Seamless ATM planning improvement, which would focus on future collaborative design and procurement processes. Improved military cooperation was also a Seamless ATM focus area.

5.40 The Secretariat presented a review of the issues consequent to the implementation of 50/50NM horizontal separation in the Bay of Bengal and Indian Ocean related to both procedural and technical matters. These were regarding ATS LOA not being updated in a timely manner, misunderstandings pertaining to the appropriate Transfer of Control (TOC) points, and Direct Controller Pilot Communications (DCPC) capabilities of some ACC, whether via data-link or VHF voice.

5.41 The meeting noted that, despite the urging of the Regional Office, many States did not appear to have completed an adequate safety assessment, including a 'Know your Airspace' analysis that should have picked up many of the issues noted in the post-implementation review. While the experience will have improved the knowledge of many States, more collaboration in developing these assessments and the forwarding of safety assessments to the Regional Office may be necessary in the future.

5.42 India proposed to introduce reduced 30NM longitudinal minimum separation as a transition to the application 30/30NM and also suggested the need to modify the BOBRHS/TF TOR. The Secretariat noted that the 30NM standard was not 'reduced' but a standard in itself, and supported the positive action by India to introduce more efficient standards. However, the meeting recognized

that the emphasis should be on implementation by FIR or airspace instead of a route –by-route basis, and not a mixture like 50NM lateral and 30NM longitudinal for human factors reasons. Moreover, when a route was within ATS surveillance coverage, the separation should be based on surveillance.

5.43 The Task Force had met six times, and deliberated over many ATM issues in the region, using a large amount of data was provided through the efforts of participating states, and the safety monitoring agencies. The work of the Task Force was separated into phases, the first being the implementation of 50/50NM horizontal separation on selected routes.

5.44 With the implementation of 50/50NM separation and the Post-Implementation Review at TF/7, the work of the Task Force had essentially been completed. Any residual tasks thereafter could be delegated to the South Asia/Indian Ocean ATM Coordination Group (SAIOACG) or other appropriate bodies. IATA emphasised that the planning of the task force included the possibility of 30NM implementation, and wanted this to continue, notwithstanding the work of the BOB-RHS/TF being completed. The ATM/AIS/SAR Sub-Group agreed to the following Decision:

Draft Decision ATM/AIS/SAR/SG/22/4 – Dissolution of the BOB-RHS/TF

That, the Bay Of Bengal Reduced Horizontal Separation Task Force (BOB-RHS/TF) be dissolved and any outstanding tasks be delegated to South Asia/Indian Ocean ATM Coordination Group (SAIOACG).

South Asia/Indian Ocean ATM Coordination Group Outcomes (WP15)

5.45 The Second Meeting of the South Asia/Indian Ocean ATM Coordination Group (SAIOACG/2) was held in Bangkok from 22 to 25 May 2012.

5.46 SAIOACG/2 noted there had been difficulty in completing safety data sharing LOA, as many States had administrative issues signing agreements with foreign entities. The meeting noted that MAAR had advised that the Bay of Bengal airspace RVSM risks were below TLS, however, since 1 July 2010, there had been no LLD or LLE report for the Bay of Bengal area. India suggested that air traffic controllers needed to be trained and directed to understand the importance of reporting correctly.

5.47 The SAIOACG/2 meeting agreed that the SEACG Draft Conclusion should include reference to ADS-C and CPDLC, and therefore needed some additional text. The meeting discussed the implications of the mandating of carriage of ACAS and TAWS, and the continuing need for Minimum Equipment List (MEL) relief in the event of either of these systems being unserviceable. The Draft Conclusion was amended to remove reference to these systems. The ATM/AIS/SAR SG meeting agreed to the following Draft Conclusion for APANPIRG's consideration:

Draft Conclusion ATM/AIS/SAR/SG/22/5 – Asia/Pacific Air Navigation Concept of Operations Mandates

That, States intending to implement Performance-Based Navigation and Safety Nets may, after appropriate consultation with airspace users, designate portions of airspace within their area of responsibility:

a) as providing priority for access to such airspace for aircraft with prescribed Performance-Based Navigation (PBN) specifications and supporting data-link equipage (ADS/CPDLC); and

b) mandating the carriage and use of an operable Automatic Dependent Surveillance-Contract/ Controller Pilot Data-link Communications Systems (ADS-C/CPDLC) system, and mode A/C and/or mode S transponder.

5.48 The Maldives requested India to consider removing the FLAS restrictions. It was advised that Somalia also requested the removal of these restrictions. India wanted to retain the

FL300 (westbound) and FL330 (eastbound) requirements due to communication limitations, noting that the majority of the aircraft were still not ADS-C/CPDLC capable. India was discussing the matter with operators.

5.49 IATA asked whether the Bay of Bengal, Arabian Sea and Indian Ocean Region (BOBASIO) and the SAIOACG meetings were duplicating the same tasks as they covered similar areas. The Secretariat suggested that the informal BOBASIO meeting was an appropriate forum for much of the detailed technical discussion for short to medium term issues. This was encouraged like other informal forums, as they could be held when needed, without the formality of ICAO meetings.

5.50 India announced plans to install ADS-B at 14 locations, while Myanmar advised of its intentions to install six ADS-B stations before the end of 2013. This would assist the management of conflicts with ATS surveillance based separation instead of using procedural and FLAS procedures. The meeting recalled that the lateral spacing between ATS routes was 50NM or more, and that FLAS was utilized at various crossing points, so the current scheme was very conservative. Thus, the meeting was urged to commit to providing the full range of ATM separation services commensurate with the potential ATM capability available, based on the Asia/Pacific Air Navigation Concept of Operations, Seamless ATM, and a focus on ADS-B implementation and data-sharing.

5.51 India was willing to share ADS-B data with neighbouring states. This was recognised by the meeting as a means of improving safety (through the use of safety nets such as conflict alerts), confidence/trust in adjacent operations, and overall efficiency in identifying impending traffic.

5.52 The meeting was advised that Oman was studying a proposal for a floating platform for ADS-B and VHF which is connected by fibre in the Arabian Sea, and stated the return on investment would be very positive. IATA stated that innovative solutions like a floating platform were required, and would assist Seamless ATM.

5.53 India advised that they had problems with convergence of ATS routes within the Delhi FIR that required a tactical handling of aircraft crossing or joining the MTF being managed by the Bay of Bengal Cooperative Air Traffic Flow Management System (BOBCAT). The short route lengths and requirement to hand off to Pakistan to meet their tactical requirements meant that adjustment to level allocations was regularly required.

5.54 It was estimated that more than 50% of aircraft significantly differed from their allocated slots, and there were some overflying aircraft which do not participate in BOBCAT. Although 50NM was implemented on ATS routes P628 and L509, Pakistan was apparently accepting aircraft separated by 50NM only on a case-by-case basis. The BOB-RHS/TF meeting agreed that it would be more efficient for Pakistan to accept westbound aircraft at levels transitioning to their BOBCAT levels, recognizing that both India and Pakistan had complete ATS surveillance coverage.

5.55 Analysis of the data during February – April 2012 indicated that the percentage of flights achieving preferred flight levels within the Kabul FIR had fallen from approximately 90% prior to RVSM and 50NM implementation to 65 – 76%, which was a major concern. Major causes of aircraft unable to achieve their preferred flight level included tactical ATC issues (38%) and departures punctuality (31%).

5.56 The meeting noted a more tactical approach should be taken than relying on more procedural restrictions, especially if this is able to take into account the actual ATM system capability. Thus the meeting did not initially support more rigid BOBCAT measures, at least until data had been properly analysed. Thailand suggested that more information (sharing of departure and flight plan messages) should be able to be provided to assist tactical decision-making.

5.57 IATA supported conformance with the expected BOBCAT routes and allocated levels, but needed to know when airlines were not playing their part. Equally, data was needed to assess whether ANSPs were not assisting the allocation process.

5.58 It was advised that the Sultanate of Oman would shortly commence an AIDC testing programme. The Maldives were completing an ATM upgrade project and once that was finished they would start AIDC trials with India. IATA emphasised that it was very important to ensure that ATM systems were interoperable with neighbours and included in the vendor specifications.

5.59 The Secretariat noted the speech circuit communications issues between Pakistan and India, which had been the case since 2011. Controllers had been resorting to public landlines and mobile phones. The data communications between Kabul and other States had also been problematic, so a Communications Coordination Meeting was planned during 18-19 June 2012 at Karachi.

5.60 India presented information on the coordination between Indian civil and military agencies and the future planning for FUA. IATA placed on record the tremendous work done by India in improving the civil/military cooperation, however, it was noted that India still required an air defence number. India stated that the military had been given more monitoring tools, and would further discuss the number system with the military.

5.61 User Preferred Routes (UPR) in the Arabian Sea and Indian Ocean had been highlighted as one of the initiatives to reduce emissions during the enroute phase of flight. IATA predicted an average seven minute saving per flight with the use of UPRs and thus supported the UPR programme.

5.62 IATA proposed the establishment of a small working group to act as a steering group for ATFM, including BOBCAT, and the application of the correct service delivery. The ATM/AIS/SAR/SG meeting noted the following SAIOCG Decision:

Decision SAIOACG2/2 – Establishment of SAIOACG Small Working Groups

That, SAIOACG Air Traffic Flow Management (ATFM), ATS Communications (COM) and ATS Surveillance (SUR) Small Working Groups be established to:

a) Assess the current status and planning of implementation;

b) Identify barriers to implementation;

c) Make recommendations to assist harmonized ATM procedures and applications;

d) Make recommendations that assist implementation in accordance with the Asia/Pacific Air Navigation and ATFM Concepts of Operations, and the Asia/Pacific Seamless ATM initiatives, related to the ATFM, COM and SUR fields.

5.63 The Secretariat advised the meeting that the Regional Office sometimes received Basic Air Navigation Plan amendment proposals from States without accurate data and appropriate supporting information. Additionally, there was often no information on whether the route had been coordinated with other affected FIRs. All these issues led to unnecessary delays while the Regional Office sought clarification, and increased workload. The ATM/AIS/SAR Sub-Group meeting discussed the format provided in **Appendix F** to this Report and agreed to the following Draft Decision for consideration by APANPIRG:

Draft Decision ATM/AIS/SAR/SG/22/6 – Basic Air Navigation Plan Amendment Procedure Template

That, for ease of reference and reduction of submission errors, the ICAO Regional Office should provide the Doc 9673 Amendment Procedure on the Asia/Pacific website, including requirements to provide detailed and accurate information, an appropriate chart in the case of ATS route amendments, and information on prior consultation with any affected States.

Informal Pacific ATC Coordinating Group (IPACG) Outcomes (WP20)

5.64 The United States presented an update from IPACG/35 (Sapporo, Japan, 7-11 November, 2011) and IPACG/36 (San Diego, USA, 14-18 May, 2012). These meetings were held in conjunction with the Future Air Navigation System (FANS) Interoperability Team (FIT/22) and FIT/23 respectively.

5.65 The Japan Civil Aviation Bureau (JCAB) provided a safety assessment of the 10 minute longitudinal time separation without mandatory application of Mach Number Technique (MNT) on the Pacific Organized Track System (PACOTS) routes within the Fukuoka FIR. Japan also informed the meeting of its future expansion of the cross-boundary trial using ADS-C based 30/30NM separation between the Anchorage and Fukuoka FIRs, in concert with the trial between the Oakland Oceanic and Fukuoka FIRs.

5.66 The IPACG meeting discussed Climb Descend Procedures (CDP), which requires ADS-C, CPDLC, and RNP-4. It was noted that some operators, even with RNP-4 operational approval, were not filing for RNP-4 in their flight plans due to the perception that the additional data-link charges for higher ADS-C update rates were not offset by operational savings. Currently, only 25.5% of aircraft within the Oakland Oceanic Control Area flight plan with RNP-4 equipage and only 50% of the aircraft use ADS-C.

5.67 The FAA described the efforts and progress to expand the ADS-B ITP operational trial that was being conducted in the Pacific, and requested that Japan join the trial by enabling support for ITP within the Fukuoka FIR.

5.68 The FAA reported that the use of UPRs was expanding rapidly. The FAA noted that some operational requirements had been placed on UPRs, and stated that ANSPs need to review these operational requirements to determine if they were still necessary. FAA noted that UPRs were not always the most efficient use of airspace in terms of organized track systems. In total, the overall annual fuel savings from UPRs was over 32.8 million kg. The FAA reported that on 30 April 2011, the FAA and JCAB began an operational trial for Dynamic Airborne Reroute Procedures (DARP) for flights between Japan and Hawaii.

5.69 The Asia and Pacific Initiative to Reduce Emissions (ASPIRE) Daily Program had validated and published five city pairs as ‘four star’ routes: Auckland – San Francisco, Los Angeles – Singapore, Los Angeles – Melbourne, Sydney – San Francisco, and Singapore – Melbourne.

Informal South Pacific ATS Coordinating Group Outcomes (WP21)

5.70 The outcomes from the 26th Meeting of the Informal South Pacific ATS Coordinating Group (ISPACG/26, Nadi, Fiji, 1-2 March 2012) were presented by New Zealand.

5.71 The meeting noted the activities of the APSAPG and that activities to support seamless ATM within the South Pacific such as UPR, DARP, 30/30NM separations, AIDC, ADS-B, ADS-C, CDP, and ITP were already well established. To provide increased focus, the ISPACG Planning Team would develop a matrix of desired attributes against which each State would report and/ or develop plans where necessary.

Combined ASIOACG/INSPIRE Working Group Outcomes (WP22)

5.72 WP22 provided information on the Combined Arabian Sea/Indian Ocean ATS Coordination Group (ASIOACG) and Indian Ocean Strategic Partnership to Reduce Emissions (INSPIRE) Working Group (Dubai, United Arab Emirates, 22 and 23 May 2012).

5.73 Australia had progressively introduced a large number of Flex Tracks and UPRs, while improving off air route operations flight planning requirements. The meeting considered the results of a series of UPR paper trials that had been undertaken by India within the Mumbai FIR.

5.74 A series of Aeronautical Fixed Telecommunication Network (AFTN) messaging trials would be conducted between Melbourne, Male and Colombo ACCs commencing in August 2012. This would be followed by AIDC messaging trials in the latter part of 2012. India and the Maldives announced that Mumbai and Chennai would trial AIDC from mid-2012.

5.75 India offered support for the conduct of a green demonstration flight by Ethiopian Airlines and Kenya Airways and indicated that UPRs would be available within the proposed UPR Zone (southwest of P570).

Review of BOBASIO/02 Meeting at Chennai (WP23)

5.76 The Second Bay Of Bengal, Arabian Sea and Indian Ocean Region meeting (BOBASIO/02) was held in Chennai, India from 11 to 13 April, 2012.

5.77 The meeting reviewed items from the First India-Myanmar-Thailand ATM Coordination Meeting (IMT-ATM/CM/1). An ATS Route parallel and south of L301 was proposed to ease congestion within MTF AR-10 (Middle East – Southeast Asia). India proposed that their contingency route structure may be adopted for Level 2 and the Level 3 regional ATM contingency plan, as connectivity has been provided to all neighbouring states.

5.78 India was considering a mandate for carriage and use of ADS-B equipment in the entire Indian airspace and to operationalise ADS-B stations by December 2013.

5.79 Thailand presented an overview on current progress of the Bangkok-Singapore Whole-Flight Collaborative Decision Making (Whole-Flight CDM) initiative under the auspices of CANSO.

5.80 The Indian Ocean Strategic Partnership to Reduce Emissions (INSPIRE) Agreement was signed by Airservices Australia, Air Traffic and Navigation Services of South Africa and the Airports Authority of India on 07 March 2011. Seychelles, Maldives and Indonesia were urged to participate in this green initiative by India and IATA.

East Asia Air Traffic Management Coordination Group Outcomes (WP24)

5.81 IFATCA presented the outcomes from the 5th Meeting of the East Asia Air Traffic Management Coordination Group (EATMCG/5, 18 to 20 April 2012). EATMCG had been instrumental in developing the route structure in the area and a basic strategic ATFM process involving Hong Kong, Japan and Taiwan.

5.82 The non-standard Flight Level Orientation System (FLOS) and the Flight Level Allocation Scheme (FLAS) used between Manila FIR and Fukuoka FIR, Japan had been a cause for the inadvertent use of incorrect flight levels of some flights at the boundary. Japan requested the Philippines to utilise the standard ICAO FLOS or not to allocate non-standard flight levels. IFATCA proposed the adoption of the standard ICAO Single Alternate FLOS should be an item for consideration at APSAPG.

5.83 Japan reported that the implementation of 30NM longitudinal spacing on B576 between Taipei, Fukuoka and Incheon FIRs, but there was still significant congestion on the route at peak traffic periods. The Republic of Korea highlighted the controller workload during the peak period of 1900-2200 UTC, stating that they were considering a number of measures to resolve the problems, including a one-way route system, alternative routes and rerouting some domestic flights and overflying traffic.

5.84 It was advised that Taibei ACC had reported that they experienced numerous occurrences of unknown traffic, believed to be military aircraft operating under 'due regard' procedures within their airspace, but without any flight plan, radio communication, or coordination. In recent months there had been four such events resulting in Traffic Collision Avoidance System Resolution Advisory (TCAS RA) events.

5.85 Japan reported that Fukuoka and Naha ACCs and Taibei ACC commenced AIDC trials on 22 March 2012. All parties noted the reduction in controller workload due to the reduction of coordination telephone calls. Hong Kong, China reported that during the AIDC initial test phase between Hong Kong ACC and Taibei ACC, a number of software problems were encountered, so it was hoped to recommence trials by mid-2012.

Russian Far East/Cross Polar Inter-Regional ATM Coordination (WP26)

5.86 The Secretariat presented information from the Sixteenth Meeting of the Route Development Group – Eastern Part of the ICAO EUR Region (RDGE/16, Paris, France, 26 to 30 March 2012), the Cross Polar Trans-East ATM Providers' Workgroup (CPWG), and trans-regional ATM coordination between the Russian Federation and East Asia. The RDGE/16 meeting noted that the existing Far East Project Group had been divided into the SG FAR EAST CP acting as the CPWG and the SG FAR EAST acting as the ICAO RDGE/FE Subgroup.

5.87 The CPWG noted that the following States had implemented RVSM on 17 Nov 2011: Afghanistan, Kazakhstan, Kyrgyzstan, Mongolia, Russian Federation, Tajikistan, Turkmenistan and Uzbekistan. Implementation had been managed through the coordination and cooperation of the Europe and Asia (EURASIA) RVSM project. There were a few implementation issues, some with initial filing of metric flight levels and not feet. The meeting noted that most transition areas were now gone, with the exception of areas adjoining China, the Democratic Republic of Korea, and Mongolia (which was planning to change to feet in 2013).

5.88 Considering the steady growth of traffic volume to Beijing, Shanghai, Tokyo, Incheon, Hong Kong and Singapore, the A380 operations between North America and Asia were also expected to increase considerably in the near future. With the increase in traffic volume over Polar routes, the chance of enroute diversion was also getting higher, so Korean Airlines suggested that it was timely for States to consider how to better support the new large aircraft that might need an en-route diversion.

5.89 A number of ATS route proposals had been presented by the ICAO EUR/NAT Office and IATA for coordination with the States in the interface area between the European and Asia/Pacific Region that would involve China, the Democratic People's Republic of Korea, Japan and the Republic of Korea. The Russian Federation was planning to consolidate from 76 ATC Centres to 15 Regional ACCs by 2015, and thus would be expecting more efficient inter-regional ATM coordination to complement their improvement initiatives.

5.90 The Fifth Special ATS Co-ordination Meeting – China, Mongolia, the Russian Federation and IATA (CMRI/5) had been held in Bangkok on 20 – 21 June 2007. CMRI/4 had been held four years prior to this in Shenzhen, China, from 04 to 6 March 2003. It was clear that a number of bodies had dealt with East Asia/trans-regional ATS route proposals, but there was no formal APANPIRG body. In addition, other ATM coordination issues such as those dealt with by the CMRI

meeting were outside the scope of the RDGE meeting, although there was some cross-over with the non-ICAO CPWG in recent years inviting Asia/Pacific States.

5.91 The meeting discussed this matter at length. Two States expressed the view that there were sufficient informal ATM Coordination Groups for discussion of the broader issues relating to their FIRs. Japan also stated that they would prefer to work to make full and effective use of existing frameworks to avoid possible duplication of work, rather than creating a new group. The meeting noted that the lack of a Russia – East Asia ATM Coordination Group meant there was no other formal vehicle to ensure that APANPIRG was informed of these issues and that the routes were effectively implemented.

5.92 The ATM/AIS/SAR Sub-Group considered the formation of a body that could manage trans-regional ATM issues. China, Japan the Republic of Korea and Mongolia met separately to discuss this after some States indicated their support for the proposal, while others were concerned that the proposed Coordination Group's work may overlap with other meetings. In noting that Russia was not present to discuss this, it was decided to correspond between the concerned States in order to present an agreed position if possible, to the next ATM Sub-Group meeting.

Asia/Pacific Region ATS Route Catalogue (WP25)

5.93 The Asia/Pacific Region ATS Route Catalogue was reviewed by the meeting. It was noted that a number of States needed to update ICAO on Basic ANP amendments that either had not been implemented, or had not been implemented as approved, or were not formally approved. Chapter 1 was expected to become obsolete in the near future as the Basic ANP migrated to an electronic format provided by ICAO HQ. Thus all Chapters apart from Chapter 4 (State requests) and Chapter 5 (User requests) could be redundant in the near future.

5.94 It was proposed that after review by the proposing bodies, the remaining requests in Chapter 4 and 5 could be geographically referenced according to appropriate ATM Coordination Groups. The management of the route proposals had not been working as intended, so it was important that the routes that had a medium or long-term opportunity to succeed were assigned to the appropriate task lists. It was noted that a number of ATS route proposals, including those developed by the RDGE meeting, should be reviewed by the States.

5.95 The meeting noted that the Route Catalogue did not adequately capture or record actions taken by States to assess and implement route proposals, or reasons for their rejection. The ATM/AIS/SAR Sub-Group discussed this, and agreed to the following Draft Conclusion for APANPIRG's approval:

Draft Decision ATM/AIS/SAR/SG/22/7 – Asia/Pacific Region ATS Route Catalogue Update

That, ICAO should update the Asia/Pacific Region ATS Route Catalogue (Version 11) by:

a) amending the administrative details as required;

b) incorporating any ANS Deficiency changes approved by APANPIRG;

c) incorporating new airspace user proposals presented at the ATM/AIS/SAR/SG/22 meeting;

d) undertaking a review of existing routes within the Route Catalogue, in collaboration with affected States and administrations in order to update this information; and

e) developing a new document structure organised by geographical reference that allows easy review.

ATS Route Proposals (WP46)

5.96 IATA requested that four new route requests from airlines be included in the Asia/Pacific ATS Route Catalogue.

5.97 IATA requested an update from Pakistan on progress with implementation of the Route PRA – SERKA, noting that India had approval the route some time ago after dialogue with their military using FUA principles. At the Special Coordination Meeting held in Bangkok 19 to 20 March 2012, Pakistan undertook to 'favourably consider' the implementation of the portion of the route inside the Karachi FIR and coordinate with India. No update has been received or coordination had taken place.

5.98 The meeting was informed that a separate informal meeting between India, Pakistan and IATA was conducted, in order to progress ATS route coordination matters.

5.99 IATA expressed the view that if particular routes could not be approved in the existing operational environment, they should remain under consideration for future implementation under such circumstances as improved communications or surveillance coverage, or ATM system modernization.

Agenda Item 6: AOP, MET, AIM, SAR

Regional Runway Safety Seminar Outcomes (IP06)

6.1 ICAO provided information from the Regional Runway Safety Seminar (RRSS), held in Bali, Indonesia from 21 to 24 May 2012. The objective of the seminar/workshop was to promote the establishment and enhancement of airport specific multidisciplinary runway safety teams, in an effort to improve runway safety. One of the key outcomes of the Global Runway Safety Symposium (GRSS, Montreal May 2010) was the promotion of runway safety through the delivery of a series of Regional Runway safety Seminars to promote best practices including the establishment of runway safety teams.

Meteorological Task Force Outcomes (WP19)

6.2 The Secretariat presented updates on matters relevant to ATM regarding the MET/ATM Task Force (MET/ATM/TF), the Operational Meteorological Management Task Force (OPMET/M TF/10, Bangkok, 17 to 19 April 2012), and the Second Meeting of the Meteorological Advisories and Warnings Implementation Task Force (METWARN/I TF/2, Bangkok 19 to 20 April 2012).

6.3 The next MET-ATM/TF event is tentatively being planned in March or April 2013. Key milestones of the group include determining regional MET requirements for ATM (including volcanic ash information), developing methods to use weather information in decision support tools and developing sub-regional exchange of MET information to facilitate ATM operations in busy routes.

6.4 The OPMET/M TF reviewed the status of OPMET deficiencies in the Region, which mainly concerned the provision of SIGMET information, MET briefing and flight documentation, and MET observations and reports. In relation to the deficiency in the regular provision of information on volcanic activity to ATS units and Meteorological Watch Offices (MWO) in Indonesia, the meeting was apprised that corrective action was underway in the form of a LOA, signed in January 2012.

6.5 The METWARN/I TF noted activities underway by the International Airways Volcanic Watch Operations Group and the Meteorological Warnings Study Group concerning the development of guidance with regards SIGMET on radioactive cloud and aerodrome warnings for tsunami. The meeting agreed to strengthen the link between the RACP/TF and METWARN/I TF through the regular exchange of information on progress and requirements of the respective groups.

AIS-AIM Implementation Task Force Outcomes (WP09)

6.6 The Seventh Meeting of the Aeronautical Information Services – Aeronautical Information Management Implementation Task Force (AAITF/7) and the International Codes and Routes Designators (ICARD) Seminar were held at Hanoi, Viet Nam from 13 to 16 March 2012.

6.7 The ICARD Seminar was conducted in order to assist States to manage aeronautical data associated with Five Letter Name Codes (5LNC) and ATS Routes. The Seminar provided direct assistance to numerous Asia/Pacific States, and as a result, nine administrations successfully registered for ICARD, bringing the total number of Asia/Pacific users to 26 (in 2011 there were 12). These administrations were Cambodia, India, Indonesia, Macao China, Myanmar, the Philippines, Sri Lanka, the Solomon Islands and Viet Nam. States were urged to have a minimum of two ICARD users.

6.8 Volcanic ash advisories were discussed by AAITF in terms of the best means of presenting such information. It was noted that the United States used airspace terms other than danger areas such as 'warning areas'. The meeting considered that the use of danger areas for areas proximate to volcanoes[2] and meteorological hazard forecasts such as SIGMET for the variable airspace volume forecast to contain ash cloud were all that was required at present. It was agreed that this should be made clear to the AIS-AIMSG Ad Hoc Group on AIM Development.

6.9 Regarding short-notice changes in aeronautical data, the APANPIRG/22 Chairman had noted that a small aeronautical data change could have a global effect on other systems, and urged States to comply with aeronautical promulgation standards. IATA reflected on several recent regional examples of non-adherence to ICAO standards and recommended procedures and/or quality and accuracy of information in respect of location indicator and ATS routes, noting the adverse effect this had on aviation systems. Japan noted that the purpose of Aeronautical Information Regulation and Control (AIRAC) cycle was to provide enough lead time so that all stakeholders could update their databases, including Flight Management Systems (FMS) and relevant manuals prior to the change. The meeting noted that aeronautical information should be published 28 days before the effective date for normal changes, but in the case of major changes such as airspace or airport changes, the lead time should be 56 days.

6.10 The meeting discussed the possible reasons for the systemic issues and noted that project planning that took into account AIM issues should be an automatic part of a State's responsibilities under their Safety Management System (SMS) requirements. The main reasons for the failure of some administrations to adhere to Annex 15 lead times appeared to be:

- Poor planning and coordination between change originators such as Air Traffic Management (ATM), resulting in AIS units receiving information for promulgation less than the required time before its effective date; and
- AIS units not being empowered to decline to promulgate information which did not comply with Annex 15 requirements.

6.11 Acknowledging the serious and systemic nature of this issue, the ATM/AIS/SAR Sub-Group discussed and agreed to the Draft Conclusion for APANPIRG's approval:

Draft Conclusion ATM/AIS/SAR/SG/22/8 – Annex 15 Promulgation Requirements Compliance

That, States should be urged to recognise the importance of Annex 15 compliance in respect of aeronautical data affected by major projects, by:

a) establishing formal coordination between change originators and Aeronautical Information Service (AIS) units to ensure appropriate planning and that promulgation requirements were taken into account; and

b) creating a mechanism to allow AIS personnel to decline requests that did not comply with Annex 15, except for urgent corrections, emergencies, and matters of national security.

[2] It was noted that New Zealand had developed Volcanic Hazard Zones (VHZ) for the purpose of containing hazardous airspace near volcanoes, which acted like danger areas except at night and Instrument Meteorological Conditions (IMC), so that the danger from volcanic ballistic ejecta may be visible.

6.12 The meeting discussed appropriate procedures and associated policy for promulgating ATS route designators. Two Asia/Pacific States had designated domestic ATS routes using an inappropriate alphanumeric code that included a zero ('0') as the first number (V001-V029 and V10-V021). Given the problems that a leading zero before any one or two digit number presented to automated systems, the meeting noted that three route numbers should be used, not one or two, and that the use of a zero ('0') should not be used as the first number.

6.13 The meeting considered the progress of AIM implementation to date (**Figure 2**), noting that the AIM Transition Table (**Appendix G**) and the survey indicated that implementation had been inconsistent, and that many administrations had not progressed beyond Phase 1. Australia commented that according to the AIS-AIM Roadmap, Phase 1 was intended to be complete by November 2010 (Phase 2 by November 2013 and Phase 3 November 2016). Of the 43 administrations indicated, only 10 had achieved the four Phase 1 elements, and only four had indicated implementation of Phase 1 plus five of the nine Phase 2 elements, including P17-Electronic AIP (India, Japan, New Zealand and Singapore).

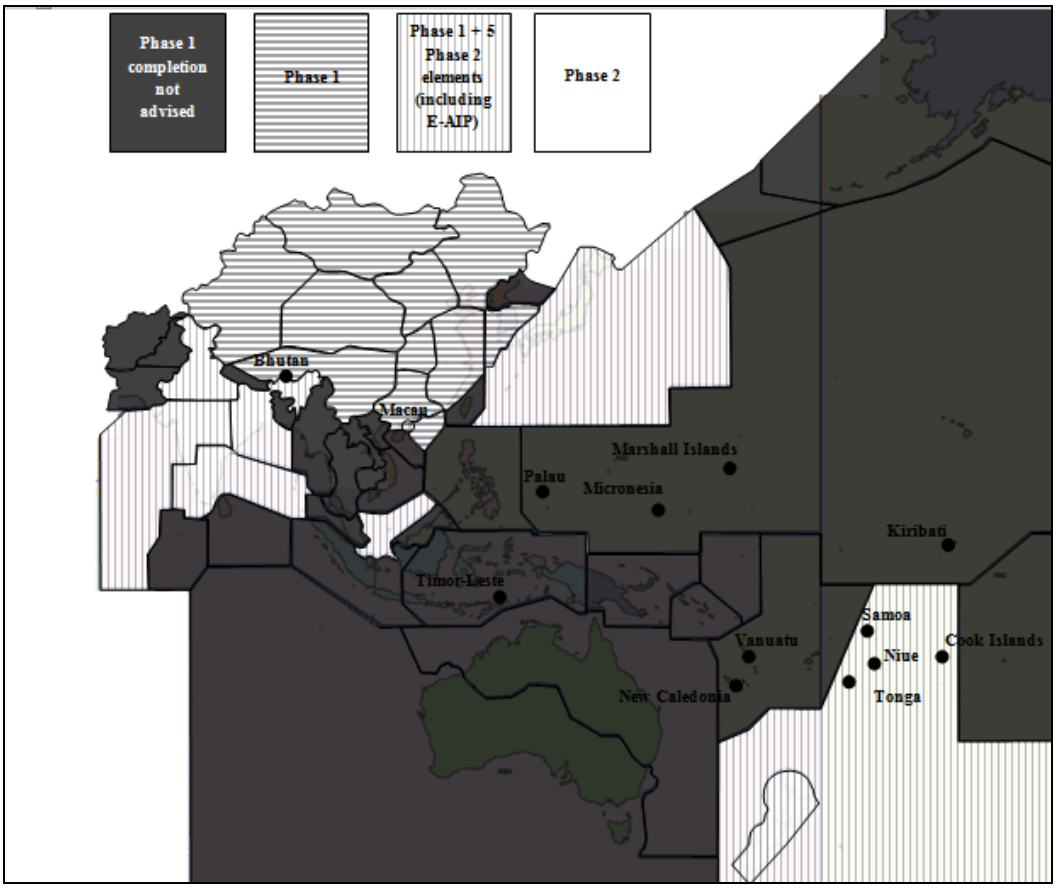

Figure 2: Asia/Pacific AIM Implementation Progress

6.14 Given the slow progress of implementation in many States thus far (**Figure 2**), it was suggested that the Task Force place a much greater emphasis on individual State planning to achieve AIM transition as soon as practicable. The ATM/AIS/SAR Sub-Group agreed to the Draft Conclusion for APANPIRG's approval:

Draft Conclusion ATM/AIS/SAR/SG/22/9 – AIS-AIM Transition State Plans

That, States should develop a basic plan that identified when all the Aeronautical Information Service – Aeronautical Information Management (AIS-AIM) Transition elements in the AIS-AIM Roadmap would be completed, and submit these plans to the Asia/Pacific Regional Office prior to 1 January 2013.

6.15 The meeting noted that further guidance may be needed for the development of these transition plans, and that the State Letter could include guidance on what information was required, and a template for the plan.

6.16 The AAITF/TF/7 meeting discussed the matter of data integrity quality assurance. It was clarified that the specific metrics had been removed from Annex 15, although it was emphasised that there was still a continuing need to ensure data integrity to an acceptable level. Of serious concern in terms of AIM implementation progress was the number of States that had not completed the Quality Assurance element of Phase 1 (P-17). After the AAITF/7 meeting, further discussion between States indicated a worldwide need for more guidance on this subject, so an AIM Quality Assurance Seminar for Asia/Pacific States was considered just prior to the next AAITF meeting. The ATM/AIS/SAR Sub-Group agreed to the Draft Conclusion for APANPIRG's approval:

Draft Conclusion ATM/AIS/SAR/SG/22/10 – AIM Quality Assurance Seminar

That, ICAO should conduct an AIM Quality Assurance Seminar in conjunction with the Aeronautical Information Services – Aeronautical Information Management Implementation Task Force (AAITF).

6.17 It was noted that many Asia/Pacific States did not have the resources to engage in high technology solutions for Electronic Terrain Obstacle Databases, or the regulations requiring construction reporting. In these cases the primary means of ensuring the provision of relevant construction activity information was considered to be the development of strong relationships between airports and the local planning and construction authorities.

6.18 There was considerable discussion regarding duplicated 5LNCs and amendment procedures, which clarified that Annex 11 required that each code had to be unique. Notwithstanding this, the United States advised that there were many duplicated codes within their system and worldwide, so logic checks were written into their software to ensure there were no safety issues and to bring the pilot into the decision-making process. The Seminar noted that there was worldwide pressure on the number of waypoint codes available, especially with the implementation of new PBN procedures. The meeting noted that some FMS had logic which enabled identification of duplicated codes, but this was not universal. In addition, the meeting noted that the strict requirement to change a code even if, for example, the amendment was only a very minor nature en-route was not how many States interpreted this requirement. It was agreed that when an ATS route designation was amended, this should not affect the 5LNCs unless the route was amended in terms of its geographical disposition. The ATM/AIS/SAR Sub-Group agreed to the following Draft Conclusion for APANPIRG's approval:

Draft Conclusion ATM/AIS/SAR/SG/22/11 – Duplication and Amendment of 5LNC

Recognising that with the increasing use of Five Letter Name Codes (5LNC), it was not practical to avoid any duplication of 5LNC worldwide, and that States often used discretion in managing both duplications and minor changes of waypoint position that may not strictly be in accordance with the provisions of Annex 11, Appendix 1, ICAO is requested to consider:

a) reviewing and updating Annex 11 to ensure its provisions related to 5LNC are appropriate; and

b) standards for Flight Management Systems (FMS) that ensure logic checks of inputted waypoints that are duplicated are highlighted to pilots.

Update on AIS/SAR Initiatives (IP03)

6.19 An update on AIS/SAR initiatives was provided by India. India had to manage a large amount of aeronautical data for its many airports. To meet the requirements of the AIS data users for timely and efficiently receipt of data and to implement roadmap for transition from AIS to AIM, India had implemented AIS automation using Aeronautical Information Exchange Model (AIXM) Version 4.5. India was committed to implement Digital NOTAM

6.20 India emphasised the need to enter into Search and Rescue (SAR) services agreements with neighbouring countries; therefore, initiatives were being taken to formalize such agreements. India had already established SAR agreement with Bhutan for the cooperation of SAR services. At recent ATS Coordination Meetings issues pertaining to SAR Agreements were also discussed:

- critical border area activities for rescue operations;
- resources available near the SAR area;
- rapid response international cooperation;
- sharing of SAR resources;
- mutual exchange of SAR personnel; and
- joint exercises both over marine and land areas.

Updates on ATM/AIS/SAR Activities in Viet Nam (IP09)

6.21 Viet Nam provided a brief update on ATM/AIS/SAR activities. The key areas were:

- ATM: ATM Contingency Planning Operation Coordination Agreement based on a common format developed by the RACP/TF, preparation for testing of AIDC between Ho Chi Minh and Sanya/Singapore ACCs.
- AIS: Viet Nam AIP Fourth Edition publication, trial operation of a new automated AIS system; enhancing AIS service at domestic airports, taking measures for compliance with the AIRAC notification periods; and
- SAR: participating in SAR 79 activities with the Maritime Authority of Vietnam; conducting airport emergency exercises; preparing for SAREX-2012 (at National level) in the Northern region of Viet Nam, reviewing current SAR LOAs with adjacent FIRs, routine checking for anti-flooding activities, aerodrome emergency and SAR services.

6.22 Viet Nam was further considering new ATS/RNAV routes with shorter distances serving traffic between Ha Noi and Yangon, Hong Kong/Macau, China, and Australian destinations. In addition, they were accelerating the preparation and testing of AIDC between Ho Chi Minh ACC, Sanya ACC and Singapore ACC.

Search and Rescue Capability (WP27)

6.23 The Secretariat provided information in respect to SAR in Asia/Pacific Region. APANPIRG/22 had no specific discussion in relation to SAR matters apart from the Secretariat update. The lack of discussion at APANPIRG/22 related to SAR matters probably reflects the fact that there is no specific APANPIRG body that looks at Regional SAR issues. This was also noted at the ATM/AIS/SAR/SG/21 meeting when discussing WP24.

6.24 The current List of SAR Agreements is presented in **Appendix H** to this Report. The SAR Capability Matrix Table is appended as **Appendix I** to this Report. This data indicated that only eight Asia/Pacific administrations had full SAR capability in all elements.

Search and Rescue in New Caledonia and French Polynesia (WP28)

6.25 French Polynesia presented a Discussion Paper from the DGCA/48 conference related to SAR in New Caledonia and French Polynesia.

6.26 There were no aeronautical SAR exercises planned yet with neighbouring SAR coordination centres. However, the complexity of the distribution of SAR missions in the region would require better coordination among stakeholders.

6.27 In noting a need to strengthen the synergies between the relevant SAR actors within New Caledonia or French Polynesia airspace, French Polynesia suggested that the Asia/Pacific should develop SAR cooperation with neighbouring States (drafting of LOA, organisation of regional exercises).

Improving SAR Capability in the Asia/Pacific Region (WP29)

6.28 As a measure towards addressing the lack of discussion in relation to SAR matters and lack of conclusions related to SAR, Australia proposed the establishment of an Asia/Pacific Regional SAR Workgroup (APSAR/WG) reporting to the ATM/AIS/SAR/SG. WP29 noted that cooperation between, and collaboration with, neighbouring and regional Rescue Coordination Centres (RCCs) was essential to ensure that the best possible SAR response is provided to persons in distress regardless of State boundaries. This included measures such as the activation of SAR assets for cross-boundary responses, and preparatory measures (sharing of SAR expertise, knowledge and experience amongst neighbouring and regional SAR Coordination personnel).

6.29 One particular area of concern and challenge to the Asia/Pacific that was highlighted was oceanic SAR capability. Considering that the Asia/Pacific Region had responsibility to provide a SAR service over vast oceanic areas, including three of the world's five oceans, combined with identified gaps for States with oceanic SAR responsibility, cooperation and collaboration between neighbouring and regional RCCs was essential.

6.30 The purpose of the APSAR/WG would be to promote the enhancement and improvement of Regional SAR capability, address Regional SAR issues, promote SAR best practice, make recommendations for improvements and raise the profile of SAR issues within APANPIRG. It was proposed that membership of the APSAR/WG be open to States and administrations that have the responsibility for the provision of SAR services and facilities within the Asia/Pacific Region, SAR related international organizations, ICAO and the International Maritime Organization (IMO). It was suggested that the APSAR/WG meet every two years.

6.31 There was considerable discussion of this proposal, including the workload involved in monitoring the outcomes of the ICAO/IMO Joint Working Group on Harmonization of Aeronautical and Maritime Search and Rescue (JWG), the possibility of the JWG presenting a paper to update the APSAR/WG, the timeliness of the meeting schedule, the effectiveness of the APSAR/WG in assisting the region in aligning the States' SAR capabilities, bilateral and sub-Regional SAR agreements, and the capacity of States to conduct SAR exercises.

6.32 Australia stated that with reference to Item G of the Draft TOR, the intention was not that all States participate in one large international SAR exercise each year, but that exercises should be targeted to pockets within the Region that required priority. Moreover, States that were not geographically proximate may participate as it still provided an opportunity for learning and development. The meeting noted that SAREXs did not need to involve deployment of aircraft or vessels and instead could be in the form of discussions and/or table top communication exercises.

6.33 The meeting noted that the proposed Workgroup could provide a deliverable to the ATM Sub-Group on the years that it did not meet by means of electronic communication between Workgroup members, including JWG outcomes, and an update to the Secretariat.

6.34 The ATM/AIS/SAR/SG meeting agreed to the following enhanced Draft Decision for APANPIRG's approval:

Draft Decision ATM/AIS/SAR/SG/22/12 – Establishment of APSAR Workgroup

That, an Asia/Pacific Regional SAR Workgroup (APSAR/WG) be established, reporting to the ATM Sub-Group of APANPIRG, in accordance with the Terms of Reference as shown in **Appendix J** to this Report.

Search and Rescue Matters (WP30)

6.35 The United States of America noted the lack of discussion at APANPIRG/21 related to Search and Rescue (SAR) matters and the SAR Tables that revealed gaps in SAR which could benefit from such discussion. The paper stating that the Asia/Pacific Regional Office had done a commendable job creating and maintaining the SAR Tables, which were gaining usage in other parts of the world and which provided a powerful document for SAR capability planning and management.

6.36 The United States stated that it is possible that many of the identified gaps could be filled by some basic national or regional steps, and that is was preferable to have some SAR capability (and other arrangements in place) than wait to have all the resources to create the perfect SAR system. Moreover, they noted that the process to begin filling SAR gaps did not have to focus on only the SAR Capability Matrix, but the Matrix did provide a useful beginning focal point. Using the Matrix simply as an initial guide, discussion could include matters such as:

a) establishment of SAR committees;

b) SAR LOA Agreements;

c) Maritime SAR arrangements;

d) agreements on RCC areas of responsibility;

e) provision of a SAR Library;

f) Cospas-Sarsat Distress Alerts;

g) assistance to States; and

h) sub-regional SAR services.

6.37 The meeting noted that the SAR matters listed above might be appropriate for discussion under the proposed APSAR/WG. The United States noted that as basic steps were taken to fill SAR capability gaps, it hoped that momentum built to sustain that effort and improve the overall capability of the SAR system throughout the Asia/Pacific region.

Search and Rescue use of RPA/UAS (WP31)

6.38 The United States of America presented information on the capabilities offered by Remotely Piloted Aircraft (RPA) and Unmanned Aircraft System (UAS) technology. ICAO's Unmanned Aircraft Systems Study Group (UASSG) and several Panels of the Air Navigation Commission were actively engaged in developing Standards and Recommended Practices (SARPs) to address the full range of RPA/UAS issues that can be introduced in a logical, phased manner over the next several years.

6.39 Until recently, RPA supported military and security operations, but that was rapidly changing, so this technology now promised new ways for government agencies to increase efficiency, save money, enhance safety, and save lives. As in other ICAO regions, Asia/Pacific had States which found it difficult to meet their SAR responsibilities within their SAR regions, particularly regarding long distances to the search area and the need for long searches or remaining on scene to assist. RPA could be a lower-cost method to fix this deficiency.

6.40 Tasks which could be performed by RPA for SAR included:

- direction finding on all distress frequencies and locating devices, including 406MHz distress beacons;
- investigation of distress alerts (is it an actual distress or is it a false alert);
- rapid initial search to locate debris to decrease the size of search areas;
- communications relays;
- delivery of emergency supplies such as a radio or medicine;
- expanding the search area covered by a vessel; and
- searching in coordination with an aircraft which could divert to investigate (reducing the number of manned search aircraft or using them in the area where most needed).

6.41 The Secretariat undertook to communicate with ICAO HQ to ensure inclusion and focus on the concept of remotely-piloted aircraft/unmanned aircraft systems for search and rescue at the Air Navigation Conference, scheduled for November 2012.

Agenda Item 7: Air Navigation Service Deficiencies

ATS Routes Restructuriszation within Jakarta FIR and Ujung Pandang FIR (WP40)

7.1 Indonesia presented information of the restructurization some ATS Routes within Jakarta FIR and Ujung Pandang FIR including establishment of L504, and as a result requested the closure of the air navigation deficiency on this matter.

Air Navigation Service Deficiencies List (WP41)

7.2 A list of Air Navigation Deficiencies noted by the APANPIRG/22 in the ATM/AIS/SAR fields was reviewed by the meeting. The following States submitted requests to close ATM/AIS/SAR Deficiencies.

- **China**:
  - advised the ATM/AIS/SAR/SG/21 that the current the routing B215 KUQA A460 REVKI to Alma Ata met the requirements for traffic from Urumqi to Alma Ata (Almata) and requested deletion of R216 from the BANP (14 April 03). China coordinated with Kazakhstan to delete R216 from the BANP; no information has since been received from the EUR/NAT Office regarding concerns from Kazakhstan.
  - advised the AAITF/7 meeting that WGS-84 had been fully implemented.
- **Democratic People's Republic of Korea**:
  - advised at the AAITF/7 meeting and by letter dated 20 March 2012 that WGS-84 implementation was complete, and effective 03 May 2012.
- **Solomon Islands**:
  - advised on 14 March 2012 at the AAITF/7 meeting that WGS-84 had been implemented on 31/01/2011.
- **Timor-Leste**:
  - advised by email dated 24 April 2012 that WGS-84 implementation was complete (note: this item was not on the Deficiencies List).
- **Tonga**:
  - advised by letter dated 12 July 2011 that the requirements for Annex 6 (Carriage of ACAS II and Carriage of Pressure Altitude Reporting Transponder) were published in the AIP August 2006.
- **Viet Nam:**
  - advised the meeting that the target date for implementation of ICAO Airspace Classification was November, 2012.

7.3 New Zealand advised that AIP had been implemented in Cook Islands. The Secretariat requested that New Zealand ask the Cook Islands administration to contact ICAO.

7.4 The ATM/AIS/SAR SG meeting agreed to the following enhanced Draft Conclusion for APANPIRG's approval:

Draft Conclusion ATM/AIS/SAR/SG/22/13 – Update of ATM/AIS/SAR Deficiency List

That, the ATM/AIS/SAR Deficiency List be amended as detailed in **Appendix K** to this Report.

Agenda Item 8: Update the ATM/AIS/SAR Task List

APANPIRG ATM/AIS/SAR Sub-Group Task List (WP44)

8.1 The meeting reviewed and updated the task list included as **Appendix L** to this report.

Agenda Item 9: Any Other Business (including Election of Officers)

ATS Provider Security Requirements (WP/42)

9.1 The Cooperative Aviation Security Programme- Asia Pacific (CASP-AP) presented information on new aviation security program requirements under Annex 17 for air traffic service providers. The meeting noted that the global aviation security regime worked differently from aviation safety in that national legislation, including operating regulations were outcome based and non-specific. The new requirement for an ATS provider aviation security program fell under the overall National Civil Aviation Security Program. The paper requested any States which already had an ATM Security Programme, suitably de-identified with sensitive material deleted, to provide material for the model programme.

ATS Point of Contact Update (WP43)

9.2 The Secretariat requested participants to update ATS Point of Contact details (**Appendix M**).

Presentation on Bangkok/Suvarnabhumi International Airport Runway Maintenance 11 Jun - 9 Aug 2012 (Presentation 4)

9.3 Thailand presented information on the air traffic demand and capacity balancing program implemented for runway maintenance at Bangkok/Suvarnabhumi International Airport, including a review of the first two weeks of operation.

Election of ATM Sub-Group Chairperson and Vice-Chairperson

9.4 Mr Colman Ng, Chairman of the ATM/AIS/SAR/SG, had announced that he would step down from the Chair of the Sub-Group at the end of the meeting. The meeting acknowledged the long and significant contribution of Mr. Ng. IATA stated that the users were very grateful for the manner in which Mr Ng had guided the Sub-Group through many difficult areas in order to make progress.

9.5 Hong Kong, China nominated Mr. Kuah Kong Beng, Director of Air Traffic Services, Civil Aviation Authority of Singapore, to chair the ATM Sub-Group. Thailand seconded the nomination. No other nominations were made, and Mr. Kuah Kong Beng was duly elected as Chairperson of the ATM Sub-Group.

9.6 Thailand nominated Mr. Mukesh Chand Dangi, General Manager (ATM), Airports Authority of Inda, as Vice-Chairperson. Sri Lanka seconded the nomination. No other nominations were made, and Mr M.C. Dangi was duly elected as Vice-Chairperson of the ATM Sub-Group.

Agenda Item 10: Date and venue of the next meeting

10.1 The First Meeting of the ATM Sub-Group (ATM/SG/1) was tentatively due to be held from 20 to 24 May 2013, at Bangkok, Thailand.

Closing remarks

10.2 The Chairman thanked the meeting participants for their contributions.

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Very High Risk	Afghanistan*
	Philippines
	China
	Vietnam
	Papua New Guinea*
High Risk	Indonesia
	LAO PDR
	Myanmar
	Australia
Medium Risk	Maldives
	Pakistan
	India
	Rep. of Korea
	Japan
	Brunei Darassulam*
	Macao China
	Malaysia
	Cambodia
	Nauru
	Solomon Islands*
	Nepal
	New Zealand
	USA
Low Risk	Singapore
	Sri Lanka
	Mongolia
	Thailand
	Bangladesh
	Hong Kong China
	Fiji
	French Polynesia
Very Low Risk	DPR Korea

* No data received

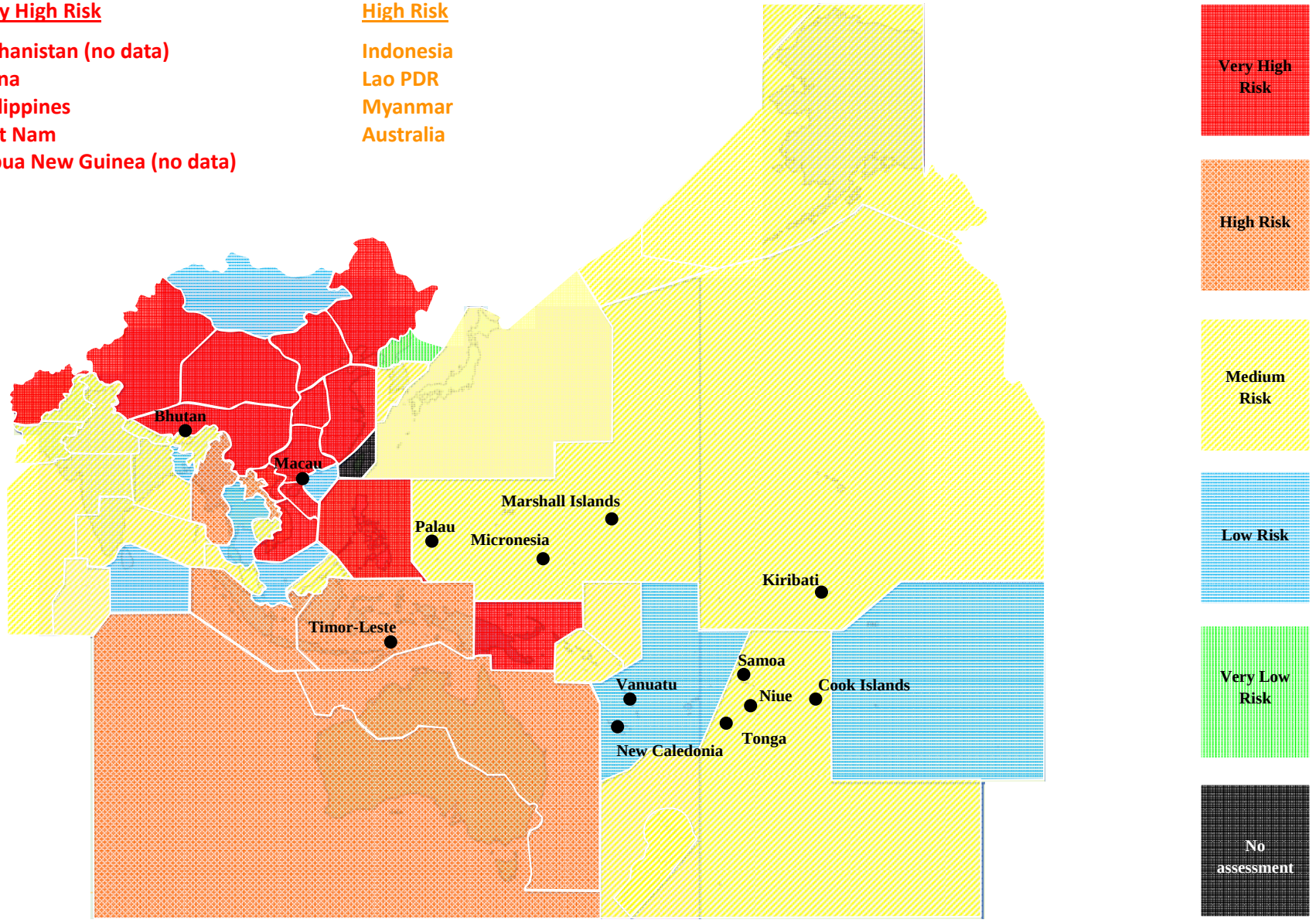
Doc 4444 Amendment 1 Implementation Risk Assessment

Very High Risk

Afghanistan (no data)
China
Philippines
Viet Nam
Papua New Guinea (no data)

High Risk

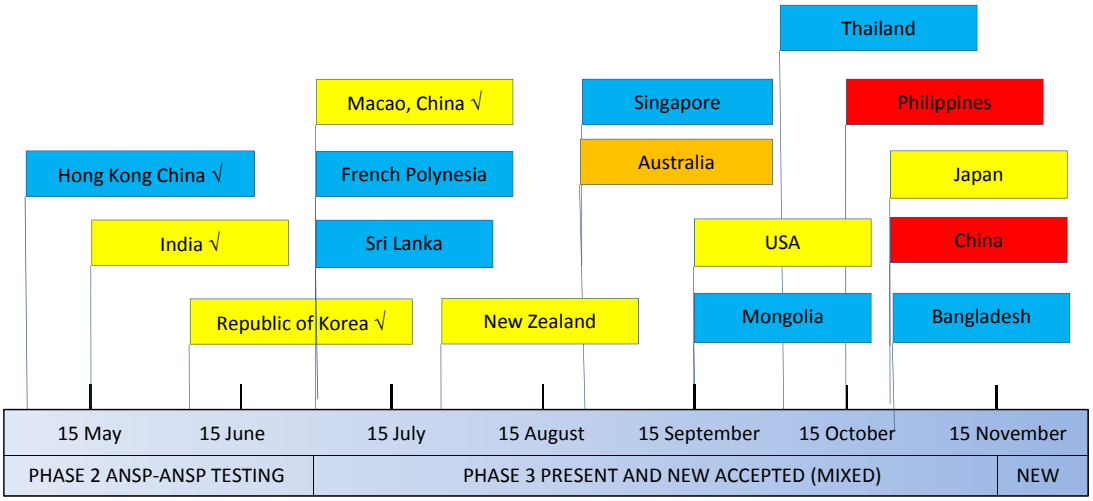
Indonesia
Lao PDR
Myanmar
Australia



Amendment 1 Phase 3 Implementation Progress –

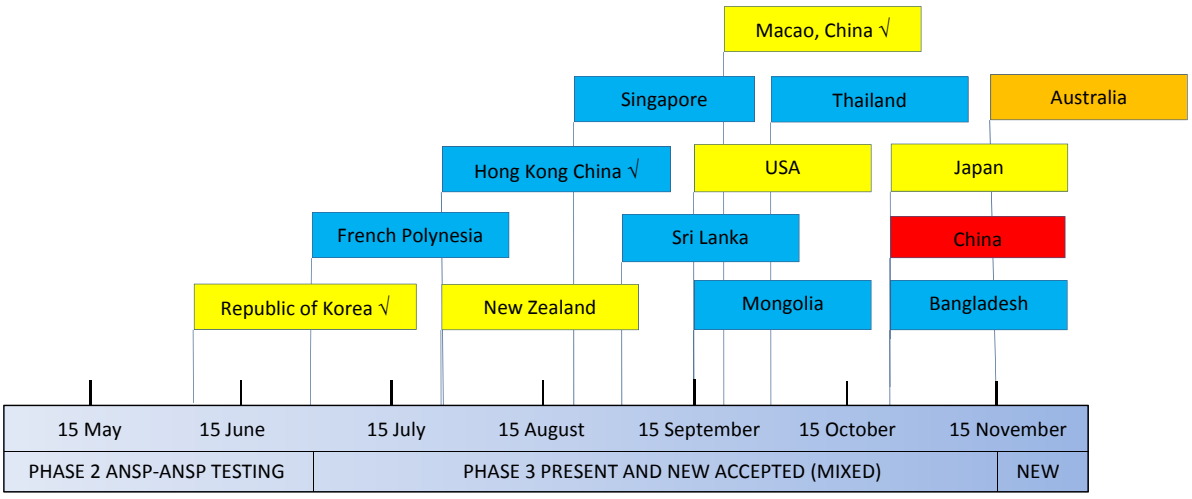
Updated 29 June 2012

Planned System Capability to Accept NEW Format FPL



√ = System NOW capable

Planned Operational Acceptance of NEW Format FPL



√ = System NOW capable

INTERNATIONAL CIVIL AVIATION ORGANIZATION

ASIA AND PACIFIC OFFICE

Asia/Pacific Guidance Material for the

Implementation of Amendment 1 to the 15th Edition of the

Procedures for Air Navigation Services – Air Traffic Management

(PANS-ATM, Doc 4444)

Version 5, 29 June 2012

ISSUED BY THE ICAO ASIA/PACIFIC REGIONAL OFFICE, BANGKOK

Indicator	Contents
STS/	One or more of the approved specified entries, separated by spaces
PBN/	A single string containing up to 8 of the approved alphanumeric descriptors No embedded spaces
NAV/	Free text field
COM/	Free text field
DAT/	Free text field
SUR/	Free text field
DEP/	Free text field
DEST/	Free text field
DOF/	A single string in the specified date format (YYMMDD). No embedded spaces
REG/	A single string. No embedded spaces
EET/	One or more strings. Each string is: ~~2-5 alphanumeric characters; or~~ ~~a LAT/LONG followed by a 4-digit elapsed time, from 0000 to 9959 (i.e., 0-99 hours followed by 0-59 minutes)~~ One or more strings. Each string is: 2-5 alphanumeric characters, or a LAT/LONG; followed by A 4-digit elapsed time, from 0000 to 9959 (ie. 0-99 hours followed by 0-59 minutes)
SEL/	A single string of four letters
TYP/	Free text *Note: Although the entry is structured when used for formation flights, it is also used when no designator is assigned and, therefore, may be any text description.*
CODE/	A single string of 6 hexadecimal characters
DLE/	One or more strings Each string consists of a valid Significant Point followed by a 4-digit elapsed time
OPR/	Free text field
ORGN/	Free text field

Indicator	Contents
PER/	A single letter The letter must be one of those specified in PANS-OPS (Doc 8168), as below: • *Category **A:*** less than 169 km/h (91 kt) indicated airspeed (IAS) • *Category **B:*** 169 km/h (91 kt) or more but less than 224 km/h (121 kt) IAS • *Category **C:*** 224 km/h (121 kt) or more but less than 261 km/h (141 kt) IAS • *Category **D:*** 261 km/h (141 kt) or more but less than 307 km/h (166 kt) IAS • *Category **E:*** 307 km/h (166 kt) or more but less than 391 km/h (211 kt) IAS • *Category **H:*** Specific procedures for helicopters.
ALTN/	Free text field
RALT/	Free text field
TALT/	Free text field
RIF/	~~Route information consistent with the format of a valid Field 15c~~ The route details to the revised destination aerodrome, followed by the ICAO four-letter location indicator of the aerodrome. Examples: RIF/DTA HEC KLAX RIF/ESP G94 CLA YPPH
RMK/	Free text field

Table 5-1: Item 18 Indicator Validity Check

9.2 States are urged to commence operational acceptance and processing of PRESENT and NEW format FPL and ATS messages as early as possible, and in any event no later than 0000 UTC on 12 November 2012.

APAC State Contingency Plan Status (last updated: 4 May 2012)

Territory	Plan	APAC Version	Web-site	Contact Details	Info Updated	Notes
Afghanistan						
Australia	Yes	22 July 2010				
Bangladesh	Yes	11 May 2009	No	Azad Zahirul Islam datsaero@caab.gov.bd ncusapcaab@yahoo.com	19/4/2012	
Bhutan						
Brunei Darussalam						No FIR
Cambodia						
China	Yes					
Hong Kong, China	Yes	TBA	No	Benjamin Fong bysfong@cad.gov.hk	17/4/2012	
Macau, China	No					No FIR
Cook Islands						Cook Sector (Auckland)
Fiji	Yes	23 October 2008				
French Polynesia	Yes					Tahiti FIR and Noumea Sector
India	Yes	June 2011	No	A K Jain –GM (ATM) Airports Authority of India. 'ARUN KUMAR JAIN' <akjaincra@gmail.com>	17/4/2012	Delhi, Chennai, Mumbai, Kolkota FIRs
Indonesia	Yes	01 August 2007	No	1. Wisnu Darjono, Deputy Director of ATM, DGCA Indonesia Email: wdtu@indosat.net.id 2. Saeful Bahri, Chief of ATS Section Email : saeful21@hotmail.com 3. Indra Gunawan Ind124gunawan@yahoo.com Ind124gunawan@dephub.go.id		To be updated 2012

Territory	Plan	APAC Version	Web-site	Contact Details	Info Updated	Notes
Japan	Yes					
Kiribati						No FIR
Korea, DPR						
Korea, Republic of	Yes	2012.2	No	Hyung Hoon Jung <늑대1마리 <hlwolf@naver.com>	18/4/2012	
Lao PDR						
Malaysia	Yes	April 2005	No	Airspace Unit Air Traffic Management Sector Department of Civil Aviation Level 4 Podium Block B No. 27 Persiaran Perdana Federal Government Administration Centre 62618 Putrajaya MALAYSIA Mr. Muddatstir Bin Mashor muddatstir@dgca.gov.my	18/4/2012	Paper version. Subject to review
Maldives	Yes	August 2005				Paper version
Marshal Islands						No FIR (Oakland)
Nauru						
Micronesia, Fed States of						No FIR (Oakland)
Mongolia						
Myanmar	Yes	2009				
Nepal	Yes	July 2008				Paper version
New Zealand	Yes					
Pakistan	Yes	24 October 2011				Paper/scanned

Territory	Plan	APAC Version	Web-site	Contact Details	Info Updated	Notes
Palau						No FIR (Oakland)
Papua New Guinea						
Philippines	Working Draft	Draft	No	1. Director General, Civil Aviation Authority of the Philippines director_gen@caap.gov.ph 2. Directorate, Air Traffic Service, Civil Aviation Authority of the Philippines chief_ats@caap.gov.ph	18/4/2012	
Samoa						Samoa Sector (Auckland)
Singapore	Yes	TBA	No	Harrison LIM : harrison_lim@caas.gov.sg	18/4/2012	Contingency plan information shared with Malaysia, Indonesia, Philippines, Thailand.
Solomon Islands						
Sri Lanka	Yes	September 2011		C Mahesh D Silva, Air Navigation Services Inspector ansi@caa.lk	17/4/2012	Level 1 Plan. Copies distributed to India and Indonesia.
Thailand	Yes	January 1999				Paper version
Tonga	Yes					Samoa Sector (Auckland)
U.S.A.	Yes					
Vanuatu	No					
Viet Nam	Yes	11 Apr 2012	No	buivanvo@caa.gov.vn hungand@caa.gov.vn	17/4/2012	Requires coordination and agreement with neighbouring States.

……..

PROPOSAL FOR AMENDMENT OF THE ASIA/PACIFIC BASIC AIR NAVIGATION PLAN (Doc 9673)

(Serial No.: APAC 11/X – ATS)

a) **Plan:**

Doc 9673

b) **Proposed by:**

(Name of State or Organisation)

c) **Proposed amendment:**

***Editorial Note*:** Amendments are arranged to show deleted text using strikeout (~~text to be deleted~~), and added text with grey shading (text to be inserted)

Amend requirement for ATS routes as follows:

d) **Date when proposal received:**

xxxxxx

e) **Proposers reason for amendment:**

xxxxxx

Note: Where the amendment affects adjacent FIRs, the proposer should provide information on consultation and agreement.

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) xxxxxxx,

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. xxxxxxxxxxxxxxxx
2. xxxxxxxxxxxxxxxx

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).

State AIS AIM Transition Table

Phase 1

P-03 — AIRAC adherence monitoring
P-04 — Monitoring of States' differences to Annex 4 and Annex 15
P-05 — WGS-84 implementation
P-17 — Quality

Phase 2

P-01 — Data quality monitoring
P-02 — Data integrity monitoring
P-06 — Integrated aeronautical information database
P-07 — Unique identifiers
P-08 — Aeronautical information conceptual model
P-11 — Electronic AIP
P-13 — Terrain
P-14 — Obstacles
P-15 — Aerodrome mapping

Phase 3

P-09 — Aeronautical data exchange
P-10 — Communication networks
P-12 — Aeronautical information briefing
P-16 —Training
P-18 — Agreements with data originators
P-19 — Interoperability with meteorological products
P-20 — Electronic aeronautical charts
P-21 — Digital NOTAM

Date Last Amended: 23 May 2012

	Phase 1 Consolidation (Am. 36 November 2010)				Phase 2 Going Digital (Amendment 37 November 2013)									Phase 3 Information Management (Amendment 38 November 2016)							
	P-03	P-04	P-05	P-17	P-01	P-02	P-06	P-07	P-08	P-11	P-13	P-14	P-15	P-09	P-10	P-12	P-16	P-18	P-19	P-20	P-21
Afghanistan										Link											
Australia	√	√	√	90%	80%	√	√	√	60%	Link	√	75%				10%	60%			90%	5%
Bangladesh	√	√	25%							Link											
Bhutan										Link											
Brunei Darussalam																					
Cambodia	√	√	√																		
China	√	√	√	√													√			√	
Hong Kong, China	√	√	√	√	√	√				Link	10%	10%					20%				
Macao, China	√	√	√	√						Link											
Cook Islands																					
DPR Korea			√																		
Fiji	√	√	√				√	√				√	√		√	√	√				
India	√	√	√	√	√	√	√	√	√	Link		√									
Indonesia	√	√	√		50%	50%	20%			50%					80%		60%	20%	10%	20%	
Japan	√	√	√	√	80%	80%	√	√	√	Link	20%	20%		20%	20%	60%	80%	√		20%	20%
Kiribati																					
Lao PDR	√	√	25%																		
Malaysia	√	√	√	10%						Link											
Maldives										Link											
Marshall Islands																					
Micronesia																					
Mongolia	√	√	√	√	80%	80%	30%	√	√	Link	10%	10%		60%	10%	50%	90%	√			
Myanmar	√	√	√				20%			Link	20%	20%				10%				25%	
Nauru																					
Nepal																					
New Zealand	√	√	√	√	√	√	√	√	75%	Link	√	80%	15%	80%							
Niue (NZ)																					
Pakistan	√	√	√									√		√	√	√		√			√
Palau										Link											
Papua New Guinea	√	√	√	90%				√								10%					
Philippines	√	√	40%	√	√	√	√	√	√	Link											
Republic of Korea	√	√	√	√	80%					Link										40%	90%
Samoa																					
Singapore	√	√	√	√	√	√	√	√		Link				√	√	√	√	√		√	
Solomon Islands			√																		
Sri Lanka	√	√	90%	90%						Link					10%	25%	15%	25%			
Thailand	√	√	80%	10%						Link											
Timor Leste			√							Link											
Tonga																					
Vanuatu										Link											
Viet Nam	√	√	√	25%	50%	50%	50%		√					√	√		70%	50%			
USA[1]	√			√	√		√	√	√	Link	√	√	√	√	√					√	√
France[2]										Link											

% means the percentage progress towards achievement of the element

[1] Includes American Samoa, Guam, Johnston, Kingman, Midway, Mariana, Palmyra, Wake
[2] Includes French Polynesia, New Caledonia, Wallis and Futuna Islands

E-AIP Internet Addresses

Afghanistan	http://www.motca.gov.af/
Australia	http://www.airservicesaustralia.com/
Bangladesh	http://www.caab.gov.bd/adinfo/adinfo0.html
Bhutan	http://www.dca.gov.bt/aip
Brunei Darussalam	
Cambodia	
China	
Hong Kong, China	http://www.hkatc.gov.hk
Macao, China	http://www.aacm.gov.mo
Cook Islands	
DPR Korea	
Fiji	
India	http://www.aai.aero/public_notices/AIP_INDIA_MAIN.jsp
Indonesia	
Japan	https://aisjapan.mlit.go.jp
Kiribati	
Lao PDR	
Malaysia	http://aip.dca.gov.my/
Maldives	http://www.aviainfo.gov.mv
Marshall Islands	
Micronesia	
Mongolia	http://ais.mcaa.gov.mn/index.php?lang=en
Myanmar	http://www.ais.gov.mm
Nauru	
Nepal	
New Zealand	http://www.aip.net.nz/
Niue (NZ)	
Pakistan	
Palau	http://www.faa.gov/air_traffic/publications/atpubs/AIP/aip.pdf
Papua New Guinea	
Philippines	http://ats.caap.gov.ph
Republic of Korea	E-AIP Republic of Korea http://ais.casa.go.kr/eAIPRoot/Operations/history-en-GB.html
Samoa	
Singapore	http://www.caas.gov.sg/caas/en/Regulations/Aeronautical_Information/AIP/index.html
Solomon Islands	
Sri Lanka	http://www.airport.lk/AIS/AIP%20frameset.htm
Thailand	http://www.aisthai.go.th/webais/download_aip.php
Timor Leste	http://www.gov.east-timor.org/CAA/index.html
Tonga	
Vanuatu	http://www.airports.vu/Pilots%20&%20Aircraft%20Operators/aip.htm
Viet Nam	
USA	http://www.faa.gov/air_traffic/publications/atpubs/AIP/aip.pdf
France (Wallis et Futuna, Iles) (French Polynesia)	E-AIP France

SAR AGREEMENTS

Updated: 22 Jun 2011

ID NO.	DATE	STATES	REMARKS
1	14 April 1972	ASEAN States - Indonesia, Malaysia, Philippines, Singapore and Thailand	Multilateral agreement
2	March 1997	ASEAN - Viet Nam	Viet Nam accession to 1972 ASEAN Agreement (as above)
13	November 1990	Australia / Indonesia	Updated 5 April 2004
30	April 2006	Australia / Maldives	Letter of Arrangement
28	notified 2005	Australia / New Zealand	Updated April 2009
20	February 2001	Australia / Papua New Guinea	Updated 12 August 2007
17	16 December 1998	Brunei Darussalam / Malaysia	
19	February 1999	Cambodia / Viet Nam	
33, 41	1 June 2009	Chile / New Zealand	SAR services coordination
37	16 May 2007	China / Republic of Korea	
26	notified 2003	China / United States	
32	notified July 2007	Cook Islands / New Zealand	
35	notified July 2007	French Polynesia (Tahiti) / New Zealand	Final draft agreement being considered by FP authorities
3	June 1982	Indonesia / Singapore	
12	1990	Indonesia / Papua New Guinea	JBC MOU signed
9	August 1986	Indonesia / Philippines	
11, 31	1988, July 2006	Indonesia / United States	SAR Services Agreement
42	17 March 2010	Japan/Philippines	SAR Agreement
38	30 April 2008	Japan / Republic of Korea	
10	1986	Japan / United States	
18	1998	Lao PDR / Vietnam	LOA for provision of assistance
5	29 August 1985	Malaysia / Indonesia	
8	9 December 1985	Malaysia / Philippines	
4	11 August 1984	Malaysia / Singapore	
7	9 September 1985	Malaysia / Thailand	
21	September 2002	New Caledonia / New Zealand	
34	notified July 2007	New Zealand/Niue	Government aid agreement
29	notified 2005	New Zealand / Samoa	
36	notified July 2007	New Zealand/Tokelau	Government aid agreement
27	June 2005	New Zealand / Tonga	
14	July 1996	Philippines / Singapore	
16	September 1996	Philippines / Viet Nam	
6	September 1985	Singapore / Thailand	Updated July 1996
15	July 1996	Singapore / Viet Nam	
24	notified 2003	United States / Marshall Islands	
25	notified 2003	United States / Micronesia	
23	2003	United States / New Zealand	
22	November 2002	United States / Palau	
39	March 2009	Viet Nam / Lao PDR	SAR Agreement
40	March 2009	Viet Nam / Cambodia	SAR Agreement

SAR Capability Matrix **(Last Update: 27 June 2012)**

	Training	Alerting	Legislative	SAR Committee	SAR Agreements	Relationships	Communications	Quality Control	Civil Military	Resources	SAREX	Library	Computerisation	SAR Programme	Supply Dropping	Special Equipment	SAR aircraft	Navigation	ELTs	COSPAS-SARSAT Alerts
Afghanistan																				
Australia	E	E	E	E	E	D	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Bangladesh	B	C	D	A	A	C	C	A	D	A	A	C	A	A	C	C	D	A	D	C
Bhutan																				
Brunei	E	E	E	E	E	E	E	E	E	E	E	E	E	E	D	D	E	E	E	A
Cambodia	D	D	C	D	C	D	C	A	D	C	C	C	B	C	A	A	B	B	A	D
China	E	E	E	E	E	E	D	D	E	D	D	C	B	A	E	E	E	E	E	A
Cook Islands	A	B	B	A	A	C	C	C	B	A	B	A	A	A	A	B	B	A	E	A
DPR Korea	B	D	B	D	A	B	D	D	D	C	B	A	A	A	B	A	C	C	A	A
Fiji	B	C	C	C	C	C	C	B	D	C	D	C	A	C	B	A	C	C	C	A
Fr. Polynesia	C	D	D	D	C	D	E	A	E	C	C	B	A	A	E	D	E	E	E	A
Hong Kong, C	E	E	E	E	D	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
India	D	C	C	B	B	C	C	A	C	C	C	C	C	D	D	D	C	A	E	E
Indonesia	E	D	E	E	E	D	D	D	E	D	E	D	D	D	C	D	D	D	D	E
Japan	E	E	E	E	D	E	E	E	E	E	E	E	D	E	E	E	E	E	E	E
Kiribati																				
Lao PDR	B	A	B	B	B	A	B	A	B	B	A	C	A	A	A	A	A	A	A	A
Macau, China	E					E	E				E						E			
Malaysia	E	E	C	E	D	E	E	E	E	E	E	D	E	E	E	D	E	E	E	B
Maldives	B	A	A	A	A	A	A	A	D	A	C	A	A	A	A	A	A	A	A	A
Marshall Is																				
Micronesia	C	B		A	A	B	C					A		B	B					
Mongolia	A	C	C	A	B	B	B	A	B	B	B	C	B	B	A	A	A	A	B	A
Myanmar	B	A	B	C	A	D	C	C	D	A	A	A	A	A	C	A	D	C	A	A
Nauru																				
Nepal	D	D	C	B	A	C	C	B	D	B	A	B	A	D	D	C	D	D	D	B
New Caledonia	C	D	D	D	C	D	E	A	E	C	C	B	A	A	E	D	E	E	E	E
New Zealand	E	E	E	E	A	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Pakistan	C	C	D	D	A	D	D	C	D	C	A	A	A	A	D	A	D	D	C	E
Palau																				
PNG	D	E	D	C	D	D	C	C	D	C	C	D	C	C	C	A	A	A	E	A
Philippines	D	C	E	D	D	C	D	D	E	C	C	C	C	C	C	B	C	E	C	A

ROK	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Samoa																				
Solomon Is.																				
Singapore	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Sri Lanka	D	A	C	D	B	C	C	D	E	D	B	C	A	A	D	D	C	A	C	A
Thailand	E	E	E	E	D	E	E	E	E	E	E	D	D	D	E	E	E	E	E	E
Timor Leste																				
Tonga	C	B	A	A	B	C	C	A	D	A	A	A	A	A	A	A	C	A	E	A
United States	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Vanuatu																				
Viet Nam	D	D	D	E	D	D	D	C	E	D	D	C	B	D	C	D	D	D	D	E

A = Not implemented
B = Initial implementation
C = Meets Annex 12 requirements in some areas
D = Meets Annex 12 requirements in most areas
E = Fully meets Annex 12 requirements
Blank = No response

Draft Terms of Reference

Asia/Pacific Search and Rescue Workgroup (APSAR/WG)

Objective

1 In collaboration with affected stakeholders and in close cooperation with the International Maritime Organization (IMO), the objective of the Asia/Pacific Search and Rescue Workgroup is to promote the enhancement and improvement of SAR facilities and services within the Asia/Pacific Region and adjacent regions, in accordance with:

a) Annex 12 to the Convention on International Civil Aviation; and

b) the International Aeronautical and Maritime SAR Manual (IAMSAR).

Tasks

2 To meet its objectives, the Workgroup shall:

a) review the current status of SAR preparedness of Asia and Pacific Region States;

b) review State SAR Arrangements for commonality with those of neighbouring States to facilitate SAR coordination and cooperation across regional boundaries;

c) monitor outcomes from APANPIRG ATM/AIS/SAR/SG, other ICAO Region SAR groups, ICAO/IMO Joint Working Group (JWG) and related forums for issues that may affect the APAC Region;

d) analyse contingency procedures in use in other ICAO Regions, and cooperate with other groups which are involved with similar work in adjacent airspaces, in order to achieve harmonized inter-regional solutions;

e) identify areas where SAR planning and preparedness requires improvement in terms of compliance with Annex 12, the IAMSAR Manual and accepted best practice;

f) make recommendations for improvement of SAR systems;

g) plan and review an international SAREX between Workgroup meetings in areas within the Asia/Pacific region that require priority; and

h) organize seminars and workshops associated with Workgroup meetings to educate, update and transfer information about SAR facilities and best practices.

3 The Workgroup is expected to meet on a biennial (once every two years) basis.

Reporting

4 The APSAR/WG reports to the ATM Sub-group of APANPIRG. A line of communication will be provided to the IMO on APSAR/WG outcomes.

Membership

5 The membership of the APSAR/WG is open to States and administrations that have the responsibility for the provision of SAR services and facilities within the Asia/Pacific, SAR related international organizations, IMO and ICAO. The membership is also open to participants from outside the Asia/Pacific or organizations that can contribute to APSAR/WG by invitation from APSAR/WG (such as military organizations that can facilitate SAR operations).

……..

ATM/AIS/SAR Deficiencies List (Updated 28 June 2012)

Identification		Deficiencies			Corrective Action			
Requirements	**States/ facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date for completion**	**Priority for action****
ATS Routes								
-	~~China~~	~~R216 - Not implemented~~	~~24/11/93~~	~~China advised current the routing B215 KUQA A460 REVKI to Alma Ata met the requirements for traffic from Urumqi to Alma Ata and requests deletion of R216 from BANP (14 Apr 03).~~	~~China will coordinate with Kazakhstan to delete R216 from BANP. No information received from the European Office regarding concerns by Kazakhstan.~~	~~China/ Kazakhstan ICAO~~	~~Captured in Chapter 2 of the Route Catalogue.~~	~~B~~
	~~Indonesia~~	~~R459 - Implemented as W51 and W36~~	~~24/11/93~~	~~ICAO has requested Indonesia to implement as R459.~~	~~Indonesia, Singapore - consider implementation of the route with designator L504. Singapore advised ATM/AIS/SAR/SG/20 (July 2010, Singapore) that a hollistic sub-regional review of ATS routes were being undertaken by Indonesia and Singapore.~~	~~Indonesia/ Singapore~~	ATS Route L504 implemented, ATM/AIS/SAR/SG/22 WP40 refers.	B

WGS-84								
Requirements of Paragraph 3.7.1 of Annex 15	Bhutan	WGS-84 - Not implemented	2/7/1999	Data conversion completed, but not published		Bhutan	TBD	A
-	~~China~~	~~WGS-84 - Not implemented~~	~~2/7/1999~~	~~Differences to Annex 15 – *Aeronautical Information Services* are notified~~	~~-~~	~~China~~	~~China advised the AAITF/7 that WGS-84 had been implemented.~~	~~A~~
-	~~DPR Korea~~	~~WGS-84~~	~~-~~	~~-~~	~~-~~	~~DPR Korea~~	~~DPRK advised by letter dated 20 March 2012 that implementation would be effective on 3 May 2012.~~	~~A~~
	Kiribati	WGS-84 - Not implemented				Kiribati	TBD	A

	Nauru	WGS-84 - Not implemented		Conferring with consultant		Nauru	TBD	A
-	~~Solomon Islands~~	~~WGS-84 - Not implemented~~	-	-	-	~~Solomon Islands~~	~~The Solomon Islands advised on 14 March 2012 that WGS-84 had been implemented on 31/01/2011.~~	~~A~~
	Vanuatu	WGS-84 - Implemented at main airports	2/7/1999			Vanuatu	1999	A
Airspace Classification								
Requirements of Paragraph 2.6 of Annex 11	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
	Kiribati	Airspace Classification - Not implemented	7/7/99			Kiribati	TBD	A
	Nauru	Airspace Classification - Not implemented	7/7/99			Nauru	TBD	A
	Papua New Guinea	Airspace Classification - Not implemented	7/7/99			Papua New Guinea	Project in place	A
	Solomon Islands	Airspace Classification - Not implemented	7/7/99			Solomon Islands	TBD	A

	Viet Nam	Airspace Classification - Not implemented	7/7/99			Viet Nam	ATM/AIS/SAR/SG/22 Target date for completion: November 2012.	A
AIP Format								
Requirements of Chapter 4 of Annex 15	Cook Islands	AIP Format - Not implemented	7/7/99			Cook Islands	ATM/AIS/SAR/G/16 (June 2006) updated - AIP COOK ISLANDS in new format in progress with assistance of New Zealand	A
	Kiribati	AIP Format - Not implemented	7/7/99			Kiribati	ATM/AIS/SAR/SG/18 (June 2009) was advised AIP in draft stage	A
	Nauru	AIP Format - Not implemented	7/7/99			Nauru	ATM/AIS/SAR/SG/18 (June 2008) was advised work soon to start	A
	Papua New Guinea	AIP Format - Not implemented	7/7/99			Papua New Guinea	TBA	A

SAR capability								
Requirements of Annex 12	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
	Maldives	Annex 12 requirements not implemented. No agreements with adjacent States.	24/4/97	SAR services and facilites provided (details to be confirmed). SAR agreements with neighbouring States under development	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	Maldives	2009	U
Carriage of ACAS II								
Requirement of Chapter 6 of Annex 6	Bhutan	Annex 6 requirement not implemented.	26/8/05		Bhutan - implement Annex 6 as required.	Bhutan	TBD	U
	Cook Islands	Annex 6 requirement not implemented.	26/8/05		Cook Island - implement Annex 6 as required.	Cook Islands	TBD	U

Kiribati	Annex 6 requirement not implemented.	26/8/05		Kiribati - implement Annex 6 as required.	Kiribati	TBD	U
Marshall Islands	Annex 6 requirement not implemented.	26/8/05		Marshall Islands - implement Annex 6 as required.	Marshall Islands	TBD	U
Micronesia	Annex 6 requirement not implemented.	26/8/05		Micronesia - implement Annex 6 as required.	Micronesia	TBD	U
Nauru	Annex 6 requirement not implemented.	26/8/05		Nauru - implement Annex 6 as required.	Nauru	TBD	U
Palau	Annex 6 requirement not implemented.	26/8/05		Palau - implement Annex 6 as required.	Palau	TBD	U
Papua New Guinea	Annex 6 requirement not implemented.	26/8/05		Papua New Guinea - implement Annex 6 as required.	Papua New Guinea	TBD	U
Solomon Islands	Annex 6 requirement not implemented.	26/8/05		Solomon Islands - implement Annex 6 as required.	Solomon Islands	TBD	U
~~Tonga~~	~~Annex 6 requirement not implemented.~~	~~26/8/05~~	~~-~~	~~Tonga - implement Annex 6 as required.~~	~~Tonga~~	Tonga-advised by letter of 12 July 2011 that the requirements were published in the AIP August 2006	~~U~~

	Vanuatu	Annex 6 requirement not implemented.	26/8/05	Pressure altitude reporting transponder required in all airspace since 1/1/00.	Vanuatu - implement Annex 6 as required.	Vanuatu	TBD	U
Carriage of Pressure Altitude Reporting Transponder								
Requirement of Chapter 6 of Annex 6	Bhutan	Annex 6 requirement not implemented.	26/8/05		Bhutan - implement Annex 6 as required.	Bhutan	TBD	U
	Cook Islands	Annex 6 requirement not implemented.	26/8/05		Cook Island - implement Annex 6 as required.	Cook Islands	TBD	U
	Kiribati	Annex 6 requirement not implemented.	26/8/05		Kiribati - implement Annex 6 as required.	Kiribati	TBD	U
	Marshall Islands	Annex 6 requirement not implemented.	26/8/05	ACAS II required.	Marshall Islands - implement Annex 6 as required.	Marshall Islands	TBD	U
	Micronesia	Annex 6 requirement not implemented.	26/8/05		Micronesia - implement Annex 6 as required.	Micronesia	TBD	U
	Nauru	Annex 6 requirement not implemented.	26/8/05		Nauru - implement Annex 6 as required.	Nauru	TBD	U
	Palau	Annex 6 requirement not implemented.	26/8/05		Palau - implement Annex 6 as required.	Palau	TBD	U

	Papua New Guinea	Annex 6 requirement not implemented.	26/8/05		Papua New Guinea - implement Annex 6 as required.	Papua New Guinea	TBD	U
	Solomon Islands	Annex 6 requirement not implemented.	26/8/05		Solomon Islands - implement Annex 6 as required.	Solomon Islands	TBD	U
	~~Tonga~~	~~Annex 6 requirement not implemented.~~	~~26/8/05~~	~~ACAS II required.~~	~~Tonga - implement Annex 6 as required.~~	~~Tonga~~	Tonga-advised by letter of 12 July 2011 that the requirements were published in the AIP August 2006	~~U~~
Non Provision of Safety-related Data								
Requirement of Paragraph 3.3.4.1 of Annex 11	Bangladesh	Annex 11 requirement not implemented.	11/9/09		Bangladesh - provide the safety-related data as required. Bangladesh advised ATM/AIS/SAR/SG/20 that the data were submitted to MAAR in 2008 and 2009. Thailand to confirm.	Bangladesh		U
	Lao PDR	Annex 11 requirement not implemented.	11/9/09		Lao PDR - provide the safety-related data as required.	Lao PDR		U
	Papua New Guinea	Annex 11 requirement not implemented.	21/8/06		Papua New Guinea - provide the safety-related data as required.	Papua New Guinea	TBD	U

ATM/AIS/SAR Sub Group of APANPIRG — TASK LIST

The priorities assigned in the list have the following connotation:

A = Tasks of a high priority on which work should be expedited; and
B = Tasks of a medium priority on which work should be undertaken as soon as possible but not to the detriment of Priority "A" tasks.

(Last formally updated 8 July 2010 – ATM/AIS/SAR/SG/20, DRAFT AMENDMENTS for ATM/AIS/SAR/SG/22 ARE SHOWN IN HIGHLIGHT)

ACTION ITEM & PRIORITY	GLOBAL PLAN INITIATIVE	DESCRIPTION	TARGET DATE	RESPONSIBLE PARTY	STATUS	REMARKS
18/1 **Priority A**	GPI-5 Performance based navigation GPI- 8 Collaborative airspace design and management	**ATS Routes** a) Identify ATS route requirements and monitor progress of route implementation in APAC Region; b) Coordinate implementation of new ATS routes in accordance with the requirements of both States and airspace users; and c) Maintain Asia/Pacific ATS Route Catalogue on ICAO Regional Office website.	ONGOING	**Functional Responsibility:** TRASAS, CMRI BBACG, FIT-BOB BOB-RHS/TF SEACG FIT-SEA, SEA RR/TF ASIOACG IPACG & FIT ISPACG & FIT	~~OPEN~~ CLOSED	Superseded by New Task 22/1
18/2 **Priority A**	GPI-5 Performance based navigation GPI-8 Collaborative airspace design and management	**ATS route implementation based on PBN** *South East Asia* Conduct ATS route implementations in collaboration with stakeholders based on the Regional PBN Implementation Plan agreed by APANPIRG, to improve en-route airspace efficiency by means of reduced horizontal separation (lateral and longitudinal) based on PBN provisions.	2010	States of South East Asia, Regional Office **Functional Responsibility:** SEACG, FIT-SEA, SEA RR/TF	~~OPEN~~ CLOSED	Superseded by New Task 22/1

ACTION ITEM & PRIORITY	GLOBAL PLAN INITIATIVE	DESCRIPTION	TARGET DATE	RESPONSIBLE PARTY	STATUS	REMARKS
18/3 **Priority A**	GPI-5 Performance based navigation GPI-8 Collaborative airspace design and management	**ATS route implementation based on PBN** *Bay of Bengal* Conduct ATS route implementations in collaboration with stakeholders based on the Regional PBN Implementation Plan agreed by APANPIRG, to improve en-route airspace efficiency by means of reduced horizontal separation (lateral and longitudinal) based on PBN provisions.	2010	States of Bay of Bengal, Regional Office **Functional Responsibility:** BBACG, FIT-BOB, BOB-RHS/TF	~~OPEN~~ CLOSED	Superseded by New Task 22/1
18/4 **Priority A**	GPI-5 Performance based navigation GPI-8 Collaborative airspace design and management	**ATS route implementation based on PBN Concepts** *Pacific Area (including North Pacific)* Conduct ATS route implementations in collaboration with stakeholders based on the Regional PBN Implementation Plan agreed by APANPIRG, to improve en-route airspace efficiency by means of reduced horizontal separation (lateral and longitudinal) based on PBN provisions.	2010	States of North Pacific, Central and South Pacific, respectively, Regional Office **Functional Responsibility:** No ICAO working group established, informal groups doing this work, notably ISPACG, IPACG	~~OPEN~~ CLOSED	Superseded by New Task 22/1

ACTION ITEM & PRIORITY	GLOBAL PLAN INITIATIVE	DESCRIPTION	TARGET DATE	RESPONSIBLE PARTY	STATUS	REMARKS
18/5 **Priority A**	GPI-5 Performance based navigation GPI-8 Collaborative airspace design and management GPI-10 Terminal area design and management, GPI-11 RNP and RNAV Standard Instrument Departures (SIDs) and Standard Terminal Arrivals (STARs) GPI-12 Flight Management System (FMS) – based arrival procedures	**Terminal Area implementation based on PBN** Implement ICAO Performance Based Navigation (PBN) provisions for terminal area operations in collaboration with stakeholders based on the Regional PBN Implementation Plan agreed by APANPIRG, to improve terminal area efficiency by use of advanced navigation specifications for SIDs, STARs and instrument approach procedures.	In accordance with Regional & State PBN Plans for 2008-2012 and 2013-2016	States, Users, Regional Office **Functional Responsibility:** PBN/TF	~~OPEN~~ CLOSED	This is a CNS-MET Subgroup Task. However, New Task 22/2 also covers this in terms of the ASBU elements applicable to this task.

ACTION ITEM & PRIORITY	GLOBAL PLAN INITIATIVE	DESCRIPTION	TARGET DATE	RESPONSIBLE PARTY	STATUS	REMARKS
18/5 **Priority A**	GPI-6 Air traffic flow management GPI-8 Collaborative airspace design and development GPI-16 Decision support and alerting system	**Implement Air Traffic Flow Management** States to consider and implement aspects of air traffic flow management (ATFM) including: a) centralized ATFM b) inter-regional cooperative ATFM; c) establishment of ATFM databases; d) application of strategic ATFM planning; e) application of tactical ATFM planning; and f) assessment of economic and environmental impact of the implementation of the ATFM system.	2012	States, Users, Regional Office ATM/AIS/SAR/SG APANPIRG **Functional Responsibility:** ~~ATFM/TF for Bay of Bengal, no other working group established~~ APSAPG ATM Coordination Groups	~~OPEN~~ CLOSED	~~Bay of Bengal ATFM/TF active since 2005~~ ~~Bay of Bengal implemented BOBCAT 5 July 2007~~ ~~ATM/AIS/SAR/SG/19 drafted Conclusion to establish regional ATFM steering group~~ ATFM Concept of Operations agreed by APANPIRG/22, which has been incorporated into the draft ATFM Guidance Material Subsumed into the new Task 22/2 as part of Seamless ATM implementation
18/7 **Priority A**	GPI-2 Reduced vertical separation minima	**RVSM Implementation** a) Plan for and facilitate implementation of RVSM, as appropriate, in the Asia/Pacific Region	2009 - 2012	Affected States, Regional Office **Functional Responsibility:** RVSM/TF dissolved in December 2008 following China implementation, no ICAO group required for few remaining APAC FIRs	~~OPEN~~ CLOSED	~~Ulaanbaatar tentatively 2012 in coordination with the Russian Federation~~. RVSM was successfully implemented within the Afghanistan and Mongolian airspace in 2011.

ACTION ITEM & PRIORITY	GLOBAL PLAN INITIATIVE	DESCRIPTION	TARGET DATE	RESPONSIBLE PARTY	STATUS	REMARKS
18/8 **Priority A**	None applicable	**<u>Identify and manage Deficiencies in the ATM, AIS and SAR fields</u>** a) Develop and maintain Deficiencies list, b) Identify unimplemented items in the BANP, c) Assist States to correct deficiencies, d) Promote timely resolution of safety-critical items identified by APANPIRG	ONGOING	**Functional Responsibility:** No specific working group established, all parties have responsibilities in this area (States, Users, International Organisations, Regional Office, ATM/AIS/SAR/SG APANPIRG)	OPEN	ALLPIRG/5 (March 2006) raised Conclusion 5/15 in respect of "Last Resort" action to resolve deficiencies
18/10 **Priority A**	None applicable	**<u>ATM Contingency Planning</u>** Prepare ATM Contingency Plans based on model (Indonesia) adopted by APANPIRG/17. Coordinate with neighbouring States to prepare plans	2010	States, Regional Office, **Functional Responsibility:** ~~No working group established, work item included on agenda of ATS Coordination Groups.~~ RACPTF	OPEN	~~Send copies of ATM Contingency Plans to Regional Office~~ New Task Force established.

ACTION ITEM & PRIORITY	GLOBAL PLAN INITIATIVE	DESCRIPTION	TARGET DATE	RESPONSIBLE PARTY	STATUS	REMARKS
18/9 **Priority B**	None applicable	**SAR Matters** Assist appropriate provision of SAR facilities, services and procedures within the Asia Pacific Region by: a) Periodic review of SAR facilities, services and procedures in the region, b) Encourage States to delegate or negotiate SAR services, c) Asia/Pacific "SAR Capability Matrix" be kept up to date and distributed to States for information and action., d) Asia/Pacific "Register of SAR Agreements" be kept up to date and distributed to States for information and action	ONGOING	States, Regional Office, SAR WG ATM/AIS/SAR/SG APANPIRG	OPEN	States to update the ATM/AIS/SAR/SG each year on SAR capability ~~to permit the periodic update of the SAR Capability Matrix and Register of SAR Agreements~~.
20/1 **Priority B**	GPI-18 Aeronautical information	**Enhanced Provision of AIS/AIM** a) Implement the enhanced provisions for AIM becoming available through the work of the AIS-AIM Study Group; b) Monitor implementation of the regional performance framework performance objectives contained in the Performance Framework Form (PFF); c) Enable future AIM functions to address the new requirements that will be needed to implement the Global Air Traffic Management Operational Concept in a net centric information environment	2016	States, Users, Regional Office **Functional Responsibility:** AAITF	OPEN	AIS/AIM Implementation Task Force (AAITF) active since March 2006

ACTION ITEM & PRIORITY	GLOBAL PLAN INITIATIVE	DESCRIPTION	TARGET DATE	RESPONSIBLE PARTY	STATUS	REMARKS
20/2 **Priority A**	GPI-5 Performance based navigation GPI-9 Situational awareness GPI-11 RNP and RNAV SIDs and STARs GPI-17 Implementation of data link applications	**New ICAO Flight Plan Form** Implement Amendment 1 to the Fifteenth Edition of the *Procedures for Air Navigation Services – Ait Traffic Services* (PANS-ATM, Doc 4444, effective 15 November 2012) relating to the ICAO Flight Plan and associated ATS Message formats.	15 November 2012	States, Regional Office, Airspace Users, International Organisations ATM/AIS/SAR/SG **Functional Responsibility:** FPL&AM/TF	OPEN	FPL&AM/TF/5 updated the *Asia/Pacific Guidance Material for the Implementation of Amendment 1 to Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc 4444), 15th Edition.*
22/1 **Priority B**	GPI-7 Dynamic and flexible ATS route management	**Review and Update the Asia/Pacific Route Catalogue**	On-going	IATA, ATM Coordination Groups, ATM/AIS/SAR/SG	OPEN	
22/2 **Priority A**	All GPIs	**Seamless ATM Implementation** Monitor the progress of Seamless ATM implementation, in accordance with the provisions of the Asia/Pacific Seamless ATM Plan, including, *inter alia*, civil military, airspace organization, ATFM, data-link and ANSP collaboration aspects.	On-going	CANSO, ATM Coordination Groups, ATM/AIS/SAR/SG	OPEN	This task can commence prior to the Plan being formalised in fields where work is already being undertaken, such as ATFM and ADS-B implementation.
22/3 **Priority B**		The Secretariat would prepare a working paper on the matter of appropriate Asia/Pacific Metrics for APANPIRG/23.	1 September 2012	ICAO	OPEN	

ACTION ITEM & PRIORITY	GLOBAL PLAN INITIATIVE	DESCRIPTION	TARGET DATE	RESPONSIBLE PARTY	STATUS	REMARKS
22/4 Priority A		China, DPRK, ROK, Mongolia, Japan would discuss whether a formal ATM Coordination Group was required with Russia to facilitate trans-regional and East Asian ATM Coordination, and report to the next Sub-Group meeting. ICAO to issue a State Letter	1 December 2012	China, DPRK, ROK, Mongolia, Japan, Russian Federation ICAO	OPEN	
22/5 Priority B		The Secretariat would communicate with ICAO HQ to include consideration of the concept of the use of remotely-piloted aircraft/unmanned aircraft systems for search and rescue at the Air Navigation Conference, scheduled for November 2012.	1 July 2012	ICAO	OPEN	
22/6 Priority B		The meeting requested that ICAO report to APANPIRG on the new flight plan implementation progress in other Regions	1 September 2012	ICAO	OPEN	

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LIST OF WORKING AND INFORMATION PAPERS

WORKING PAPERS

No.	Agenda Item	Subject	Presented by
1	1	Provisional Agenda	Secretariat
2	2	Asia/Pacific Air Navigation Planning and Implementation Regional Group Outcomes	Secretariat
3	3	Regional and National Performance Framework	Secretariat
4	3	Regional Airspace Safety Monitoring Advisory Group Outcomes	Secretariat
5	4	Asia/Pacific Seamless ATM Planning Group Outcomes	Secretariat
6	4	Regional Civil/Military Coordination	Secretariat
7	2	48th Conference of Directors General of Civil Aviation Outcomes	Secretariat
8	4	Flight Plan & ATS Messages Implementation Task Force Outcomes	Secretariat
9	6	Aeronautical Information Services-Aeronautical Information Management Implementation Task Force Outcomes	Secretariat
10	4	PBN/TF/9 Outcomes	Secretariat
11	5	RACPTF Outcomes	Secretariat
12	5	South-East Asia Route Review Task Force Outcomes	Secretariat
13	5	SEACG Outcomes	Secretariat
14	5	Bay of Bengal Reduced Horizontal Separation Task Force Outcomes	Secretariat
15	5	South Asia/Indian Ocean ATM Coordination Group Outcomes	Secretariat
16	4	ADS-B SITF Outcomes	Secretariat
17	4	Satellite Communication Meetings and Seminar Outcomes	Secretariat
18	4	Global Air Traffic Flow Management Group	Secretariat
19	6	Meteorological Task Force Outcomes	Secretariat
20	5	Informal Pacific Air Traffic Control (ATC) Coordinating Group (IPACG) Update	United States Japan
21	5	Informal South Pacific ATS Coordinating Group Outcomes	New Zealand
22	5	ASIOACG/INSPIRE Working Group Outcomes	ASIOACG
23	5	Review of BOBASIO/02 Meeting at Chennai	India
24	5	East Asia Air Traffic Management Coordination Group Outcomes (EATMCG/5)	IFATCA
25	5	Asia/Pacific Region ATS Route Catalogue	Secretariat
26	5	Russian Far East/Cross Polar Inter-Regional ATM Coordination	Secretariat

No.	Agenda Item	Subject	Presented by
27	6	Search and Rescue Capability	Secretariat
28	6	Search and Rescue in New Caledonia and French Polynesia	French Polynesia
29	6	Improving SAR Capability in the Asia/Pacific Region	Australia
30	6	Search and Rescue Matters	United States
31	6	Search and Rescue Use of Remotely-Piloted Aircraft (RPA) / Unmanned Aircraft System (UAS)	United States
32	4	Realisation of Increased Efficiency and Capacity via ATS Inter-facility Data-link Communications (AIDC)	Hong Kong, China
33	4	Implementation of Capacity Notification Scheme for Hong Kong International Airport	Hong Kong, China
34	4	ATM Automation in India	India
35	4	Consideration of Obstructions beyond ILS Critical and Sensitive Areas	India
36	4	Air Traffic Management Enhancements between Jakarta and Singapore FIRs	Indonesia Singapore
37	4	Status of Japan’s Implementation of PANS-ATM	Japan
38	3	State Environmental Action Plans	Secretariat
39	4	Indonesian New Flight Plan Format Converter Test	Indonesia
40	7	ATS Routes Restructurization within Jakarta FIR and Ujung Pandang FIR	Indonesia
41	7	Air Navigation Service Deficiencies List	Secretariat
42	9	ATS Provider Security Requirements	ICAO
43	9	ATS Point of Contact Update	Secretariat
44	8	APANPIRG ATM/AIS/SAR Sub-Group Task List	Secretariat
45	4	Surveillance Based Service Requirements In The South China Sea	IATA
46	5	ATS Route Proposals	IATA

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01	–	List of Tentative Working and Information Papers	Secretariat
02	3	Saving on Fuel and Emissions on Route W20	India
03	6	Update on AIS/SAR Initiatives	India
04	4	GNSS Approaches for Non-Instrument Runways	India
05	4	Operational Trial of SCAS	Japan
06	6	Regional Runway Safety Seminar Outcomes	Secretariat
07	4	Next Generation Air Transportation System (NextGen) Overview	United States of America
08	4	Report Of Federal Aviation Administration (FAA) ADS-B Activities	United States of America
09	6	Updates on ATM/AIS/SAR Activities in Viet Nam	Viet Nam
10	4	Integration of Unmanned Aircraft Systems (UAS) into the United States' National Airspace System	United States of America
11	4	Optimization of Airspace and Procedures in Major Metropolitan Regions	United States of America
12	4	Introduction of the Collaborative Trajectory Options Program (CTOP)	United States of America

FLIMSY

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02	5	Indonesia-Malaysia AIDC Trial	Indonesia Malaysia
03	6	Indonesia's Comment on Australia's Paper: Improving SAR Capability in the Asia/Pacific Region	Indonesia
04	6	ASEAN SAR Forum	Indonesia
05	4	Aeronautical Information Services-Aeronautical Information Management Study Group (AIS-AIMSG), Buenos Aires, Argentina, 21-25 May 2012	United States
06	4	The Republic of Korea's NEW Flight Plan Implementation Status	Republic of Korea

PRESENTATION

No.	Agenda Item	Subject	Presented by
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02	4	Realisation of Increased Operational Efficiency and Capacity via ATS Interfacility Data Communication (AIDC)	Hong Kong, China
03	4	Flight Plan 2012 Progress Report: Thailand	Thailand
04	9	Suvarnabhumi Airport Runway Maintenance – Air Traffic Management Initiative & Two-Week Review	Thailand

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