



International Civil Aviation Organization

**Fourth Meeting of the South Asia/Indian Ocean ATM Coordination Group
(SAIOACG/4) and the Twenty-First South East Asia ATM Coordination
Group (SEACG/21)**

Hong Kong, China, 24 – 28 February 2014

Agenda Item 2: Review Outcomes of Related Meetings

RELEVANT MEETING OUTCOMES

(Presented by the Secretariat)

SUMMARY

This paper presents information on meeting outcomes relevant to the SAIOACG.

This paper relates to –

Strategic Objectives:

- A: *Safety – Enhance global civil aviation safety*
- C: *Environmental Protection and Sustainable Development of Air Transport – Foster harmonized and economically viable development of international civil aviation that does not unduly harm the environment*

Global Plan Initiatives:

- GPI-1 Flexible use of airspace
- GPI-2 Reduced vertical separation minima
- GPI-3 Harmonization of level systems
- GPI-4 Alignment of upper airspace classifications
- GPI-5 RNAV and RNP (Performance-based navigation)
- GPI-6 Air traffic flow management
- GPI-7 Dynamic and flexible ATS route management
- GPI-8 Collaborative airspace design and management
- GPI-9 Situational awareness
- GPI-10 Terminal area design and management
- GPI-11 RNP and RNAV SIDs and STARs
- GPI-12 Functional integration of ground systems with airborne systems
- GPI-13 Aerodrome design and management
- GPI-14 Runway operations
- GPI-15 Match IMC and VMC operating capacity
- GPI-16 Decision support systems and alerting systems
- GPI-17 Data link applications
- GPI-18 Aeronautical information
- GPI-20 WGS-84
- GPI-21 Navigation systems
- GPI-22 Communication infrastructure

1. INTRODUCTION

1.1 The Second Meeting of the Regional ATM Contingency Plan Task Force (RACP/TF/2) was held at Bangkok, Thailand from 12 to 15 March 2013.

1.2 The Second Meeting of the Future Air Navigation Systems Interoperability Team-Asia (FIT-Asia/2) and Data-link Performance Monitoring Seminar was held from 27-29 March 2013, and the Eighteenth Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/18) was held at Bangkok from 1 to 4 April 2013.

1.3 The AIM Quality Assurance Seminar and the Eighth Meeting of the Aeronautical Information Services – Aeronautical Information Management Implementation Task Force (AAITF/8) were held at Ulaanbaatar, Mongolia, from 6 to 10 May 2013.

1.4 The First Meeting of the APANPIRG Air Traffic Management Sub-Group (ATM/SG/1) was held at Bangkok from 20 to 24 May 2013

1.5 The Fourth Meeting of the ICAO Asia/Pacific Seamless Air Traffic Management (ATM) Planning Group (APSAPG/4) was held at Hong Kong, China from 03 to 07 June 2013.

1.6 The Twenty Fourth Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/24) was at Bangkok from 24 to 26 June 2013.

1.7 The 50th Conference of Directors General of Civil Aviation (DGCAs), Asia and Pacific Regions was held at Bangkok from 1 to 4 July 2013.

1.8 A Europe – Asia Trans-regional Special Coordination Meeting was held at Beijing, China from 23 to 25 September 2013.

1.9 The Third Meeting of the Regional ATM Contingency Plan Task Force (RACP/TF/3) was held at Bangkok, Thailand from 12 to 15 November 2013.

1.10 The Second Meeting of the Asia/Pacific Regional Search and Rescue Task Force (APSAR/TF/2) was held at Singapore from 27 to 30 January 2014.

2. DISCUSSION

RACP/TF/2 and RACP/TF/3

2.1 The RACP/TF noted the questionnaire that had been developed by the Contingency Plan Review Team asking administrations to provide information on a number of key areas:

- number of ATS units with Level 1 (Internal State) Contingency Plans;
- coordination, testing, review and amendment of Contingency Plans;
- addressing of Category A and Category B causal events in Contingency Plans;
- Draft Basic Plan Elements (BPE) incorporated in Contingency Plans; and
- existence of any formal Level 2 (Inter-State) Contingency Plan agreements, and their inclusions.

2.2 Of the 15 responding Administrations there were six with Robust Level 1 (Domestic or Internal State) plans, eight Marginal and one Incomplete. The reported Regional status of each of the four key areas relating to Level 1 contingency plans were also analysed, and the results expressed as a percentage of ‘full’ implementation, as were the individual elements within each key area. Overall Regional implementation of all four of the key areas examined was found to be Marginal. Of the 20 elements within the four key areas, one was Incomplete, 14 were Marginal and five were Robust (**Figure 1**).

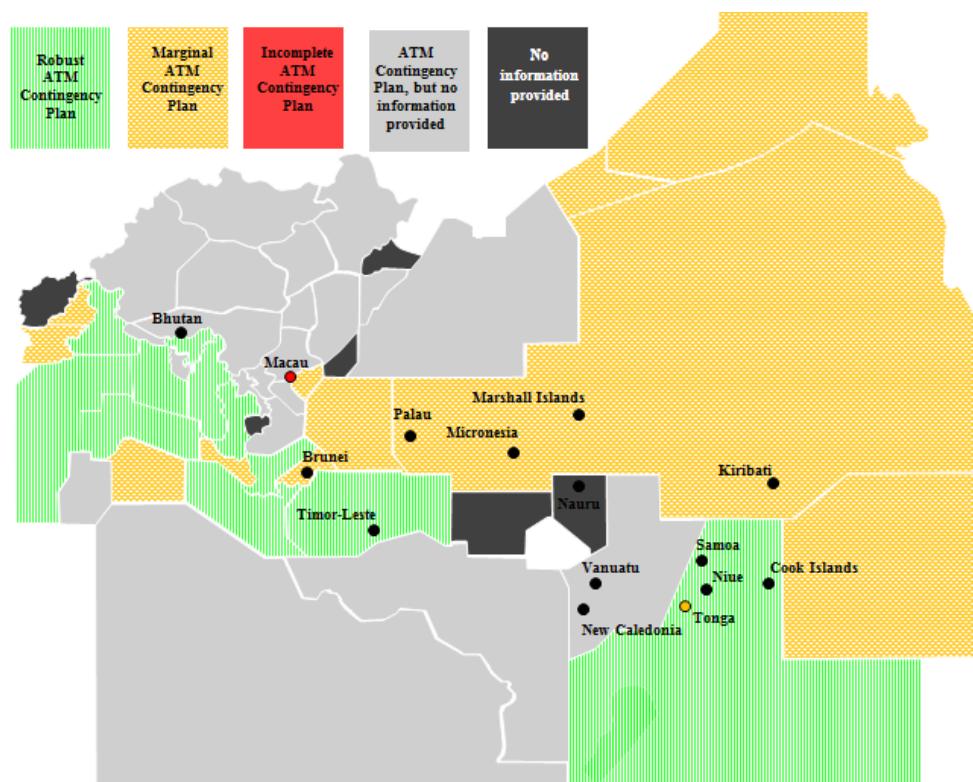


Figure 1: Level 1 Planning

2.3 Analysis of the 15 questionnaire responses for Level 2 (Inter-State) Plans indicated that four Administrations had Robust Level 2 plans, five Marginal and six were Incomplete. The analysis indicated where States have reported that bi-lateral Level 2 contingency plans were in place (**Figure 2**).

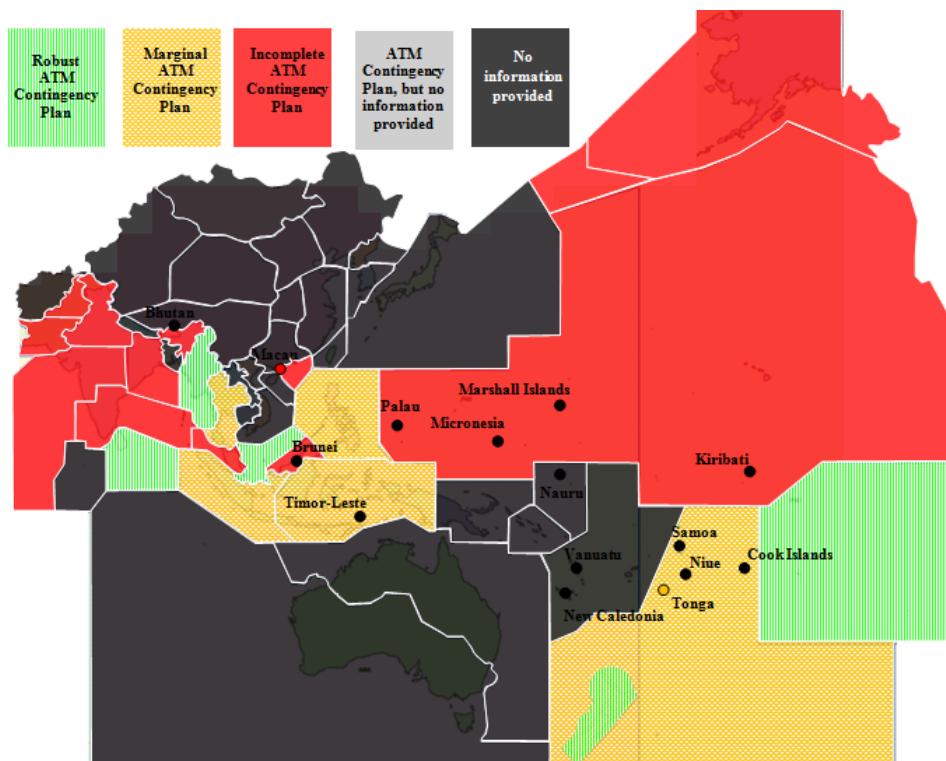


Figure 2: Level 2 Planning

2.4 The RACP/TF Chairperson noted that States would be at different levels of preparedness, but the role of the Task Force was to assist States to enhance their capability. He also noted that the Task Force needed to work on Level 2 plans, as Level 3 planning mainly involved the harmonisation of Level 2 plans. He emphasised that any delegation of services in a contingency sense would normally be temporary in nature.

2.5 **Table 1** summarized the Regional Level 2 contingency readiness determined by State responses to the questionnaire, also expressed as a percentage of ‘full’ implementation.

Level 2 Plans – Summary of Overall Regional Readiness (%)	
Delegation of ATC Separation	33
Formal Inter-State Agreements (LoA or MoU)	47
Contingency Route Structure	47
Flight Level Allocation Scheme	47
Minimum Longitudinal Spacing	47
Frequency Transfer Arrangements	60
Delegation of FIS and SAR Alerting Services	60

Table 1: Level 2 Contingency Readiness

2.6 A proposed framework for the Regional ATM Contingency Plan and its Basic Plan Elements (BPE) was developed by the Secretariat. The meeting noted the Regional ATM Contingency Plan template, and delegates were asked to provide feedback on its general layout and format. In particular, the BPEs were reviewed by the meeting.

2.7 The RACP/TF agreed to form Small Working Groups (SWG) to formulate contingency route structures and Flight Level Allocation Schemes (FLAS) for Level 2 Contingency Plans. The working arrangements of the RACP/TF Contingency Plan Review Team and SWGs required for development of the Regional ATM Contingency Plan were also agreed.

2.8 The meeting agreed that the ATM Volcanic Ash Contingency Plan (VACP) should be made available on the Asia/Pacific Regional Office internet website, and referenced in the Regional ATM Contingency Plan.

2.9 The RACP/TF discussed the format of a Letter of Agreement (LOA) for contingency operations.

2.10 **Figure 3** illustrated the linkages between Asia/Pacific Regional implementation planning Documents, and their relationship to global vision and strategy documents.

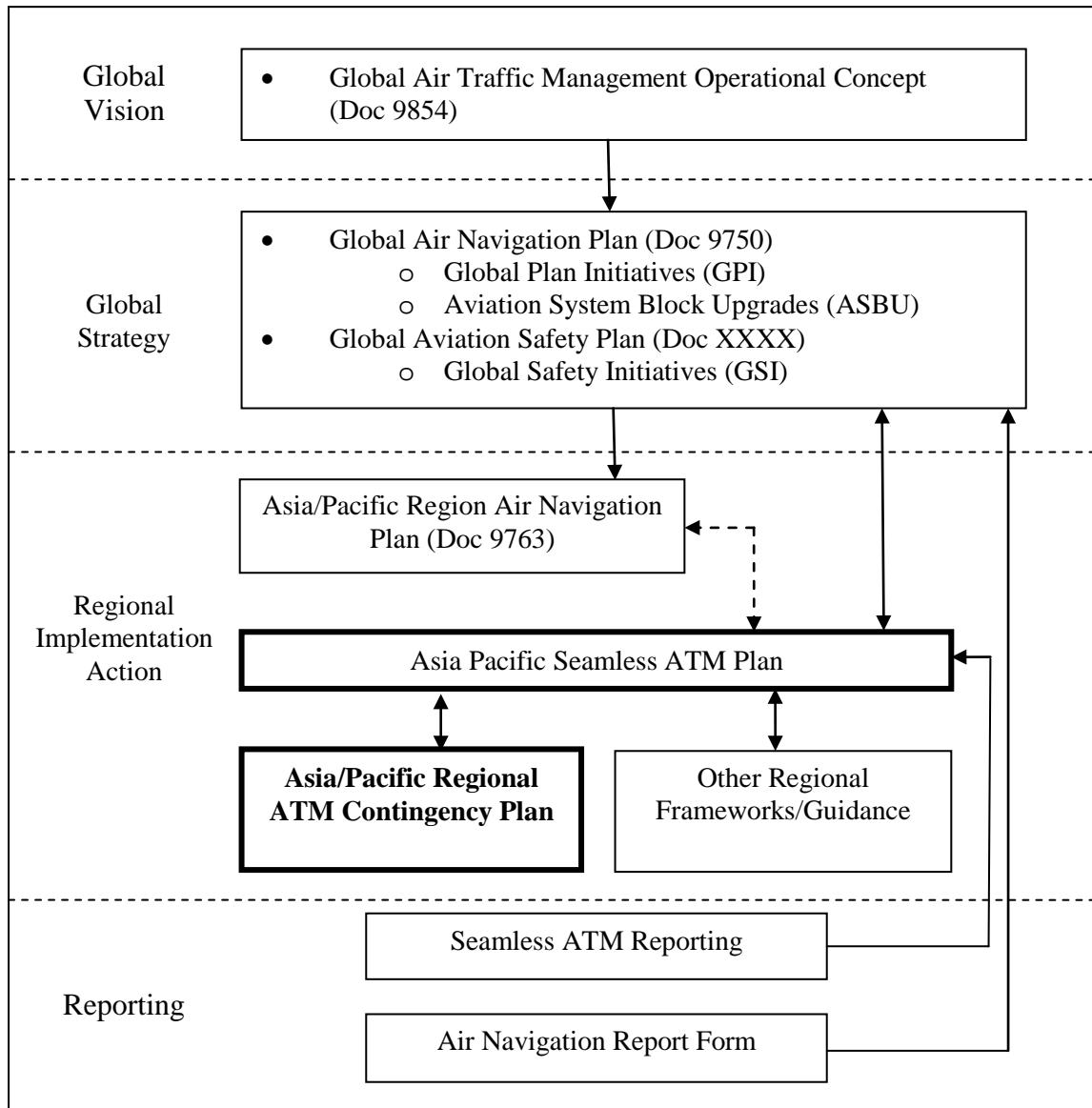


Figure 3: Regional Planning Documents and Linkages.

FIT-Asia/2 and RASMAC/18

2.11 The FIT-Asia Terms of Reference (ToR) required that it supports FIT-Asia States' compliance with ICAO Annex 11 – *Air Traffic Services* and Global Operational Data-Link Document (GOLD) requirements for data-link performance. There was a considerable lack of data-link problem reporting among FIT-Asia States and airspace users, and few FIT-Asia States had arrangements in place for the analysis of problem reports (PRs) by a competent Central Reporting Agency (CRA). The meeting recognised that monitoring, reporting and analysis of data-link performance and problems was essential for the achievement and maintenance of the level of system performance required for application of RNP-based separation standards.

2.12 The meeting was further informed that improvements to the Informal South Pacific Air Traffic Services Coordinating Group (ISPACG) website (<http://www.ispacg-cra.com/>) would soon be made to include FIT-Asia as a participating body, and enabling the filtering of region-specific PRs. The meeting noted that the results of problem report analysis were provided to the originator as well as being posted on the CRA web site.

2.13 The lack of PRs from airspace users was also discussed. IATA agreed to bring this issue to the attention of its members.

2.14 The FIT-Asia/2 meeting noted that improvements to the ISPACG website would be made to include FIT-Asia as a participating body, and enabling the filtering of region-specific problem reports. Accordingly, RASMAC reviewed and endorsed the draft Conclusion. APANPIRG adopted the following Conclusion:

Conclusion 24/24: ADS/C and CPDLC Problem Reporting and Analysis

That, FIT-Asia States are requested to:

- *register on the FIT-Asia website (<http://www.ispacg-cra.com>), and report their registration to the ICAO Asia/Pacific Regional Office by 31 December 2013;*
- *report problems relating to Automatic Dependent Surveillance-Contract (ADS-C) and Controller Pilot Data-Link Communications (CPDLC) services to the Central Reporting Agency (CRA) for analysis, utilizing the FIT-Asia website; and*
- *ensure the CRA analysis is reported to FIT-Asia.*

2.15 Data obtained from post-implementation monitoring was used to measure FANS 1/A system performance against GOLD Required Communications Performance (RCP) and Required Surveillance Performance (RSP). System availability measurement was based on outages reported by the Communications Service Provider (CSP), and those observed by the Air Navigation Service Provider (ANSP).

2.16 Annex 11 required that agreements be put in place to share information from monitoring programs between regions. Due to the implication that ANSPs would aggregate their data to meet this requirement, it was suggested that FIT-Asia ANSPs would need to agree to both data gathering and aggregation, and FIT-Asia should consider how this may be progressed at the ICAO Regional level.

2.17 An upgrade of the I3 satellite Ground Earth Station (GES) for the Indian Ocean Region took place on 19 March 2013, and an upgrade to new I4 GES hardware was expected to improve GES availability within the region due to improved redundancy monitoring capability.

2.18 Overall data link performance was similar to that observed in the previous year, with performance reports being presented from Australia, China, India, Indonesia, Myanmar and New Zealand. The data analysis demonstrated stable performance for both uplink and downlink messages. From this data it was anticipated that RSP180 and RCP240 performance would be achieved.

2.19 An unreported outage at an Inmarsat CSP in third quarter of 2012 of 220 minutes (UPS maintenance) and another in early February 2013 of 48 minutes degraded availability in 2012. There were no reported issues with Remote Ground Station (RGS) stability during 2012. The upgrade of the I3 satellite RGS to I4 standard from 26 February at Perth was expected to enhance RGS reliability.

2.20 Analysis by New Zealand of High Frequency Data Link (HFDL) ADS-C reports extracted from the Satellite Communication (SATCOM) plus HF data showed that HFDL performance did not meet the RSP180 latency requirement, falling well below the 95% level.

2.21 Analysis of Aircraft Communications Addressing and Reporting System (ACARS) data for the Brisbane Flight Information Region (FIR) had revealed that during December 2012, 263 logons were rejected, representing a logon failure rate of 3%. Logon rejections were much more common among some operators. Of the rejected logons, 55 were due to incorrect aircraft identification, and the majority of the remaining was due to incorrect aircraft registration. The most common reason for logon rejection was a different airframe than that notified in the flight plan being used for the flight. The meeting was reminded of the requirements in ICAO Doc 4444 (PANS/ATM) for flight crews or operators to notify affected ATSU's in the CHG message of any information which had changed from that in the original flight plan.

2.22 Australia provided an overview of the procedures associated with reporting back on route by CPDLC following a weather deviation. CPDLC functionality supported the up-linking of weather deviation clearances, and allowed the controller to append an instruction for the flight crew to report when the aircraft was ‘back on route’. CPDLC also supported the flight crew downlinking a notification that they were ‘BACK ON ROUTE’. Observation showed that many flight crews send a CPDLC BACK ON ROUTE downlink when in fact they were still off-track. This could result in controllers providing inappropriate separation between the aircraft and other airspace users.

2.23 The meeting extensively discussed the need for En-Route Monitoring Agencies (EMAs) to have a greater link with CRAs and Air Navigation Service Providers (ANSPs) in order to support the application of horizontal separation standards based on data-link. The meeting noted that there was potential for EMAs to analyse safety risks in order to provide guidance to ANSPs on more efficient standards that would still achieve the Target Level of Safety (TLS).

2.24 The RASMAG meeting recognised that the EMAs could have a role like a Regional Monitoring Agency (RMA) in respect of identifying airframes that were not performing as expected in respect of their data-link performance data. Thus the meeting agreed that it was logical to expand the EMA roles to include monitoring of RCP/RSP approvals, although it was recognised that EMAs were not assigned to all the FIRs in the region. APANPIRG adopted the following Conclusion:

Conclusion 24/25: En-Route Monitoring Agency Role and Tasks

Considering the requirement for a defined process of monitoring airframe Required Communication Performance (RCP) and Required Surveillance Performance (RSP) compliance, and analysis of data-link performance affecting horizontal separation standards that utilise data-link, Asia/Pacific States should:

- a) *in collaboration with RASMAG, assign an En-Route Monitoring Agency (EMA) for each FIR; and*
- b) *support the assigned EMA with the provision of information regarding -*
 - i. *observed aircraft horizontal navigation performance; and*
 - ii. *observed non-compliant data-link performance of individual aircraft; and*
 - iii. *aircraft data-link approvals, and*
- c) *recognise the potential benefit of EMAs in providing risk analysis to support horizontal separation implementation.*

2.25 Australia presented a brief discussion of the benefits of data sharing and cooperation between Regional Monitoring Agencies (RMAs) in terms of determining the Altimetry System Error (ASE) for an aircraft. The data indicated sharing allowed an accurate determination of the aircraft's geoid height reference as Height Above Mean Sea Level (HAMSL) or Height Above Ellipsoid (HAE), whereas data from each RMA alone was in a number of cases insufficient. Additionally, obtaining data from a wide range of geographic locations enabled a more robust averaging of ASE, which could be biased if sampled from the same region or at similar times of the day.

2.26 Australia provided the outcome of the February 2013 check to identify non-Reduced Vertical Separation Minimum (RVSM) aircraft which had been identified in previous assessments. The RASMG/16 assessment in January 2012 identified 148 individual airframes, with the Philippines showing the highest number of 22. The 2013 assessment identified a reduction to 98 individual airframes in the data set, with airframes from the Philippines again showing the highest number (11). Other Asia/Pacific States with significant numbers were Indonesia (10), Thailand (5) and Australia, India and New Caledonia with three each.

2.27 Brunei Darussalam and Vanuatu both had registered airframes that had been previously identified in April 2011, while China, India, Malaysia, Philippines and Saudi Arabia all had airframes previously identified up until July 2012.

2.28 In December 2012, the Japan Airspace Safety Monitoring Agency (JASMA) identified 40 non-RVSM approved airframes, including 10 from the Republic of Korea and six from the Philippines.

2.29 The Monitoring Agency for Asian Region (MAAR) assessment of non-RVSM approved aircraft for RASMG/16 was 118, with Indian aircraft constituting half this number. For the December 2012 Traffic Sample Data (TSD), there was an increased total of 124 aircraft registrations found operating within RVSM airspace without proof of RVSM approval. Of these, 20 were registered in India and 13 from the Philippines. Of note were two of the five airframes from the Republic of Korea which had been also previously detected in the 2011 TSD.

2.30 In the assessment of non-State-approved operators and aircraft type combinations using Pacific RVSM airspace for the December 2012 TSD, 15 airframes were identified following the initial verification process. One aircraft registered in Vanuatu had been observed 18 times in the sample.

2.31 The overall RMA assessment of non-RVSM approved aircraft reflected a worldwide reduction that occurred after September 2012, mainly due to enhanced cross-checking and follow-up of aircraft approval status (**Figure 4**).

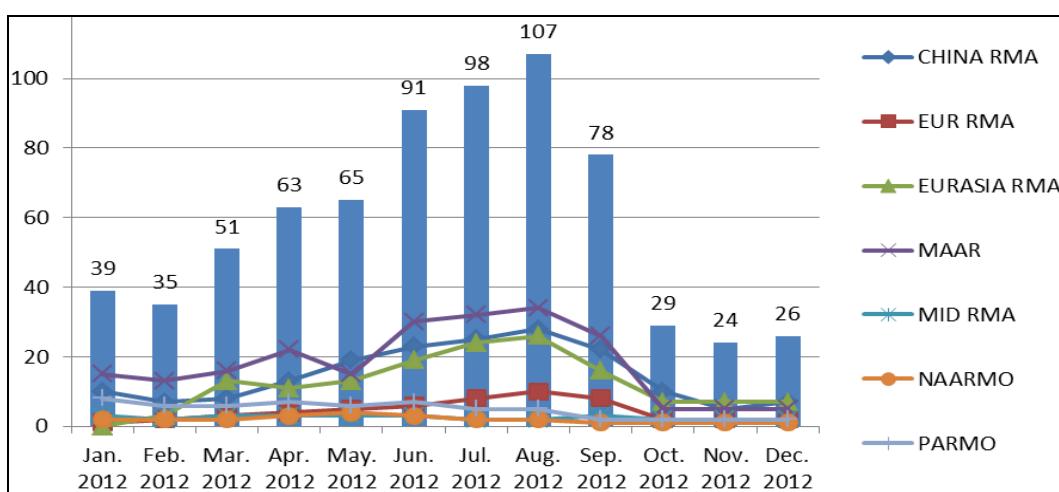


Figure 4: Traffic Scrutiny Results by RMA

2.32 IATA advised that they were happy to assist with follow-up to operators if necessary but felt this was mainly a regulatory issue, so supported denial of service for repeat offenders. The meeting discussed the need to take firmer action against such operators, which sometimes had non-compliant aircraft operating within the RVSM stratum for years.

2.33 The meeting recognised that the way in which the Asia/Pacific region dealt with non-compliant aircraft would become increasingly important with the implementation of other airspace mandates such as for ADS-B, noting that the previous APANPIRG Conclusion 23/15: *Long-Term Non-RVSM Approved Aircraft* had not resulted in a significant reduction of errant operators.

2.34 Recognising the serious risk to safety, as well as the continued non-compliance by some operators with RVSM requirements over many years, APANPIRG/24 adopted the following Conclusion:

Conclusion 24/26: Repetitive Non-RVSM Approved Aircraft Operating as RVSM Approved Flights

That, Asia/Pacific States should, except where a specific non-RVSM operation is authorised, deny entry to operate within RVSM airspace for aircraft that have been confirmed as non-RVSM approved over a significant length of time, or by intensive checking.

2.35 Australia presented the current monitoring burden for aircraft registered and operated by Australia, Indonesia, the Solomon Islands and Papua New Guinea. The assessment noted that a significant number of identified aircraft (102 aircraft of 276) did not meet the Annex 6 requirements by the agreed November 2012 target when applying the Minimum Monitoring Requirements (MMR).

2.36 The Secretariat presented an overview of regional safety assessment results. **Figure 5** indicated the following sub-regional regional trends.

- **South Asia** continued to operate below the TLS, although there were hot spots evident at the interface between Indian, Indonesian and Malaysian airspace. India had previously noted potential lack of reporting of safety issues by ATC, and this was evident by the lack of LHD reports from within the Mumbai and Kolkata FIRs. In addition, there appears to have been a lack of reporting within the Karachi and Lahore FIRs (Pakistan airspace).
- **Southeast Asia** had dropped below the TLS after some years not meeting the target, indicating that some of the corrective and preventive actions taken had been effective. However, the overall positive result tended to mask continuing problems associated with the Manila FIR, which saw a large number of LHD hot spots close to the FIR boundary with adjacent States.
- **East Asia** (particularly Mongolia and Japan) had made improvements, and the overall assessment met the TLS. However, there were a number of LHD hot spots at the interface between Mongolia and China, Pakistan and China, and internally within China near Wuhan and Beijing. The continued lack of reporting over many years from the Pyongyang FIR was also a concern.
- **Southwest Pacific** had maintained an upwards trend from RASMAG/17 to be consistently above the TLS. However, the prime driver for the high risk figure was a single LHD from March 2012 that remained within the data sample used for calculations. The monthly risk for the Southwest Pacific airspace is well below the average monthly risk which gives an annual risk of 5.0×10^{-9} . There were a number of LHD hot spots, including the interface between Australia and Indonesian airspace (particularly Jakarta FIR), and between Australia and Papua New Guinea airspace.

- Pacific airspace had been consistently below TLS.

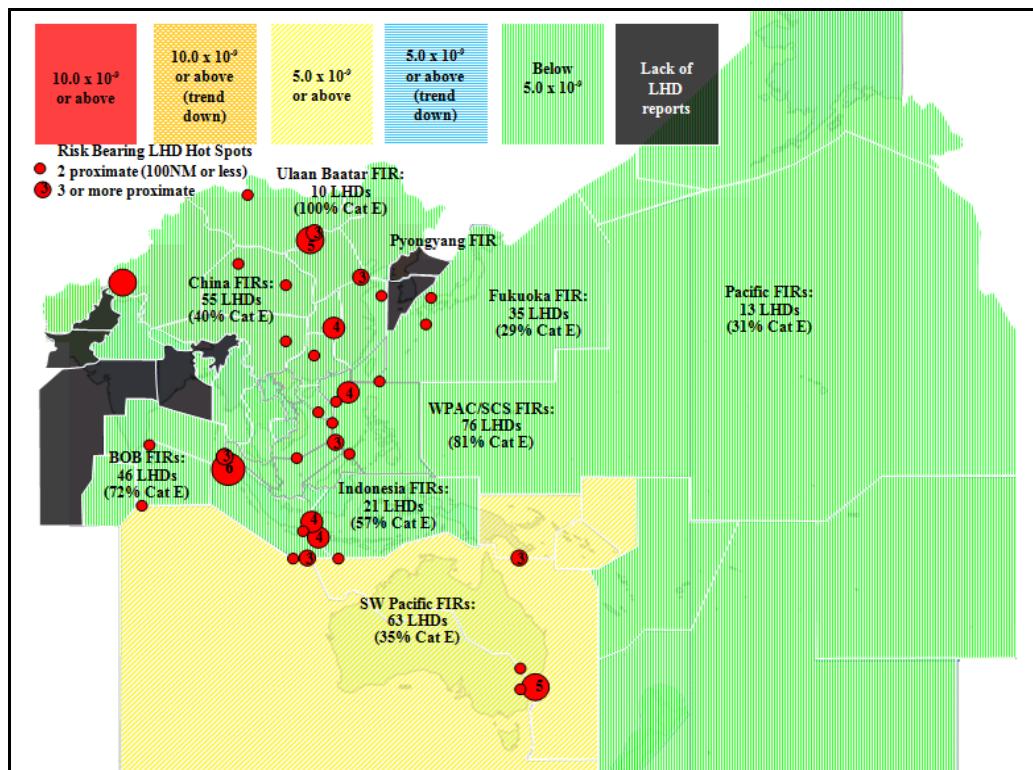


Figure 5: Asia/Pacific TLS compliance reported to RASMAG/18

2.37 Stemming from the analysis of hot spots, there appeared to be an urgent need for prioritisation of AIDC (ATS Inter-facility Data Communications) implementation as a risk mitigation measure at the following interface hot spots. These hot spots were also where category E LHDs (ATC to ATC transfer errors as a result of human factors issues) formed a significant portion of the total reports.

2.38 India stated that AIDC interoperability was very important, while Thailand advised that the Mekong ATM Coordinating Group had already been working on an AIDC implementation plan, for implementation of AIDC by 2015.

2.39 APANPIRG adopted the following Conclusion:

Conclusion 24/27: Prioritization of AIDC Implementation to Address LHDs

Considering that ATS Inter-facility Data Communications (AIDC) is an important means of minimizing Large Height Deviations (LHD), Asia/Pacific States should support the expedition of AIDC through collaborative projects at the following significant LHD interface areas:

- a) *Indonesia: between Jakarta and Chennai/Ujung Pandang/Brisbane/Melbourne FIRs;*
- b) *India: between Chennai and Kuala Lumpur FIRs;*
- c) *Philippines: between Manila and Fukuoka/Taipei/Hong Kong/Ho Chi Minh/Singapore/Kota Kinabalu/ Ujung Pandang FIRs; and*
- d) *China: between –*
 - i. *Urumqi and Lahore FIRs; and*
 - ii. *Beijing and Ulaan Baatar FIRs.*

2.40 A comparison was made of the number of LHD reports and the estimated flight hours, which determined that the average LHD occurred approximately every 22,684 flight hours. Thus at least one LHD might be expected on average from the Incheon FIR, although none had been reported in the last two RASMAC meetings. The ROK took note of this, for further discussion with their operational managers. The Bay of Bengal, Indonesian and Chinese airspace indicated reports of LHDs at a significantly lower rate than the average. However this may be due to differences between ATM systems and airspace, and an increased number of reports from this airspace since RASMAC/17 was noted. The potential lack of reporting from the Mumbai and Kolkata FIRs had already been noted.

2.41 Overall, the Asia/Pacific total remaining regional monitoring burden had decreased from 903 in 2009 to 620 in 2013, a 32% reduction (**Figure 6**).

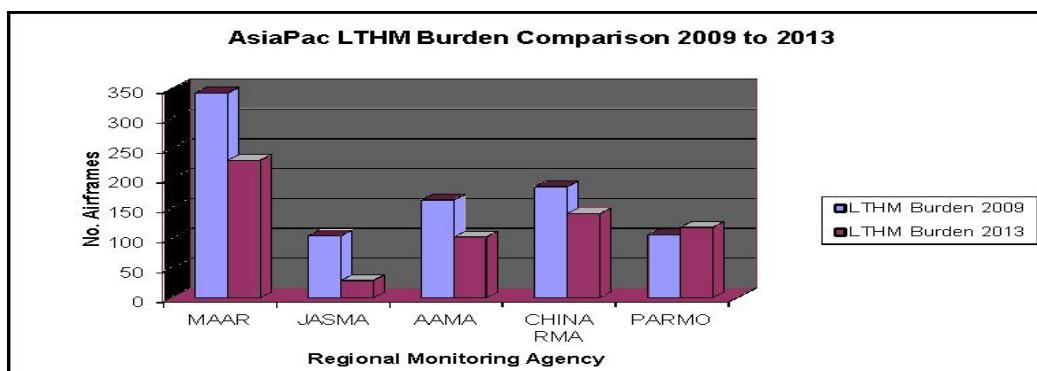


Figure 6: Asia/Pacific LTHM Burden Comparison 2009-2013

2.42 **Table 2** provided a comparison of Asia/Pacific RVSM risk as a measure against the TLS, either by RMA ‘sub-region’, or by FIRs. There had been significant improvement overall, particularly with a reduction of LHDs in the WPAC/SCS. However the 94 WPAC/SCS occurrences still constituted 28% of all Asia/Pacific LHDs within a dense traffic area.

	2011	2012	2013
RMA ‘sub-regions’	67%	78%	89%
FIRs	73%	73%	90%

Table 2: Comparison of Sub-Regional and Regional RVSM TLS Achievement

AIM Quality Assurance Seminar and AAITF/8

2.43 The AAITF was apprised of AIS – AIM transition progress based on the AIS-AIM Roadmap, in which Phase 1 was intended to be completed on 18 November 2010, in line with the effective date of Amendment 36 to Annex 15 and Phase 2 by November 2013 (Amendment 37).

2.44 The current information held at the Regional Office on AIM implementation is at **Attachment A** (AIM Survey Responses), **Attachment B** (Anticipated AIS-AIM Roadmap Related Deficiencies), and **Attachment C** (AIS-AIM Implementation Table).

2.45 The AAITF meeting noted that many States would like to implement in accordance with the Roadmap, but there were no detailed criteria for each Step’s completion, leading to difficulty for States in evaluating their own progress. Mongolia had agreed to host an informal website for the sharing of knowledge and information within the AIM community, and asked States to provide necessary information. The Secretariat had undertaken to examine what other opportunities or resources may be available for seminars or workshops to address the difficulty States were having in gaining knowledge of the AIM Transition Steps and determining how to implement them.

2.46 Recognizing the slow progress of implementation in many States, APANPIRG/23 had previously agreed to the following Conclusion:

Conclusion 23/9 – AIS-AIM Transition State Plans

That, States should develop a basic plan that identified the target completion dates of Transitional elements in the AIS-AIM Roadmap and submit these plans to the Asia/Pacific Regional Office by 1 January 2013.

2.47 A total of 17 Administrations responded to the subsequent State Letter (AP135-12) requesting basic plans. 10 States had completed Phase 1, which was intended to be completed by November 2010. No State planned to complete all 9 Phase 2 Steps by the scheduled date of 14 November 2013. Only 4 States (India, Japan, New Zealand and Singapore) had implemented all Phase 1 plus more than half of the Phase 2 elements including P-11 - Electronic AIP.

2.48 Hong Kong, China stated that while eAIP was important to Phase 2 for transition to AIM, other elements of Phase 2 transition to AIM were equally essential. The AAITF/8 had recognised that the Asia/Pacific region behind the AIM schedule. If non-respondent States were assumed to be behind schedule in implementation of all transition Steps, the following overall regional implementation could be expected when Amendment 37 comes into effect:

- Phase 1 AIM Transition would be 33% completed;
- Phase 2 AIM Transition would be 25% completed
- Phases 1 & 2 Transition would be 28% completed.

2.49 The AAITF recognised that there was a need for guidance material on this subject. Accordingly, the following Decision was made by the meeting:

AAITF Decision 8/1: Small Working Group to Formulate Guidance Material on Steps of the AIS – AIM Transition Phases.

That a Small Working Group comprising Australia, Hong Kong China, Japan, Singapore and the Secretariat be established to develop guidance material for Asia/Pacific Region on the requirements for completion of AIS – AIM transition Steps

2.50 It was agreed that the Deficiencies List should be updated to record AIS – AIM related deficiencies where States have reported that they have not yet completed Phase 1 Steps, or where they have failed to provide any progress reports. Further potential deficiencies arising when Amendment 37 to Annex 15 came into effect on 14 November 2013, including the AIS-AIM Transition Phase 2 steps, were also discussed.

2.51 The ICAO Regional Office had conducted an analysis of the electronic Aeronautical Information Publication (eAIP) of the 23 States having previously reported eAIP availability. Of 23 States reporting eAIP availability, only 6 had internet-accessible eAIP which was fully compliant with Annex 15 requirements for an Integrated Aeronautical Information Package. Six provided an Annex 15-compliant AIP Book, AIP SUP and AIC, but not NOTAM. A further three States provided AIP Book, but not AIP Supplements (AIP SUP) and/or Aeronautical Information Circulars (AIC).

2.52 The meeting also discussed the ICAO Document 7383 requirements for distribution of copies of AIP, AIP SUP and AIC to ICAO Headquarters and Regional Offices. An updated AIS-AIM Transition Table recording the aforementioned 15 eAIP is provided at Appendix B to the Report on Agenda Item 3.2. India expressed concern about the security of public access to eAIP.

2.53 APANPIRG/24 adopted the following Conclusion:

Conclusion 24/19: Electronic AIP

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

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

2.54 The meeting discussed the continuing problem of significant AIP changes being promulgated with unacceptable lead times before becoming effective, and without appropriate quality control of accuracy. In considering the critical importance of the accuracy and timeliness of information used in automated databases for day to day aviation operations, and the promulgation requirements set down in Annex 15, APANPIRG had adopted the following Conclusion:

APANPIRG Conclusion 23/8 – 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.

2.55 Instances of non-compliance with accuracy and advance notification requirements continued to occur; thus there were a number of States not complying with the APANPIRG Conclusion. To improve the effectiveness of corrective action on this safety-critical issue ICAO Regional Office, using verifiable reports received from IATA or other valid sources would provide a summary of all reported instances of non-compliance to future ATM Sub-Group meetings for further consideration by APANPIRG. The summary would include the information type and reference number (e.g. AIP SUP, NOTAM), the issuing State, the publication date and effective date, and a brief description of the issue. This information would also be used as the basis for a discussion paper at the annual DGCA meeting.

2.56 It had become apparent that further guidance for the submission of Basic Air Navigation Plan (BANP) proposals for amendment (PfA) for ATS routes was needed. The following Conclusion was adopted by APANPIRG/24:

Conclusion 24/20: Basic Air Navigation Plan Amendment Procedure and Guidance for Submission of ATS Route Amendments

That, to further improve the quality and processing time of proposals to amend ATS route information in the Basic Air Navigation Plan, the Doc 9673 Amendment Procedure provided on the Asia/Pacific website should be replaced with the Amendment Procedure and Guidance for Submission of ATS Route Amendments appended as Appendix E to the Report on Agenda Item 3.2.

2.57 Japan had proposed that there was a need to clarify differences between States' NOTAM operations and the descriptions in the Asia/Pacific Operating Procedures for AIS Dynamic Data (OPADD), and to facilitate the global harmonization of NOTAM operations. OPADD edition 3.0 was included in Chapter 3 of *Guidance Manual for Aeronautical Information Services in the Asia/Pacific Region*. APANPIRG/24 adopted the following conclusion:

Conclusion 24/21: Survey of Differences between States NOTAM Operations and Chapter 3 of the Guidance Manual for AIS in the Asia/Pacific Region - OPADD Edition 3.0

That, recognizing the potential for inconsistencies in NOTAM format within the Asia Pacific Region, States should complete the OPADD Survey attached at Appendix F to the Report on Agenda Item 3.2 and forward the completed survey to the ICAO Asia/Pacific Office by 31 December 2013.

ATM/SG/1

2.58 The ATM/SG agreed to the following key Draft Conclusions and Decisions relevant to the SAIOACG/SEACG:

- *Draft Conclusion ATM/SG/1-1: Reliance on FPL and ATS Message Converters (APANPIRG 24/11);*
- *Draft Conclusion ATM/SG/1-2: Dissolution of the FPL & AM Implementation Task Force (APANPIRG 24/12);*
- *Draft Conclusion ATM/SG/1-3: Air Traffic Flow Management Capacity Assessments (APANPIRG 24/13);*
- *Draft Conclusion ATM/SG/1-4: Air Traffic Flow Management Information Sharing (APANPIRG 24/14);*
- *Draft Conclusion ATM/SG/1-7: Asia/Pacific ATFM Steering Group (APANPIRG 24/15);*
- *Draft Conclusion ATM/SG/1-6: South China Sea ATS Facilities (APANPIRG 24/16);*
- *Draft Conclusion ATM/SG/1-7: AIDC Implementation (APANPIRG 24/17);*
- *Draft Conclusion ATM/SG/1-8: ATS Route Catalogue Version 12 (APANPIRG 24/18);*
- *Draft Conclusion ATM/SG/1-9: Electronic AIP (APANPIRG 24/19);*
- *Draft Conclusion ATM/SG/1-10: Distribution of Paper Copies of AIP to ICAO Asia/Pacific Regional Office (APANPIRG 24/19);*

- *Draft Conclusion ATM/SG/1-11: Basic Air Navigation Plan Amendment Procedure and Guidance for Submission of ATS Route Amendments (APANPIRG 24/20);*
- *Draft Conclusion ATM/SG/1-12: Survey of Differences between States NOTAM Operations and Chapter 3 of the Guidance Manual for AIS in the Asia/Pacific Region - OPADD Edition 3.0 (APANPIRG 24/21);*
- *Draft Conclusion ATM/SG/1-13: Search and Rescue Agreements (APANPIRG 24/22);*
- *Draft Conclusion ATM/SG/1-14: Asia/Pacific SAR Contact List (APANPIRG 24/23).*

APSAPG/4

2.59 IATA introduced a paper that provided an economic analysis of transition to Seamless ATM. The study entitled Economic Analysis of Seamless Air Traffic Management was predicated on the assumption that all ASBU Block 0 critical elements would be implemented and extrapolated the impact on Regional Gross Domestic Product (GDP) if there were implementation differences or delays. The key outcomes of this study were as follows.

- a) Aviation currently contributed 2.22% to Asia/Pacific States GDP.
- b) With ASBU Block 0 improvement, overall aviation contribution was forecast to reach 4% of the Regional GDP by the year 2030.
- c) This represented an overall aviation contribution of USD 2,358 billion to the regional GDP in the year 2030.
- d) Without ASBU Block 0 improvements, overall aviation's contribution to regional GDP would fall to 0.8% by the year 2030.

2.60 APANPIRG/24 agreed to the following Draft Conclusions and Decision:

Conclusion 24/54 Asia/Pacific Seamless ATM Plan

That, the Asia/Pacific Seamless ATM Plan Version 1.0 attached as Appendix B to the Report be endorsed, and made available on the ICAO Asia/Pacific Regional Office web site.

Conclusion 24/55: State Seamless ATM Planning

That, given the urgency and priority of Seamless ATM planning for the Asia/Pacific as acknowledged by the 46th Conference of Directors General of Civil Aviation (DGCA, Osaka, Japan, 12-16 October 2009) and APANPIRG/22 (05-09 September 2011), States should be urged to:

- a) *review Version 1.0 of the Asia/Pacific Seamless ATM Plan and utilise the Plan to develop planning for State implementation of applicable Seamless ATM elements;*
- b) *ensure relevant decision-makers are briefed on the Seamless ATM Plan;*
- c) *submit the first Regional Seamless ATM Reporting Form to the ICAO Regional Office by 01 March 2014; and*
- d) *where possible, participate and contribute to Seamless ATM system collaborative training and research initiatives.*

Conclusion 24/56: Seamless ATM Seminars/Workshops

That, ICAO be urged to facilitate Asia/Pacific Seamless ATM Planning and Implementation Seminars/ Workshops for Asia/Pacific States.

2.61 The Secretariat presented a basic guide to the implementation of the Seamless ATM PARS and PASL elements. The meeting noted that the PARS and PASL Phase commencement dates were aspirational targets, and should not be treated like a hard date such as the implementation of RVSM or FPL 2012. In these cases, there was a potential major regional problem if all States did not implement at the same time by the specific agreed date, which was clearly not the case for the start of PARS/PASL Phase I or II.

2.62 The following Decision was agreed by APANPIRG:

Decision 24/57: Dissolution of APSAPG

That, considering the submission of the Draft Seamless ATM Plan to APANPIRG, and subject to the Seamless ATM Plan being approved, the Asia/Pacific Seamless ATM Planning Group (APSAPG) be dissolved, and any on-going tasks be delegated to the appropriate Sub-Group, as directed by APANPIRG.

2.63 ICAO had conducted a number of Seamless ATM workshops and presentations:

- 10 September 2013: Bangkok, Thailand (ASEAN Air Transport Working Group - (ATWG));
- 23 – 25 September 2013, Beijing, China (Europe – Asia Trans-regional Special Coordination Meeting);
- 21 October 2013: Hyderabad, India (Bay of Bengal, Arabian Sea and Indian Ocean Region - BOBASIO);
- 26 November 2013, Bangkok, Thailand (Collaborative Development of Operational Safety and Continuing Airworthiness Programme-Southeast Asia - COSCAP-SEA);
- 27 November 2013, Bangkok, Thailand Meteorological Requirements Task Force (MET-R/TF); and
- 28 November 2013: Bangkok, Thailand (Civil Air Navigation Services Organisation - CANSO).

APANPIRG/24

2.64 APANPIRG/24 agreed to a total of 59 Conclusions and Decisions. Of these, 24 were related to the ATM, AIS, SAR and Airspace Safety fields, and another five were from the Aerodromes Working Group (AOP), which reports to the ATM Sub-Group.

DGCA/50

2.65 The List of DGCA Action Items relevant to ATM, AIS and SAR were as follows:

Action Item 50/1	Recognizing the need for collaborative approach to ATM capability development and innovation the Conference : a) urged States in the APAC Region to work together in strengthening ATM development capabilities in anticipation of Seamless ATM implementation of ASBU beyond Block 0; b) urged APANPIRG to develop a common framework on which regional ATM development efforts could be harmonized based on the pooling of appropriate resources for optimal ATM solutions.
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Action Item 50/2	<p>Recognizing the need for sub regional cooperation in A-CDM/ATFM the Conference:</p> <ul style="list-style-type: none"> a) urged the ICAO Asia Pacific Air Traffic Flow Management Steering Group to develop a common framework and harmonized approach to manage the air traffic flow in the region; and b) urged States/Administrations to participate in the ICAO Asia Pacific ATFM Steering Group and work together towards a common goal to manage air traffic flow in this region.
Action Item 50/3	<p>Recognizing the Region's overall performance in AIS – AIM Transition, and the critical importance of AIS/AIM to flight safety and air traffic management, the Conference:</p> <ul style="list-style-type: none"> a) urged States to promote the profile and awareness of AIS/AIM within their States and ANSPs, and commit the necessary direction and resources to ensure compliance with ICAO Annex 15 and implementation of AIS – AIM Roadmap Transition Steps. b) Urged States to note the APANPIRG Conclusion 23/8 and take necessary action to address the causes of non-compliance with the ICAO AIRAC Requirements.
Action Item 50/4	<p>The Conference noted that the draft Asia/Pacific Seamless ATM Plan has been adopted by APANPIRG/24 and urged States/Administrations to:</p> <ul style="list-style-type: none"> a) review Version 1.0 of the Asia/Pacific Seamless ATM Plan and utilise the Plan to develop planning for State implementation of applicable Seamless ATM elements; b) ensure relevant decision-makers are briefed on the Seamless ATM Plan; c) submit the first Regional Seamless ATM Reporting Form to the ICAO Regional Office by 01 March 2014; and b) where possible, participate and contribute to Seamless ATM system collaborative training and research initiatives.
Action Item 50/5	<p>Noting the establishment of Regional Sub Office, the Conference urged States and the industry to continue providing strong support and partnership to ICAO in supporting upcoming activities of the RSO.</p>
Action Item 50/6	<p>The Conference noted the outcomes of RASMG and urged</p> <ul style="list-style-type: none"> a) States/Administrations to improve the safety oversight and the provision of data-link problem reporting and analysis among FIT-Asia States; b) States to address the continuing problem of non-RVSM operations within the RVSM stratum, noting the recommendation to deny entry to operate within RVSM airspace for aircraft confirmed as being non-RVSM; c) States/Administrations to improve LHD safety reporting through the application of an appropriate open reporting culture and measures to encourage reporting, and accelerate AIDC implementation through collaborative projects to minimise LHDs.
Action Item 50/7	<p>Recognizing the importance of having a common transition altitude within an FIR which will improve safety and efficiency of flights, the Conference urged States in consultation with users to:</p> <ul style="list-style-type: none"> a) Establish common transition altitude within a FIR; and b) Develop new altimeter setting procedures.

Europe – Asia Trans-regional Special Coordination Meeting

2.66 The ICAO Asia/Pacific Office presented information on the Asia/Pacific Seamless ATM Plan, its association with the Aviation System Block Upgrades (ASBU), regional implementation guidance material, and the plan's effect on trans-regional ATM planning. The meeting was apprised of the status of the Preferred Aerodrome/Airspace and Route Specifications (PARS) and Preferred ATM Service Levels (PASL) Phases contained within the Asia/Pacific Seamless ATM Plan, and the reporting processes expected to be used to monitor progress.

2.67 For the European Union States there would be a deployment management process and for the non-European Union States accredited to the EUR/NAT Office harmonisation issues needed to be managed, as they did not come under the direct application of the Single European Sky ATM Research (SESAR) Master Plan.

2.68 The ICAO Paris Office provided information on the Terms of Reference (TOR) of the Route Development Group (RDGE), which reported to the European Air Navigation Planning Group (EANPG) on matters related to ATS route planning and implementation in the Eastern part of the ICAO European (EUR) Region. They also provided the current status of the ATS Route development process of the Far East and interface area sub group (EUR Route Catalogue Part 4) of the RDGE.

2.69 The meeting discussed the lack of correlation between the EUR and APAC ATS Route Catalogues, which was further highlighted by the work kindly undertaken by the EUROCONTROL delegate. The meeting noted that it was the intention to follow the EUR Far East (FE) naming convention for proposals that affected the EUR Region in both EUR and APAC ATS Catalogues and use the cross reference principle for tracing purposes in both catalogues. With the assistance of the EUROCONTROL analysis, the meeting was apprised of the status of the 18 proposals that were still outstanding in the Far East section of the EUR ATS Route Catalogue, and that at least two proposals from the APAC ATS Route Catalogue not in the EUR list.

2.70 ICAO presented information on a possible high density routing initiative for traffic from Southeast Asia or Southern China to Europe via north of the Himalayas, taking advantage of the latest Performance-based Navigation (PBN) navigation specifications. The Silk Road initiative was a proof-of-concept ATS route study, utilising RNP 2 or RNAV 2 navigation specifications, and was first presented to the RACP/TF as a possible future contingency system for traffic operating on Major Traffic Flow (MTF) AR-4, in case of airspace unavailability in South Asian FIRs.

2.71 States agreed to take the valuable information that was presented and discussed on the new ATS route proposals or the ATS route related packages (Vladivostok/Khabarovsk reorganization, SIMLI dualisation, amended DPRK proposals, and the proposal from Mongolia) back to their national administrations for further discussion and studies. As a result of this SCM meeting the ATS route catalogues would be updated together with the consolidated ATS route proposals (with their respective economical and safety related benefits) and distributed to participating States and stakeholders.

2.72 The potential savings from Southern China between the Silk Road concept and traditional ATS routes were demonstrated in a comparison of route length of a flight from Kunming to Frankfurt using the traditional route L888 (4,455NM) versus the Silk Road concept (4,210NM), the latter being shorter by 245NM. The meeting noted that concept also provided the capability of optimum flight level attainment for aircraft with the higher capacity using the new PBN navigation specifications and dual routes.

2.73

Figure 7 provides a comparison of the Silk Road concept.

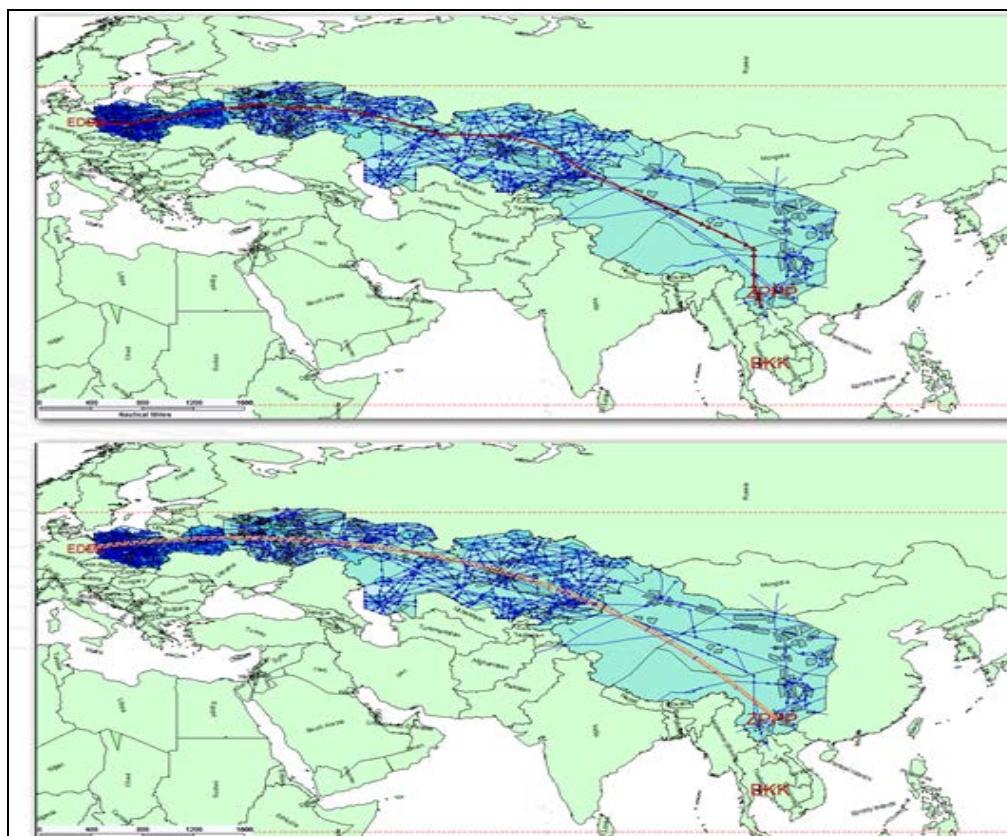


Figure 7: Kunming to Frankfurt comparison using L888 versus Silk Road

2.74

The SCM also discussed trans-regional Reduced Vertical Separation Minimum (RVSM), Air Traffic Flow Management (ATFM), ATS contingency planning, Search and Rescue (SAR) planning and Aeronautical Information Management (AIM) aspects.

APSAR/TF/2

2.75

Cospas-Sarsat advised the current status of the Cospas-Sarsat System – Cosmicheskaya Sistema Poiska Avarynykh Sudov (Космическая Система Поиска Аварийных Судов, or ‘Space System for the Search of Vessels in Distress) Search And Rescue Satellite-Aided Tracking. Statistics were provided on system performance, including system operations, space and ground segments, beacons, false alerts and results of Cospas-Sarsat Mission Control Centre (MCC) – SPOC (SAR Point of Contact) communication tests. The distribution of all SAR events (maritime, aviation and land) during 2012 is shown at **Figure 8**.

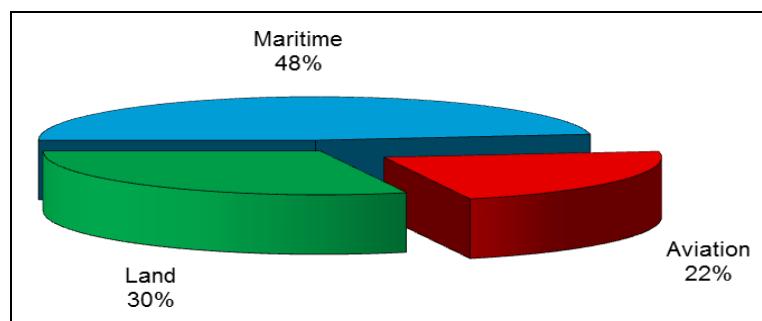


Figure 8: Type of SAR Events (2012).

2.76 **Figure 9** shows the number of SAR events and persons rescued with the assistance of Cospas-Sarsat alert data for the period from January 1994 to December 2012.

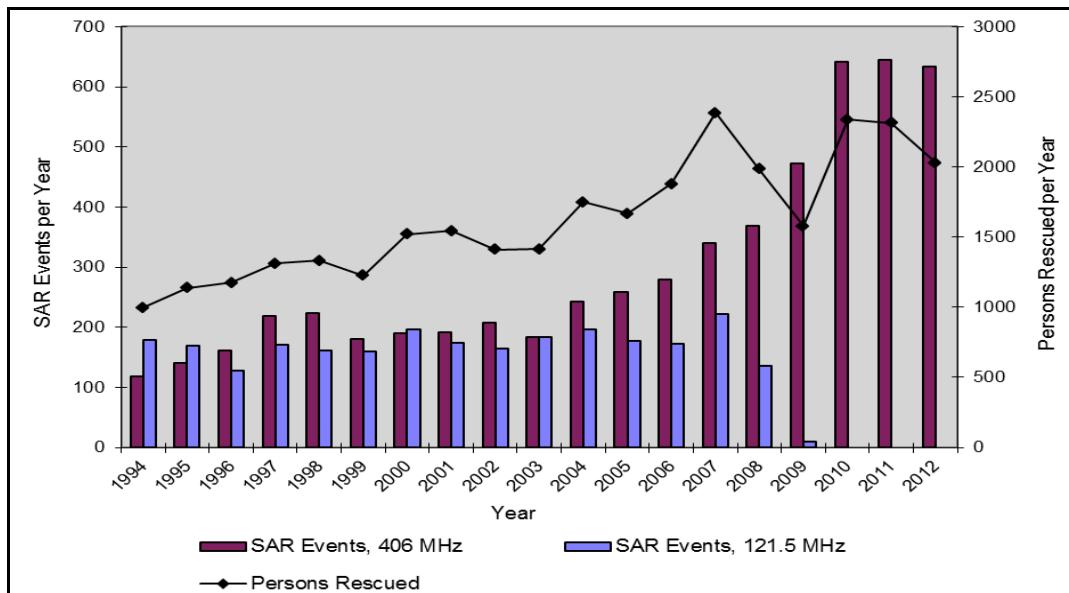


Figure 9: SAR Events/Persons Rescued with Cospas-Sarsat Alert Assistance (1994 – 2012)

2.77 Cospas-Sarsat observed that:

- Cospas-Sarsat alert data assisted in 634 distress incidents and 2,029 persons were rescued. The use of Personal Locator Beacons (PLBs) increased from 28% of the total SAR events in 2011 to 30% in 2012, based on preliminary information.
- Aircraft Emergency Locator Transmitters (ELTs) false alert rates were higher at 4.9% than those of maritime Emergency Position Indicating Radio Beacon (EPIRB) and personal locator beacons (PLBs), and that efforts should be made to reduce these false alert rates;
- ELT beacon-registration rates were somewhat lower than the rates for EPIRBs and PLBs, and that efforts should be made to improve ELT beacon-registration rates (in 2012, 65.8% of beacons detected were registered);
- beacon registration should be made as easy as possible for beacon owners in order to encourage registration, and that during a distress alert having registration information available not only improved the probability of a successful rescue, but could also reduce the needless use of critical SAR resources;
- administrations were encouraged to make use of the free Cospas-Sarsat International Beacon Registration Database (IBRD) if they needed such a resource;
- the Asia-Pacific region had a generally good response record to SPOC test calls; and
- excluding Australia, New Zealand and the United States, of 3,600 alerts sent to the Asia/Pacific region in 2012, there were only 17 confirmed alerts where the Cospas-Sarsat programme received reports that confirmed the validity of the alert.

2.78 The APSAR/TF discussed mandatory registration of PLBs, noting that they did not fall under an administration such as ICAO for ELTs and IMO for EPIRBs. Moreover, the meeting noted the increasing miniaturisation of PLBs, even in watches, and that Cospas-Sarsat would send an alert automatically no matter what the source; thus a State had an obligation to act. The IMO was concerned about the possibility of PLBs could swamp the SAR alerting system, and overload RCCs. PLB registration at the point of sale was considered.

2.79 The meeting noted that unless there was a worldwide agreement to ban PLBs, it was necessary to urgently address and manage issues of systems capacity and system distribution (such as PLB alerts going to a local police agency). The APSAR/TF/2 meeting agreed to the following Draft Conclusions.

Draft Conclusion APSAR/TF/2-1: Cospas-Sarsat Alert Responses

That, considering the importance of effective Cospas-Sarsat alerting and monitoring supporting the international Search and Rescue (SAR) system, States be urged to:

- a) consider becoming formally associated with the Cospas-Sarsat system;
- b) provide up-to-date SAR Point of Contact (SPOC) details to Cospas-Sarsat, and respond promptly to SPOC communications tests;
- c) promote registration of 406 MHz distress beacons and make use of the free International Beacon Registration Database (IBRD) facility unless the State has its own readily available registration system;
- d) support a, simplified, serialised beacon unique identification coding system for next generation beacons;
- e) ensure the provision of immediate access by Rescue Coordination Centres (RCCs) to the 406 MHz distress beacon registration data, whether maintained by the State or the Cospas-Sarsat IBRD; and
- f) provide post-alert advisories to Cospas-Sarsat on all alert outcomes as soon as practicable as a performance and system improvement measure.

Draft Conclusion APSAR/TF/2-2: Personal Locator Beacon Regulation

That, considering the development of miniaturised Personal Locator Beacons (PLBs) being increasingly carried on persons, marine vessels and aircraft, the possible overload of alerting systems and RCCs, and the obligation of States to respond to safety alerts, ICAOHQ, in cooperation with the IMO, be urged to consider:

- a) registering PLBs, (preferably at the point of sale); and
- b) the most efficient and uniform means of directing PLB alerts not originating from marine vessels or aircraft to other appropriate public policing or emergency services.

2.80 The APSAR/TF/2 noted and shared the view of IMO's COMSAR 17 meeting (January 2013) that the coding of second-generation beacons should provide reliable, accurate, timely and complete information to SAR authorities. In addition, it was considered that a simplified beacon coding system for next generation beacons should include potential use of the country code, Cospas-Sarsat Type Approval Certificate (TAC) number and a serial number as a beacon unique ID (TAC number, serial number + country code), provided provision was also made for transmission of the vessel/aircraft identity (aircraft tail number/Maritime Mobile Service Identity (MMSI) number). Minimum Operational Performance Specifications for second-generation 406-MHz ELTs were being developed by the EUROCAE Council.

2.81 Cospas-Sarsat provided an extensive overview of Cospas-Sarsat developments, such as the current Demonstration and Evaluation phase of Medium-altitude Earth Orbit Search and Rescue (MEOSAR) spacecraft payloads, and the specifications for the second generation of Cospas-Sarsat beacons, including potential new features for 406 MHz ELTs.

2.82 The launch of the first two of a planned 22 Galileo satellites with SAR payloads was planned for mid-2014. Further Galileo launches were planned to reach a full deployment of 28 satellites by the end of 2018. A Glonass-K2 had a planned launch date in early 2014.

2.83 The SAR/Galileo component of the future MEOSAR system will provide a capability for a Return Link Service (RLS) uplink communications system for compatible distress beacons, with an interoperable capability under consideration for the Russian SAR/GLONASS.

2.84 Regarding second-generation ELTs automatically activated in-flight, the Experts Working Group (EWG-1/2013) agreed in principle to include future ICAO requirements related to in-flight distress alerts that could provide useful location data in advance of an aircraft accident. The prediction-accuracy target for the crash location using this system was six nautical miles (NM). Further work was required to define accuracy and the types of aircraft for which the requirement would be applicable, and other methods of in-flight activation, such as manually triggered beacons.

2.85 The Secretariat presented the status of SAR information in the Asia/Pacific Region known to the ICAO Regional Office, and requested States to update the information, including the List of SAR Agreements, SAR Agreement Matrix and SAR Capability Matrix Table. The regional overview (**Figure 10**) indicated significant Annex 12 compliance weaknesses in South Asia and the Southwest Pacific areas, and some weaknesses in Southeast Asia and the Democratic People's Republic of Korea. Improvements were noted in French Polynesia, Maldives, Mongolia and Sri Lanka since APSAR/TF/1.

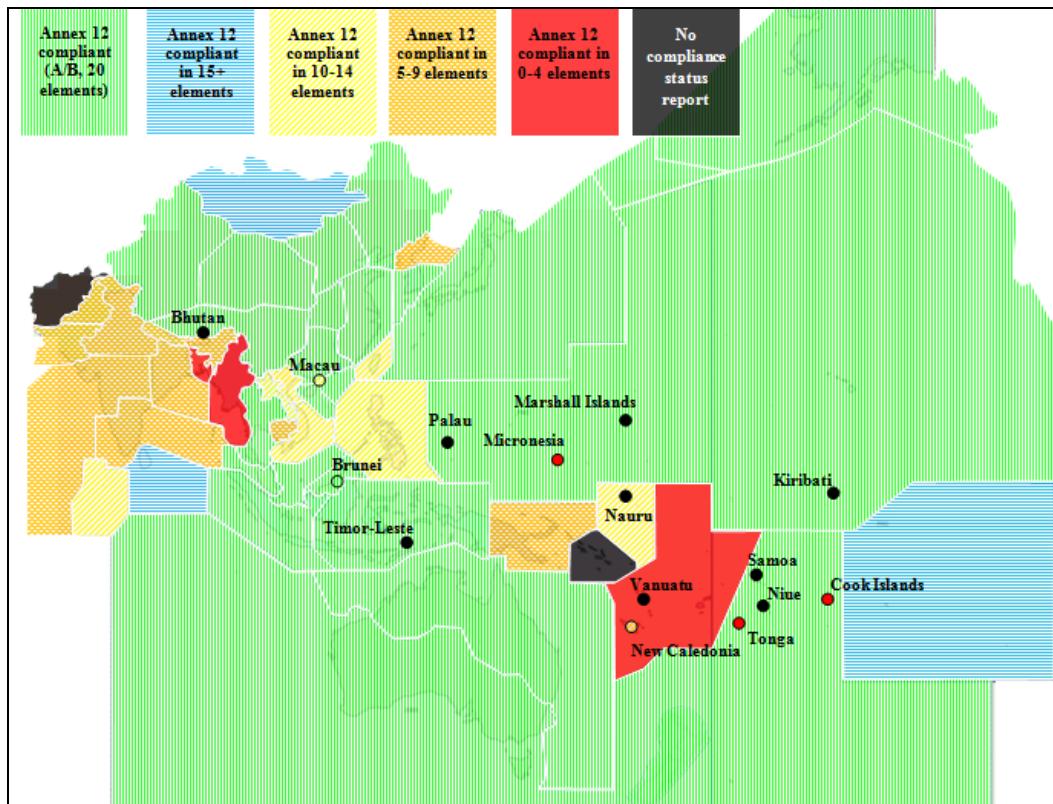


Figure 10: Asia/Pacific Regional SAR Overview

2.86 The United States noted that ICAO Headquarters in Montreal did not have a dedicated SAR technical officer, and that the ICAO/IMO JWG was concerned about this lack of SAR resource. The APSAR/TF discussed the implications, if any, upon SAR services within the region (especially inter-regional planning, coordination and cooperation). The United States noted that it was appropriate for regional offices to have increased responsibility for SAR within their region, but it was also proper that differences between regions were correctly handled and that there was a focused global oversight. Moreover, they stated that the burden for SAR had shifted to the ATM section in each regional office; however, this section also normally had a heavy, broad workload.

2.87 Australia agreed with the intent of the paper, noting that SAR had been left out of the ASBU and supported a dedicated SAR Technical Officer to provide a greater focus on SAR issues at HQ. Singapore supported the idea of a dedicated officer coordinating the global SAR effort. Sri Lanka stated that they were of the view that a permanent SAR officer should be established at ICAOHQ and agreed with the paper, noting the traffic growth in the region. The APSAR/TF/2 meeting agreed to the following Draft Conclusion.

Draft Conclusion APSAR/TF/2-3: Global SAR Coordination

That, considering the need for global and inter-regional Search and Rescue (SAR) coordination, ICAOHQ be urged to:

- a) review the lack of a dedicated technical officer responsible for managing global SAR policy development and inter-regional coordination; and
- b) include SAR as part of the Aviation System Block Upgrades (ASBU).

2.88 The United States announced that it would develop a SAR library on a web site that would be available to other national SAR authorities. Input was requested from the APSAR/TF members to resolve some implementation details, particularly regarding documents specific to the Asia/Pacific region and the structure of the web site. The goal was to provide a site from which any SAR authority could access SAR documents and publications or serve as verification that the RCC/Rescue Sub-Centre (RSC) or SPOC had access to them.

2.89 Documents on the web site would not include those publications which are purchased. Those posted would be what IMO refers to as ‘unpublished documents’ (non-copyright and thus were available for free). However, consideration would be given to posting extracts of certain IMO and/or ICAO documents, such as large ICAO annexes with only small sections applicable to SAR.

2.90 The Maldives discussed the issue of document updates and the problem of copyrighted documents. IMO noted they could link the documents but not the IAMSAR, which was a chargeable resource. Singapore asked the United States to include the Cospas-Sarsat Handbook on the website. The meeting noted that current document version details should be shown on the website. The global coordination to support the Library was observed by the meeting as an example of why ICAOHQ SAR oversight was needed.

2.91 The APSAR/TF/2 meeting agreed to the following Draft Decision:

Draft Decision APSAR/TF/2-4: Search and Rescue (SAR) Library

That, States be urged to utilise the SAR Library located at **TBA**.

2.92 ICAO presented the early draft Asia/Pacific SAR Plan as an attachment to WP10. According to the Terms of Reference, the APSAR/TF was expected to deliver a plan within two years of establishment for enhancement of SAR capability within the Asia/Pacific Region, including enhancement of SAR services with neighbouring States.

2.93 The APSAR/TF/2 reviewed the ‘straw man’ – an outline of the basic document with headings and some starting text. Participants were expected to discuss the structure and in particular, any missing components of the draft plan. APSAR/TF/2 should take into account relevant material from the Regional Air Navigation Plan and ICAO Assembly meetings. The early draft plan developed by APSAR/TF/2 would be presented to the ATM Sub-Group and thence to APANPIRG/25 in 2014.

2.94 If conducted, APSAR/TF/3 was expected to deliberate on the plan with all its draft material in place. APSAR/TF/4 was expected to complete discussions on the draft plan in preparation for presentation to the ATM Sub-Group and thence to APANPIRG/26 in 2015.

3. ACTION BY THE MEETING

- 3.1 The meeting is invited to:
- a) note the information contained in this paper; and
 - b) discuss any relevant matters as appropriate.
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	Phase 1 Consolidation (Amendment 36 November 2010)				Phase 2 Going Digital (Amendment 37 November 2013)										Phase 3 Information Management (Amendment 38 November 2016)							
	AIRAC Adherence Monitoring Monitoring Annex 4 and Annex 15 differences	WGS 84 Implementation	Quality	Data Quality Monitoring	Data Integrity Monitoring	Integrated Aeronautical Information Database	Unique Identifiers	Aeronautical Information Conceptual Model	ElectronicAIP	Terrain	Obstacles	Aerodrome Mapping	Aeronautical Data Exchange	Communication Networks	Aeronautical Information Briefing	Training	Agreements with Data Originators	Interoperability with Meteorological Products	Electronic Aeronautical Charts	Digital Notam		
	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	
Australia	✓	✓	✓	Q4 2013	Q4 2013	✓	✓	✓	Q3 2013	✓	✓	Q4 2015	Q4 2015	Q4 2013	Q4 2015	Q4 2015	Q4 2013	Q4 2013	Q4 2015	Q4 2015	Q4 2015	
Bangladesh	✓	✓	DEC '13	DEC '13	DEC '13	DEC '14	DEC '14	✓	DEC '14	JUN '13	JUN '14	DEC '14	DEC '13	DEC '14	DEC '14	DEC '14	JUN '14	JUN '14	DEC '13	JUN '14	DEC '15	
China	✓	✓	✓	✓	2016	2016	2018	2016	40% 2015	30% 2013	2016 Area 3,4; Area 2+	2020 (researching and updating)	2018	2017	2016	2014	2017	2018	30% 2018	2020		
Hong Kong, China	✓	✓	✓	✓	✓	✓	2014 Q3	2014	2014	2014	✓	✓	✓	2016 Date not AVBL (Note 2)	2014	2014	✓	Date not AVBL (Note 2)	2014	Date not AVBL (Note 4)		
Macao, China	✓	✓	✓	✓	2015	2015	2014	2014	2015	2015	2015	2015	2016	2016	2016	✓	2016	2016	2016	2016	2016	
India	✓	✓	✓	✓	✓	✓	✓	✓	✓	APR 2013	Update 31 JUL 2013	Update 31 JUL 2013	Update 31 JUL 2013	41820	41820	41820	Update 31 JUL 2013	41820	Update 31 JUL 2013	Update 31 JUL 2013	30 JUN 2014; guidance	
Indonesia	✓	✓	✓	2013	2013	2015	2015							2013 - 2020	2013 - 2020	2013						
Japan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	No Plan	✓	✓	✓	✓	✓	✓	
Malaysia	✓	✓	✓	End 2014	End 2014	End 2014	End 2014	✓	End 2014	End 2014	End 2014	End 2014	End 2014	End 2014	End 2014	End 2014	In progress	Early 2015	End 2014	End 2016		
Mongolia	✓	✓	✓	✓	Q2 2014	Q2 2014	Q4 2016	✓	✓	✓	Q4 2015	Q2 2014	Q4 2016	✓	Q4 2016	Q4 2013	Q4 2016	✓	Q4 2016	Q4 2015	Q4 2016	
New Zealand	✓	✓	✓	✓	✓	✓	✓	✓	2015	✓	✓	2011-2014	2013	2010-2018	2011-TBA	2012	2015	2012	2015+	2015	2012-2017	
Pakistan	Dec 2014	Dec 2014	Dec 2014	Dec 2014	Dec 2014	Dec 2014	Dec 2014	Dec 2014	Dec 2014	Dec 2014	Dec 2014	Dec 2014	Dec 2014	Dec 2015	Dec 2015	Dec 2015	Dec 2015	Dec 2015	Dec 2015	Dec 2015		
Philippines	✓	✓	Jun 2014	Dec 2013	✓	Dec 2013	✓	✓	✓	Jan 2013	further study	further study	CNS/ ATM Project	Dec 2014	CNS/ ATM Project	CNS/ ATM Project	Dec 2013	Dec 2013	CNS/ ATM Project	CNS/ ATM Project	CNS/ ATM Project	
Republic of Korea	✓	✓	✓	✓	✓	Jan 2015	Jan 2015	✓	✓	Complete (on testing)	Jan 2015	Jan 2015	Jan 2014	Jan 2014	Partially complete	Complete (on testing)	✓	✓	Jan 2015	Jan 2015	Complete (on testing)	
Singapore	✓	✓	✓	✓	✓	Complete (manually)	Complete (manually)	Target end 2013	✓	Target end 2013	✓	Target mid 2014	Target mid 2014	Target mid 2014	✓	✓	✓	✓	Target end 2013	Target mid 2014	Pending confirmation	
Viet Nam	✓	2000-2015	✓	2013-2014	2009-2018	2009-2018	2009-2018	2009-2022	2009 and onward	✓	2013-2018	2013-2018	2013-2028	2009 and onward	2009 and onward	2009-2028	2011-2020	2010 and onward	2009-2020	2013-2028	2018-2028	
USA[1]	✓	Ongoing	Feb 2016	✓	Feb 2016	Feb 2016	Mar 2018	Mar 2018	✓	Feb 2016	Feb 2016	Jan 2020	Feb 2016	Feb 2016	N/A US Difference exist	Feb 2016	Feb 2016	Mar 2018	Ongoing	Aug 2016		
France[2]	✓	✓	✓	✓	✓	✓	2013	✓	2013	2013	2015	2015	2015	2017	2017	✓	✓	✓	2017	2017	2017	

✓ = Completed

= On Schedule

= Behind Schedule

= No plan to implement

	Phase 1 Consolidation				Phase 2 Going Digital									
	Amendment 36 November 2010				Amendment 37 November 2013									
	AIRAC Adherence Monitoring	Monitoring Annex 4 and Annex 15 differences	WGS 84 Implementation	Quality	Data Quality Monitoring	Data Integrity Monitoring	Integrated Aeronautical Information Database	Unique Identifiers	Aeronautical Information Conceptual Model	Electronic AIP	Terrain	Obstacles	Aerodrome Mapping	
	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	
Afghanistan	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Australia	V	V	V	X	Q4 2013	V	Q4 2013	V	Q3 2013	V	V	X	X	X
Bangladesh	V	V	X	X	X	X	X	V	X	JUN '13	X	X	X	X
Bhutan	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Brunei Darussalam	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Cambodia	V	V	V	X	X	X	X	X	X	X	X	X	X	X
China	V	V	V	V	X	X	X	X	X	30% 2013	X	X	X	X
Hong Kong, China	V	V	V	V	V	V	X	X	X	V	V	V	V	V
Macao, China	V	V	V	V	X	X	X	X	X	V	X	X	X	X
Cook Islands	X	X	X	X	X	X	X	X	X	X	X	X	X	X
DPR Korea	X	X	V	X	X	X	X	X	X	X	X	X	X	X
Fiji	V	V	V	X	X	X	V	V	X	X	X	V	V	V
India	V	V	V	V	V	V	V	V	V	APR 2013	X	X	X	X
Indonesia	V	V	V	X	2013	X	X	X	X	X	X	X	X	X
Japan	V	V	V	V	V	V	V	V	V	V	X	X	X	X
Kiribati	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Lao PDR	V	V	X	X	X	X	X	X	X	X	X	X	X	X
Malaysia	V	V	V	X	X	X	X	V	X	X	X	X	X	X
Maldives	X	X	X	X	X	X	X	X	X	V	X	X	X	X
Marshall Islands	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Micronesia	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Mongolia	V	V	V	V	X	X	X	V	V	V	X	X	X	X
Myanmar	V	V	V	X	X	X	X	X	X	X	X	X	X	X
Nauru	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Nepal	X	X	X	X	X	X	X	X	X	X	X	X	X	X
New Zealand	V	V	V	V	V	V	V	V	X	V	V	X	2013	
Niue (NZ)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Pakistan	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Palau	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Papua New Guinea	V	V	V	X	X	X	X	V	X	X	X	X	X	X
Philippines	V	V	X	X	V	Dec 2013	V	V	V	Jan 2013	X	X	X	X
Republic of Korea	V	V	V	V	V	X	X	V	V	Complete (on testing)	X	X	X	X
Samoa	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Singapore	V	V	V	V	V	V	Target end 2013	V	Target end 2013	V	X	X	X	X
Solomon Islands	X	X	V	X	X	X	X	X	X	X	X	X	X	X
Sri Lanka	V	V	X	X	X	X	X	X	X	V	X	X	X	X
Thailand	V	V	X	X	X	X	X	X	X	X	X	X	X	X
Timor Leste	X	X	V	X	X	X	X	X	X	X	X	X	X	X
Tonga	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Vanuatu	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Viet Nam	V	X	V	X	X	X	X	X	X	V	V	X	X	X
USA	V	X	X	V	X	X	X	X	X	V	V	X	X	X
France	V	V	V	V	V	V	2013	V	2013	2013	X	X	X	X

= Completed

= Anticipated Deficiency - information provided

= On Schedule

= Anticipated Deficiency - no information provided

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: 07 February 2014

	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										part												
Australia	✓	✓	✓	90%	80%	✓	✓	✓	60%	Link	✓	75%				10%	60%			90%	5%	
Bangladesh	✓	✓	25%																			
Bhutan																						
Brunei Darussalam																						
Cambodia	✓	✓	✓																			
China	✓	✓	✓	✓													✓			✓		
Hong Kong, China	✓	✓	✓	✓	✓	✓				Link	✓	✓	✓				20%					
Macao, China	✓	✓	✓	✓						Link								✓				
Cook Islands																	✓					
DPR Korea				✓																		
Fiji	✓	✓	✓						✓	✓					✓	✓	✓	✓	✓			
India	✓	✓	✓	✓	✓	✓	✓	✓	✓	Link		✓										
Indonesia	✓	✓	✓		50%	50%	20%			Link						80%		60%	20%	10%	20%	
Japan	✓	✓	✓	✓	✓	✓	✓	✓	✓	Link	20%	20%		20%	20%	60%	✓	✓	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%				20%	20%				10%				25%	
Nauru																						
Nepal																						
New Zealand	✓	✓	✓	✓	✓	✓	✓	✓	✓	75%	Link	✓	80%	15%	80%							
Niue (NZ)																						
Pakistan																						
Palau										part												
Papua New Guinea	✓	✓	✓	90%					✓								10%					
Philippines	✓	✓	50%	50%	✓	50%	✓	✓	✓				50%									
Republic of Korea	✓	✓	✓	✓	✓				✓	✓							✓	✓	40%	90%		
Samoa																						
Singapore	✓	✓	✓	✓	✓	✓	✓	50%	✓		Link				✓	✓	✓	✓	✓			
Solomon Islands				✓																		
Sri Lanka	✓	✓	90%	90%						Link						10%	25%	15%	25%			
Thailand	✓	✓	80%	40%	40%	30%					25%	25%		10%	5%							
Timor Leste				✓																		
Tonga																						
Vanuatu																						
Viet Nam	✓	75%	✓	25%	50%	50%	50%		✓	Link					✓	✓	70%	50%				
USA ¹	✓			✓					part	✓	✓	✓	✓						✓	✓		
France ²	✓	✓	✓	✓	✓	✓	✓	✓	✓	Link												

% means the percentage progress towards achievement of the element. Link = AIP Book + AIP SUP + AIC. part = AIP Book, but no AIP SUP and/or AIC.

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/	(Partially compliant with Annex 15 requirements – No AIC)
Australia	http://wwwairservicesaustralia.com/	
Bangladesh	http://www.caab.gov.bd/adinfo/adinfo0.html	(Link removed. eAIP only has airport information, no AIP SUP or AIC)
Bhutan	http://www.dca.gov.bt/aip	(Link removed; inoperative)
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/aaisite_test/eAIP/Home_india_01.html	
Indonesia	http://www.aimindonesia.info	(Link to AIS homepage works, but link to AIP inoperative)
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	(No AIP book. AIP AMD, SUP and AIC are provided)
Nauru		
Nepal		
New Zealand	http://www.aip.net.nz/	
Niue (NZ)		
Pakistan	No AIP book.	
Palau	http://www.faa.gov/air_traffic/publications/atpubs/AIP/aip.pdf	(Partially compliant with Annex 15 requirements. No AIP SUP or AIC)
Papua New Guinea		
Philippines	http://ats.caap.gov.ph	(Requires registration, but registration functionality inoperative)
Republic of Korea		
Samoa		
Singapore	http://www.caas.gov.sg/caas/en/Regulations/Aeronautical_Information/AIP/index.html	
Solomon Islands		
Sri Lanka	http://airport.lk/AIS/141.htm	
Thailand		
Tonga		
Vanuatu		
Viet Nam		
USA	http://www.faa.gov/air_traffic/publications/atpubs/AIP/aip.pdf	(Partially compliant with Annex 15 requirements – No AIP SUP or AIC)
France (Wallis et Futuna, Iles) (French Polynesia)	E-AIP France	