



INTERNATIONAL CIVIL AVIATION ORGANIZATION

FINAL REPORT

**REPORT OF THE TWENTY FIFTH MEETING OF THE
ASIA/PACIFIC AIR NAVIGATION PLANNING AND
IMPLEMENTATION REGIONAL GROUP
(APANPIRG/25)**

Kuala Lumpur, Malaysia, 8 to 11 September 2014

The views expressed in this Report should be taken as those of the APANPIRG and not of the Organization. This Report will be presented to the Air Navigation Commission/Council and any formal action taken will be published in due course as a supplement to the Report.

Approved by the Meeting
and published by the ICAO Asia and Pacific Office

TABLE OF CONTENTS

PART I - HISTORY OF THE MEETING

	Page
1.1 Introduction	i-1
1.2 Attendance	i-1
1.3 Opening of the Meeting	i-1
1.4 Officers and Secretariat	i-1
1.5 Agenda of the Meeting	i-1
1.6 Working Arrangements, Language and Documentation	i-2
1.7 Conclusions and Decisions - Definition	i-2
1.8 Terms of Reference of APANPIRG	i-3
List of Conclusions	i-5
List of Decisions	i-7

PART II – REPORT ON AGENDA ITEMS

Agenda Item 1A	Follow-up on the outcome of APANPIRG/24 Meeting	1A-1
1A.1	Review of the Action taken by the ANC and the Council on the Report of APANPIRG/24	1A-1
1A.2	Review Status of Implementation of APANPIRG/24 Conclusions and Decisions.....	1A-1
1A.3	Review Status of Implementation of APANPIRG Outstanding Conclusion and Decisions.....	1A-1
Agenda Item 1B	Flight Safety and RASG-APAC Activities	1B-1
	Appendix	
Agenda Item 2	Global and Inter Regional Activities	2-1

Agenda Item 3	Performance Framework for Regional Air Navigation Planning and Implementation	
3.0	Regional and National Performance Framework Appendices A to C	3.0-1
3.1	AOP	3.1-1
3.2	ATM	3.2-1
3.3	RASMAG	3.3-1
3.4	CNS Appendix A	3.4-1
3.5	MET	3.5-1
3.6	Other Air Navigation Matters.....	3.6-1
Agenda Item 4	Regional Air Navigation Deficiencies.....	4-1
Agenda Item 5	Future Work Programme Appendices A to B	5-1
Agenda Item 6	Any Other Business.....	6-1

Attachments to the Report

- Attachment 1 – List of Participants
- Attachment 2 – List of Papers
- Attachment 3 – APANPIRG/25 Conclusions/Decisions – Action Plan

History of the Meeting

PART I - HISTORY OF THE MEETING

1.1 Introduction

1.1.1 The Twenty Fifth Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/25) was held at Hotel Renaissance Kuala Lumpur, Malaysia from 8 to 11 September 2014.

1.2 Attendance

1.2.1 The meeting was attended by 122 participants from 23 Member States, 2 Special Administrative Regions of China and 4 International Organizations (CANSO, IATA, IBAC and IFALPA).

1.2.2 A list of participants is provided at **Attachment 1** to the Report.

1.3 Opening of the Meeting

Welcome address by Dato Azharuddin DGCA DCA Malaysia and Mr. Arun Mishra, Regional Director, ICAO Asia/Pacific Office and Secretary of APANPIRG

1.3.1 Mr. Azharuddin welcomed the participants and highlighted the role of APANPIRG in enhancing the safety and efficiency of aviation in the region. Mr. Mishra welcomed the participants from the Member States, International Organizations and delivered the welcome address. He highlighted the progress achieved on the regional activities by the APAC States since the last meeting.

Opening remarks by Mr. Norman Lo, Director General of Civil Aviation, Civil Aviation Department, Hong Kong, China and Chairman of APANPIRG

1.3.2 Mr. Norman Lo, Director General of Civil Aviation, Department of Civil Aviation Hong Kong, China, and Chairman of APANPIRG welcomed the members and delivered the opening address.

1.4 Officers and Secretariat

1.4.1 Mr. Norman Lo, Director General of Civil Aviation, Civil Aviation Department, Hong Kong, China and Chairman of the APANPIRG, presided over the meeting.

1.4.2 Mr. Arun Mishra, ICAO Regional Director, Asia/Pacific Office, was the Secretary of the meeting.

1.4.3 The meeting was assisted by Mr. N. C. Sekhar, Regional Officer/AGA, Mr. Len Wicks, Regional Officer/ATM, Mr. Frederic Lecat, Regional Officer/CNS, and Mr. Peter Dunda, Regional Officer/MET. The meeting was also supported by Mr. Michiel Vreedenburgh, Chief, Implementation Planning and Support Section - Safety, Air Navigation Bureau, ICAO Headquarters, Mr. Noppadol P., Chief/Regional Sub Office (RSO), Mr. Pehrinba Renganathan and Mr. Liu Song, ATM Officers from RSO.

1.5 Agenda of the Meeting

1.5.1 The meeting adopted the following Agenda:

Agenda Item 1A Follow-up on the outcome of APANPIRG/24 Meeting

- 1A.1 Review of the action taken by the ANC and the Council on the Report of APANPIRG/24
- 1A.2 Review Status of Implementation of APANPIRG/24 Conclusions and Decisions
- 1A.3 Review Status of Implementation of APANPIRG Outstanding Conclusions and Decisions
- Agenda Item 1B Flight Safety and RASG-APAC activities
- Agenda Item 2 Global and Inter Regional Activities
- Agenda Item 3 Performance Framework for Regional Air Navigation Planning and Implementation
 - 3.0 Regional and Global Planning & Monitoring
 - 3.1 AOP
 - 3.2 ATM
 - 3.3 RASMAG
 - 3.4 CNS
 - 3.5 MET
 - 3.6 Other Air Navigation Matters
- Agenda Item 4 Regional Air Navigation Deficiencies
- Agenda Item 5 Future Work Programme
- Agenda Item 6 Any other business

1.6 Working Arrangements, Language and Documentation

1.6.1 The working language of the meeting was English inclusive of all documentation and this Report. Information Papers (IP) and Working Papers (WP) considered by the meeting are listed in the **Attachment 2** to this Report and available at APAC web site at <http://www.icao.int/APAC/Meetings/Pages/2014APANPIRG25.aspx>

1.7 Conclusions and Decisions - Definition

1.7.1 The APANPIRG records its actions in the form of Conclusions and Decisions with the following significance:

- 1) Conclusions deal with matters which, in accordance with the Group's Terms of Reference, require the attention of States or actions by ICAO in accordance with established procedures; and
- 2) Decisions deal with matters of concern only to the APANPIRG and its contributory bodies.

History of the Meeting

1.7.2 Lists of Conclusions and Decisions are given on pages i-5 to i-7.

1.8 Terms of Reference of APANPIRG

1.8.1 The Terms of Reference of APANPIRG was approved by the Council of ICAO (6th Meeting of its 171st Session on 27 February 2004) and revised consequent to the decision of the Council [C- DEC 183/9, March/April 2008 and C-WP/13558,C 190/4 on 25 May 2010]. The revised Terms of Reference are:

1. Membership

All ICAO Contracting States, who are service providers in an air navigation region and part of that region's ANP, should be included in the membership of that region's PIRG. Furthermore user States are entitled to participate in any other PIRG Meetings as a non member. International Organisations recognised by the Council may be invited as necessary to attend PIRG meetings as observers.

2. The Terms of Reference of the Group are:

- a) to ensure continuous and coherent development of the Asia/Pacific Regional Air Navigation Plan and other relevant regional documentation in a manner that is harmonized with adjacent regions, consistent with ICAO SARPs and Global Air Navigation Plan for CNS/ATM Systems (DOC 9750) and reflecting global requirements;
- b) to facilitate the implementation of air navigation systems and services as identified in the Asia/Pacific Regional Air Navigation Plan with due observance to the primacy of air safety, regularity and efficiency; and
- c) to identify and address specific deficiencies in the air navigation field.

3. In order to meet the Terms of Reference, the Group shall:

- a) review, and propose when necessary, the target dates for implementation of facilities, services and procedures to facilitate the coordinated development of the Air Navigation Systems in the Asia/Pacific Region;
- b) assist the ICAO Asia/Pacific Regional Office in fostering the implementation of the Asia/Pacific Regional Air Navigation Plan;
- c) in line with the Global Aviation Safety Plan (GASP), facilitate the conduct of any necessary systems performance monitoring, identify specific deficiencies in the air navigation field, especially in the context of safety, and propose corrective action;
- d) facilitate the development and implementation of action plans by States to resolve identified deficiencies, where necessary;
- e) develop amendment proposals to update the Asia/Pacific Regional Air Navigation Plan to reflect changes in the operational requirements;

- f) monitor implementation of air navigation facilities and services and where necessary, ensure interregional harmonization, taking due account of organizational aspects, economic issues (including financial aspects, cost/benefit analyses and business case studies) and environmental matters;
 - g) examine human resource planning and training issues and propose where necessary human resource development capabilities in the region that are compatible with the Asia/Pacific Regional Air Navigation Plan;
 - h) review the Statement of Basic Operational Requirements and Planning Criteria and recommend to the Air Navigation Commission such changes as may be required in the light of new developments in the air navigation field;
 - i) request financial institutions, on a consultative basis as appropriate to provide advice in the planning process;
 - j) maintain close cooperation with relevant organizations and State grouping to optimize the use of available expertise and resources;
 - k) conduct the above activities in the most efficient manner possible with a minimum of formality and documentation and call meetings of the APANPIRG when deemed necessary to do so; and
 - l) coordinate with RASG APAC on safety issues.
-

List of Conclusions

- Conclusion 25/2 – APAC Regional Air Navigation Priorities and Targets**
- Conclusion 25/3 – Air Navigation Report Forms (ANRFs) and Responsibility Matrix**
- Conclusion 25/4 – Seamless ATM Implementation Guidance**
- Conclusion 25/5 – Web-based Seamless ATM Implementation Progress Reporting Process**
- Conclusion 25/6 – Seminar/Workshop on the Aerodrome related Aspects of the Seamless ATM Plan Implementation**
- Conclusion 25/7 – Amendment to Figure 3-1 of Annex 14, Volume II**
- Conclusion 25/8 – Guidance on Airport Operations in Thunderstorm/Lightning Conditions**
- Conclusion 25/9 – ACI APEX (Airport for Excellence) Programme**
- Conclusion 25/11 – Human Performance Initiatives**
- Conclusion 25/13 – ATS Route Catalogue Version 13**
- Conclusion 25/14 – Access to ICAO Annexes and Documents**
- Conclusion 25/15 – Aeronautical Information Management (AIM) Transition Reporting**
- Conclusion 25/16 – Duplicated 5LNC (Five Letter Name Code)**
- Conclusion 25/17 – ICARD ATS Route Designators Function Access**
- Conclusion 25/18 – Cospas-Sarsat Alert Responses**
- Conclusion 25/19 – Personal Locator Beacon**
- Conclusion 25/20 – Global SAR Coordination**
- Conclusion 25/22 – Provision of MH370 Feedback**
- Conclusion 25/23 – Data Link Implementation Strategy Guidance**
- Conclusion 25/24 – Contact Details for Airspace User Reporting of ADS-C/CPDLC Problems to ANSPs**
- Conclusion 25/25 – Submission of FPLs as Traffic Sample Data (TSD)**
- Conclusion 25/26 – Flights in RVSM Airspace by non-approved State Aircraft**
- Conclusion 25/27 – AN- Conf/12 Recommendations**

- Conclusion 25/28 – AMHS Naming Registration Procedure and Form**
- Conclusion 25/29 – Proposal for Amendment to the regional Air Navigation Plan FASID CNS Tables**
- Conclusion 25/30 – Change of AMHS/SITA Interconnection Architecture**
- Conclusion 25/31 – CRV (Common Regional VPN Task Force) Cost Benefit Analysis**
- Conclusion 25/33 – CRV Concept of Operations (CONOP)**
- Conclusion 25/34 – Aeronautical Common Regional Virtual (CRV) Private Network in APAC Stage I**
- Conclusion 25/35 – Adoption of Pan Regional ICD for AIDC**
- Conclusion 25/38 – Harmonization for AIDC Implementation**
- Conclusion 25/39 – Navigation Strategy for the Asia/Pacific Region**
- Conclusion 25/40 – Revised ADS-B Implementation and Guidance Document**
- Conclusion 25/41 – Flight Plan Item 10 ADS-B Indicators**
- Conclusion 25/42 – Regulations for Compliance of ADS-B Transmissions**
- Conclusion 25/43 – Promote Understanding of SWIM in APAC Region**
- Conclusion 25/45 – Improvement of OPMET Data Format**
- Conclusion 25/46 – Improvement of OPMET Data Availability for Aerodromes Listed in ANP FASID Table MET 2A**
- Conclusion 25/48 – APAC MET/ATM Seminar**
- Conclusion 25/49 – Update of ATM/AIS/SAR, AOP, CNS and MET Deficiency List**
- Conclusion 25/51 – Consultation with Airspace Users on ANS Charges**

List of Decisions

- Decision 25/1** – **Development of the New APAC eANP**
 - Decision 25/10** – **ATFM/SG Terms of Reference**
 - Decision 25/12** – **Amend Regional ATM Contingency Plan Task Force (RACP/TF) Terms of Reference**
 - Decision 25/21** – **Search and Rescue (SAR) Library**
 - Decision 25/32** – **Terms of Reference of the APAC Aeronautical Common Regional VPN Task Force (CRV TF)**
 - Decision 25/36** – **Dissolving Inter-regional AIDC Task Force**
 - Decision 25/37** – **AIDC Implementation Task Force**
 - Decision 25/44** – **APANPIRG Performance-based Navigation Implementation Coordination Group (PBNICG)**
 - Decision 25/47** – **Establishment of a Volcanic Ash Exercises Steering Group in the APAC Region**
 - Decision 25/50** – **APANPIRG Contributory Bodies Structure Review Task Force (ABSRTF)**
-

Agenda Item 1A: Follow-up on the Outcome of APANPIRG/24 Meeting

1A.1 Review of the ANC Actions on the APANPIRG/24 Report (WP/2)

1A.1.1 The Meeting noted that the Air Navigation Commission (ANC), on 25 November 2013, reviewed the Report of the APANPIRG/24 (Bangkok, Thailand, 24-26 June 2013) Meeting. The Appendix A to the APANPIRG/25 Working Paper/2 presented the action taken by the ANC on the Conclusions and Decisions based on the recommendations of the Working Group of the Whole for Strategic Review and Planning (WG/SRP). The ANC expressed its appreciation of the work completed by APANPIRG and its proactive approach to implementation and resolution of air navigation matters.

1A.1.2 The meeting thanked the ANC for their valuable guidance on various activities of the APANPIRG and that it would be taken into account in the development of on-going work programme of the region.

1A.2 Review of Status of Implementation of APANPIRG/24 Conclusions and Decisions (WP/3)

1A.2.1 The Meeting reviewed the progress made on the APANPIRG/24 Conclusions and Decisions.

1A.2.2 The actions taken by States and the Secretariat on the above mentioned Conclusions and Decisions were reviewed. The Meeting noted that out of the 45 Conclusions and 14 Decisions action has been taken to close/complete 44 Conclusions and 12 Decisions. Action on the remaining one Conclusion and two Decisions are ongoing. Appendix A to APANPIRG/25 Working Paper/3 presented the updated status.

1A.2.3 To a query from Hong Kong China on Conclusion 24/19 the secretariat clarified that where internet facility is not available ICAO will accept hard copy of AIP.

1A.3 Review of Status of Implementation of APANPIRG Outstanding Conclusions and Decisions (WP/4)

1A.3.1 The Meeting reviewed the progress made on the APANPIRG Outstanding Conclusions and Decisions up to its Twenty Third Meeting.

1A.3.2 The actions taken by States and the Secretariat on the above mentioned Conclusions and Decisions were reviewed.

1A.3.3 The Meeting noted that out of the outstanding 12 Conclusions and 1 Decision, the follow-up actions on 6 Conclusions have been completed or closed. Actions on the remaining 6 Conclusions and 1 Decision are ongoing. The Meeting acknowledged that significant progress had been made in completing required action on the Outstanding APANPIRG Conclusions and Decisions. Appendix A to APANPIRG/25 Working Paper/4 presented the updated status.

Agenda Item 1B: Flight Safety and RASG APAC Activities

1B.1 Improving Air Traffic Safety Performance (WP/25)

1B.1.1 WP/25 presented by IATA identified the need for a wider focus on improving Air Traffic Safety Performance in the Asia Pacific Region in order to address current safety risks as well as to prepare for future ATM capabilities and demands.

1B.1.2 Japan supported the IATA proposal in principle and expressed that confidentiality of safety information was important. USA congratulated IATA for the paper and noted that safety information sharing is important. Hong Kong China also congratulated IATA for the paper and noted that mechanism for safety information sharing already existed and these have to be strengthened instead of establishing a new one. Australia reported that a proper analysis of safety information was required till the current mechanisms mature.

1B.1.3 The meeting supported the establishment of processes that collect and exchange air traffic safety related information between the APANPIRG and RASG and to avoid duplication of efforts.

1B.1.4 The meeting also noted the need to establish means for more coordination with RASG-APAC in order to utilize the safety analysis and Safety Enhancement Initiatives (SEIs) development expertise of RASG while leveraging APANPIRG mechanisms for the collection of air traffic safety information and the implementation of solutions to improve air traffic safety performance.

1B.2 Report of the Coordination Meeting between APANPIRG and RASG-APAC

1B.2.1 The Secretariat presented WP/33 with reference to WP/25, WP/28, IP/02, IP/04 and IP/06. The APANPIRG/25 noted that the first APANPIRG/RASG-APAC Coordination Meeting was held in Kuala Lumpur, Malaysia, on 9 September 2014. The meeting was attended by the APANPIRG Chair, APRAST Co-Chairs, ATM, CNS & MET Sub Group Chairs and Secretariat.

1B.2.2 The APANPIRG also noted that the Coordination Meeting had agreed upon coordination mechanism principles, coordination topics, lead regional groups for each coordination items and the next steps, which include presentation to the APANPIRG and RASG-APAC for endorsement.

1B.2.3 The meeting reviewed the outcomes of the Coordination Meeting and approved the coordination mechanism and framework placed in the **Appendix** to this Report.

APPENDIX

1.0 Coordination Mechanism Principles

- PIRG and RASG shall coordinate and support each other to achieve the agreed targets for the established regional priorities and implementation plans endorsed by the respective group (e.g. Review and support implementation of subsequent versions of the Asia/Pacific Seamless ATM Plan by the RASG);
- Continuous coordination by Secretariat for both PIRG and RASG to avoid duplication and gaps and to ensure alignment and harmonization of priorities, plans and actions;
- Secretariat will present a paper reporting on regional group coordination activities at each regional group plenary meeting and their key subsidiary bodies as appropriate;
- Chairs of APANPIRG and RASG will attend a coordination meeting at the ICAO Regional Office once a year and hold periodic coordination web meetings in between the face-to-face meetings if deemed necessary;
- Chairs will agree which regional group shall lead on each coordination topic and ensure coordination, information sharing and cross-reporting to the other group Chair, and if there is any change in lead regional group responsible, plan and ensure a smooth transition. Each group leading a coordination topic should identify any implications on the activities of the other group and highlight them to the other group and the Secretariat;
- Safety management, safety oversight system and flight operations safety aspects will usually fall under the RASG;
- Air navigation facilities and services implementation aspects will usually fall under the PIRG;
- Areas of coordination between PIRG and RASG is primarily in AGA and ANS safety areas;
- OPS (Annex 6) deficiencies listed under ATM air navigation deficiencies will be shared with RASG for further monitoring and resolution if deemed necessary;
- Cooperation to ensure that the priority ASBUs are implemented in the most efficient and safe manner; and
- ICAO will update the Procedural Handbooks of the regional groups to incorporate the coordination mechanism; and

Note: Examples of possible future coordination actions between RASG-APAC and APANPIRG include, but are not limited to, the following:

- Involvement of RASG-APAC APRAST and APANPIRG RASMAG in each other's activities;
- Establishment of an analysis body (similar to the RMA/EMA models that report to RASMAG for vertical and horizontal safety analysis) that manages ATS safety incidents/concerns/occurrences for onward reporting to RASG-APAC APRAST for further action;

2.0 Lead Regional Group Responsibilities

2.1 Aerodromes related topics

Coordination Item	PIRG	RASG
Aerodrome Infrastructure and Adjacent Land Use	X	
Runway Safety Programmes		X
Runway Safety Teams		X
Bird/Wildlife Management Programmes/Strike Incidents		X
Ground Operations, FOD, Ramp Procedures		X

2.2 ANS related topics

Coordination Item	PIRG	RASG
RVSM/LHDs (RASMAG)	X	
Other ATS Incidents	X	
ATS Phraseology	X	
Civil/Military Coordination	X	
SAR	X	

2.3 Other topics

Coordination Item	PIRG	RASG
Safety Management Systems (SMS)		X
Language Proficiency Requirements (LPR)		X
Airborne Collision Avoidance System II (ACAS II)		X
Pressure Altitude Responding Transponder		X

3.0 Next Steps

- Present coordination mechanism to APANPIRG
- Present coordination mechanism to AP-RAST and RASG-APAC
- Update PIRG and RASG procedural handbooks
- 2nd Global PIRG-RASG Coordination meeting will be held on the morning of Friday 6 February 2015 in conjunction with the High Level Safety Conference
- Present coordination mechanism to PIRG-RASG coordination meeting
- RASG to consider proposing to the HLSC that the GASP update should incorporate a link to the GANP
- RASG to present a paper to HLSC which is a progress report against its priorities and targets, along with any unique information they wish to provide

Agenda Item 2: Global and Inter Regional Activities

2.1 New Regional Air Navigation Plan (ANP) Template and Procedure for Amendment

2.1.1 WP/5 presented by the Secretariat highlighted the work of the eANP Working Group (eANP-WG) which was formed in the follow-up to the 12th Air Navigation Conference Recommendation – 6/1 [*Regional Performance Framework – Planning Methodologies and Tools*] on the alignment of regional air navigation plans with the Fourth Edition of the Global Air Navigation Plan (Doc 9750).

2.1.2 APANPIRG/25 noted that the new eANP will be in three Volumes and with the approval by the Council of the ANP template in June 2014, the development/approval of the new eANP would be in accordance with the following action plan:

ANP Volume	eANP	Responsible	Date
Vol I, II & III	Population of eANP with existing data	Regional Offices	September 2014
Vol I, II & III	Agreement on the content of the eANP	PIRGs/States	Mid 2015
Vol I	Approval of Volume I of eANPs by the Council	Regional Offices/ANB	End 2015
Vol II	Approval of Volume II of eANPs by regional agreement	Regional Offices/PIRGs	End 2015
Vol III	Approval of Part II by regional agreement. Inclusion of Volume III on web-based platform.	Regional Offices/PIRGs/ANB	End 2015
Consequential Amendments	Amendments to existing ICAO documentation related to ANPs to ensure harmonization including the Regional Office Manual, and review of the applicability of the Uniform methodology for the identification, assessment and reporting of air navigation deficiencies to the new ANP	ANB	Mid 2015

2.1.3 APANPIRG/25 supported the action plan and adopted the following Decision:

Decision APANPIRG 25/1 – Development of the new APAC eANP

That in support to the ICAO efforts to align the regional Air Navigation Plans (ANP) with the Fourth Edition of the Global Air Navigation Plan (GANP) (Doc 9750) APANPIRG and its sub groups be invited to:

- a) include the development of the APAC eANP based on the Council approved ANP template and action plan, in the work programmes of the related APANPIRG contributory bodies; and
- b) present the relevant Parts of the APAC eANP to APANPIRG/26 for endorsement.

2.1.4 The meeting further noted that the current ANP application under SPACE (iSTARS 2.0) would be used as the basis for the development of the new eANP web-based platform with some improvements.

2.1.5 Appendices A, B, and C to the APANPIRG/25 Working Paper 5 presented the templates for ANP Volumes I, II and III including the procedure for amendment.

2.2 Information on the Revision of the *Regional Supplementary Procedures (DOC 7030) - IP/03 (Note: Paper was not presented but included in the report for information)*

2.2.1 The Information Paper (IP/03) presented the progress made by the Secretariat to implement the Recommendation 6/11 — *Alignment of air navigation plans and regional supplementary procedures*, formulated by the Twelfth Air Navigation Conference (AN-Conf/12) (October 2012), to align the areas of applicability of the *Regional Supplementary Procedures (SUPPs)* (Doc 7030) with those of the Air Navigation Plan (ANP) regions in order to simplify the procedures for regional performance framework management for the Planning and Implementation Regional Groups (PIRGs) and also support more efficient planning and implementation of the Aviation System Block Upgrades (ASBUs).

2.2.2 APANPIRG/25 noted that revision to Doc 7030 will create new areas of applicability of SUPPs as follows: **AFI, ASIA/PAC, CAR/SAM, EUR, MID, NAM, and NAT**; that will replace the current areas of applicability: AFI, CAR, EUR, MID/ASIA, NAM, NAT, PAC and SAM making coincident the areas of applicability of the SUPPs with the areas of applicability of the ANPs.

2.2.3 The meeting also noted that after this revision to Doc 7030 was approved by the Council, a new edition of Doc 7030 will be published next year and the PIRGs will have the opportunity to review the SUPPs procedures applicable to their area of responsibility for any necessary further amendment.

2.3 Strategic and Proactive Coordination between APANPIRG and RASG-APAC in Trials and Validations for ASBU Implementation

2.3.1 WP/28 presented by USA noted that as APANPIRG works to implement the GANP with the associated ASBUs and RASG-APAC works to implement the GASP, in this regard it was vital that a strategic and proactive analysis of additional areas of cooperation should be completed to ensure that the essential and desirable ASBUs were implemented in the most efficient and safe manner. This strategic coordination is especially important in regional trials and validations regarding ASBU implementation.

2.3.2 APANPIRG/25 agreed to continue to work with RASG-APAC to ensure lack of duplication; and find means to further coordinate to develop a strategic and proactive analysis of greater areas of cooperation to ensure that the priority ASBUs are implemented in the most efficient and safe manner; and lastly work with RASG-PA to ensure development and cross collaboration of trials and demonstrations regarding regional ASBU implementation.

2.4 ANB Global Update

2.4.1 The Secretariat presented WP/19 providing a global air navigation update on the following topics:

- Re-organised and prioritised air navigation work programme focused on operational improvements and implementation
- Air navigation implementation and performance reporting – annual global and regional dashboards
- Next GANP update
- Emerging issues
- Upcoming global events

2.5 Activities of ICAO Asia and Pacific Regional Sub Office in 2013-2014

2.5.1 The Secretariat (RSO) presented IP/13 and provided an update on the activities and progress of the ICAO Asia and Pacific Regional Sub-Office (RSO) during 2013-2014. The ICAO APAC RSO established in June 2013 aimed to provide implementation support assistances to APAC States and Administrations in ATM enhancement activities, including Performance-Based Navigation (PBN) implementation, Airspace Optimization and Management and Air Traffic Flow Management and Collaborative Decision Making (ATFM/CDM). Since its establishment, the RSO had provided PBN and AOM related implementation assistances to 12 APAC States. The RSO also assisted APAC States in establishing harmonization platforms for sub-regional ATFM/CDM implementations, namely North Asia Regional Harmonization Group (NARAGH) and Bangladesh-India-Myanmar-Thailand (BIMT) coordination. APANPIRG noted with appreciation the successful first-year operation of the RSO.

2.5.2 Singapore suggested that the Regional Sub-Office establish a long term work programme. RSO agreed to establish a three-year operational plan noting that the first year of the RSO had been successfully completed. APANPIRG further noted that the annual work programme of the RSO was developed and reported to APAC Regional Office and APAC DGCA Conference.

2.5.3 Bangladesh also congratulated RSO and thanked for providing support in PBN implementation.

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

3.0.1 Regional and Global Planning & Monitoring (WP/20)

3.0.1.1 The Secretariat presented WP/20. APANPIRG/25 noted that following APANPIRG Conclusion 24/2, the APANPIRG Sub Group Chairpersons had developed the regional priorities and targets in January 2014. Subsequently indicators had been harmonized across the ICAO Regions to allow a comparison of their progress through the regional performance dashboards. The proposed regional priorities, targets and indicators had then been reviewed by the AOP WG/2, CNS SG/18 and ATM SG/2 Meetings.

3.0.1.2 The APANPIRG/25 reviewed the ten regional priorities, targets and indicators. The discrepancies between targets and indicators noted by the CNS SG/18 meeting for 3 specific targets were solved by an ad hoc group formed by APANPIRG/25. Consequently the meeting adopted the draft Conclusion endorsed by CNS/SG:

Conclusion APANPIRG 25/2 – APAC Regional Air Navigation Priorities and Targets

That, the Regional Priorities and Targets contained in **Appendix A** to this Report on Agenda Item 3.0 be endorsed by APANPIRG.

3.0.1.3 The meeting noted that the targets and metrics would be recommended to ICAO/HQ for inclusion and used in the public ICAO APAC Regional Performance Dashboard and that such target and metrics would go through a cyclical revision process in the future.

3.0.2 ANRF, Seamless Reporting and Monitoring of Regional Progress (WP/26)

3.0.2.1 The APANPIRG/25 noted that the Air Navigation Report Forms (ANRFs) had replaced the earlier Performance Framework Forms (PFF) that was maintained by the various APANPIRG sub groups. The ANRF is intended to be a tool to set milestones, targets, and metrics for each of the key planning elements. The ANRF also identifies the implementation challenges. ANRF corresponding to the 18 ASBU elements were developed at the regional level and presented to APANPIRG and its Sub-Groups as appropriate for review, with the exception of B0-OPFL and B0-WAKE that were not reviewed by any sub group and were provided for information only at this stage. Noting that the creation of Performance Based Navigation Implementation Coordination Group (PBNICG) was adopted, the meeting selected the scenario 1 of the matrix of responsibilities for the 18 Block 0 ASBU elements and 45 Seamless items, and adopted the following Draft Conclusion endorsed by the CNS SG/18 and ATM SG/2 meetings:

Conclusion APANPIRG 25/3 – Air Navigation Report Forms (ANRFs) and Responsibility Matrix

That, the ANRF regarding the Block 0 ASBUs (except B0-RSEQ, B0-OPFL, and B0-WAKE) provided in the APANPIRG/25/WP26 **Appendices A to P** together with the matrix of responsibilities placed at **Appendices B and C** to the Report on Agenda Item 3.0 be adopted for the APAC Region.

3.0.2.2 The meeting reviewed the Seamless ATM Implementation Guidance v4.3 and the adopted the draft Conclusion endorsed by CNS/SG 18 and ATM SG/2 meetings:

Conclusion APANPIRG 25/4 – Seamless ATM Implementation Guidance

That, the Seamless ATM implementation guidance version 4.3, <http://www.icao.int/APAC/Documents/edocs/Seamless%20ATM%20Implementation%20Guidance%20v4-3.pdf>), May 2014 be adopted by APAC States/Administrations and maintained by the ICAO Regional Office.

3.0.2.3 The Secretariat showcased a web-based reporting tool that was developed by ICAO HQ in the framework of a project driven by the ICAO APAC Regional Office. It noted the benefits and user friendliness of the tool that would encourage frequent updates from the APAC States/Administrations and that 16 States/Administrations had submitted their reporting form through an offline process. The Regional Office could probably populate the online tool for those States/Administrations having submitted a reporting form. However, noting that the template and indicators would evolve following the review by APANPIRG, the meeting recommended to those States to submit or at least check their online form when the tool was available. The meeting adopted the following Draft Conclusion developed by the CNS SG/18 and ATM SG/2 meetings:

Conclusion APANPIRG 25/5 – Web-based Seamless ATM Implementation Progress Reporting Process

That, States/Administrations be urged to report on their Seamless ATM implementation progress at least once a year through the ICAO online reporting process from November 2014 onwards.

Note: Following the APANPIRG 25 Meeting, ICAO Secretariat assessed the impact of the changes to be made to the ICAO online reporting process to bring it in full alignment with the adopted regional priorities, targets and indicators. Considering the necessary development and testing, the ICAO online reporting process was expected to be delivered in November 2014. Conclusion APANPIRG 25/5 was revised accordingly.

3.0.2.4 Only seven States/Administrations had submitted their Points of Contact to the ICAO Regional Office. The meeting urged the nomination of points of contact as requested by ICAO State letter. The points of contact are responsible for updating their respective State's progress of implementing the Seamless ATM Plan. The ICAO Regional Office would notify the points of contact when the online tool would be ready for use.

3.0.2.5 In the discussions of the Chairpersons meetings, the added value of having two levels of monitoring (the high level regional performance dashboard and the process-orientated regional picture, focusing on the 45 Seamless ATM elements) to steer the air navigation improvements was acknowledged. It was envisaged that in connection with the future work about the APANPIRG restructuring, the monitoring tools (regional picture and regional performance dashboard) could serve a more streamlined project-oriented process for the Asia/Pacific Region by identifying issues, challenges or risks and speeding up the decision-making process to take corrective actions and adapt plans.

3.0.2.6 It was noted that the ICAO Regional Performance Dashboards (<http://www.icao.int/safety/Pages/Regional-Targets.aspx>) presented up-to-date regional implementation results, highlighting what States and groups of States were achieving in collaboration with their

respective Planning and Implementation Regional Groups (PIRGs) and Regional Aviation Safety Groups (RASGs). Their ultimate intention, besides ICAO's basic measurement, accountability and transparency goals, was to help motivate aviation groups and stakeholders to continue to participate in and improve upon the applicable cooperative programmes being implemented at the regional level.

3.0.3 U.S. Implementation of the Aviation System Block Upgrades (ASBU) Block 0 Modules (WP/15)

3.0.3.1 This paper presented information on the United States' implementation status of the ICAO Aviation System Block Upgrades (ASBUs) in support of the Global Air Navigation Plan (GANP). As per September 2014, the United States had implemented all of the modules in Block 0, either across the National Airspace System (NAS) or at select locations. Besides it described efforts to promote knowledge and implementation of the ASBUs in the Asia-Pacific Region.

3.0.4 Measures for Planning & Implementation of Aviation System Block Upgrades (ASBU) (WP/21)

3.0.4.1 The International Business Aviation Council (IBAC) presented WP/21. Following discussions APANPIRG/25 agreed on the necessity of following established ICAO consultation and approval processes in amending Regional Supplementary Procedures, in particular with regard to implementation of new procedures and technologies over the high seas.

3.0.4.2 Hong Kong China remarked that in order to facilitate progression of implementation of regional air navigation plan, a balanced approach should be adopted and not all air navigation planning elements are required to follow the regional supplementary procedures.

3.0.4.3 The Secretariat mentioned that as part of established ICAO processes, PIRGs, including APANPIRG, have the flexibility to amend the new regional ANP Volume 3 air navigation planning elements in their respective regions supported by the adoption of PIRG meeting conclusions.

3.0.4.4 The meeting would continue to support the need for thorough analysis and evaluation of the impact on all users of proposed requirements, including those of an exclusionary nature, and provision of adequate, formal notification of equipage lead times through established ICAO processes.

3.0.4.5 It was reiterated that States within the APAC Region as well as the APAC Office should proceed in accordance with established ICAO processes. ICAO noted that the proposed performance-based airspace Proposals for Amendment (PfA) were intended to provide a more structured and transparent approach to such changes.

3.0.5 Importance of State's Air Navigation Modernization Plan and Carats Activities in Japan (WP/23)

3.0.5.1 This paper presented the information on CARATS activities in Japan and importance of planning of the State's air navigation modernization plan according to the actual circumstance of each State in alignment with GANP and Seamless ATM Plan. Specifically it underlined the need for consultation with all concerned stakeholders and cost-benefit analyses prior to selection and implementation of modules. It was also important to share each State's plan to facilitate regional harmonization and interoperability for the implementation of ASBU modules.

3.0.6 Performance-Based Approach to Advance Air Traffic Management (ATM) (WP/27)

3.0.6.1 Singapore presented WP/27 and discussed the performance-based approach to advance ATM in the Asia Pacific Region. Following the endorsement of the APAC Seamless ATM at APANPIRG/24, ICAO had set the regional performance priorities and targets for implementation. Under the regional performance framework, States/Administrations were encouraged to use the revised reporting instruments for updating of ATM implementation and performance levels. Progress in ATM could only be assured through a system centered on performance monitoring and review. In the future, States should consider efforts to make the framework more robust and sustainable for the monitoring of the performance of ATM systems, local as well as regional, so as to be able to deliver safety and efficiency benefits for the aviation community.

3.0.6.2 The meeting noted that the Performance Review Commission (PRC), supported by the Performance Review Unit (PRU) set up within EUROCONTROL, allowed to achieve independence in performance measurement and review of the ATM systems, which could be similarly envisaged in APAC Region. Emphasis in transforming the European ATM system had shifted to a performance review. The PRU has been reviewing, analysing and reporting on the performance of the European ATM system, providing insights which enable future planning and developments, ensuring that the system stays relevant as traffic continues to grow.

3.0.6.3 Noting the merits of an independent body to monitor and review the APAC Regional / sub-regional ATM systems as mentioned in the paper under sub-para 3.1 (c), the meeting agreed that ATM SG should review the establishment of this independent body as an action item.

3.0.7 New Zealand National Airspace and Air Navigation Plan (IP/17)

3.0.7.1 The meeting was informed that The New Zealand National Airspace and Air Navigation Plan was approved by the Minister of Transport in June 2014 to enable the introduction of technology solutions over the next 10 years that would mean shorter journeys, improved safety and lower carbon emissions in the aviation sector.

APPENDIX A to the Report on Agenda Item 3.0

APANPIRG Regional Priorities, Targets and Metrics

Priority	ASBU module or SeamlessElement	Targets	Target date (Seamless ATM Phase 1 Plan)	Metric
PBN	B0-APTA	<p>1. Approach: Where practicable, all high- density aerodromes with instrument runways serving aeroplanes should have precision approaches or APV or LNAV.</p> <p><i>Note 1: High density aerodrome is defined by Asia-Pacific Seamless ATM Plan as aerodromes with scheduled operations in excess of 100,000/year.</i></p> <p><i>Note 2: the Asia/Pacific PBN Plan Version 3 required RNP APCH with Baro-VNAV or APV in 100% of instrument runways by 2016</i></p>	12 November 2015	% of high density aerodromes with precision approaches or APV or LNAV.
Network Operations	B0-NOPS	<p>2. All High Density FIRs supporting the busiest Asia/Pacific traffic flows and high-density aerodromes should implement ATFM incorporating CDM using operational ATFM platform/s.</p> <p><i>Note: High Density FIRs are defined as:</i></p> <ul style="list-style-type: none"> a) South Asia: Delhi, Mumbai; b) Southeast Asia: Bangkok, Hanoi, Ho Chi Minh, Jakarta, Kota Kinabalu, Manila, Sanya, Singapore, Vientiane; and c) East Asia: Beijing, Fukuoka, Guangzhou, Hong Kong, Kunming, Incheon, Shanghai, Shenyang, Taipei, Wuhan. <p><i>[APANPIRG Conclusion 22/8 and 23/5 refer]</i></p>	12 November 2015	% of High Density FIRs supporting the busiest Asia/Pacific traffic flows and high density aerodromes using operational ATFM platforms incorporating CDM
Aeronautical Information Management	B0-DATM	<p>3. ATM systems should be supported by digitally-based AIM systems through implementation of Phase 1 and 2 of the AIS-AIM Roadmap</p>	12 November 2015	% of Phase 1 and 2 AIS-AIM elements completed

Flight and Flow Information for a Collaborative Environment (FF-ICE)	B0-FICE	4. All States between ATC units where transfers of control are conducted have implemented the messages ABI, EST, ACP, TOC, AOC as far as practicable.	12 November 2015	% of FIRs within which all applicable ACCs have implemented at least one interface to use AIDC / OLDI with neighbouring ACCs
Civil/Military	B0-FRTO	5. Enhanced En-Route Trajectories: All States should ensure that SUA are regularly reviewed by the appropriate Airspace Authority to assess the effect on civil air traffic and the activities affecting the airspace.	12 November 2015	% of States in which FUA is implemented
Civil/Military	Strategic Civil Military coordination (Regional)	6. Enhanced En-Route Trajectories: All States should ensure that a national civil/military body coordinating strategic civil-military activities is established.	12 November 2015	% of States which have established a national civil/military body that performs strategic civil-military coordination
Civil/Military	Tactical Civil Military coordination (Regional)	7. Enhanced En-Route Trajectories: All States should ensure that formal civil military liaison for tactical response is established.	12 November 2015	% of States which have established a formal civil military liaison for tactical response
Ground Surveillance	B0-ASUR	8. All Category S upper controlled airspace and Category T airspace supporting high density aerodromes should be designated as non-exclusive or exclusive as appropriate ADS-B airspace requiring operation of ADS-B.	12 November 2015	% of FIRs where Category S airspace and Category T airspace supporting high density aerodromes are designated as ADS-B airspace
Ground Surveillance	B0-ASUR	9. ADS-B or MLAT or radar surveillance systems should be used to provide coverage of all Category S-capable airspace as far as practicable, with data integrated into operational ATC aircraft situation displays.	12 November 2015	% of ACCs with ATS Surveillance using ADS-B, MLAT or radar in Category S airspace, and having data integrated into the ATC system situation display

Trajectory-Based Operations-Data Link En-Route	B0-TBO	10. Within Category R airspace, ADS-C surveillance and CPDLC should be enabled to support PBN-based separations.	12 November 2015	% of FIRs using data link applications to support PBN-based separations in Category R airspace
--	--------	--	------------------	--

Note 1: **high density aerodromes:** based on 2012 ICAO data, as per Seamless Plan v1.0, the 21 busiest Asia/Pacific aerodromes were:

- Australia (Sydney, Melbourne);
- China (Beijing, Shanghai Pudong and Hong Jiao, Guangzhou, Hong Kong, Xi'an, Shenzhen, Chengdu, Kunming);
- India (New Delhi, Mumbai);
- Indonesia (Jakarta);
- Japan (Haneda, Narita);
- Malaysia (Kuala Lumpur);
- Philippines (Manila);
- Republic of Korea (Incheon);
- Singapore (Changi); and
- Thailand (Suvarnabhumi).

ICAO definition for Aerodrome traffic density included in Annex 14 is:

c) Heavy. Where the number of movements in the mean busy hour is of the order of 26 or more per runway or typically more than 35 total aerodrome movements.

Note 1.— The number of movements in the mean busy hour is the arithmetic mean over the year of the number of movements in the daily busiest hour.

Note 2.— Either a take-off or a landing constitutes a movement.

Responsibility matrix for ASBU modules and corresponding Seamless items

Seamless ATM Specification title	Seamless Reference	Regional Priority	ASBU Module	ASBU - Module title	Endorsing body
Airport Collaborative Decision-Making (ACDM)	70	2	B0-ACDM	Improved Airport Operations through Airport-CDM	ATM SG
Air Traffic Flow Management/Collaborative Decision-Making (ATFM/CDM)	80	1	B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view	ATM SG
Arrival Manager/Departure Management (AMAN/DMAN)	50	2	B0-RSEQ	Improve Traffic flow through Sequencing (AMAN/DMAN)	ATM SG
Aeronautical Information Management	300	1	B0-DATM	Service Improvement through Digital Aeronautical Information Management	ATM SG
Civil Military use of SUA	360	1	B0-FRTO	Improved Operations through Enhanced En-Route Trajectories	ATM SG
Continuous Descent Operations (CDO)	90	2	B0-CDO	Improved Flexibility and Efficiency in Descent Profiles using Continuous Descent Operations (CDOs)	CNS SG
Continuous Climb Operations (CCO)	100	2	B0-CCO	Improved Flexibility and Efficiency Departure Profiles – Continuous Climb Operations (CCO)	CNS SG
Performance-based Navigation (PBN) Routes	140	2	B0-FRTO	Improved Operations through Enhanced En-Route Trajectories	CNS SG
ATM systems enabling optimal PBN/ATC operations	250	2	B0-APTA	Optimization of Approach Procedures including vertical guidance	CNS SG
UPR and DARP	290	3	B0-FRTO	Improved Safety and Efficiency through the initial application of Data Link En-Route	ATM SG
Nil	440	3	B0-WAKE	Improved Access to Optimum Flight Levels through Climb/Descent Procedures using ADS-B	ATM SG
Nil	450	3	B0-OPFL	Increased Runway Throughput through Optimized Wake Turbulence Separation	ATM SG
Performance-based Navigation (PBN) Approach	110	1	B0-APTA	Optimization of Approach Procedures including vertical guidance	CNS SG
ATS Surveillance	180	1	B0-ASUR	Initial Capability for Ground Surveillance	CNS SG
ATS Inter-facility Data-link Communications (AIDC)	220	1	B0-FICE	Increased Interoperability Efficiency & Capacity through Ground-Ground Integration	CNS SG

APPENDIX B to the Report on Agenda Item 3.0

ATS surveillance with data integrated	270	1	B0-ASUR	Initial Capability for Ground Surveillance	CNS SG
ADS-C and CPDLC	280	1	B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route	CNS SG
Standard Instrument Departures/Standard Terminal Arrivals (SID/STAR)	120	2	B0-CCO B0-CDO	Optimization of Approach Procedures including vertical guidance	CNS SG
Safety Nets	160	2	B0-SNET	Increased effectiveness of ground-based safety nets	CNS SG
Airborne Safety Systems	170	2	B0-ACAS	Airborne Collision Avoidance Systems (ACAS) Improvements	CNS SG
Nil	430	2	B0-ASEP	Air Traffic Situational Awareness (ATSA)	CNS SG
Safety and Efficiency of Surface Operations	40	3	B0-SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)	CNS SG
Meteorological Information	310	2	B0-AMET	Meteorological information supporting enhanced operational efficiency and safety	MET SG

Responsibility matrix for all Seamless items

Seamless ATM Specification title	Seamless Reference	Regional Priority	Regional/ ASBU Module	ASBU - Module title	Endorsing body
Apron Management	10	3	Regional	-	ATM SG
ATM-Aerodrome Coordination	20	3	Regional	-	ATM SG
Aerodrome capacity	30	3	Regional	-	ATM SG
Safety and Efficiency of Surface Operations	40	3	B0-SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)	CNS SG
Arrival Manager/Departure Management (AMAN/DMAN)	50	2	B0-RSEQ	Improve Traffic flow through Sequencing (AMAN/DMAN)	ATM SG
ATC Sector Capacity	60	2	Regional	-	ATM SG
Airport Collaborative Decision-Making (ACDM)	70	2	B0-ACDM	Improved Airport Operations through Airport-CDM	ATM SG
Air Traffic Flow Management/Collaborative Decision-Making (ATFM/CDM)	80	1	B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view	ATM SG
Continuous Descent Operations (CDO)	90	2	B0-CDO	Improved Flexibility and Efficiency in Descent Profiles using Continuous Descent Operations (CDOs)	CNS SG

APPENDIX C to the Report on Agenda Item 3.0

Continuous Climb Operations (CCO)	100	2	B0-CCO	Improved Flexibility and Efficiency Departure Profiles – Continuous Climb Operations (CCO)	CNS SG
Performance-based Navigation (PBN) Approach	110	1	B0-APTA	Optimization of Approach Procedures including vertical guidance	CNS SG
Standard Instrument Departures/Standard Terminal Arrivals (SID/STAR)	120	2	B0-CCO B0-CDO	Optimization of Approach Procedures including vertical guidance	CNS SG
Performance-based Navigation (PBN) Visual Departure and Arrival Procedures	130	3	Regional	-	ATM SG
Performance-based Navigation (PBN) Routes	140	2	B0-FRTO	Improved Operations through Enhanced En- Route Trajectories	CNS SG
Performance-based Navigation (PBN) Airspace	150	2	Regional	-	ATM SG
Safety Nets	160	2	B0-SNET	Increased effectiveness of ground-based safety nets	CNS SG
Airborne Safety Systems	170	2	B0-ACAS	Airborne Collision Avoidance Systems (ACAS) Improvements	CNS SG
ATS Surveillance	180	1	B0-ASUR	Initial Capability for Ground Surveillance	CNS SG
Airspace classification	190	2	Regional	-	ATM SG
Flight Level Orientation Schemes (FLOS)	200	2	Regional	-	ATM SG

APPENDIX C to the Report on Agenda Item 3.0

Flight Level Allocation Schemes (FLAS)	210	2	Regional	-	ATM SG
ATS Inter-facility Data-link Communications (AIDC)	220	1	B0-FICE	Increased Interoperability Efficiency & Capacity through Ground-Ground Integration	CNS SG
Automated Transfer of Control	230	2	Regional	-	ATM SG
ATS Surveillance data sharing	240	2	Regional	-	CNS SG
ATM systems enabling optimal PBN/ATC operations	250	2	B0-APTA	Optimization of Approach Procedures including vertical guidance	CNS SG
ATC Horizontal separation	260	2	Regional	-	ATM SG
ATS surveillance with data integrated	270	1	B0-ASUR	Initial Capability for Ground Surveillance	CNS SG
ADS-C and CPDLC	280	1	B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route	CNS SG
UPR and DARP	290	3	B0-FRTO	Improved Safety and Efficiency through the initial application of Data Link En-Route	ATM SG
Aeronautical Information Management	300	1	B0-DATM	Service Improvement through Digital Aeronautical Information Management	ATM SG

APPENDIX C to the Report on Agenda Item 3.0

Meteorological Information	310	2	B0-AMET	Meteorological information supporting enhanced operational efficiency and safety	MET SG
ATM Managers' Performance	320	2	Regional	-	ATM SG
ATC simulators performance	330	2	Regional	-	ATM SG
Safety assessment of changes	340	2	Regional	-	ATM SG
ATM Operators' performance	350	2	Regional	-	ATM SG
Civil Military use of SUA	360	1	B0-FRTO	Improved Operations through Enhanced En-Route Trajectories	ATM SG
Strategic Civil Military coordination	370	1	Regional	Improved Operations through Enhanced En-Route Trajectories	ATM SG
Tactical Civil Military coordination	380	1	Regional	Improved Operations through Enhanced En-Route Trajectories	ATM SG
Civil Military system integration	390	2	Regional	Improved Operations through Enhanced En-Route Trajectories	ATM SG
Civil Military nav aids joint provision	400	2	Regional	Improved Operations through Enhanced En-Route Trajectories	ATM SG
Civil Military common training	410	2	Regional	Improved Operations through Enhanced En-Route Trajectories	ATM SG

APPENDIX C to the Report on Agenda Item 3.0

Civil Military common procedures	420	2	Regional	Improved Operations through Enhanced En-Route Trajectories	ATM SG
Nil	430	2	B0-ASEP	Air Traffic Situational Awareness (ATSA)	CNS SG
Nil	440	3	B0-WAKE	Improved Access to Optimum Flight Levels through Climb/Descent Procedures using ADS-B	ATM SG
Nil	450	3	B0-OPFL	Increased Runway Throughput through Optimized Wake Turbulence Separation	ATM SG

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

3.1 Aerodrome Operations and Planning (AOP)

3.1.1 APANPIRG/25 noted that the Second Meeting of the Aerodrome Operations and Planning Working Group (AOPWG/2) of APANPIRG was held at Yogyakarta, Indonesia from 03 to 05 June 2014 and attended by 51 participants from 14 Administrations and two International Organizations. The AOPWG/2 Meeting considered 22 WPs and six IPs. The Final Report of AOPWG/2 Meeting is available at <http://www.icao.int/APAC/Meetings/Pages/2014AOP-WP2.aspx>.

3.1.2 APANPIRG noted that the AOPWG/2 had reviewed the two ANRF related to AOP – B0-ACDM and B0-SURF and recognized that the main objectives and targets to meet for these two modules were already discussed as part of the Asia/Pacific Seamless ATM Plan V1.0. Furthermore, it was noted that the B0-ACDM ANRF had also been reviewed by ATM/SG and B0-SURF by CNS/SG and ATM/SG respectively.

3.1.3 APANPIRG recognized that aerodrome operations were a key component for Seamless ATM, especially in regard to infrastructure and operational efficiencies. It was noted that Hong Kong China, Indonesia, and Maldives had proposed additional ICAO seminars/workshop on the seamless ATM which would be helpful in promoting, better understanding and active involvement of the State/Administration in taking forward this regional initiative with a focus on aerodrome elements. APANPIRG/25 adopted the following Draft Conclusion that had been formulated by the AOPWG and agreed by ATMSG/2:

Conclusion APANPIRG 25/6 – Seminar/Workshop on the Aerodrome related aspects of the Seamless ATM Plan Implementation

Recognizing the need for promoting, understanding and active involvement of the APAC States/Administration in taking forward the regional initiative, ICAO be invited to organize a seminar/workshop on the Seamless ATM Plan with a focus on aerodrome related elements.

3.1.4 The AOPWG meeting noted that the ICAO 38th Assembly in resolution 38/12 resolved that States should place greater emphasis on the management of aerodrome operations with runway safety given a high priority. The AOPWG meeting also noted that Australia, Bangladesh, China, Hong Kong China, India, Indonesia, Japan, Malaysia, Maldives, Republic of Korea, Singapore, Thailand and Viet Nam had confirmed establishment of Runway Safety Teams (RSTs) and that the monitoring of the establishment of RSTs will be through the Regional Aviation Safety Group (RASG). APANPIRG noted that 158 international airports out of 205 international airports listed in the Asia/Pacific Air Navigation Plan had been certified.

3.1.5 The AOPWG Meeting noted that APANPIRG/24 had recognized the importance of developing seaplane bases (Water Aerodromes) which could be the best mode of transportation in geographical isolation in addition to providing recreational access and evacuation in emergencies. The meeting recognised the need for a model regulation on water aerodromes considering the growth in sea plane operations in the Asia/Pacific Region and formulated a draft Conclusion for endorsement by APANPIRG. Bangladesh, Indonesia, Maldives, New Zealand, Sri Lanka and USA supported the proposal. The meeting also noted that the small working group would submit the draft model regulations to AOPWG/3 for consideration and then to APANPIRG/26 for endorsement. The ATM/SG/2 agreed to the following Decision as a result of input from the AOP/WG:

Decision ATM/SG/2-7: Establishment of Water Aerodromes Small Working Group

That, the Water Aerodromes Small Working Group be established and comprising of experts from Indonesia, Maldives, New Zealand, Sri Lanka, and USA in order to develop a model regulation for water aerodromes for use as a reference document in the Asia/Pacific Region.

3.1.6 The AOPWG noted the inconsistencies in Paragraphs 3.1.22, 3.2.21 and Figure 3-1 of Annex 14, Volume II related to the provision of safety area surrounding the Final Approach and Take-Off (FATO) area of heliports. The meeting had discussed the provisions of Annex 14, Volume II related to FATO, safety area and Figure 3-1 at length and concluded that irrespective of the FATO dimension, the safety area surrounding the FATO must be a minimum of 2D. APANPIRG/25 adopted the following Draft Conclusion which was agreed by ATM/SG/2:

Conclusion APANPIRG 25/7 – Amendment to Figure 3-1 of Annex 14, Volume II

Recognizing that the Figure 3-1 in Annex 14, Volume II was not consistent with the standard in Para 3.1.22 and 3.2.21 of Annex 14, Volume II, ICAO be invited to review and revise the Figure as appropriate.

3.1.7 APANPIRG noted that Macao China had presented the measures on handling emergency cases of passengers with life in danger and unruly passengers during adverse thunderstorm conditions. AOPWG noted that guidance on airport operations under adverse weather conditions (ice, frost, freezing rain, strong winds, rain, fog or low visibility and snow) were available in the Aerodrome Services Manual (Doc 9137), Part 8 – Airport Operational Services. However, thunderstorm conditions were not included. The meeting also noted that there was very limited guidance material for airport on handling emergency cases under thunderstorm conditions from ICAO or other civil aviation organizations. Hong Kong China, Maldives, New Zealand and Philippines supported the Macao China proposal.

3.1.8 APANPIRG/25 noted USA and IATA's comment that developing anything but general guidance was very difficult, due to the location-specific differences in thunderstorm activity and effect. New Zealand suggested having guidelines on dealing with thunderstorm, precautions to be taken and identifying risks similar to what is currently available in Doc 9137, Part 8 for other adverse weather conditions would be useful. APANPIRG reviewed the draft conclusion agreed by ATM/SG/2 and adopted the following Conclusion with changes:

Conclusion APANPIRG 25/8 – Guidance on Airport Operations in Thunderstorm/ lightning Conditions

Recognizing that guidance on airport operations in thunderstorm/lightning conditions, which are commonly experienced in tropical countries, was not available, ICAO be invited to consult with ACI and consider providing guidance material as a reference document for States and airport operators.

3.1.9 APANPIRG noted that ACI had presented their initiatives to enhance aerodrome safety and environment management. AOPWG noted the progress of the ICAO-ACI APEX Programme which aimed to assist aerodrome operators with the improvement level of safety and compliance with ICAO Standards and Recommended Practices. The procedure of the APEX in Safety Programme was based on a Memorandum of Cooperation (MoC) between ACI and ICAO to provide a framework in order to jointly pursue the highest possible levels of safety at aerodromes worldwide.

3.1.10 APANPIRG acknowledged the benefits associated with the ICAO–ACI APEX Programme through access to experts, training, workshops and seminars, working groups at local, regional and international levels. These benefits resulted in the State oversight capabilities receiving a boost, as the airport participating in the APEX in Safety Programme would display a greater level of compliance with SARPs and the national regulations applicable. The aerodromes being reviewed benefited from ACI best practices, operational expertise from peer aerodromes and other Programme partners, and contribution from ICAO. The ATM/SG/2 agreed to the following Draft Conclusion that had been formulated by the AOPWG and adopted by APANPIRG.

Conclusion APANPIRG 25/9 – ACI APEX (Airport for Excellence) Programme

that States:

- a) Support the ACI APEX in Safety Programme at aerodromes in the APAC Region; and
- b) Encourage airport operators to approach ACI for assistance through the APEX in Safety Programme if deemed necessary; and to participate in the APEX Safety Reviews Programme.

3.1.11 APANPIRG noted that AOPWG had reviewed the list of Air Navigation Deficiencies in the AOP field and urged concerned States to provide the necessary resources for the elimination of deficiencies and submit the update to ICAO. Appendix B to WP/11 presented the AOP deficiencies.

3.1.12 APANPIRG noted that the AOPWG had reviewed the results taken from the USOAP CMA online framework in the compliance with ICAO SARPs and the common findings identified in the APAC Region.

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

3.2: ATM

ATM/SG/2 Outcomes

3.2.1 The ATM/SG/2 meeting was attended by 84 participants from 20 States, two Special Administrative Regions of China and four International Organizations. A total of 33 Working Papers (WP), 17 Information Papers (IP) and 1 flimsy were considered by the meeting. The ATM/SG/2 meeting developed 16 Draft Conclusions, two Draft Decisions, and two Decisions.

Seamless ATM

3.2.2 The ATM/SG/2 meeting had noted the seven implementation seminars that the Asia/Pacific Regional Office had conducted on Seamless ATM, in accordance with APANPIRG Decision 24/56.

Flight Plan 2012

3.2.3 IATA had presented the results of a CANSO post-implementation survey of ICAO FPL 2012 (Amendment 1 to ICAO Doc 4444 – PANS-ATM), with particular reference to the use of flight plan converter systems. The survey report commented on the use of converter systems, noting that while the proliferation of converter solutions had offered a practical and cost-effective short-term solution for States to meet the Amendment 1 implementation date, the benefits of new aircraft capability indicators in the ICAO FPL were lost in the backward conversion process. The survey report also stated that Air Navigation Service Providers (ANSPs) that had chosen to adopt the converter solution must not abandon plans to migrate at an early date to delivery of the full functionality of the PANS-ATM changes.

3.2.4 The ATM/SG/2 had discussed the need for a new survey to cover other aspects that had been noted as an issue (e.g.: item 10, alphanumeric call signs, use of the letter ‘J’ and the indicator RVR/). ICAO noted that surveys had been conducted on this matter as a result of APANPIRG Conclusions 21/6, 21/13 and 23/1, so the regional office would conduct a follow up survey. IFATCA noted that the issue of Repetitive Flight Plan (RPL) was also likely to be addressed globally in the next stage of FPL development leading to Flight and Flow Information for a Collaborative Environment (FF-ICE).

Performance-based Airspace

3.2.5 The meeting was informed of Proposals for Amendment (PFA) to ICAO Doc. 7030 *Regional Supplementary Procedures* to support State mandates for performance-based airspace including PBN airspace and Controller Pilot Data Link Communications (CPDLC), Mode S Secondary Surveillance Radar (SSR) transponder, Airborne Collision Avoidance System (ACAS) II, Automatic Dependent Surveillance-Broadcast (ADS-B), and Automatic Dependent Surveillance-Contract (ADS-C) equipment for aircraft operating outside territorial airspace, within the area of responsibility of the State. The ATM/SG/2 had noted that APANPIRG had adopted a number Conclusions supporting mandates for the carriage and use of ADS-B, ADS-C and CPDLC equipment within portions of airspace within their area of responsibility, and priority for access to such airspace.

1.1 The following PfAs had been drafted by the ICAO Asia/Pacific Regional Office:

- APAC-S 14/07 – MID/ASIA/PAC, supporting State mandates for carriage and operation of serviceable CPDLC equipment;
- APAC-S 14/08 – MID/ASIA/PAC, removing reference to the redundant standard

RNP 12.6, and supporting State PBN airspace mandates; and

- APAC-S 14/09 – MID/ASIA/PAC, supporting State mandates for carriage and operation of SSR Mode S transponders, ACAS II, ADS-C and ADS-B equipment.

3.2.6 The PfAs would provide a framework for Asia/Pacific States to establish performance-based airspace by enabling States to promulgate PBN airspace and equipage mandates in airspace over the High Seas, but did not compel States to implement performance-based airspace. It was recognized that unlike some regions, it was not practical for the Asia/Pacific Region to establish region-wide simultaneous mandates, but the PfAs would set a strict expectation of the process to be followed by each administration. While reserving its position on the substance of the draft PfAs IBAC complimented the ICAO Regional Office, noting that development of the PfAs was in the right direction.

3.2.7 Regarding the need for efficient separation standards, IATA noted that the South China Sea (SCS) western portion had ATS surveillance and data sharing in place and had seen good service improvement and thanked Singapore and Viet Nam for implementing 30NM longitudinal on portions of routes L642 and M771. However the eastern side was still being served by procedural separation. IATA wanted to ensure that the Philippines planning for ADS-B implementation included coverage of the eastern part of the SCS, and that Brunei (planned for 2015 but to be confirmed), Malaysia, Philippines, Singapore and Viet Nam would expand the sharing of ADS-B data to enable implementation of optimised separations to improve the service provision in this area. This position was consistent with the APANPIRG Conclusion 24/16 on enhancing surveillance and communications capability in the SCS.

Air Traffic Flow Management Steering Group Outcomes

3.2.8 The meeting was updated on the outcomes of the Second and Third Meetings of the Air Traffic Flow Management Steering Group (ATFM/SG/2, Hong Kong, China, 1 – 4 October 2013 and ATFM/SG/3, Singapore, 10 – 14 March 2014).

3.2.9 It was envisaged that the Regional Collaborative ATFM Framework would be contributory to, and its structure and format aligned with, the Seamless ATM Plan. The final draft of the Regional Framework for Collaborative ATFM was expected to be produced by ATFM/SG/5 in early-to-mid 2015, for submission to APANPIRG/26 in September 2015, through ATM/SG/3.

3.2.10 ATFM/SG/2 agreed that, given the time required for development of the regional ATFM framework, there was also the need to develop within a shorter timeframe guidance material for the implementation of interim ATFM procedures before the formal approval by APANPIRG/26, particularly in cases where little or no organized or targeted ATFM was currently in place. This informal guidance material would be placed on the ICAO Asia/Pacific website for any States that wished to access it (www.icao.int/apac).

3.2.11 Noting the subsuming of ATFM-relevant provisions of global and Asia/Pacific Region ATFM-related documents into the (then) draft Doc 9971, the Conclusions adopted by APANPIRG/24, and its adoption of the Seamless ATM Plan, revised TOR for ATFM/SG were drafted. The ATM/SG noted the need to include reference to the AOP/WG and an overview of A-CDM. India stressed the need for ATFM interface harmonisation and control measures. The following Decision was agreed by APANPIRG/25:

Decision APANPIRG/25-10: ATFM/SG Terms of Reference

That, the proposed Terms of Reference (**Attachment D to APANPIRG/25/WP07**) be adopted for the Asia/Pacific Air Traffic Flow Management Steering Group (ATFM/SG).

Integration of Human Factors in Research, Operations and Acquisition

3.2.12 There was considerable discussion by the ATM/SG/2 on the Federal Aviation Administration's (FAA's) use of a multidisciplinary human factors analysis in the development and operations of ATM systems. India, Hong Kong, China and IFATCA all emphasised the importance of human-in-the-loop planning at the earliest stage of project management. The meeting considered that there was a significant need for improvement in human factors knowledge and input into the development of appropriate processes for system engineering, procedure design, procedures and training. APANPIRG/25 noted that a number of States at CNS SG/18 had highlighted the need for integration of Human factors in Research, Acquisition, Operations and Maintenance of CNS/ATM Systems.

3.2.13 APANPIRG/25 agreed to the following Conclusion:

Conclusion APANPIRG/25-11: Human Performance Initiatives

That, ICAO be urged to:

- a) conduct an Asia/Pacific human performance seminar/workshop for optimal Air Traffic Control (ATC) and Search and Rescue (SAR) operational safety and efficiency; and
- b) review the human performance provisions in the Asia/Pacific Seamless ATM Plan.

Regional ATM Contingency Plan Task Force Outcomes

3.2.14 The ATM/SG/2 meeting had discussed the outcomes of the Third Meeting of the Regional ATM Contingency Plan Task Force (RACP/TF/3, Bangkok, Thailand, 12 – 15 March 2013).

3.2.15 To conduct further work on the development of the Regional ATM Contingency Plan it was agreed that the Small Working Groups (SWG) established by the RACP/TF to develop contingency route structures and Flight Level Allocation Schemes (FLAS) should continue on a geographical, sub-Regional basis. The finalization of the Regional ATM Contingency Plan was aligned with the Regional Framework for Collaborative ATFM, with both plans being made available before the implementation date of the Seamless ATM Plan's Phase 1 Preferred ATM Service Levels (November 2015).

3.2.16 The RACP/TF/3 meeting reviewed the RACP/TF Terms of Reference and agreed to minor amendments to reflect the recently renamed ATM/SG, and the Meteorological Hazards Task Force (MET/H TF). APANPIRG/25 agreed to the following Decision developed by the RACP/TF/3 meeting:

Decision APANPIRG/25-12: Amend Regional ATM Contingency Plan Task Force (RACP/TF) Terms of Reference.

That, the amended RACP/TF Terms of Reference (**Attachment F to APANPIRG/25/WP07**) be adopted.

Afghanistan Airspace Contingency Planning

3.2.17 ICAO had provided information on certain aspects of the transition from military to civilian control of Afghanistan's airspace to the ATM/SG/2, and suggested considerations for sub-regional airspace contingency planning, should the Kabul FIR become restricted, either in part or as a whole. The situation in Afghanistan remained fluid, with no certainty regarding the level of ATC services. The ATC contract for provision of services from the Kabul ACC was due to expire in December 2014 and would not be renewed by the military.

3.2.18 Besides the uncertainty regarding security and the transition from military to civilian control of the Kabul FIR during the second half of 2014, there were also significant uncertainties regarding the provision of air navigation services in Afghanistan. It was clear that some planning was necessary by the States involved and IATA to ensure the least possible disruption and safety of operations affected by any reduction in air navigation services within the Kabul FIR. A CNS/ATM Report on issues to be addressed was sent to the Afghanistan CAA by the Regional Office for their action. This was a matter of some urgency, given the reduction of international support in the next four months.

3.2.19 IATA stated that the development of contingency routes and procedures for Afghanistan was of paramount importance, and should be undertaken as a matter of urgency. They stated that many airlines would be planning to avoid the Kabul FIR in the same way that they were currently avoiding other airspace defined by their risk management processes. Noting that most carriers were able to utilise Iranian airspace, they stressed that reasonable contingency routing schemes were of vital importance, as a number of alternative options involved substantial costs that may threaten the financial viability of affected airlines.

3.2.20 The ATM/SG/2 meeting recognised that the overriding importance of the contingency planning for the Kabul FIR required an urgent response. An ad hoc group made up of affected States and International Organizations to examine the situation and develop proposals for contingency operations in the event of disruption to services or unsafe airspace in the Kabul FIR was proposed.

3.2.21 Thailand notified the meeting that they would support contingency measures as far as possible, and that the Bay of Bengal Cooperative Air Traffic Flow Management System (BOBCAT) could be reconfigured to provide enhanced services.

3.2.22 It was noted that there needed to be coordination between the ICAO EUR/NAT Office (Paris), MID Office (Cairo) and the Asia/Pacific Office on Afghanistan Airspace contingency planning. In this regard, the meeting was apprised of the forthcoming Fourth Meeting of the Trans-Regional Airspace and Supporting ATM Systems Steering Group (TRASAS/4, 29 to 31 October 2014, Bangkok), at which all three offices would be present. The ATM/SG/2 meeting had agreed to the following Decision:

Decision ATM/SG/2-4: Ad Hoc Afghanistan Contingency Group

That, an ad hoc group is convened supported by the ICAO Asia/Pacific Office to urgently discuss contingency planning to address any contingency aspects for the continued safe and efficient operation of aircraft between Europe and the Asia/Pacific Region, consisting of IATA, IFALPA, Afghanistan, China, India, Iran, Oman, Pakistan, Singapore, the United States, Thailand and other affected parties as necessary.

SAIOACG/4 and SEACG/21 Meeting Outcomes

3.2.23 The Secretariat presented an overview of the outcomes of the SAIOACG/4 and SEACG/21 meetings, which were held as a combined meeting. There were 23 WP, 13 IP, and three Flimsies considered by the meetings.

3.2.24 The SAIOACG4/SEACG21 meeting had noted that with the advent of ADS-B, enhanced surveillance coverage over the Bay of Bengal (BOB) could allow the application of more efficient surveillance-based separations in the area. It was recognised that extension of ATS surveillance coverage such as ADS-B brought a number of significant capacity, efficiency and safety benefits, but only where accompanied by implementation of surveillance based separation standards. India had advised that Port Blair ADS-B would be operational in April 2014. IFATCA noted the current FLAS was implemented some time ago, and that it was causing capacity problems.

3.2.25 The SAIOACG4/SEACG21 meeting was invited to note that the Asia-Pacific Seamless ATM Plan stated that FLAS should only be utilized for safety and efficiency reasons in category S airspace when crossing track conflicts occurred within 50NM of FIR boundaries, or if ATS surveillance coverage did not overlap the FIR Boundary concerned, or ATS surveillance data was not exchanged between ATC units concerned. The SAIOACG4/SEACG21 meeting agreed that the majority of issues would be solved by ATS surveillance, and then there should be no need for the FLAS.

3.2.26 Singapore had presented an update on the implementation of ADS-B within the Singapore FIR to the SAIOACG4/SEACG21. Hong Kong, China ultimately supported exclusive ADS-B airspace. Singapore advised it was monitoring non-compliant affected airframes, which were not allowed to operate within the ADS-B airspace. Singapore informed the meeting that States were sharing information on non-ADS-B airframes. IATA thanked Singapore for their cooperation in reducing the incidence of non-compliant operations.

3.2.27 Thailand informed the SAIOACG4/SEACG21 that they expected implementation of AIDC aircraft transfer of control to enable an approximate 20% increase in airspace capacity by freeing controllers from workload related to aircraft transfer-of-control coordination by voice. In addition, it was expected that the AIDC implementation would also bring associated safety benefits in reducing transfer-of-control errors.

3.2.28 Hong Kong, China provided an update of the RNP 4 implementation in Hong Kong FIR. After reviewing the situation and in order to reap early benefits, Hong Kong, China adopted a more practical approach on PBN implementation within the Hong Kong FIR using 'non-exclusive' airspace and only on L642 or M771 at or above FL290 by 11 December 2014.

3.2.29 Hong Kong, China presented a plan to the SAIOACG4/SEACG21 to rationalise some overflight route segments within the Hong Kong FIR to reduce conflict points in the congested airspace and thereby improve flight safety. The meeting noted that one of the reasons for the conflicts southeast of Hong Kong was due to the main southwest-northeast traffic flow using a modified single alternate FLOS. This caused reciprocal same level conflicts for traffic on A461 and A583, requiring controller intervention to remedy reciprocal conflicts. The meeting was informed that ICAO preferred that States used the standard FLOS as per Appendix 3a of Annex 2 and in accordance with the Seamless ATM Plan. The meeting noted that the current FLOS had been implemented many years ago to address capacity issues, but there were now better ways of enhancing capacity such as closely spaced RNAV 5, RNAV 2 or RNP 2 routes, and the use of a more efficient ATS surveillance-based separation. The SAIOACG4/SEACG21 meeting agreed to the following Decision:

Decision SAIOACG4/SEACG4/2: Establishment of a Major Traffic Flow Review Group

That, recognizing the need for high capacity major traffic flow routes (MTF) between Southeast Asia and East Asia, and the effect of the current modified single alternate Flight Level Orientation Scheme (FLOS) that caused conflicts with crossing traffic, a group consisting of China, Hong Kong China, Malaysia, the Philippines, Singapore, Viet Nam, IATA, IFATCA and the ICAO RSO be established to review:

- a) MTF conflicts with ATS routes A461 and A583; and*
- b) the overall South China Sea airspace, air route and the suitability of the FLOS to optimise airspace capacity and enhance flight safety in the long term; and*
- c) report outcomes of the review and recommendations to the ATM/SG/2 or SEACG/22 meetings.*

3.2.30 The ICAO RSO had advised the ATM/SG/2 meeting that it was coordinating with relevant stakeholders to establish the first meeting of the Major Traffic Flow Review Group in the December 2014 – February 2015 timeframe.

3.2.31 SAIOACG4/SEACG21 and the ATM/SG/2 had reviewed Version 13 of the Asia and Pacific Region ATS Route Catalogue. APANPIRG/25 agreed to the following Conclusion:

Conclusion APANPIRG/25-13: ATS Route Catalogue Version 13

That Version 13 of the *Asia and Pacific Region ATS Route Catalogue* (**Attachment H to APANPIRG/25/WP07**) replaces Version 12 on the ICAO Asia/Pacific Regional Office web site (www.icao.int/apac).

AIS – AIM Implementation Task Force Outcomes

3.2.32 The Ninth Meeting of the Aeronautical Information Services – Aeronautical Information Management Implementation Task Force (AAITF/9) was held in Pattaya, Thailand, from 24 to 27 June 2014.

3.2.33 During AAITF/9 discussions it became apparent that only approximately 12% of meeting participants had access to Annex 15 to the Convention, or to the AIS manual, which remained an on-going problem that needed to be highlighted to States. APANPIRG/25 agreed to the following Conclusion:

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

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

3.2.34 The AAITF/9 meeting was reminded of the AIS – AIM Transition Table, maintained by AAITF and available on the ICAO Asia/Pacific Regional Office website (www.icao.int/apac). The Seamless ATM Reporting Form recorded AIM Transition Phase status only in terms of either being completed or not completed. The AIM Transition table provided additional scope for States and Administrations to report their degree of progress towards full implementation of each Transition Step. The progress recorded in the AIM Transition Table was also currently used for Regional Performance Dashboards and the Global Air Navigation Report, both of which provided publicly available information about Regional and State AIM implementation progress. To improve State engagement with AAITF activities and the quality of AIM transition status reporting, the following Conclusion was agreed by APANPIRG/25:

Conclusion APANPIRG/25-15: Aeronautical Information Management (AIM) Transition Reporting

That, considering:

1. the Asia/Pacific Seamless ATM Plan expectation of implementation of Phase 1 and Phase 2 AIS to AIM roadmap transition steps by November 2015;
2. the Aeronautical Information Services- Aeronautical Information Management Implementation Task Force (AAITF) Terms of Reference requirement to monitor AIM transition; and
3. the information used for regional and global ATM performance reporting,

States be urged to:

- a) verify the information currently recorded in the AIM Implementation Table (**Attachment I to APANPIRG/25/WP07**), and
- b) update the information in the AIM Transition Table at least once annually, by April 30 each year.

3.2.35 APANPIRG/24 and the 50th DGCA Conf. were informed that Air Navigation Deficiencies would be raised against unimplemented Phase 1 and Phase 2 AIM Transition Steps. Taking the expectations of the Seamless ATM Plan and the current status of global AIM implementation guidance material into consideration, Air Navigation Deficiencies were raised against Phase 1 AIS-AIM (Consolidation) Transition Steps only. Those relating to Phase 2 Transition Steps would be considered in 2015 and beyond. Four Asia/Pacific States were currently listed in the *APANPIRG Reporting Form on Air Navigation Deficiencies in the ATM Field in the Asia/Pacific* for not fully implementing WGS-84. A further 13 States were added to the form under this item. No States were currently listed in the APANPIRG deficiencies reporting form for unimplemented Quality Management Systems. A total of 25 States were added to the form under this item.

3.2.36 An update was provided on the International Codes and Route Designators (ICARD) application and participation by Asia/Pacific States, including discussion of procedural issues related to the allocation of five letter name code (5LNC) waypoint names in flight procedures and ATS routes, and duplicated waypoint names in dangerous proximity. ICAO had been working to progressively eliminate duplicated 5LNC globally. Duplicate codes were required to be replaced. In collaboration with industry partners ICAO Headquarters had identified Asia/Pacific duplicates that were considered by industry to be dangerously proximate, which are provided in tabular and graphical representation. APANPIRG/25 agreed to the following Conclusion:

Conclusion APANPIRG/25-16: Duplicated 5LNC (Five Letter Name Code)

That, States take coordinated action to replace duplicated 5LNC as detailed in **APANPIRG/25/WP07, Attachment J**, recognising that the ICAO Regional Office may:

- a) make specific suggestions in regard to the duplicated 5LNC; or
- b) take appropriate actions if coordination between concerned States is not able to result in an agreed action

3.2.37 States were required to notify the ICAO Regional Office of any request for ATS Route designators. The process was laborious and time-consuming for States and the Regional Office, and potentially induced handling errors. The ATS Route Designators allocation function of the ICARD application was not available to the Asia/Pacific Region. Given the expected increase in requests for new ATS route designators to facilitate airspace capacity and efficiency outcomes and PBN implementation a more appropriate and up-to-date method was needed.

3.2.38 APANPIRG/25 agreed to the following Conclusion:

Conclusion APANPIRG/25-17: ICARD ATS Route Designators Function Access

That, taking into consideration the rising demand for ATS route designators, resulting from airspace capacity and efficiency changes and implementation of PBN routes and airspace, ICAO be requested to take steps to develop the ATS Route Designators function in the ICARD application and provide Asia/Pacific ICARD 5LNC MANAGERS and ICARD 5LNC PLANNERS with access to it.

3.2.39 It was apparent during the meeting discussions that lack of AIM transition guidance material was causing significant concern. There had been delays in the production of global ICAO guidance material, the most significant being the updated Doc 8126 AIS Manual, the new Doc 9839

Quality Manual and Doc 9991 Training Manual. It was noted by the AAITF that any independently developed regional guidance material could risk encouraging States to implement AIM in ways that were either not supported by or running counter to the global guidance that was previously expected in 2013, but was now anticipated to be available in late 2014.

Asia/Pacific SAR Task Force

3.2.40 The Second Meeting of the Asia/Pacific Regional Search and Rescue Task Force (APSAR/TF/2, Singapore, 27-31 January 2014) was attended by 37 participants from ICAO Asia/Pacific SAR Administrations, ICAO and the International Maritime Organization (IMO).

3.2.41 The United States recalled that the APSAR/TF was suggested by the ICAO Bangkok Regional Office with the objective of considering the enhancement and improvement of SAR capabilities within the Asia/Pacific Region and adjacent regions. The United States noted that based upon the results from its first two meetings, the APSAR/TF provided a commendable service and valuable outputs for consideration and to the credit of the Asia/Pacific region, more States were participating and sharing information and views on SAR.

3.2.42 The United States had noted that the missing Malaysia Airlines flight MH 370 was still unfolding; however, there may be SAR concerns similar to those revealed by other aircraft incidents at sea in recent years, including Air France AF 447 accident in 2009. Moreover, the global community would benefit by gathering the experiences and lessons learned from this incident before they were forgotten.

3.2.43 The United States had also recognised that the draft Asia/Pacific Search and Rescue Plan would require an extensive effort to finalize its text at the next session of the APSAR/TF, noting that the Plan was already being discussed within ICAO and would greatly enhance and improve SAR capabilities within the Asia/Pacific Region and adjacent regions. The APSAR/TF/2 urged Asia/Pacific States to review the Plan and provide their advice to the APSAR/TF or, preferably, participate in the APSAR/TF/3, scheduled for January 2015.

3.2.44 Australia suggested that it could be beneficial for the APSAR/TF and the African SAR Services Integration Task Force (ASSI/TF) to collaborate by establishing a formal line of communication or holding a joint Task Force meeting to share experiences.

3.2.45 Cospas-Sarsat had presented the current status of the Cospas-Sarsat System to the APSAR/TF/2. The paper provided statistics on System performance and the performance of users of the System, including System operations, space and ground segments, beacons, false alerts and results of Cospas-Sarsat Mission Control Centre (MCC) – SPOC communication tests.

3.2.46 In 2012, based on preliminary information, 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, while Aircraft Emergency Locator Transmitters (ELTs) false alert rates were higher at 4.9% than those of maritime Emergency Position Indicating Radio Beacon (EPIRB) and PLBs. 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). The ratio of all SAR events (maritime, land and aviation) during 2012 was 48%, 30% and 22% respectively.

3.2.47 Cospas-Sarsat urged Administrations to make use of their free International Beacon Registration Database (IBRD) if they needed such a resource.

3.2.48 Cospas-Sarsat commented that papers had been presented at past forums on the necessity for PLB registration. The United States stated that some States had a problem with PLBs – which did not fall under an administration such as ICAO for ELTs and IMO for EPIRBs. 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 featuring in watches could swamp the SAR alerting system, and overload RCCs. India suggested that in order to ensure early identification of current owners of Aircraft ELTs, the States may consider transferring registration of aircraft ELTs as a pre-requisite for the transfer of aircraft registration.

3.2.49 The APSAR/TF/2 had 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) and registering PLBs, (preferably at the point of sale). APANPIRG/25 agreed to the following Conclusions:

Conclusion APANPIRG/25-18: 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.

Conclusion APANPIRG/25-19: Personal Locator Beacon

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, ICAO in cooperation with the IMO, be urged to consider means of effectively managing PLB alerts.

3.2.50 The Secretariat presented the status of SAR information in the Asia/Pacific Region known to the ICAO Regional Office, including the:

- a) SAR Capability Matrix Table (**Attachment K to APANPIRG/25/WP07**); and
- b) SAR Agreement Matrix (**Attachment L to APANPIRG/25/WP07**).

3.2.51 The regional overview (**Figure 1**) 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. The United States commended the Regional Office for its work on the regional picture, stressing that honest reporting of status by States was important to ensure changes and resources were made available for SAR improvement.

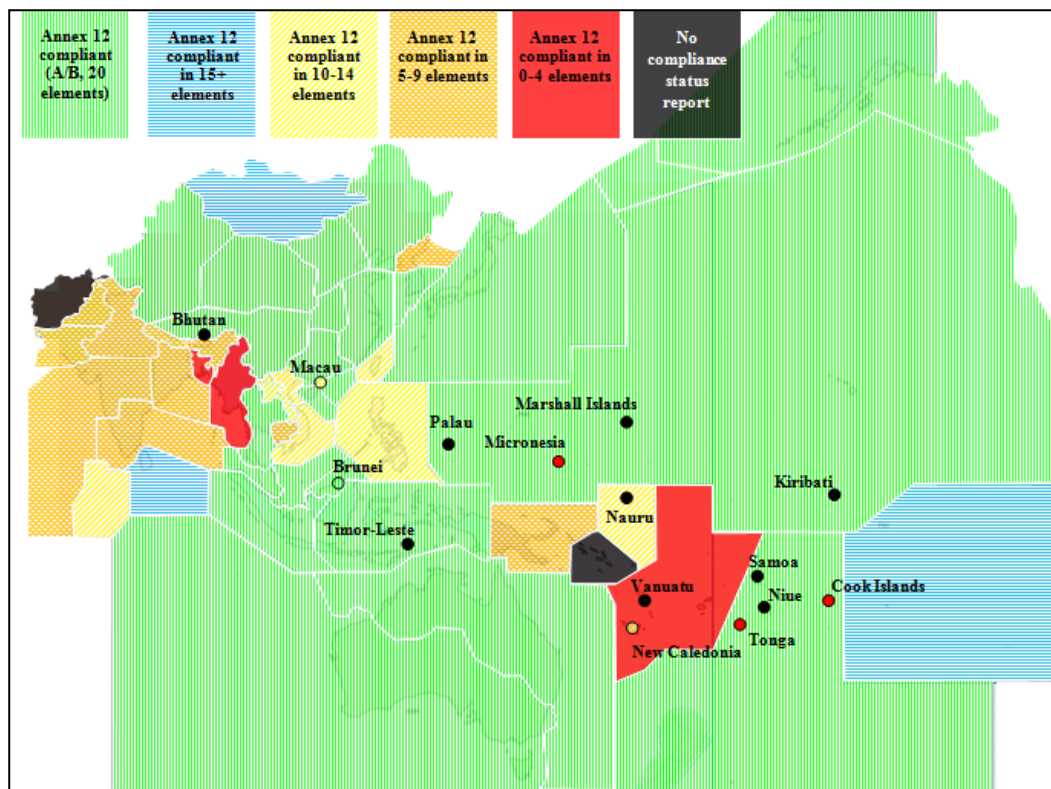


Figure 1: Asia/Pacific Regional SAR Overview

3.2.52 The meeting noted that ICAO did not have a dedicated SAR technical officer, and that the ICAO/IMO JWG was concerned about this level of SAR technical resource. The meeting also noted that it was appropriate for regional offices to have increased responsibility for SAR within their region and differences between regions were handled with global focus.

3.2.53 The meeting further noted the intent of the paper, noting that SAR had been left out of the ASBUs and supported enhancing SAR technical resources to provide a greater focus on SAR issues at ICAO. APANPIRG/25 agreed to the following Conclusion:

Conclusion APANPIRG/25-20: Global SAR Coordination

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

- a) consider securing the necessary technical resources for managing global SAR policy development and inter-regional coordination; and
- b) include SAR as part of the Aviation System Block Upgrades (ASBU).

3.2.54 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. Documents on the web site would not include those publications which are for sale. Those posted would be what IMO referred to as 'unpublished documents' (non-copyright and thus were available 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. APANPIRG/25 adopted the following Decision:

Decision APANPIRG/25-21: Search and Rescue (SAR) Library

That, States be urged to utilise the SAR Library located at http://www.uscg.mil/hq/cg5/cg534/SAR_Manuals.asp.

3.2.55 The APSAR/TF/2 had discussed coordination between States to improve SAR arrangements through the exchange of lessons learnt and good practices. IATA suggested the concept of SAR 'Go Teams' (normally comprised of experts from International Organizations, the aviation industry and States) used to improve PBN implementation might be applied to SAR. The intention was to up-skill 'champion States' so that improvements could flow to other States. The meeting agreed that it was a useful proposal, and requested the Secretariat to follow up with ICAO Headquarters on the suggestion.

3.2.56 The APSAR/TF/2 meeting had noted that there were instances of delays in locating the site of an accident due to non-activation of the ELT. Systems such as satellite tracking systems could be used to supplement the use of ELTs. Cospas-Sarsat noted that they had been compiling information on this problem, which regularly involved antenna detachment. The Cospas-Sarsat Programme was evaluating specification options for a more robust system, including second generation in-flight activation and manufacturer introduction of ELTs with an internal, secondary antenna.

3.2.57 It had been observed by some APSAR/TF/2 participants that the 50 second delay specified before the first 406 MHz beacon burst may not be appropriate in aviation distress incidents, and that a more 'intelligent' transmission scheduling arrangement might be necessary.

3.2.58 The APSAR/TF/2 meeting had noted that in-flight activation requirements should be discussed by airlines, manufacturers, regulators and ANSPs (for possible integration into ATC systems), as well as noting the possible emergence of satellite-based ADS-B which might reduce the need for in-flight activation. Hong Kong, China was concerned that any in-flight activation alert integration into ATC systems would be received by supervisors and not controllers themselves.

3.2.59 The APSAR/TF/2 had reviewed the early draft Asia/Pacific SAR Plan – an outline of the basic document with basic text. The Plan was expected to be intensively discussed at the APSAR/TF/3 (25-29 January 2015, Maldives) before final presentation to the ATM/SG/3 and APANPIRG/26. An international SAREX was also being planned to be conducted in conjunction with the APSAR/TF/3 meeting.

MH370 SAR Response – JRCC Australia

3.2.60 Australia provided a detailed update overview of the Australian SAR response to Malaysia Airlines Flight MH370 which went missing on 08 March 2014. It also provided a comparison from a SAR perspective between the MH370 incident and the Air France Flight AF447 accident of 2009 and invited States involved in the MH370 incident to consider providing inputs to ICAO for any improvements to the global and regional SAR system.

3.2.61 Australia noted that an analysis of radar data and subsequent satellite communication (SATCOM) system signalling messages placed the aircraft in the Australian SAR Region (SRR) along an arc in the southern part of the Indian Ocean. This arc was considered to be where the aircraft's fuel was exhausted, but there were numerous challenges to the search operation, including, *inter alia*:

- a) lack of available and accurate position data about MH370's actual flight;
- b) no distress beacon detections (ELT or others carried on board);
- c) operations with long transits in remote oceanic areas offshore;

- d) 10 days elapsed before the search commenced within the Australian SRR;
- e) tropical cyclones and poor weather;
- f) lack of availability of ship-borne helicopters to investigate sightings;
- g) time required for satellite imagery analysis before tasking SAR assets;
- h) multinational civil/military cooperation, coordination and communications issues;
- i) pressure from the media and need to present a large amount of information online;
- j) large amounts of sea pollution causing difficulty distinguishing possible debris;
- k) availability of a detailed description of aircraft cargo and likely floating components;
- l) sustaining large logistical requirements such as air search observers, fuel, etc.; and
- m) lack of clearly defined division of responsibilities between the search and rescue function (Annex 12) and the air accident investigation search and recovery function (Annex 13).

3.2.62 Australia noted in answer to a query at the ATM/SG/2 that they had successfully managed to deal with the extreme workload over many days because they had developed a number of ad hoc bodies to effectively delegate specific tasks and research work. Australia stated that they were very grateful for the tremendous assistance from the other States and organizations they had received.

3.2.63 Australia presented a detailed overview of the Underwater Locator Beacon (ULB) detections and the Towed Pinger Locator (TPL) system deployments, noting that the acoustic search was supplemented using sonar buoys dropped by Australian AP-3C aircraft with an ability to detect ULB signals. No acoustic detections considered to be related to ULBs were detected. An independent review of the acoustic signals recorded by the Australian *Ocean Shield* vessel determined the signals were not consistent with the nominal performance standards of the ULB and noted, whilst unlikely, the signals could be consistent with a damaged ULB. Moreover, they noted that the detections from the Chinese vessel *MV Haixun 01* were unlikely to be from MH370 due to seafloor depth, surface noise and the equipment used.

3.2.64 Australia advised that an ocean floor sonar search was in progress. An underwater sonar survey using an Autonomous Underwater Vehicle (AUV) started on 14 April 2014 with 30 missions completed searching an area of 860 km² with nil debris or wreckage detected. Further work was being conducted to determine the likely source of the *Ocean Shield* acoustic detections. Further collaborative work has continued to refine the analysis of both the flight and satellite data by an international team of specialists from the UK, USA and Australia working both independently.

3.2.65 A priority area of approximately 60,000 km² had been derived (which was subject to search from Day 21 to Day 26). Bathymetry analysis of the ocean floor in areas of this search zone commenced in mid-May. An intensified deep-water search would soon commence for a period of up to 12 months.

3.2.66 The ATM/SG/2 had recalled that the search for Air France Flight AF447 which crashed into the Atlantic Ocean in 2009 was of a significant scale and presented many challenges. During the search operation for MH370, Australia had taken note of the valuable experience, lessons learned and recommendations provided in regard to AF447. The MH370 incident was a scenario not previously experienced by the global SAR community, and it was a highly valuable opportunity to the global SAR community to not only share the experiences and any lessons learned from all the States involved in the SAR response, but to also improve the existing SAR system where appropriate.

3.2.67 Australia noted that Annex 12, Search and Rescue, Recommendation 5.9.2 reiterated that RCCs should prepare appraisals of actual SAR operations, and submit these to ICAO for information and dissemination as appropriate. The MH370 operation was continuing and pending investigation, so States who were involved in the recovery effort may not yet be in a position to collate lessons learned and opportunities for improvement. Notwithstanding this, any useful lessons that are already self-evident should be discussed to urgently improve SAR systems where possible and enhance the Asia/Pacific SAR Plan before its completion.

3.2.68 In that regard, ICAO outlined a number of discussion issues as follows that the MH370 event had highlighted, which needed to be discussed by the APSAR/TF and possibly incorporated into the Asia/Pacific SAR Plan and/or global SAR material.

- a) CIVIL/MILITARY: It was apparent that a higher degree of civil/military coordination may have revealed the possibility of the MH370 course reversal much earlier after the initial alert advice from Viet Nam ATC, and may have saved as much as a week of fruitless searching in the wrong area, while increasing the chances of finding the ULB given its limited battery life.
- b) SAR PHASES: The time lapses of more than 16 minutes between the transfer of control point at IGARI and the advisory to Kuala Lumpur ACC that MH370 had disappeared, 38 minutes for the issuance of an INCERFA SAR phase, and 7 hours and 21 minutes for the issuance of an ALERFA/DETRESFA SAR phases indicated that the Annex 12 SAR phases and actions may need to be revised to take into account the expectations and capabilities of a modern ATS surveillance environment (the SAR phases were designed in a procedural environment). The SAR actions should include the need for civil/military coordination where appropriate, and advisories to all neighbouring ACCs in the case of uncertainty of the aircraft's track.
- c) SAR PREPAREDNESS: Poor SAR preparedness and ad hoc SAR coordination between States needed to be addressed. Past APANPIRG Conclusions meant to address SAR coordination weaknesses had been largely ignored. In some cases, SAR Agreements were hindered by political barriers whereby States can take many years to progress documents through government ministries. This may require a high level political agreement to change the manner in which SAR agreements and operational coordination were prioritized and managed. In addition, the region needed to conduct properly organized SAREX that actually test the SAR system on a regular basis and report the outcomes to APANPIRG, instead of this being done on an ad hoc basis between States.
- d) ANNEX 12/13 TRANSITION: Annex 12 and Annex 13 needed to be updated to include SARPs on transition procedures between the two Annexes, particularly regarding who was responsible during concurrent Annex 12 and Annex 13 activities (i.e.: who was responsible for a rescue operation and when that phase ended, so it became primarily a recovery/investigation operation under Annex 13).
- e) MULTIPLE SRRS/FIRS: Annex 12 had no reference in paragraph 5.2.4 as to responsibility when more than two SRRs were involved, especially if the airspace concerned was not part of the original flight plan.
- f) SRR DESIGNATION Aeronautical SRR designation by States (as it was written in Annex 12 at present) instead of the ICAO Council was not the most optimal method, and did not align with the process used to designate FIRs; thus there were areas where there was an overlap of SAR responsibility or no clear responsibility.

3.2.69 India recalled the Annex 11 and 12 SAR alerting phases, stressing that the primary objective of the SAR actions was to organize and extend timely assistance to the aircraft in a state of emergency and averting a situation that might lead to human lives being endangered. India noted that duration of 30 minutes in the 'Uncertainty phase' was primarily to try to establish communication

with the aircraft by various means and ascertain its position and status. This loss of valuable time was all the more critical in airspace with ATS surveillance, where it was more evident that there was a problem. India suggested that it may be appropriate to combine both uncertainty and alert phase with objective-oriented measures and a sequence of actions aimed at expeditiously ascertaining the situation and swiftly initiating SAR missions.

3.2.70 IATA advised that they supported a reduction in the SAR response timeframe as suggested by India, but also noted that they would be concerned if a mandate for SATCOM was being considered. The meeting congratulated India for the excellent paper, noting its valuable suggestions and correlation with other submissions in regard to the SAR phases.

3.2.71 The APANPIRG chairman suggested that Malaysia take the lead on collating lessons for future discussion at the APSAR/TF/3 in collaboration with States involved in the SAR efforts together with the ICAO Regional Office, to which Malaysia agreed. Considering the broad discussion on the important lessons to be learnt for the MH370 tragedy, the ATM/SG/2 developed a Draft Conclusion, which was agreed to by APANPIRG/25:

Conclusion APANPIRG/25-22: Provision of MH370 Feedback

In accordance with Annex 12, Recommendation 5.9.2, that:

- a) Asia/Pacific States/Administrations involved in the SAR response to MH370 be urged to develop any lessons learned and suggestions for improvement for submission to the APSAR/TF/3 meeting, scheduled for 25-29 January 2015; and
- b) ICAO and IMO be urged to consider lessons learned and feedback in order to update global SAR standards and guidance material.

Air Navigation Service Deficiencies List

3.2.72 The ATM/SG/2 meeting reviewed and discussed the ATM/AIS/SAR Deficiency List. The resultant Draft Conclusion ATM/SG/2-20: ATM Deficiency List was incorporated into the overall list of proposed APANPIRG/25 Deficiencies under Agenda Item 4.

Presentation of the Mini-Global Demonstration (WP16)

3.2.74 The United States of America provided an update on the Mini-Global Demonstration, a collaborative effort between FAA, the Civil Aviation Authority of Singapore, the Japan Civil Aviation Bureau, NAV Canada, the Republic of Korea, AEROTHAI, Airservices Australia, and European partners. The main goal of Mini Global was to demonstrate the use of SWIM and established standards in a seamless transfer of data between ANSPs to ultimately promote more efficient operations across multiple Flight Information Regions (FIRs). The Mini-Global Demo also fully supported the validation of ICAO Flight and Flow-Information for a Collaborative Environment (FF-ICE), and was planned for September 2014.

Operationalising Seamless ATM through Collaboration Guided by APANPIRG's Priorities and Targets (WP24)

3.2.75 Singapore highlighted the need for regional cooperation and sharing of limited resources as a means for the Asia/Pacific ATM Seamless Plan and ASBU goals to be met in a timely and harmonized manner, as well as by leveraging on existing platforms like the APANPIRG bodies and informal meetings. APANPIRG was invited to support Regional Priorities and Targets, and States to commit resources, while outcomes could be tracked by APANPIRG.

3.2.76 Japan supported Singapore but observed that some smaller informal meetings may not be able to accommodate a full range of discussions on this subject. The United States supported the paper and agreed with Japan's point.

Ongoing Cooperation between Mongolia and its neighboring Countries (WP29)

3.2.77 Mongolia highlighted its task of managing a safe and efficient transiting between metric and imperial systems as it straddled two systems in Russia and China, and presented Large High Deviation (LHD) data which indicated coordination errors as a primary cause. Mongolia also highlighted its requirement to have an ATM System supporting both OLDI and AIDC. To facilitate the establishment of the required specifications for conversion between the two systems, coordination meeting were planned with Russia and China. The meeting noted Mongolia's concerns, noting that Mongolia would raise the issue at the forthcoming Europe -Asia Trans-regional Special Coordination Meeting (Beijing, 22-23 September).

Implementation of Himalayan and Trans-Himalayan Routes via Kathmandu FIR (IP07)

3.2.78 Nepal provided information on the development of a new ATS Himalayan route (ATS route catalogue - Himalaya 2) joining Middle-East and Europe to and from China by overflying the Kathmandu FIR. India had agreed to the proposal in 2010, and China had now agreed within the Air Service Agreement between the two countries in March 2014.

3.2.79 Nepal planned an ATS Agreement in 2014/2015 before operations commenced on the route. Nepal would have full Very High Frequency (VHF) Coverage within the Kathmandu FIR by the end of 2014, as a second Remote Control Air Ground (RCAG) would be installed in the eastern part of the FIR and installation of enroute Monopulse Secondary Surveillance Radar (MSSR) ATS surveillance would be completed by 2015.

Simultaneous Take-Off and Go-Around – Safety Concerns (IP09)

3.2.80 India had taken an initiative to enhance runway capacity with the introduction of reduced inter-arrival spacing, application of optimal speed -control, reduced runway occupancy time and reducing response times of flight crew. To manage risk, India had implemented a procedure at Mumbai whereby departing aircraft were required to fly on runway heading until a specified distance (5.5 NM), and arriving aircraft executing a missed approach were required to conduct a turning missed approach at specified altitude (600Ft), thereby ensuring that both the aircraft flew on non-conflicting paths.

3.2.81 India noted that with reduced inter-arrival spacing, there could be occurrences when a departing aircraft delayed its take-off roll and at the same time an arriving aircraft initiated a go around, resulting in a potentially unsafe situation. IP09 discussed the possibility of standardised guidelines to prevent or resolve such conflicts, especially with multiple runway configurations. This matter would be referred to the ATM/SG as appropriate.

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

3.3 RASMAG Report

3.3.1 The Nineteenth Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/19) was held from 27-30 May 2014 in conjunction with the Third Meeting of the Future Air Navigation Systems Interoperability Team-Asia (FIT-Asia/3, 26 May 2014), at Pattaya, Thailand. A total of 45 participants attended either or both the FIT-Asia/3 and RASMAG/19 meetings.

3.3.2 RASMAG/19 considered 32 Working Papers (WPs) and seven Information Papers (IPs), while there were 11 WPs and four IPs presented to FIT-Asia/3. RASMAG/19 agreed on five Draft Conclusions for APANPIRG's consideration.

Data-link Problem Reporting

3.3.3 New Zealand had provided an update to FIT-Asia/3 on the status of the Central Reporting Agency (CRA) Problem Reporting (PR) website maintained by Airways New Zealand for the Informal South Pacific ATS Coordination Group (ISPACG) to provide an on-line problem reporting capability of problems and facilitate continuous improvement of the system. The FIT-Asia/3 and RASMAG/19 meetings recalled *Conclusion 24/24: ADS/C and CPDLC Problem Reporting and Analysis*, which requested States to, inter alia, 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.

3.3.4 FIT-Asia/3 noted that Indonesia, Malaysia, Maldives, Myanmar and Sri Lanka had implemented ADS-C/CPDLC under the Seamless ATM Plan [Category R airspace] expectations, but were yet to fulfill FIT-Asia CRA registration status on the ISPACG website.

3.3.5 Singapore's South East Asia Safety Monitoring Agency (SEASMA) provided a CRA service for the Philippines, Singapore and Viet Nam for three years from 2011. However, Singapore would extend the CRA funding until September 2016, and at that stage there needed to be an alternative funding model in place.

3.3.6 The meeting was informed that in the event that Administrations implemented or had implemented data-link services without a competent CRA service and a robust program of post-implementation performance monitoring, the service did not comply with ICAO Standards and Recommended Practices (SARPS) as defined in Annex 11. In these cases, the service may be recorded as an APANPIRG Deficiency.

Guidance Material for implementation of Data Link Systems

3.3.7 Australia provided guidance material intended to guide implementation of Air Navigation Service (ANS) data link systems to FIT-Asia/3. APANPIRG/25 adopted the following Conclusion:

Conclusion APANPIRG/25-23: Data Link Implementation Strategy Guidance

That, the Data Link Implementation Strategy Guidance Material appended as **Attachment A to APANPIRG/25/WP08** be adopted as guidance material for States/Air Navigation Service Providers and made available on the ICAO Asia/Pacific Regional Office Website (www.icao.int/apac).

Data Link Problem Report Points of Contact

3.3.8 RASMAG/19 discussed the issue of lack of points of contact for aircraft operators to report data link and other system problems directly to the Air Navigation Service Provider (ANSP) (FIT-Asia/3/WP11). APANPIRG/25 adopted the following Conclusion:

Conclusion APANPIRG/25-24: Contact Details for Airspace User Reporting of ADS-C/CPDLC Problems to ANSPs

That, States be urged to provide, and promulgate in their AIP, a point of contact for airspace users to report Automatic Dependent Surveillance-Contract/Controller Pilot Data-link Communications (ADS-C/CPDLC) problems to the State/Air Navigation Service Provider (ANSP).

Vertical Safety Monitoring Assessment

3.3.9 **Figure 2** indicated the regional Asia/Pacific regional Reduced Vertical Separation Minimum (RVSM) Target Level of Safety (TLS) compliance as reported to RASMAG/19.

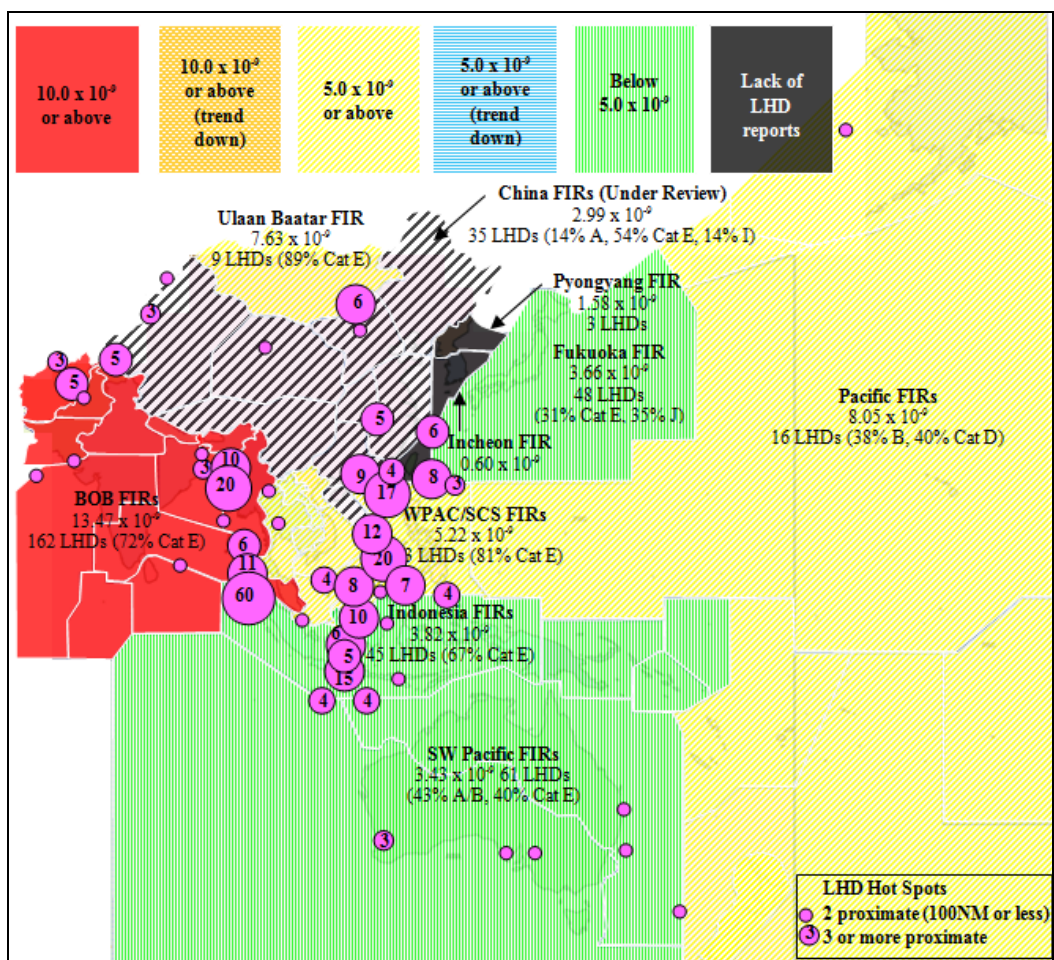


Figure 2: Asia/Pacific TLS compliance reported to RASMAG/19

3.3.10 The Monitoring Agency for Asia Region (MAAR) provided the results of the airspace safety oversight for the RVSM operation in the Bay of Bengal (BOB), Western Pacific/South China Sea (WPAC/SCS), and Mongolian airspace for the calendar year 2013.

South Asia

3.3.11 The BOB RVSM airspace overall risk was estimated to be 13.47×10^{-9} , which did not meet the TLS. **Figure 3** presents collision risk estimate trends during the period from January 2013 to December 2013.

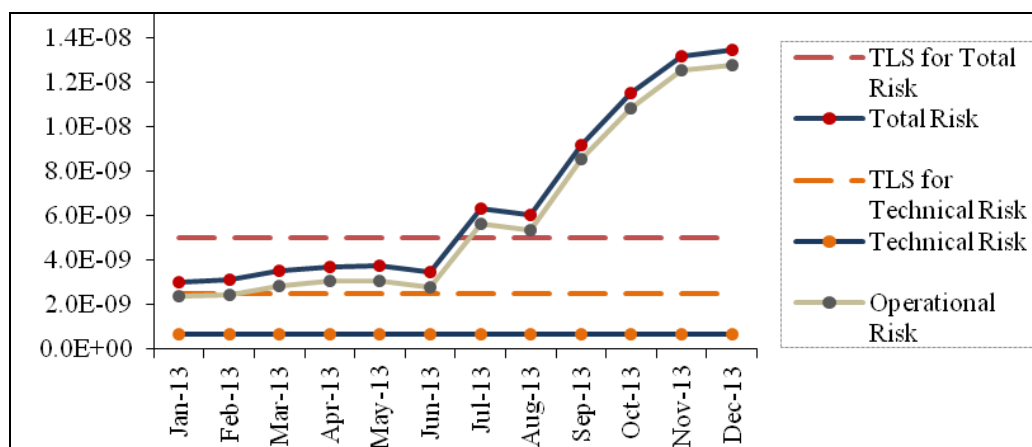


Figure 3: BOB Airspace RVSM Risk Estimate Trends

3.3.12 **Figure 3** indicated that South Asia (and in particular India) had dramatically increased its reporting rate, resulting in a large increase in estimated risk (reflecting the true nature of risk). This revealed the extent of interface problems between Indian FIRs and Bangladesh, Myanmar, Malaysia and Indonesian FIRs. Apart from the implementation of AIDC between the States concerned, significant urgent action appeared to be necessary to reduce ATC operational errors and to increase communications and ATS surveillance coverage/data exchange.

3.3.13 In particular, RASMAG/19 noted that a Special Coordination Meeting (SCM) should be conducted involving India, Bangladesh, Indonesia, Malaysia, and Myanmar to, *inter alia*, investigate the installation of ADS-B, VHF communications and sharing data from a site on Great Nicobar Island, which was close to the Indian, Indonesian and Malaysian FIR boundaries. The States involved agreed that a SCM would be useful to expedite planning for enhanced ATS communications and surveillance facilities in the area.

3.3.14 APANPIRG/25 noted that Malaysia, India, Myanmar and Indonesia Special Coordination Meeting (MIMI SCM) was held as a separate agenda item at the end of the First Bangladesh, India, Myanmar and Thailand ATM Coordination Meeting (BIMT/1, Bangkok, Thailand, 18-19 August 2014). The SCM successfully identified measures to mitigate safety risks noted by MAAR, including human performance issues.

3.3.15 MAAR noted the distinctive group of LHDs prevalent within the Kabul FIR. Since the Kabul FIR had military level restrictions, most LHDs involved a neighbouring ACC (Samarkand, Uzbekistan, at position AMDAR) releasing aircraft at flight levels that were not allowed as specified in the Air Traffic Service (ATS) Letter of Agreement (LOA). This matter was referred to the ICAO European and North Atlantic Office.

Southeast Asia

3.3.16 The West Pacific/South China Sea (WPAC/SCS) RVSM airspace total risk was estimated to be 5.22×10^{-9} , which did not meet the TLS. **Figure 4** presents collision risk estimate trends during the period from January 2013 to December 2013.

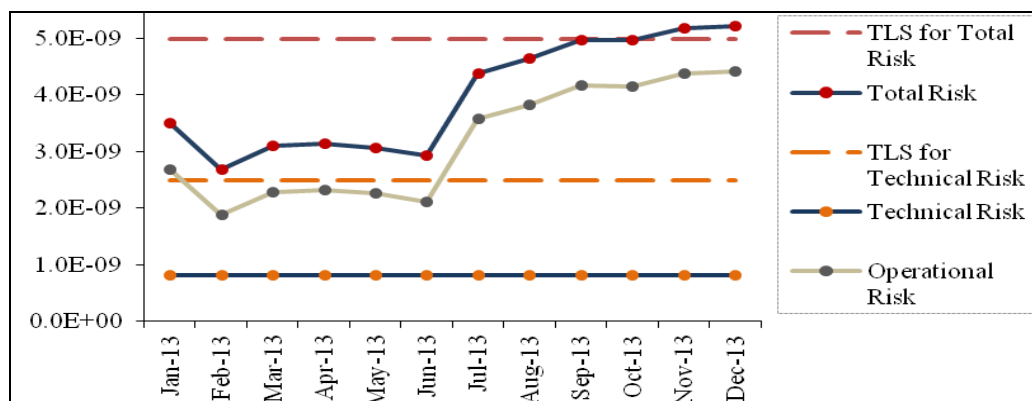


Figure 4: WPAC/SCS Airspace RVSM Risk Estimate Trends

3.3.17 The failure to meet the TLS was largely connected with two major interface problems. The first involved Indonesian airspace between the Jakarta FIR and the Ujung Pandang FIR and – Singapore and Philippines airspace. The second was between the Philippines airspace and – Singapore, Malaysian, Viet Nam, Hong Kong and Japanese airspace. Increased reporting by Indonesia was a positive. The level of continued operational errors involving interfaces with both the Indonesian and the Philippines airspace remained deeply concerning.

3.3.18 Greater effort and urgency appears to be required by both States to investigate and reduce ATC operational errors, and implement full AIDC capability. In the case of AIDC, the meeting agreed that it would be beneficial to form a short-term ATS Inter-facility Data-link Communications (AIDC) Implementation Task Force that focused on the SCS and BOB. Noting APANPIRG Conclusion 24/17: *AIDC Implementation* and Conclusion 24/27: *Prioritization of AIDC Implementation to Address LHDs*, and the continued incidence of LHDs in the BOB and SCS area, RASMAG agreed to the following Draft Conclusion, which was considered by the ATM/SG, CNS Sub-Group (CNS/SG), and ultimately became a CNS/SG Draft Conclusion:

RASMAG Draft Conclusion 19-4: Asia/Pacific AIDC Implementation Task Force

That, an ATS Inter-facility Data-link Communications (AIDC) Implementation Task Force be established that reports to the CNS/SG, to facilitate the urgent expedition of AIDC in the Asia/Pacific, focussed on the Bay of Bengal and South East Asia area.

Note: Terms of Reference for the Asia/Pacific AIDC Task Force (APATF) should be developed by the CNS/SG, in consultation with the ATM/SG.

East Asia

3.3.19 China presented the results of the airspace safety oversight for the RVSM operation in the airspace of Chinese FIRs and the Pyongyang FIR (Democratic Republic of Korea – DPRK) from 01 January 2013 until 31 December 2013. The estimates of technical and total risks for the airspace of Chinese FIRs satisfied the agreed TLS value of no more than 2.5×10^{-9} and 5.0×10^{-9} fatal accidents per flight hour, with an overall risk estimate of 2.99×10^{-9} .

3.3.20 China RMA noted the continued problems they had experienced with the interface between Urumqi and Lahore (Pakistan) FIRs. They stated that China had proposed enhancements to communications and ATS surveillance near the border, but had encountered difficulties in establishing the facilities, which might best be sited in Pakistan (but this posed questions regarding ownership and maintenance). China again requested ICAO to work with Pakistan to resolve the problem, as they were concerned about the safety risks at the PURPA crossing point. APANPIRG/25 was advised of a meeting that had taken place between Pakistan and China at the CNS/SG/18 to address this high risk situation.

3.3.21 Based on the data from the DPRK, no LHD had occurred during 2013 within the Pyongyang FIR. Considering the long-term nil LHD reports, to make a conservative estimate for the operational risk, China RMA used the operational risk value of Chinese FIRs, and the technical risk was calculated from the Traffic Sample Data (TSD) data collected in December 2013 from the Pyongyang FIR. The estimate of the overall vertical collision risk for the Pyongyang FIR was 1.58×10^{-9} fatal accidents per flight hour, which satisfied the globally agreed TLS value of 5×10^{-9} fatal accidents per flight hour.

3.3.22 The Mongolian RVSM airspace total risk was estimated at 7.63×10^{-9} , which did not meet the TLS. **Figure 6** presented collision risk estimate trends from January to December 2013.

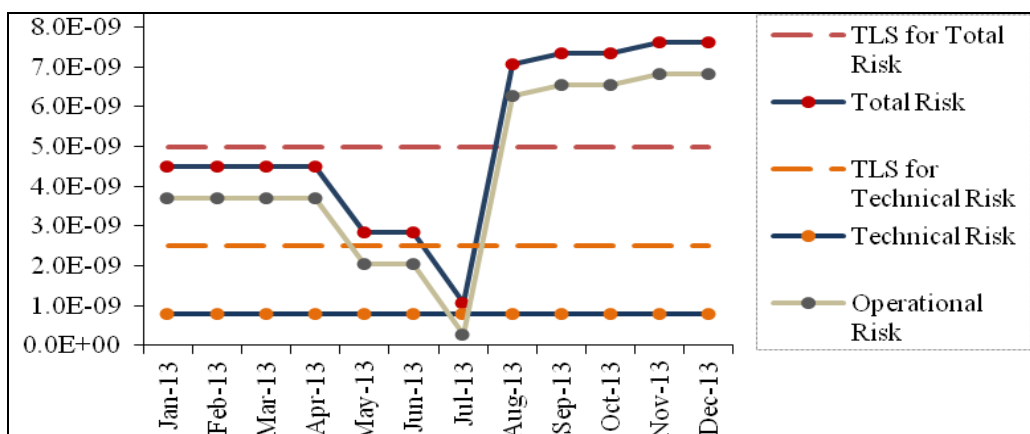


Figure 6: Mongolian Airspace RVSM Risk Estimate Trends

3.3.23 MAAR observed that the main hot spot within Mongolian airspace was the southwest boundary of the Ulaanbaatar FIR with the Beijing FIR at positions NIXAL and INTIK, where the main risk-bearing event of 14 minutes' duration occurred. China noted that this event had not been reported by Beijing ACC, so they would make enquiries as to the process followed in this instance. The hot spot was expected to be discussed at a forthcoming Eurasia SCM.

3.3.24 Japan presented the results of the airspace safety assessment of the Fukuoka FIR by the Japan Airspace Safety Monitoring Agency (JASMA) for the period from 01 January 2013 to 31 December 2013. The report shows that for the Fukuoka FIR, the TLS was met for the reporting period with the assessed risk calculated as 3.66×10^{-9} .

3.3.25 JASMA received fifteen transfer error reports from MAAR that occurred within the Taipei and Manila FIR. JASMA shared these error reports with the ATC facilities concerned, and determined that the causes for the Taipei incidents were a short flight leg and wind data not being updated, and late AIDC messages being sent.

Southwest Pacific

3.3.26 Australia presented the results of RVSM safety assessments undertaken by the Australian Airspace Monitoring Agency (AAMA) for the twelve month period ending 31 December 2013. The Southwest Pacific had maintained a downwards trend to be consistently below the TLS during the 12 months to end of December 2013. The report showed that for the Australian (Brisbane, Melbourne), Nauru, Papua New Guinea (PNG, Port Moresby) and Solomon Islands (Honiara) Flight Information Regions (FIRs), the TLS was met with a risk assessment of 3.43×10^{-9} (5.0×10^{-9}).

3.3.27 The report showed that for Indonesian airspace, the TLS was met for the reporting period with the assessed risk calculated as 3.82×10^{-9} . Although the Indonesian risk estimate remained below TLS, the analysis by AAMA showed that many of the LHD occurrences were located in a single geographic location at the boundary between the Jakarta and Ujung Pandang FIRs near Surabaya. Further analysis by the AAMA indicated the primary origin of these incidents was Jakarta Area Control Centre (ACC).

Pacific

3.3.28 The Pacific Approvals Registry and Monitoring Organization (PARMO) presented a safety assessment of RVSM in portions of Pacific and North East Asia (Republic of Korea - ROK) airspace for the most recent reporting period of 01 January to 31 December 2013.

3.3.29 Pacific airspace total risk was estimated to be 8.05×10^{-9} , which did not meet the TLS. **Figure 7** presents collision risk estimate trends during the period from 01 January 2013 to 31 December 2013.

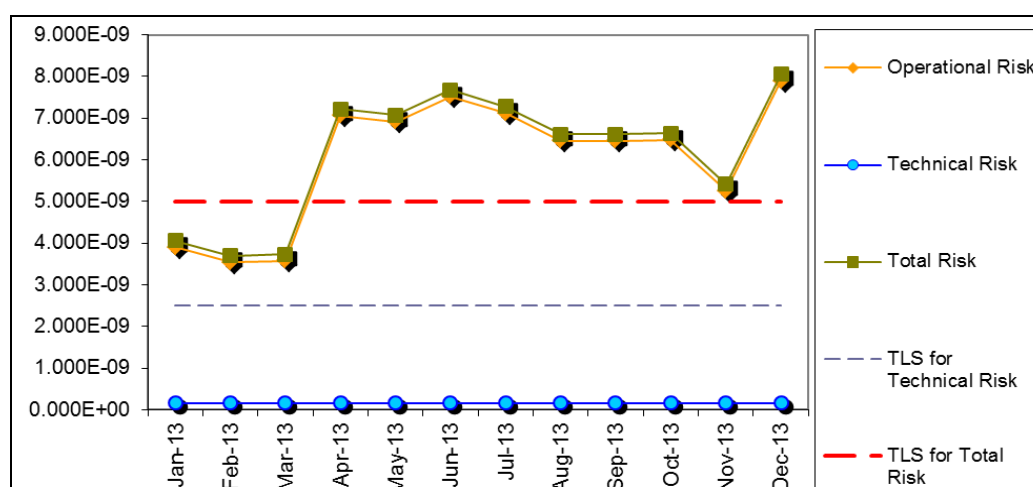


Figure 7: Pacific Airspace RVSM Risk Estimate Trends

3.3.30 The vertical collision risk estimate within Pacific airspace did not meet the TLS primarily due to the occurrence of two long duration events. One LHD event (duration 110 minutes) was caused by an ATC loop error. In this case, the updated clearance information was not received by the aircraft, but was manually updated in the ATC automation system. The aircraft operated within the airspace at the incorrect flight level until it was transferred to the adjacent facility, when the event was discovered. One LHD had duration of 55 minutes, when communication between ATC and the aircraft was lost (the pilot did not adhere to the published lost communication procedures).

3.3.31 The Incheon FIR RVSM total risk during the period from 01 January 2013 to 31 December 2013 was estimated to be 0.60×10^{-9} .

TLS Compliance Trend

3.3.32 **Table 1** provided a comparison of Asia/Pacific RVSM risk as a measure against the TLS, either by RMA ‘sub-region’¹, or by FIRs. There had been significant deterioration in the region meeting the TLS overall, which has been partially caused by improved reporting.

	RASMAG16	RASMAG17	RASMAG18	RASMAG19
RMA ‘sub-regions’	67%	78%	89%	22%
FIRs	73%	73%	90%	16%

Table 1: Comparison of Sub-Regional and Regional RVSM TLS Achievement

3.3.33 RASMAG/19 analysed the proportion of estimated flight hours and reported LHDs. In particular, the reports for Beijing, Incheon, Sanya, and Shenyang FIRs appeared to be well below what would be expected, given the very busy traffic in those airspaces. China acknowledged that, relative to the flight hours, the LHD reporting ratio of China and DPRK was quite low, with possible existence of underestimation in these regions. The meeting urged China to improve its mechanism of LHD reporting and develop a plan to establish an open reporting culture as part of a ‘just culture’ element of its safety management system by conducting a review, and requested China to report to APANPIRG/25 any progress made.

Non-RVSM Approved Aircraft

3.3.34 The meeting noted that Asia/Pacific States with the majority of non-RVSM airframes identified by the Asia/Pacific RMAs to be operating within the RVSM stratum without proof of RVSM approval were from China, India, Indonesia, Pakistan and the Philippines. **Table 2** compares the number of non-RVSM airframes reported by each RMA:

Report	AAMA	China RMA	JASMA	MAAR	PARMO
RASMAG/18	98	43	47	118	15
RASMAG/19	90	33	40	130	19

Table 2: Trend of Non-RVSM airframes Observed by Asia/Pacific RMAs

3.3.35 Overall, the number of non-RVSM aircraft had marginally reduced by 3% in the past year. This indicated that there was considerable work to do and APANPIRG Conclusion 24/6 *Repetitive Non-RVSM Approved Aircraft Operating as RVSM Approved Flights* which encouraged States to 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, except where a specific non-RVSM operation was authorized, had not yet been effective.

Long Term Height Keeping Monitoring Burden

3.3.36 **Table 3** compares the outstanding monitoring burden reported by each RMA:

Report	AAMA	China RMA	JASMA	MAAR	PARMO
RASMAG/18	102	141	29	189	118
RASMAG/19	79	87	16	200	37

Table 3: Outstanding Monitoring Burden of Asia/Pacific RMAs

¹ (1) Melbourne, Brisbane, Nauru, Honiara FIRs (AAMA); (2) Port Moresby FIR (AAMA); (3) Indonesian FIRs (AAMA); (4) Sovereign airspaces of China (China RMA); (5) Fukuoka FIR (JASMA); (6) Bay of Bengal FIRs (MAAR); (7) Western Pacific/South China Sea FIRs (MAAR); (8) Pacific Area (PARMO); and (9) North-East Asia Incheon FIR (PARMO).

3.3.37 **Table 3** indicates that all the RMAs had managed to reduce their monitoring burden, except for MAAR, which may require collaborative assistance from States to share ADS-B data to help reduce the burden for States/operators effectively. The overall total remaining Asia/Pacific regional monitoring burden had decreased from 579 (RASMAG/18) to 419 as reported to RASMAG/19, a 38% reduction, which also followed a 32% reduction since 2009.

Traffic Sample Data

3.3.38 MAAR stated that they had encountered a number of problems with the December 2013 TSD, including very late submission, TSD template not being followed, and TSD containing numerous errors and typos. The main cause of this problem seemed to be because many States still relied heavily on manual processing of their TSDs.

3.3.39 As a result, MAAR wanted to encourage States that did not have an automated TSD generation capability to submit their raw FPL messages instead of the conventional-format TSDs. MAAR noted that they were currently using this approach with Manila, Male, and Dhaka FIRs, which had proven very successful since it greatly reduced the resources required to prepare the TSDs for States. In this connection, MAAR proposed a Draft Conclusion which was endorsed by RASMAG/19 and adopted by APANPIRG/25:

Conclusion APANPIRG/25-25: Submission of FPLs as Traffic Sample Data (TSD)

That, Asia/Pacific States that do not have an automated TSD generation capability be urged to consult with the appropriate Regional Monitoring Agency (RMA) and if agreed, submit their raw Flight Plan (FPL) messages to the appropriate RMA, instead of conventional TSDs.

Horizontal Safety Reports

3.3.40 The following Asia/Pacific En-route Monitoring Agencies (EMAs) reported horizontal risk assessments as follows, which all satisfied the TLS of 5.0×10^{-9} (**Table 4**). The lateral risk for 50NM separation as calculated by JASMA was notably lower than other implementations.

Separation Standard	EMA	Estimated Risk
50NM Lateral Risk	BOBASMA	0.76×10^{-9}
	JASMA	0.000006×10^{-9}
	PARMO	0.97×10^{-9}
	SEASMA	0.055×10^{-9}
30NM Lateral Risk	PARMO	0.26×10^{-9}
50NM Longitudinal Risk	BOBASMA	4.02×10^{-9}
	PARMO	2.32×10^{-9}
	SEASMA	1.18×10^{-9}
30NM Longitudinal Risk	JASMA	0.13×10^{-9}
	PARMO	3.74×10^{-9}

Table 4: Comparison of Horizontal Risk Assessments

Managing Non-RVSM Approved State Aircraft

3.3.41 New Zealand presented information on the need for coordination between military and civil authorities for authorisation of flights by State aircraft within RVSM airspace, and on the importance of ensuring that States maintain up-to-date details of RVSM approvals with their responsible RMA. The 55th Meeting of the European Air Navigation Planning Group (EANPG) raised several points of interest regarding RVSM approvals, resulting in EANPG Conclusion 55/27 - *Flights in RVSM Airspace by non-approved State designated aircraft*, and EANPG Conclusion 55/28 - *Validation of RVSM Approvals and Confirmation of RVSM Points of Contact*.

3.3.42 Asia/Pacific RMAs had reported instances of State aircraft operating in RVSM airspace without authorisation and, as in Europe, a consistent policy within the Asia/Pacific Region would help to alleviate this problem. Greater coordination between civil and military authorities, particularly on RVSM operational requirements, would support such a policy. APANPIRG/25 agreed to the following Conclusion:

Conclusion 25/26: Flights in RVSM Airspace by non-approved State Aircraft

That, Asia/Pacific States be urged to ensure close cooperation between civilian and military authorities, so that all RVSM operational requirements are clearly understood and complied with by State aircraft.

State Coordination with RMAs

3.3.43 New Zealand noted that, despite a number of previous APANPIRG Conclusions and subsequent State Letters, a number of States within the Asia/Pacific Region still failed to take action with their RMA to:

- a) provide point of contact details and complete RVSM approval data;
- b) provide, on a monthly basis, details of all flight plans filed showing RVSM approval (to update RMA data on RVSM approved aircraft); and
- c) take appropriate action regarding non-compliant aircraft, on the basis of the data provided by their RMA (respond to, and take action regarding RMA queries on long-term data indicating that aircraft were not approved).

3.3.44 RASMAG/19 noted that the first action in such cases would be for the RMA to coordinate with the State concerned, but if the problem persisted, then those States should be identified in RMA reports, and the ICAO Regional Office may also be requested to contact the State.

Efforts to Improve Large Height Deviation Reporting from ATC Units in China (WP32)

3.3.45 China responded to concerns from RASMAG/19 regarding the apparent lack of LHDs from China that may indicate a lack of a mature reporting culture with an update in WP32. The paper provided information about China RMA's effort to investigate the ATC LHD reporting situation, and also measures taken and lessons learnt to improve the LHD reporting mechanism from ATC units.

3.3.46 After RASMAG/19, an internal meeting was held to address the current LHD reporting situation. The meeting discussed LHD reporting mechanisms, the number of LHDs, internal LHD data collection, and data collection issues among RMAs.

3.3.47 The China Air Traffic Management Bureau (ATMB) and China RMA members then made visits to all seven ATMB regional offices and held LHD data collection workshops in each area from the end of June until August. During these workshops, China RMA invited representatives of air traffic controllers, ATC administrators, safety officers and relevant technical support departments from all the enroute control centers/units which have RVSM operations to join the information sharing discussion. During the discussions, it is found that the following items were the leading causes of potential lack of reporting:

- a) Lack of clarity regarding the term 'Large Height Deviation', whereas an aircraft flying correctly in accordance with an incorrect ATC clearance was not viewed as a Category E event, therefore China RMA suggested a new term 'operational deviation error' for domestic use;
- b) reporting template complexity – the controllers suggested an easier version of reporting template so they would spend less time recording for each event,

encouraging more reporting (China RMA provided a draft template that would be further discussed at RASMAG and at a global level); and

- c) reporting culture and work flow improvements.

3.3.48 After the completion of workshops, ATMB summarized the lessons learnt and the suggestions raised, and issued a notice to standardize the LHD reporting mechanism. On behalf of the RASMAG Chairman, ICAO congratulated China on the work undertaken to improve reporting, and looked forward to the results of the improvements at the next RASMAG meeting.

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

3.4 CNS

Report of the Eighteenth Meeting of the CNS Sub-group (WP/09)

3.4.1 The meeting reviewed the outcomes of CNS SG/18 meeting held from 21 to 25 July 2014 which was attended by 78 participants from 23 States/Administrations, IATA, and SITA. The CNS/SG/18 considered 36 Working Papers and 29 Information Papers covering its 11 Agenda Items.

3.4.2 Based on the outcome of discussions on various agenda items, the CNS/SG/18 developed 17 Draft Conclusions, 3 Draft Decisions for consideration by APANPIRG/25 meeting.

Follow-up to AN-Conf/12 Recommendations

3.4.3 The Twelfth Air Navigation Conference (AN-Conf/12) held in Montréal from 19 to 30 November 2012 made fifty-six recommendations under its six agenda items covering a variety of air navigation subjects. On 28 January 2013, APANPIRG/24 formulated Conclusion 24/4 requesting States and International Organizations, on the basis of analysis to take follow-up action as appropriate on the applicable recommendations of AN-Conf/12 and made Decision 24/5 asking the subgroups of APANPIRG to study the recommendations of the AN-Conf/12, initiate appropriate follow-up actions and submit a report on the outcomes of these actions to APANPIRG/25.

3.4.4 The responses from APAC States/Administrations, ADS-B SITF/13 and ACSICG/1 meetings were consolidated into a single recommended action by the CNS SG/18 meeting. The ATM SG/2 meeting held in August 2014 reviewed this outcome with some comments. The meeting reviewed the consolidated response from CNS SG/18 and ATM SG/2 (flimsy 2) and adopted the following Conclusion 18/1 endorsed by CNS SG/18 and ATM SG/2 meetings:

Conclusion APANPIRG 25/27 – AN-Conf/12 Recommendations

That, the regional response to the Recommendations of the AN-Conf/12, in APANPIRG/25/WP09 **Appendix A and flimsy 2** be adopted as guidance for consideration by the States.

3.4.5 Following a comparison of the EUROCONTROL and ASIA/PAC forms for registering AMHS address information the CNS SG/18 meeting identified the benefit of using the latest forms associated with the AMC database and the latest Network Service Access Point (NSAP) addressing plan for entering NSAP addresses. The meeting adopted the following Conclusion (18/4) endorsed by CNS SG/18:

Conclusion APANPIRG 25/28 – AMHS Naming Registration Procedure and Form

That, the States/Administrations be urged to follow the AMHS Naming Registration procedure as follows:

- a) The AMC Network Inventory Form and the Major Change Form - Pro forma for modification of AMHS MD Identifier and/or Addressing Scheme, provided in the APANPIRG/25/WP09 **Appendix E1 and Appendix E2** be used;
- b) The Asia/Pacific AMHS Naming Registration Form no longer be used; and

- c) For NSAP addresses in AMC Information Form, insert a value of “91” for byte 5 of an NSAP address following instruction given in the Third Edition of the ASIA/PAC ATN Network Service Access Point (NSAP) Addressing Plan.

3.4.6 Based on APANPIRG Conclusion 22/17, the CNS SG/18 meeting updated the FASID CNS Table CNS 1A regarding AFTN Planning which had not been updated since 2006, and the tables CNS 1B and CNS 1C previously amended in August 2012. Accordingly, the CNS SG/18 meeting developed the draft Conclusion 18/5 which was adopted by the meeting as follows:

Conclusion APANPIRG 25/29 – Proposal for Amendment to the regional Air Navigation Plan FASID CNS Tables

That, Table CNS 1A, Table CNS 1B and Table CNS 1C of Regional ANP (Doc 9673 Vol. II) be amended in accordance with the established procedure based on information provided in APANPIRG/25/WP09 **Appendices F, G and H.**

3.4.7 The CNS SG/18 meeting was informed that SITA’s AMHS Gateway was planned to be operational late 2014 and ready for AMHS interconnections with ANSPs as necessary in replacement of the current AFTN low speed connections, in cooperation with ICAO EURNAT Region AFSG (Aeronautical Fixed Services Group). It was therefore necessary to remind Administrations in APAC Region to take any required action to coordinate with SITA for upgrading the AMHS interconnection. Accordingly, the CNS SG/18 meeting developed the draft Conclusion 18/6 which was adopted by the meeting as follows:

Conclusion APANPIRG 25/30 – Change of AMHS/SITA Interconnection Architecture

That, States/Administrations concerned in the APAC Region consider coordination with SITA for upgrading those existing interconnection between ANSPs and SITA using AMHS/SITA Interconnection Architecture Document provided in APANPIRG/25/WP09 **Appendix I.**

3.4.8 The meeting was informed that the CRV TF first meeting was held at ICAO APAC Regional Office in Bangkok, Thailand in December 2013 attended by 33 participants from APAC States, Denmark (PENS Steering Group Chairman), and Industry (KDDI, Singtel, SITA and Starhub). CRV TF/2 meeting was held on 12 May 2014 and attended by 31 participants

3.4.9 The meeting commended the progress of CRV Task Force which delivered the following draft Documents: i) a draft Management Service Agreement (MSA) to be passed between Pioneer States and ICAO for funding the assistance to the management of procurement of CRV services, ii) the CRV concept of operations CONOP, iii) the Cost Benefit Analysis -1st iteration, iv) the user requirement template and associated guidance, and v) a Request for Information. Other important materials would need to be further developed including the Document of Agreement (DOA) that would allow to set up and manage an Operations Oversight Group (OOG) for stage 2 and documents for the Sealed Tender process.

3.4.10 The result of the CBA survey conducted by ICAO Regional Office in Q1 2014 and Cost Benefit analysis performed by the CRV Task Force indicated that the total estimated cost of ownership over period of 10 years (CRV lifecycle from 2017 to 2026) was expected to be 23% less than the status quo, and this is for the same number of 15 States in the two scenarios. The current cost of international communications in APAC for the 15 States having replied to the ICAO survey was of USD 5 million per year. The initial one-off CRV deployment efforts would be paid back in two years.

The second result was that the implementation of CRV only would make it possible to meet the GANP 4th edition ASBU expectations. Doing nothing would impair major achievements such as facilitating B0-NOPS, B0-FICE, VoIP and enabling B1-SWIM. Implementing CRV would also allow solving some of the current communications issues in the APAC Region in the mid-term. In view of foregoing, the CNS SG/18 meeting endorsed the draft Conclusion 18/7 which was adopted by the meeting as follows:

Conclusion APANPIRG 25/31 – CRV (Common Regional VPN Task Force) Cost Benefit Analysis

That, the 1st iteration of the CRV Cost Benefit analysis provided in APANPIRG/25/WP09 **Appendix J** be adopted and distributed to States/Administrations for their reference.

3.4.11 The meeting also noted the benefits to join the CRV initiative from stage 1 as it would provide possibility to influence the requirements definition, the selection of the service provider and the prices. The meeting urged States/Administrations to join stage 1 before the cut-off date 15 December 2014.

3.4.12 The meeting adopted the TOR of the CRV Task Force developed by the ACSICG/1 and endorsed by CNS SG/18 meeting:

Decision APANPIRG 25/32 – Terms of Reference of the APAC Aeronautical Common Regional VPN Task Force (CRV TF)

That, the Terms of Reference of the APAC Aeronautical Common Regional VPN Task Force (CRV TF) at APANPIRG/25/WP09 **Appendix L** be adopted.

3.4.13 The meeting was informed about the current version of the Concept of Operations (CONOPS) of CRV, that would be a Virtual Private Network (VPN) using an existing commercial network to provide service for Air Traffic Service Message Handling System (AMHS) and other IP-based services. The CRV CONOPS was developed with contribution from member of the CRV Task Force and would be further refined with the outcome of Request For Information (RFI). It was also recalled that an OOG concept of operations was being developed which would constitute a good basis for the policies and implementation plan for stage 2. As a result the meeting adopted the draft Conclusion 18/10 endorsed by the CNS SG/18 meeting:

Conclusion APANPIRG 25/33 – CRV Concept of Operations (CONOP)

That,

- a) the initial Concept of Operation (CONOP) for the APAC CRV provided in APANPIRG/25/WP09 **Appendix M** be adopted as version 1; and
- b) States/Administrations be urged to consider the initial Concept of Operations for the APAC CRV.

3.4.14 Since the CRV Task Force was launched in December 2013, a number of States have shared their intention to commit to stage 1. During APANPIRG/25, Philippines and Macao, China announced their intention to join CRV Pioneer States. This was commended by the meeting, bearing in mind that the wider the group of Pioneer Parties, the more representative the procurement, the lower the individual share for stage 1, and the quicker the implementation in stage 2 would be. Consequently the draft conclusion 18/11 as endorsed by the CNS SG/18 meeting was updated and adopted by the meeting.

3.4.15 With regard to the MSA, and as a follow-up to an action taken in CRV TF second meeting, an ICAO APAC State Letter Ref. T 8/2.11 & T 8/10.21:AP093/14 (CNS) - Common Regional Virtual Private Network (CRV) Procurement (Stage 1), was sent out on 25 June 2014 to APAC States to request comments from States/Administrations to the CRV Management Service Agreement (MSA) before 18 July 2014. Comments received from States are logged in the Appendix A Table of Comments 01 September 2014. The MSA, initially prepared by ICAO Technical Cooperation Bureau in coordination with the ICAO APAC Regional Office was reviewed by the CRV TF on 28 May 2014. Resulting comments are also recorded in the Appendix A, along with ICAO's answers. Consequently, a new version of MSA was prepared and sent out to ICAO Legal Bureau on 1 August 2014. Comments from ICAO Legal Bureau were received on 29 August 2014 and incorporated in the MSA and its attachments, and recorded in the Table of comments. This version is attached at WP09, flimsy 01, Appendix B with its annex 1 at Appendix C.

3.4.16 The meeting was reminded that the signing of MSA by Pioneer States has to take place before 15 December 2014. It was informed that a signing ceremony could take place at 51st DGCA Conference, Hong Kong China, 24-27 November 2014. However for those States/Administrations that would like to sign later on, the cut-off date remains 15 December 2014. It was also recognized that there may be finer adjustments to the MSA as the ICAO Regional Office had received comments from one Administration following the formal consultation that took place until 18 July 2014. Taking into account the signing process in end November 2014, the final MSA would be planned to be circulated before end of September 2014.

3.4.17 For States willing to join at stage 2, they could do so only after contract award to the selected Communication Service Provider, which is planned for mid 2016 as per CRV planning (WP09, flimsy 1, Appendix C2).

3.4.18 The meeting was informed that total estimated cost of ICAO Technical Co-operation Bureau (TCB)'s assistance to procurement was USD109300. Noting that the share to be paid by each individual party would be determined by the actual number of Pioneer States having signed, and that the MSA indicates the total estimated project cost to be divided on an equal basis, the meeting recommended that States intending to be CRV Pioneer States plan a same provisional budget of USD20,000 with the view of funding on an equal basis the cost of TCB services in Stage 1 of the CRV project, including contingencies. The Secretariat would notify States/Administrations concerned through a letter.

3.4.19 In view of the foregoing, the meeting amended and adopted the draft Conclusion 18/11 – CRV Pioneer Parties, endorsed by the CNS SG/18 meeting as follows:

**Conclusion APANPIRG 25/34 – Aeronautical Common Regional Virtual (CRV)
private network in APAC stage I**

That,

- a) Considering the number of States/Administrations (Australia, Fiji, France, Hong Kong China, India, Japan, Macao China, Malaysia, New Zealand, Philippines, Singapore, Thailand, and USA) that expressed interest to date (10 September 2014) to be Pioneer Parties and sign the MSA;
- b) Considering the favorable Cost Benefit for CRV operations as a major enabler for achieving GANP 4th edition roadmap;

- i) The Management Service Agreement (MSA) provided in APANPIRG/25/WP09, **flimsy 1, Appendix B** be adopted, pending some finer adjustments;
- ii) States/Administrations in APAC Region which have not expressed interest be urged to become Pioneer Parties before 14 November 2014 or join for Stage 2;
- iii) States/Administrations sign the MSA before 15 December 2014 and transfer the necessary funds to ICAO TCB for its services before 31 January 2015;
- iv) CRV Pioneer States be recommended to plan a provisional budget of USD20,000 with the view of funding on an equal basis the cost of TCB services in Stage 1 of the CRV project.

3.4.20 The CNS SG/18 meeting reviewed and endorsed the latest draft of the Pan Regional APAC/NAT AIDC ICD (Version 0.91). Later Version 0.92 was issued as outcome of Teleconference on 6 August 2014 which is provided in WP09, Appendix O. The ICD was initially developed based on the APAC AIDC ICD Version 3.0 and NAT AIDC ICD Version 1.3.0. It was anticipated that the ICD would likely be adopted by IMG in NAT Region in November 2014 then get NAT SPG agreement through correspondence by the end of 2014. In view of the foregoing, the meeting adopted the draft Conclusion 18/12 endorsed by CNS SG/18 meeting and ATM SG/2 meeting:

Conclusion APANPIRG 25/35 – Adoption of Pan Regional ICD for AIDC

That, the Pan Regional ICD for AIDC provided in APANPIRG/25/WP09, **Appendix O**, be adopted as Version 1.0 serving as regional guidance for AIDC implementation in the APAC and NAT Regions.

3.4.21 Considering the tasks given by NAT SPG through Conclusion 48/28 and APANPIRG through Conclusion 23/20 being completed once the PAN regional ICD for AIDC is adopted by both the regions, the CNS SG/18 meeting agreed that IRAIDC Task Force be dissolved after adoption of the Version 1 of PAN Inter-regional ICD for AIDC by NAT SPG. Accordingly the meeting made the following Decision:

Decision APANPIRG 25/36 – Dissolving Inter-regional AIDC Task Force

That, once Version 1 of the PAN Inter-regional ICD for AIDC is adopted by both APAC and NAT Regions, the Inter-regional AIDC Task Force established through NAT SPG Conclusion 48/28 and APANPIRG Conclusion 23/20 be dissolved.

3.4.22 Noting APANPIRG Conclusion 24/17: AIDC Implementation and Conclusion 24/27: Prioritization of AIDC Implementation to Address LHDs, and the continued incidence of LHDs in the BOB and SCS area, the CNS SG/18 meeting agreed on the terms of reference of an AIDC implementation task force to solve identified problems in an effective manner in the short term and support the achievement of AIDC-related regional targets (phase 1 target for 2015 and prepare implementation of phase 2 target for 2018 as far as practicable) in the mid-term.

3.4.23 The ATM/SG/2 meeting also noted that it would be beneficial to form a short-term AIDC Implementation Task Force that focused on the South China Sea (SCS) and Bay of Bengal (BOB) and endorsed the following RASMAG Draft Conclusion 19/4: Asia/Pacific AIDC Implementation Task Force.

3.4.24 The meeting adopted the draft Decision 18/3 endorsed by CNS/SG 18 and ATM SG/2 meetings:

Decision APANPIRG 25/37 – AIDC Implementation Task Force

That, the AIDC Implementation Task Force be established with Terms of Reference provided in APANPIRG/25/WP09, **Appendix D**.

3.4.25 The meeting was informed that a SIP AIDC Seminar was scheduled for 28-31 October 2014 where an action plan on current issues may be identified and progressed, including those issues linked with interfaces between AIDC and OLDI-based implementations.

3.4.26 Given the need to minimize the implementation issues with AIDC, the CNS SG/18 meeting noted that involved stakeholders would have to plan their activities concurrently and exchange and coordinate their plan and modalities bilaterally with concerned Administrations to achieve harmonious AIDC implementation in the Region. Bilateral implementation of the PAN Regional ICD would require strict bilateral agreements or Memorandum of Understanding (MOU) on AIDC arrangements and synchronization of technology refresh cycles and maintaining backward compatibility of the automation systems for smooth exchange of AIDC messages. In view of the foregoing, the CNS SG/18 meeting formulated the draft Conclusion which was adopted by the meeting:

Conclusion APANPIRG 25/38 – Harmonization for AIDC Implementation

That, States/Administrations in the APAC Region be urged to share their implementation plans and experiences with concerned States for an expeditious AIDC implementation in a harmonized and timely manner.

3.4.27 In connection with conclusion 18/12 about adoption of Pan Regional ICD for AIDC and conclusion 18/8 about harmonization for AIDC Implementation, India expressed its concern over the operational issues in the implementation of AIDC with MID/EAST and East African Region. APANPIRG/25 noted that ICAO may consider resolving the inter-regional issues as has been achieved in the case of APAC and NAT Region.

3.4.28 The implementation of PBN has been considered to be one of the highest air navigation priorities. ICAO Assembly Resolution A37-11 re-emphasizes the PBN global targets, especially regarding State PBN Implementation Plan and deployment of approach with vertical guidance. At the 44th Conference of Directors-General of Civil Aviation in October 2007, IATA expressed that implementation of PBN provides significant safety, efficiency and environmental benefits to operators and service providers. In September 2009, APANPIRG adopted the first version of the Asia/Pacific Regional PBN Implementation Plan through its Conclusion 20/41.

3.4.29 To serve as the primary forum to support implementation of PBN in this region, there was a proposal to constitute a PBN ICG. The CNS SG/18 meeting reviewed the draft Terms of Reference of the proposed PBN ICG and supported the latter's establishment through the **Decision 18/14 – Support Formation of PBN ICG**. The meeting noted the decision.

3.4.30 The CNS SG/18 meeting performed a review of the Navigation Strategy for the Asia/Pacific Region and endorsed the draft conclusion 18/15, which was adopted by the meeting:

Conclusion APANPIRG 25/39 – Navigation Strategy for the Asia/Pacific Region

That, the revised navigation strategy provided in APANPIRG/25/WP09, **Appendix Q** be adopted for the Asia/Pacific Region.

3.4.31 The CNS SG/18 meeting reviewed an updated version of the ADS-B Implementation and Guidance Document (AIGD) that incorporated guidance for monitoring and analysing of the performance of ADS-B avionics, synergy between ADS-B and GNSS, revised ATC phraseology and clarification on the flight planning requirements. In view of the foregoing, the meeting adopted the draft Conclusion 18/16 endorsed by CNS SG/18 and ATM SG/2 meetings as follows:

Conclusion APANPIRG 25/40 – Revised ADS-B Implementation and Guidance Document

That, the revised ADS-B Implementation and Guidance Document (AIGD) provided in APANPIRG/25/WP09, **Appendix T (including T2)** be adopted.

3.4.32 It was foreseen by APANPIRG/25 that increasing number of States worldwide would start to formulate plans to implement ADS-B in order to meet their operational needs and implement relevant Aviation System Block Upgrades (ASBUs). Therefore, the meeting recommended that the AIGD should be promulgated to States in other Regions as guidance materials for experience and knowledge sharing on ADS-B implementation in order to reap early operational benefits and save efforts. The CNS SG/18 meeting was informed that the AIGD had already been forwarded to other ICAO Regional Office for their reference and agreed to seek assistance from ICAO Headquarters to make the AIGD available to States in other Regions to achieve better synergy in ADS-B implementation.

3.4.33 Taking into account that serviceable ADS-B capability was not always consistently indicated in Flight Plan data, CNS SG/18 meeting endorsed the Draft Conclusion 18/17 about Flight Plan Item 10 ADS-B Indicators which was adopted by the meeting as follows:

Conclusion APANPIRG 25/41 – Flight Plan Item 10 ADS-B Indicators

That, ICAO be invited to consider to amend relevant contents in Doc 4444 PANS/ATM Appendix 2 (A2-7) and Appendix 3 (A3-13) as shown below:

- E Transponder — Mode S, including aircraft identification, pressure-altitude and ~~extended squitter~~ (ADS-B ~~out~~) capability
 - L Transponder — Mode S, including aircraft identification, pressure-altitude, ~~extended squitter~~ (ADS-B ~~out~~) and enhanced surveillance capability
 - B1 ADS-B with ~~dedicated 1 090 MHz ADS-B~~ “out” capability using 1 090MHz extended squitter.
 - B2 ADS-B with ~~dedicated 1 090 MHz ADS-B~~ “out” and “in” capability using 1 090MHz extended squitter.
- In this recommended amendment, there was duplication of indication of ADS-B carriage for aircraft where the Mode S transponder was the transmission device.
- This recommendation would be unlikely to require significant changes to ATM systems; the descriptors were unchanged but their interpretation was clarified. Some adaptation changes could be required where ANSPs were currently using the descriptors as triggers for system processing such as controller HMI indications.

- Changes to flight planning systems would be required in cases where the text associated with each descriptor was provided for pilot reference and to individual States' AIP where ICAO DOC 4444 flight planning requirements were repeated.

3.4.34 The meeting recalled that a number of Asia Pacific States required State of Registry operational approvals for the receiving ADS-B based surveillance service in the airspace commencing from December 2013, possibly to comply with earlier APANPIRG conclusion 21/39 – Template for promulgation of ADS-B Avionics Equipage Requirements and other related conclusions, namely conclusion 21/40 – Guidelines for Airworthiness and operational approval for ADS-B Avionics Equipage and conclusion 20/54 - Regional ADS-B Equipage Requirement.

3.4.35 At ADS-B SITF/13 meeting, a number of States recommended that States and ANSPs should reconsider any current requirements for “operational approval” for aircraft operators, and remove any such reference to a requirement for an “operational approval” or “operational specification” from State regulations and AIP. Experience gained in some States shows that the basis for part b/ of the conclusion C21/39: Template for promulgation of ADS-B Avionics Equipage Requirements (*the aircraft operator must have the relevant operational approval from the State of Registry*) may have evolved and warrants review as causes of transmission of erroneous data (wrong flight ID, installation problems etc) appeared to have been largely mitigated. However it may have occurred thanks to a ten year effort to track and mitigate erroneous avionics/installations by the concerned States. Furthermore there was no clear evidence of benefits of operational approval. To that extent maintaining or adopting an operational approval for ADS-OUT may be an unnecessary and costly process for stakeholders (users, regulators).

3.4.36 On the other hand, it was recognized that new States may require sufficient time to gain that experience and consider operational approval to comply with APANPIRG Conclusions 21/39, 21/40 and 21/41 and those States would rely on conclusion 21/39, conclusion 21/40 on the operational approval guidelines and conclusion 20/54 regarding ADS-B authorization to request an operational approval.

3.4.37 It was discussed that the APAC Region would benefit from an alignment with the experience of States that have used ADS-B for many years. This would in turn provide substantial benefits to operators and enhance inter-regional operations.

3.4.38 As a result of discussions, the meeting agreed on a recommendation to review the conclusion 21/39 with interested parties and to form an ad hoc group with following terms of reference:

- Review the APANPIRG Conclusion 21/39 (and 21/40 and 20/54) with interested parties before 11 November 2014 to reach a consensus on “to require or not require an Operations Specification or Operational Approval for ADS-B OUT” with the following participation:
 - Australia, Hong Kong China, India, Singapore, Viet Nam, USA. Other parties, if any, were invited to join before 30 September 2014.
 - IATA, IBAC as international organizations.
 - ICAO as facilitator.
- Discuss the potential changes at SEA/BOB ADS-B WG/10, 11-13 November 2014.
- Report results of review and recommendation regarding continued applicability of Conclusion 21/39 to APANPIRG and ADB-SITF by correspondence.
- Report to RASG meeting and DGCA/51 Conference, 24-27 November 2014.

3.4.39 India while supporting the adoption of the conclusion expressed its willingness to be a member of the ad-hoc formal group. ADS-B out receivers have been commissioned in 21 locations and India is planning for mandating ADS-B (OUT) in Indian airspace from 2016 onwards.

3.4.40 It was discussed that meanwhile the first bullet of Draft Conclusion 18/18 about Regulations for Compliance of ADS-B Transmissions had to be adopted. Therefore Draft Conclusion 18/18 was amended and adopted by the meeting as follows:

Conclusion APANPIRG 25/42 – Regulations for Compliance of ADS-B Transmissions

That,

States be urged to implement regulations to give effect to Regional Supplementary Procedure Serial APAC-S12/10 – MID/Asia 5-3 to ensure that all aircraft transmitting ADS-B are compliant with the standards;

3.4.41 The First Meeting of the Spectrum Review Working Group (SRWG/1) of APANPIRG was held in Bangkok, Thailand. A 3 stages approach and a first planning of activities had been built, consisting in identifying VHF Voice future needs and current limitations, proposing solutions and then implementing in a coordinated manner. The SRWG/1 meeting discussed and commended the good practice for ANSPs to equip with mixed 25 KHz/8.33KHz radios, as they were now available at a reasonable price, and would be able to cater for any outcome of the SRWG's study. The meeting was informed that the Spectrum Review Working Group terms of reference had been adopted by the CNS SG/18 meeting through the decision 18/19 - *Adoption of the Terms of Reference of SRWG*.

3.4.42 The meeting noted the decision 18/23 - *Development of the CNS part of future eANP in the CNS fields and associated Proposals for Amendments (PfAs)* by CNS SG/18 meeting to develop a new APAC ANP/eANP (CNS Part) based on the Council-approved ANP Template as part of the work programme of the APANPIRG CNS Sub-group. The APAC ANP/eANP (CNS Part) would be expected to be presented to APANPIRG/26 in 2015 for endorsement.

Mini Global Demonstration Phase I (presented at APANPIRG/25)

3.4.43 A Mini Global Demonstration on SWIM was presented to the meeting by Australia (Airservices Australia), Japan (JCAB), Republic of Korea (MOLIT), Singapore (CAAS), Thailand (AEROTHAI) and United States (FAA). The Mini Global Demonstration had been working to increase global interoperability and decrease inefficiencies, in support of the goals of the Global Air Navigation Plan (GANP) and the Aviation System Block Upgrades (ASBUs). The Mini-Global Demonstration will seek to advance collaborative information exchanges amongst operators and other ANSPs worldwide. The Demonstration supports the ultimate goals of seamless interoperability and harmonization.

3.4.44 The Mini Global team is developing a global harmonization project to demonstrate Flight Object (FO) concepts as well as the Flight Information Interchange Model (FIXM), Weather Information Exchange Model (WXXM), and the Aeronautical Information Exchange Model (AIXM) standards for sharing common flight information elements among National Airspace System (NAS) components and between the NAS and International Air Navigation Service Providers (ANSP). It is expected that sharing common information elements will improve the accuracy and availability of flight information updates, the consistency of flight planning in different Air Traffic Management (ATM) system and ANSP domains, and the transition of flights between these domains.

3.4.45 The Mini Global team will demonstrate the international exchange of flight information on a larger scale and identify potential benefits which may be achieved once information sharing is occurring in an operational environment. Mini Global will also demonstrate the applicability of the standards to a broader international community and evaluate how these concepts and standards will address the multiple disparate international systems, with different levels of maturity, and can be harmonized for data exchange. The results of the demonstrations will be used to support validation of ICAO Flight and Flow-Information for a Collaborative Environment (FF-ICE). At the conclusion of this demonstration project, global ATM interoperability/harmonization options will be assessed for considerations for future global adoption. The individual focus and capability of Mini Global team can be found in the presentation slides during APANPIRG/25, WP/16.

3.4.46 The meeting supported the initiative in providing pathway towards SWIM and integrated ATM information in accordance to ICAO ASBU Block 1.

3.4.47 In discussion of the demonstration, there were queries in regard to the need to implement SWIM infrastructure in the global approach. This approach could be in a form of that is logically centralized while physically distributed. Respectively, it was highlighted that interoperability amongst Enterprise Messaging Services (EMS's) as well as the use of near-real time data would be explored in Mini Global Phase 2. This near-real time data could allow an early opportunity to assess processes, procedures, governances, alternatives, etc. which could lead to operational trial capability. In addition, continuous feedbacks from the Mini Global Demonstration project to the development of standards have proved invaluable. For example, the project quickly provided feedbacks very early on in the process allowing FIXM version 2.0 to version 2.x. The Mini Global project plans to utilize FIXM 3.0 which will be released shortly to public.

Harmonized SWIM activities in Asia Pacific region (WP/22)

3.4.48 Japan stressed the importance of harmonized activities to introduce regional SWIM and noted that SWIM was incorporated in GANP/ASBU Blocks 1 and 2, for States and Regions as well as global ATM communities to consider the globally harmonized SWIM implementation in the near future. In addition, Japan also noted that SWIM development should be considered under both technical and operational aspects in Asia/Pacific Region. Further SWIM Concept document or outcomes from SWIM demonstrations would constitute a first stepping stone to establish the necessary governance principles within the region as well as with other regions.

3.4.49 In view of the foregoing and considering the future work programme of APANPIRG on SWIM, the meeting adopted the following Conclusion:

Conclusion APANPIRG 25/43 – Promote understanding of SWIM in APAC Region

That, recognizing SWIM as a building block of ASBU Block 1 and 2 modules, ICAO be invited to promote understanding of SWIM through organizing seminars/workshops with focus on both technical and operational aspects for SWIM development in the Asia Pacific Region.

PBN implementation progress and ICAO support (WP/31)

3.4.50 The working paper presented by RSO noted that the leaders of the civil aviation community as well the GANP considered the implementation PBN as one of the highest priorities and is positively supported by all stakeholders. Currently, only 38% of all global air routes were based on PBN and only 30% of ICAO Member States were on track to meet the 2014 targets of Resolution

A37-11. ICAO in cooperation with industry partners had organized PBN symposia, workshops, Go-Team visits, training courses and learning packages, established the APAC RSO and two Flight Procedure Programmes (FPPs) to actively support PBN implementation.

3.4.51 To further support the implementation of PBN, the establishment of an APANPIRG PBNICG was discussed by the meeting with the primary aim to support, harmonize and prioritize implementation of PBN. The PBNICG would comprise multi-disciplinary experts with knowledge and/or responsibility for PBN implementation. In cooperation with the RSO, it would serve as a regional forum to identify issues/action items and communicate with relevant ICAO panels or working/study groups.

3.4.52 While some States expressed reservations on the need for an ICG, the creation received support from the meeting as the draft TOR were consistently reviewed and considering the pressing need for guidance and support for smaller States with limited resources.

3.4.53 After some discussion, it was agreed that the PBNICG would report to the CNS SG.

3.4.54 While supporting the establishment of PBNICG India proposed to consider the inclusion of PBN implementation in military aerodromes where international civil operations are taking place, for better harmonization in the TOR or Work Program of PBNICG which may also pave a way forward in strengthening civil-military cooperation.

3.4.55 In view of the above the meeting adopted the following decision:

Decision APANPIRG 25/44 – APANPIRG Performance-based Navigation Implementation Coordination Group (PBNICG)

That, the APANPIRG Performance-based Navigation Implementation Coordination Group (PBNICG) be established and its Terms of Reference provided in Appendix A be adopted.

Ionospheric Study Task Force (ISTF) activities

3.4.56 The meeting noted the progress and updated work plan of ISTF and status of data collection activities in APAC States. Data from Thailand, Hong Kong China, as well as from the APEC GNSS Implementation Team (GIT) test bed had been transferred to this data server for analysis. Taking the benefit of the CNS SG meeting, India and Philippines provided their data, which would now allow the data analysis to fully start.

Implementation of steep glide slope Instrument Landing System (ILS) system at the Tribhuvan International Airport (IP/8)

3.4.57 IP/8 presents the proposed planning and implementation of steep glide slope Instrument Landing System (ILS) system in the topographically constrained the Tribhuvan International Airport (TIA), Nepal.

Update on GAGAN and plans for seamless navigation (IP/11)

3.4.58 The information paper highlighted the progress of GPS Aided Geo Augmentation Navigation (GAGAN) and noted that GAGAN was progressing as per the milestones set out to ensure APV1.0 terminal services and was well on its way to provide a cost effective regional SBAS solution

to all states within the footprint of its GAGAN GEOs which extended over large portion of the Asia-Pacific region. GAGAN system had successfully passed through phase I certification for RNP0.1 en-route services on 30th December 2013 and was working towards achieving Approach with Vertical Guidance (APV1.0) terminal capability by February 2015. The paper also noted that India was willing to extend support to APAC states in taking advantage of the capability of GAGAN signal-in-space for achieving regional airspace harmonization for seamless navigation services in South East Asia. The neighboring states can draw benefit of GAGAN services by a minimal augmentation of reference stations for LNAV/VNAV or APV (approach with vertical guidance) level performance. GAGAN was capable of taking data from as many as 30 more reference stations.

Progress on the establishment of a Regional RAIM (Receiver Autonomous Integrity Monitoring) System (IP/16)

3.4.59 The information paper presented information on the establishment of a Regional RAIM (Receiver Autonomous Integrity Monitoring) System. GNSS (Global Navigation Satellite Systems) was considered a main navigation infrastructure supporting PBN (Performance Based Navigation) operations and now becoming a critical component of surveillance systems, such as ADS-B (Automatic Dependent Surveillance-Broadcast). AEROTHAI had procured and successfully implemented the initial establishment of the RAIM Prediction System in April 2013. The service was named NETRA which means ‘eyes’ in Sanskrit. The system, developed by DW International, utilizes the same engine as EUROCONTOL’s AUGUR GPS RAIM Prediction Tool. The initial operation for Bangkok FIR had been commenced since October 2013. The current operation features a web-based service that can be accessed via the Internet at www.netra.aero. The RAIM Outage Prediction NOTAM generation capability was expected to be added by the end of 2014. The system can be expandable to provide RAIM prediction services for any other interested participating States within the Asia/Pacific Region at minimal costs.

— — — — —

APPENDIX A to the Report on Agenda Item 3.4

Appendix A: Terms of Reference (TOR) APAC PBN Implementation Coordination Group (PBNICG)

- 1) Serve as the primary APAC Regional Body to support PBN implementation, harmonization and prioritization with a goal to enhance safety and efficiency of aircraft trajectories and operations. The forum also takes into account activities related to the implementation of relevant ASBU elements, with initial focus on B0-CDO, B0-FRTO, B0-CCO, and B0-APTA. The following are the main activities envisaged:
 - Monitor PBN implementation of APAC States/Administrations and make recommendations as necessary in areas where ICAO and international organizations can provide assistance.
 - Through ICAO, provide guidance to States to update their PBN implementation plans. Identify challenges within State PBN Implementation Plans and PBN implementation activities and advise States in addressing these challenges in a harmonized manner.
 - Taking a multi-disciplinary approach, promote more efficient flight operations and trajectories and, as necessary, address related topics including Air Traffic Services (ATS) route network.
 - Analyze and report operational benefits of PBN implementation and provide regular PBN implementation updated information to ICAO for inclusion in the air navigation reports and regional performance dashboard.
- 2) Identify issues/action items which are related to the regional implementation of PBN and related ASBU elements, and where appropriate, communicate with related regional groups.
- 3) Review regional priorities/targets and relevant regional plans as related to PBN implementation.
- 4) PBNICG will report to CNS/SG. CNS/SG will coordinate with ATM/SG.

Composition

The PBNICG will compose of multi-disciplinary experts with knowledge and/or responsibility for PBN implementation nominated by ICAO member States/Administrations in the Asia and Pacific Regions and International Organizations. Secretariat support for the PBNICG will be provided by the ICAO APAC RSO with assistance from the APAC RO and ANB. Representatives of ICAO programmes such as COSCAPs and FPP will be invited to participate as applicable.

Note: The PBNICG, while undertaking the tasks, should take into account of the work being undertaken by relevant ICAO Panels and other study/working groups.

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

3.5 MET

REVIEW OF THE EIGHTEENTH MEETING OF THE MET SUB-GROUP

History of the Meeting

3.5.1 The Eighteenth Meeting of the Meteorology Sub-Group (MET SG/18) of APANPIRG was held in the ICAO Regional Sub-Office, Beijing, China from 18 to 22 August 2014. The meeting documentation, including papers reviewed and the final report is available at the webpage: <http://www.icao.int/APAC/Meetings/Pages/2014-METSG18.aspx>.

3.5.2 MET SG/18 formulated six (6) Draft Conclusions for consideration by APANPIRG. However, the MET SG chairperson and the secretariat noted that two (2) of the Draft Conclusions (18/2 and 18/6) relate solely to matters dealing with the internal working arrangements of the MET SG and therefore it was not necessary to consider those any further for adoption as APANPIRG Conclusions.

MET/14

3.5.3 Outcomes from the ICAO Meteorology Divisional Meeting (MET/14), held in Montréal between 7 and 18 July 2014, included twenty-nine (29) recommendations setting forth global objectives and implementation timelines, and directing the course of work for enhancing the provision of meteorological service to international air navigation for the next decade or more. A copy of the executive summary of MET/14 is included in the **Attachment A to WP/10** and provides a brief overview on each of the MET/14 Recommendations.

3.5.4 APANPIRG/25 envisaged that the Air Navigation Commission (ANC) and ICAO Council will endorse appropriate actions – based around the outcomes of MET/14 – to foster the ongoing and future development of global provisions for aeronautical meteorological services in areas including the World Area Forecast System (WAFS), space weather, the release of radioactive material into the atmosphere, regional advisory system for hazardous meteorological conditions and integration of meteorological information to support the Aviation System Block Upgrades (ASBU) implementation, Trajectory-Based Operations (TBO) and the future System-Wide Information Management (SWIM) environment, which would in turn guide the necessary regional objectives and implementation timelines.

3.5.5 APANPIRG/25 also noted that, subject to the review and consideration of the MET/14 recommendations by the ANC and the Council, a decision may occur over the coming few months on the establishment of a new MET Panel and the restructuring/repurposing of the MET-related expert groups to continue the development of necessary global provisions and guidance.

ANRF

3.5.6 APANPIRG/25 noted that a draft Air Navigation Reporting Form (ANRF) for ASBU Module B0-AMET¹ forwarded by MET SG/18 in **Attachment B to WP/10** was not yet mature and should be discussed further within the ICAO.

¹ Block zero – Meteorological information supporting enhanced operational efficiency and safety

New ANP Template

3.5.7 APANPIRG/25 noted that the secretariat would coordinate the population of the MET parts of the new Asia and Pacific (APAC) Regional Air Navigation Plan (ANP) based on the new ANP template approved by the Council in June 2014.

Regional Hazardous Weather Advisory System

3.5.8 APANPIRG/25 noted that, subject to the review of the MET/14 recommendations by the ANC and the Council, global provisions may be developed to foster the establishment and implementation of a regional advisory system (MET/14 Recommendation 2/9 – *Implementation of a regional advisory system for select en-route hazardous meteorological conditions* refers).

3.5.9 Furthermore, while MET SG/18 recognized that it would be premature to formulate definitive regional action on matters which still have to be fully worked out at the global level, it had proposed preparatory actions at the regional level that would be in-line with any subsequent global developments and formulated a Draft Conclusion (18/6 – *Initiatives to reduce deficiencies in SIGMET information*). However, APANPIRG/25 noted that the aforementioned MET SG/18 Draft Conclusion related solely to the internal business of the MET SG and therefore was not necessary to be considered further by APANPIRG.

Air Navigation Deficiencies in the MET Field

3.5.10 Discussion on the twenty (20) MET deficiencies in the APANPIRG database is included under **Agenda Item 4**.

3.5.11 APANPIRG/25 noted that the International Air Transport Association (IATA) had identified and reported errors (with respect to Annex 3² provisions) related to format of OPMET³ messages available in the SADIS⁴ and WIFS⁵ (in accordance with the ANP FASID⁶ Table MET 2A) for the APAC Region and that such errors could be eliminated or minimized through proper validation of the messages before dissemination.

3.5.12 In view of the discussion above, APANPIRG/25 adopted the following Conclusion:

Conclusion APANPIRG 25/45 – Improvement of OPMET data format

That, ICAO urges States to:

- a) Ensure full implementation of the applicable Standards and Recommended Practices in Annex 3 with respect to the format of OPMET information; and
- b) Establish and implement necessary systems to provide for the quality management of the OPMET information, which should include verification, validation and monitoring to assure that the OPMET information complies with the stated requirements.

Notes:

² Annex 3 to the Convention on International Civil Aviation –
Meteorological Service for International Air Navigation

³ Operational meteorological (*information*)

⁴ Satellite distribution system for information relating to air navigation

⁵ World area forecast system internet file service

⁶ Facilities and services implementation document

- i) IATA requested States to ensure the percentage of OPMET issued with formatting errors should be limited to less than 3%; and
- ii) all OPMET provided should be made available to the SADIS and WIFS gateways in accordance with provisions in FASID Table MET 2A and the Regional SIGMET Guide.

OPMET Monitoring

3.5.13 APANPIRG/25 also noted that results of OPMET data monitoring for the APAC Region presented by the IATA at MET SG/18 showed in some cases more than one TAF⁷ was valid at an aerodrome – which is not in conformance with ICAO provisions (Annex 3, 6.2.7 refers). Additionally, APANPIRG/25 recalled that the requirements for availability of OPMET information (METAR⁸, SPECI⁹ and TAF) in SADIS and WIFS at aerodromes listed in the Aerodrome Operational Planning (AOP) Tables and aerodromes not listed in the AOP Tables are recorded in the FASID TABLE MET 2A.

3.5.14 In view of the discussion above, the meeting adopted the following Conclusion:

Conclusion APANPIRG 25/46 – Improvement of OPMET data availability for aerodromes listed in ANP FASID Table MET 2A

That, the ICAO be invited to urge APAC States to:

- a) continue efforts to improve the availability of OPMET data for aerodromes listed in FASID Table MET 2A;
- b) ensure all OPMET data for aerodromes listed in AOP Tables, and for aerodromes not listed in AOP Tables, in FASID Table MET 2A, is distributed to SADIS and WIFS Provider States via Regional OPMET Data Banks (RODB); and
- c) ensure only one type of TAF is issued and transmitted from aerodromes.

Notes:

- i) IATA's requirements with respect to availability of OPMET (METAR and TAF) are 95% [90%] for all aerodromes listed in AOP Tables [not listed in AOP Tables] in FASID Table MET 2A; and
- ii) IATA's requirements with respect to the period of availability and validity of TAF are FT, i.e., F – Full (OPMET data as listed issued for the aerodrome all through the 24-hour period), and T (Requirement for 18/24-hour validity aerodrome forecasts in TAF code).

Digital Exchange of Meteorological Information

3.5.15 APANPIRG/25 noted that the Regional OPMET Bulletin Exchange Working Group (ROBEX WG), under the MET SG, had adopted action to facilitate capacity building in the APAC Region for digital exchange of meteorological information (ROBEX WG/12 agreed action 12/2 refers). Furthermore, in view that some APAC States may face significant challenges in meeting the

⁷ Aerodrome forecast (*in meteorological code*)

⁸ Aerodrome routine meteorological report (*in meteorological code*)

⁹ Aerodrome special meteorological report (*in meteorological code*)

envisaged implementation milestones for digital exchange of meteorological information, MET SG/18 considered it would be useful to monitor the implementation of the Air Traffic Services Message Handling System (AMHS), which would provide a platform for exchange of meteorological information in a digital form.

Volcanic Ash Exercises

3.5.16 APANPIRG/25 noted that MET SG/18 supported a proposal by Japan to conduct volcanic ash exercises in the APAC Region, which the Second Meeting of the Air Traffic Management Sub-Group (ATM/SG/2) had also recognised as an important initiative to help minimise the adverse effect on ATM of any volcanic activity. Furthermore, APANPIRG/25 noted that guidance was available in ICAO Doc 9766 – *Handbook on the International Airways Volcano Watch*, Appendix F – *Guidance for conducting volcanic ash exercises in ICAO Regions*.

3.5.17 In view of the discussion above, and recognizing that in accordance with Doc 9766, Appendix F an appropriate group of stakeholders could be tasked to organize and conduct volcanic ash exercises, APANPIRG/25 adopted the following Decision:

Decision APANPIRG 25/47 – Establishment of a Volcanic Ash Exercises Steering Group in the APAC Region

That, an APAC volcanic ash exercises steering group be established under the MET Sub-Group and in coordination with the ATM Sub-Group with the preliminary terms of reference and composition provided in the **revised Attachment C to WP/10** to organize and conduct volcanic ash exercises in the APAC Region.

Quality Management System (QMS)

3.5.18 Establishment and implementation of a QMS for the provision of aeronautical meteorological services became a standard in November 2012. APANPIRG/25 noted that support from the relevant State authorities is necessary to ensure sustained implementation of QMS and that implementation of cost-recovery systems with respect to aeronautical meteorological services may improve States' capacity in this regard.

Qualification and Competencies of Meteorological Personnel

3.5.19 APANPIRG/25 also noted that the World Meteorological Organization (WMO) provisions for job specific competencies of aeronautical meteorological personnel became international standard practice on 1 December 2013 and that the provisions concerning requirements for the underpinning qualifications, specific to the category of Meteorologist, will become international standard practice on 1 December 2016.

Meteorological Satellites

3.5.20 APANPIRG/25 noted that the Japan Meteorological Agency planned to launch its next-generation geostationary meteorological satellites (Himawari-8 in 2014, and -9 in 2016) with additional new satellite channels and enhanced frequency and resolution of data that would represent a significant step-advance in the capabilities for remote sensing of meteorological elements, including the detection of volcanic ash clouds.

Space Weather Information

3.5.21 APANPIRG/25 noted that MET/14 had considered that the initial provisions developed by the International Airways Volcano Watch Operations Group (IAVWOPSG) for information on space weather to support international civil air navigation were not mature enough for inclusion in Amendment 77 to Annex 3 and recommended that an appropriate ICAO expert group should work towards enabling space weather services for aviation by developing Annex 3 provisions for inclusion in 2018 (MET/14 Recommendation 2/7 refers).

Regional Guidance Material

3.5.22 APANPIRG/25 noted that regional (MET) guidance material including the Regional SIGMET Guide, ROBEX Handbook and OPMET Data Banks Interface Control Document would be reviewed and updated as necessary under the auspices of the MET SG.

MET/ATM Seminar

3.5.23 APANPIRG/25 noted that MET SG/18 supported an offer by Japan to host an APAC MET/ATM seminar in Tokyo in 2015, which would provide the MET and ATM communities the opportunity to share ideas and experience on developments in MET to support ATM operations and to provide States the opportunity to review first-hand the newly established MET/ATM collaboration in the terminal area around Tokyo International Airport including ATM-tailored meteorological information for approach control areas.

3.5.24 APANPIRG/25 noted that proposed dates and a draft programme would be required for the MET/ATM seminar and that collaboration should be encouraged with the WMO. In view of the discussion above, APANPIRG/25 adopted the following Conclusion:

Conclusion APANPIRG 25/48 – APAC MET/ATM Seminar

That, the ICAO and Japan be invited to conduct a MET/ATM Seminar in Tokyo in 2015, in coordination with the WMO

Future Work Plan of the MET SG

3.5.25 APANPIRG/25 noted that MET SG/18 had reviewed the subject/tasks list in the MET field, as provided in the **Attachment D to WP/10**, and reviewed the work plans of the contributory bodies under the MET SG (details are provided in the MET SG/18 report at the website listed in 3.5.1).

3.5.26 APANPIRG/25 also noted that the terms of reference of the MET SG are as follows:

TERMS OF REFERENCE OF MET SUB-GROUP

- 1) Ensure continuous and coherent development of the ASIA/PAC Regional Air Navigation Plan in the MET field in accordance with the Global Air Navigation Plan and Global Aviation Safety Plan;
- 2) Review, identify and address deficiencies that impede the implementation or provision of efficient MET services in the ASIA/PAC Region;
- 3) Monitor research and development, trial and demonstrations in the field of MET and facilitate the transfer of this information and expertise between States;

- 4) Make specific recommendations and develop guidance materials aimed at improving MET services by the use of existing and/or new procedures, facilities and technologies; and
- 5) Review and identify inter-regional and intra-regional co-ordination issues in the field of MET and recommend actions to address those issues.

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

3.6: Other Air Navigation Matter

3.6.1 DEVELOPMENT OF AN ICAO SINGLE SET OF FORECASTS AND IMPACT ON THE CUSTOMIZED SETS TO BE PRODUCED BY THE REGIONAL TRAFFIC FORECASTING GROUPS (TFGs)

3.6.1.1 The Secretariat presented WP/17 on the development of an ICAO single set of long-term forecasts from which customized and more detailed regional forecasts will be produced by the Traffic Forecasting Groups (TFGs). As a result, taking into account the timelines imposed by this new methodology, as well as budgetary constraints that have been raised by some States participating in more than one TFG, it is proposed to have only one meeting every three years gathering all the TFGs during one week at the ICAO Headquarters in Montreal. It is planned to organize the first meeting for all TFGs together during the second quarter of 2015 for the development of the customized and more detailed regional forecasts.

3.6.2 PROGRESS ON THE AIR TRAFFIC FLOW MANAGEMENT OPERATIONAL TRIAL SUBMITTED BY AUSTRALIA, CHINA, HONG KONG CHINA, INDONESIA, MALAYSIA, SINGAPORE, THAILAND, VIET NAM AND IATA

Progress of the Air Traffic Flow Management (ATFM) Operational Trial

3.6.2.1 Singapore and Thailand presented an update on behalf of Australia, China, Hong Kong China, Indonesia, Malaysia, Viet Nam, CANSO, IATA and IFATCA in WP/18 on the progress of the ATFM Operational Trial which it targeted to commence in June 2015. Two ATFM Operational Trial project meetings had been held so far to discuss the structured plan and milestones to address capability development in areas for ATFM. This included Demand Capacity management, ATFM system requirement, and common business rules for stakeholders and ATFM personnel to assist members of the project to reach the level of readiness for active participation in the operational trial.

3.6.2.2 A phased approach to the operational trial was adopted where in Phase 1, the focus would be to balance demand and capacity by imposing ATFM Measures such as Ground Delay Program (GDP) through the provision of Calculated Take-Off Time (CTOT). The CTOT would be back engineered from Required Time of Arrival (RTA) to regulate flights in the event that temporary adverse conditions such as weather, runway/taxiway availability resulted in capacity reduction below expected traffic demand. Phase 2 would focus on addressing Demand/Capacity Balancing within sectors and airspace managed by participating ANSPs in addition to elements from Phase 1.

3.6.2.3 In order to provide opportunity for the various stakeholders to participate and contribute effectively in the operational trial, a tiered Participation Level approach had been identified to guide the progress of the operational trial. The Participation Level for ANSP as discussed includes:

- a) **Level 0 : Current Operations**
 - ANSPs may be asked to support ATFM Operations through Minimum Departure Intervals or Miles-in-Trial or Minutes-in-Trial
- b) **Level 1 : Observe Trial (includes Level 0)**
 - Participate in CDM/ATFM Meetings
 - Participate in Operational Trial Planning process

- c) **Level 2** : Facilitate CTOT for Departures (includes Level 1)
- Receive CTOT for departure to other Demand-Capacity imbalance airports
 - Facilitate airline operator CTOT compliance for departure towards destination airport imposing CTOT
- d) **Level 3** : Demand-Capacity Balancing Capability (includes Level 1 and 2)
- Capability to evaluate Traffic Demand
 - Evaluate and update Airport Acceptance Rate (AAR)
 - Distribute CTOT to airline operators and ANSPs

3.6.2.4 The ATFM operational trial would set the stage for cross border ATFM/CDM processes, operational procedures and business rules to be harmonized taking guidance from ICAO Doc 9971. Moving forward in this collaborative direction is an important step towards implementation of the Asia Pacific Seamless ATM Plan.

3.6.2.5 IATA, CANSO and ICAO Secretariat expressed support for this important project, and invited States to join the project in order to balance traffic demand against available capacity, which may be constrained in airport / airspace due to adverse circumstances such as weather impact and runway/taxiway availability.

3.6.2.6 IATA expressed continued strong support for the project and shared their view that ATFM implementation was their number one ATC infrastructure priority.

3.6.2.7 Hong Kong China also expressed continued support of the project and remarked that on imposing ATFM Measures on long haul / ultra-long haul flights arriving in capacity constrained airports need to be carefully managed. The view was also echoed by IATA and will be considered for the ATFM Operational Trial.

3.6.2.8 China also expressed support of the project, and highlighted importance of information sharing including flight information and aeronautical information respectively. The meeting noted that the ICAO Regional Sub-Office (RSO) could serve as focal point supporting sharing of information on ATFM as mandated in its mission.

Agenda Item 4: Regional Air Navigation Deficiencies

Status of Air Navigation Deficiencies in the Asia/PAC Region

4.1 Under the Terms of Reference, the APANPIRG has been regularly reviewing the status of implementation of the Asia Pacific Air Navigation Plan through its subgroups to identify and address the air navigation deficiencies according to the uniform methodology approved by the ICAO Council. In meeting this objective, APANPIRG facilitated the development and implementation of action plans by States to resolve identified deficiencies, where necessary.

4.2 The online deficiency database is available through the ICAO APAC website www.icao.int/apac via secure access provided by the Regional Office to States and International Organizations.

Deficiencies in the ATM/AIS/SAR fields

4.3 The meeting noted the List of Air Navigation deficiencies in the ATM/AIS/SAR field which was reviewed and updated by ATM/SG/2. Appendix A to APANPIRG Working Paper/11 presented the updated List of Air Navigation Deficiencies in the ATM/AIS/SAR fields.

Deficiencies in the AOP field

4.4 The meeting noted the List of Air Navigation Deficiencies in the AOP field which was reviewed and updated by AOPWG/2. Appendix B to APANPIRG Working Paper/11 presented the updated List of Air Navigation Deficiencies in the AOP field.

Deficiencies in the CNS field

4.5 The meeting noted the list of Air Navigation Deficiencies in CNS Field which was reviewed and updated by CNS/ SG/18. Appendix C to APANPIRG Working Paper/11 presented the updated List of Air Navigation Deficiencies in the CNS field.

Deficiencies in the MET field

4.6 The meeting noted the list of Air Navigation Deficiencies in MET Field which was reviewed and updated by MET/SG/18. Appendix D to APANPIRG Working Paper/11 presented the updated List of Air Navigation Deficiencies in the MET field. .

Discussion

4.7 Bangladesh, Indonesia, Lao PDR and Philippines provided verbal updates on the actions taken in respect of certain deficiencies. These states were requested to provide written confirmation along with evidence for resolving the identified deficiencies.

4.8 The meeting urged States with deficiencies to put in additional resources to resolve the deficiencies and inform the Regional Office the action taken. The meeting noted that it was the responsibility of States with deficiencies to update the information in the deficiency database. The Regional Office will update the deficiencies based on written confirmation provided by their respective Administrations.

4.9 The Secretariat stressed the importance of resolving the deficiencies and urged States to update the status on resolving the deficiencies. The meeting noted the mechanisms available with ICAO to resolve deficiencies and urged States to approach ICAO for assistance.

The meeting reviewed the deficiencies and adopted the following Conclusion:

Conclusion APANPIRG 25/49 – Update of ATM/AIS/SAR, AOP, CNS and MET Deficiency List

That, the list of air navigation deficiencies reported and identified in ATM/AIS/SAR, AOP, CNS and MET Deficiency List be updated as detailed in **Appendices A to D** to APANPIRG Working Paper 11.

Agenda Item 5: Future Work Programme

Schedule of Future Meetings

5.1 The meeting agreed that the tentative schedule of meetings for the rest of 2014, 2015 and 2016 should be as follows (Notes: A decode of acronyms has been included in **Appendix A** to the Report on Agenda Item 5):

2014 – Outstanding Meetings

Ad hoc Afghanistan Contingency Group	11-12 September 2014	Kuala Lumpur
Eurasia SCM	22-23 September	Beijing
ADS-B SEA/BOB WG/10	11-13 November	Singapore
ATFM/SG/4	1-5 December	Bangkok
Com Coordination Meeting	9-10 December	India
CRV TF/3	9-12 December	Bangkok
2015		
PBNICG/1	TBD	TBD
APSAR/TF/3	25-29 January	Male, Maldives
RACP/TF/4	January/February	TBD
ISTF/5	26-28 February	Bangkok
SAIOACG/5, SEACG/22	March	Bangkok
ROBEX WG/13	16-18 March	Bangkok
MET/H TF/5	18-20 March	Bangkok
ATFM/SG/5	March	TBD
ABSRTF	April	Bangkok
ADS-B SITE/14	14-17 April	New Zealand
AAITF/10	April	TBD
CRV TF/4 & ACSICG/2	11-15 May	Honolulu or Guam
SRWG/2	19-21 May	Australia/TBC
FIT-Asia/4/ RASMAG/20	June	Bangkok
MET R/TF/4 and MET/ATM Seminar	May/June	Tokyo Japan
AOP/WG/3	May/June	Malaysia
RACP/TF/5	June/July	TBD
MET/SG/19	June/July	Bangkok
CNS/SG/19	20-24 July	Bangkok
APSAR/TF/4	June/July	TBA
ATM/SG/3	July	Bangkok
APANPIRG/26	7-10 September	Bangkok
Volcanic Ash Exercises Steering Group	TBD	TBD
ADS-B SEA/BOB WG/11	October	TBD

2016		
SEACG/23	February/March	Bangkok
SAIOACG/6	February/March	Bangkok
ROBEX WG/14	March	Bangkok
MET/H TF/6	March	Bangkok
AAITF/11	April	TBD
ADS-B SITF/15	5-8 April	TBD
FIT-Asia/5/RASMAG/21	May	Bangkok
RACP/TF/6	May	TBD
CRV TF/5 & ACSICG/3	10-13 May	TBD
AOP/WG/4	May	Bangkok
ATM/SG/4	TBD	Bangkok
MET/SG/20	May	Bangkok
CNS/SG/20	6 -10 June	Bangkok
APANPIRG/27	July	Bangkok
ADS-B SEA/BOB WG/12	November	TBD

(Note: Refer Appendix A for Acronyms)

It was noted that the RSO and newly formed PBNICG and ABSRTF meetings would be added in due course and the current schedule of ICAO regional meetings is always available at <http://www.icao.int/APAC/Meetings/Pages/default.aspx>.

5.2 **Restructuring of the APANPIRG Contributory Bodies to align its working arrangements with revised GANP**

5.2.1 The Secretariat presented WP/13 making reference to IP/04. APANPIRG noted that in light of the performance based approach to air navigation planning and implementation there is a need to align the work programme of States, regions and ICAO. The meeting also noted that in this regard, within the ASBU framework, due consideration should be given to planning, implementation, and performance measurement, monitoring and reporting aspects and that a project based approach for ASBU's should be applied to APANPIRG Contributory Bodies (Sub Groups, Working Groups, Task Forces) as necessary. Singapore and Japan supported the draft Decision to establish a Task force.

5.2.2 The meeting adopted the following decision on the establishment of a task force:

APANPIRG Decision 25/50 – APANPIRG Contributory Bodies Structure Review Task Force (ABSRTF)

That,

- a) The APANPIRG Contributory Bodies Structure Review Task Force with members consisting of Chairpersons/Vice Chairpersons of APANPIRG Contributory Bodies (Sub-groups, Working Groups and Task Forces) and voluntary members nominated by States be established with the Terms of Reference presented in Appendix B to this section of the report; and
- b) In coordination with the ICAO Regional Office, the Task Force undertakes a review of the Terms of Reference and activities of the APANPIRG Contributory Bodies and proposes rationalization of the APANPIRG structure to meet the changing environment to APANPIRG/26.

5.2.3 The meeting encouraged States who wish to volunteer to nominate their expert(s) and inform the Secretariat by 31 October 2014.

APANPIRG/25
Appendix A to the Report on Agenda Item 5

APPENDIX - A

ACRONYMS

AAITF	Aeronautical Information Services – Aeronautical Information Management Implementations Task Force
ABSRTF	APANPIRG Contributory Bodies Structure Review Task Force
ADS-B SITF	ADS-B Study and Implementation Task Force
AOP/WG	Aerodrome Operations and Planning Working Group
APANPIRG	Asia/Pacific Air Navigation Planning and Implementation Group
APSAPG	ICAO Asia Pacific Seamless ATM Planning Group
ATM/SG	ATM/Sub Group
ATN IC G	Aeronautical Telecommunication Network Implementation and Coordination Group
CMRI	China, Mongolia, Russian Federation and IATA ATS Coordination Meeting
CNS/SG	CNS Sub-Group
FIT-Asia	FANS Interoperability Team-Asia
ISTF	Ionospheric Study Task Force
MET/ATM/Seminar	Meteorology/Air Traffic Management Seminar
MET/H TF	Meteorological Hazards Task Force (of the MET SG)
MET/R TF	Meteorological Requirements Task Force (of the MET SG)
MET/SG	Meteorology Sub-Group
PBNICG	Performance Based Navigation Implementation Coordination Group
RACP/TF	Regional ATM Contingency Planning Task Force
RASMAG	Regional Air Space Monitoring Advisory Group
ROBEX WG	Regional OPMET Bulletins Exchange Working Group (of the MET SG)
SAIOACG	South Asia/Indian Ocean ATM Coordination Group
SEACG	South East Asia ATS Coordination Group
SEA/BOB ADS-B WG	South East Asia and Bay of Bengal Sub-regional ADS-B Implementation Working Group

APPENDIX - B

TERMS OF REFERENCE APANPIRG Contributory Bodies Structure Review Task Force (ABSRTF)

Deliverable(s)

Recommendation on New APANPIRG structure and revised Terms of Reference for its contributory bodies

Scope of work

The following are the broad principles describing the scope of work:

- a) Review of the existing APANPIRG structure which has become effective since 2013 and suggest new structure to APANPIRG/26 to meet the changing environment; and
- b) Review and propose Terms of Reference (TOR) of the APANPIRG contributory bodies under the new structure. The proposed new structure and TOR shall reflect the need for supporting:
 - i) planning and implementation of air navigation systems/services accorded as priority elements for the Asia Pacific Region (established regional priorities and associated targets according to AN-Conf/12 Recommendation 6/1); and
 - ii) monitoring and reporting of the seamless ATM elements for the Asia Pacific Regions.

Composition

The Task Force would be composed of members consisting of Chairpersons/Vice Chairpersons of APANPIRG Contributory Bodies (Sub-Groups, Working Groups and Task Forces) and voluntary members nominated by States;

Conduct of the work and schedule

The Task Force shall complete its work and submit the new structure to APANPIRG/26 for endorsement by September 2015. The work would be carried out by means of electronic correspondence as far as practicable. Minimum amount of face to face meetings would be planned.

Agenda Item 6: Any other business

6. Adherence to the Principles and Recommendations Detailed in ICAO DOCS 9082 and 9161

6.1 Working Paper 14 presented by IATA highlighted the principles and recommendations contained *ICAO Doc 9082 (ICAO's Policies on Charges for Airports and Air Navigation Services) and ICAO Doc 9161 (Manual on Air Navigation Services Economics)*, particularly the provisions related to consultation with airspace users.

6.2 APANPIRG noted that **consultation with users** is one of the **key charging principles endorsed by the ICAO Council** for air navigation services providers (Doc 9082, *ICAO's Policies on Charges for Airports and Air Navigation Services*).

6.3 Secretariat informed the meeting that the **38th Assembly of ICAO**, in its resolutions (A38-14, Appendix E, Section I, paragraph 5) **encouraged Member States to adopt the principles of non-discrimination, cost-relatedness, transparency and consultation**, as endorsed in Doc 9082, in national legislation, regulation or policies, as well as in air services agreements, to ensure compliance by airports and air navigation Service providers.

6.4 IATA informed the meeting that adequate consultation and transparency supports a collaborative approach to change. The meeting noted that consultation is needed to strike a balance between the respective interests of airports and ANSPs on one hand and of aircraft operators and end users on the other. Recognizing the importance of consultation and cooperation among stakeholders the meeting adopted the following conclusion:

Conclusion APANPIRG 25/51 – Consultation with Airspace Users on ANS Charges

That, States be encouraged to adopt the principles of transparency and consultation with airspace users on ANS charges in accordance with Assembly Resolution A 38-14 and as endorsed in ICAO Doc 9082 and Doc 9161.

ATTACHMENT 1 to the APANPIRG/25 Report

List of Participants

Australia (3)

1. Mr. Alfred Duczek
2. Ms. Susan E. O'rourke
3. Mr. Kim Jones

Bangladesh (3)

4. Mr. Mohammad Doulotuzzaman
5. Mr. Mohammad Saeed Hossain Murady
6. Mr. Mohammad Shamsudduha

Cambodia (1)

7. Mr. Chhun Sivorn

China (7)

8. Ms. Guo Jing
9. Mr. Wang Wei
10. Mr. Zhan Jianming
11. Mr. Zhang Xiaoying
12. Mr. Xin Quan
13. Mr. Liu Yonggang
14. Mr. Yang Xiaojia

Hong Kong, China (6)

15. Mr. Norman Lo
16. Mr. Raymond Li
17. Mr. Man Ho Hui
18. Mr. Tommy Au Yeung
19. Mr. Samuel Ng
20. Mr. George Wong

Macao, China (3)

21. Mr. Kevin H. S. Lam
22. Mr. Veng Tong Lo
23. Mr. Kuan Hou Chiu

Fiji Islands (2)

24. Mr. Isei Tudreu
25. Ms. Theresa Levestam

France (2)

French Polynesia (1)

26. Mr. Nicolas Lochanski

New Caledonia (1)

27. Mr. Yann Carlier

India (3)

28. Mr. Pradip Kumar Bandyopadhyay
29. Mr. Sylvester Israel
30. Mr. Naresh Kumar Chaudhary

Indonesia (5)

31. Mr. Elfi Amir
32. Mr. Dwi Badar Manto
33. Mr. Untung Muljono
34. Mr. Edwin Ariff W
35. Mr. Budiyono Richwan

Japan (6)

36. Mr. Kenichi Takahashi
37. Ms. Takako Sakamoto
38. Mr. Satoshi Ishimoto
39. Mr. Hiroyasu Shirasaki
40. Mr. Kakihara Koichiro
41. Mr. Ryuzaki Jun

Lao PDR (4)

42. Mr. Bounthueng Soumontha
43. Mr. Bountaeng Symoon
44. Mr. Somchit Vinitkeophavanh
45. Mr. Anousit Phonthaphan

Malaysia (22)

46. Mr. Azharuddin Abdul Rahman
47. Mr. Ahmad Nizar Zolfakar
48. Ms. Siew Huang Tay
49. Mr. Noor Izhar Baharin
50. Mr. Lam Leong Chew
51. Mr. Rodzi Mohd Salleh
52. Mr. Sahrol Nizal Abrashid
53. Mr. Mohd Fitri Ishak
54. Mr. Nagayaindran Narayanan
55. Mr. Muhammad Hafidz Ibrahim
56. Mr. Mohd Syahril Azmir Remli
57. Mr. Omran Zakaria
58. Mr. Mohd Azizul Haqem Tamarun
59. Mr. Sie Tzen Wong
60. Mr. Valetine Nemesius
61. Mr. Ing Ting Wong
62. Mr. Petrus Coupun Lim
63. Mr. Asmadi Abdul Wahab
64. Mr. Thean Shong Kang
65. Mr. Anuar Mat Alim
66. Mr. Mohd Razmin Mazlan
67. Mr. Jamil Khir Mohamed

Maldives (2)

68. Ms. Ramiza Fathimath
69. Mr. Ibrahim Thoha

Mongolia (2)

70. Mr. Khatanbold Jargalsaikhan
71. Mr. Ganbold Purevjav

ATTACHMENT 1 to the APANPIRG/25 Report

List of Participants

Myanmar (2)

- 72. Mr. Aung Myin Thein
- 73. Mr. Than Lwin

Nepal (3)

- 74. Mr. Mahendra Singh Rawal
- 75. Mr. Narendra Bahadur Thapa Chhetri
- 76. Mr. Mahesh Kumar Basnet

New Zealand (3)

- 77. Mr. Declan Smiddy
- 78. Mr. Toby Farmer
- 79. Mr. Michael Haines

Philippines (2)

- 80. Mr. Deogracias Pulmano Jr.
- 81. Engr. Arnold Balucating

Republic Of Korea (5)

- 82. Mr. Jang Dong-Cheol
- 83. Ms. Kim Jenny H.
- 84. Mr. Lim Hongmug
- 85. Pro. Chung Jaehak
- 86. Pro. Park Hyodal

Singapore (7)

- 87. Mr. Soh Poh Theen
- 88. Mr. Loo Chee Beng
- 89. Mr. Tan Yean Guan
- 90. Mr. Kuah Kong Beng
- 91. Mr. Edmund Heng
- 92. Mr. Hermizan Jumari
- 93. Mr. Lo Weng Kee

Sri Lanka (4)

- 94. Mr. Chandrasena N. H. Mudiyansele
- 95. Mr. Atula S. Jayawickrama
- 96. Ms. Chrisanihi W. Tissera
- 97. Mr. Wipula Wimalshanthi

Thailand (12)

- 98. Mr. Pichai Thongsom
- 99. Ms. Tawika Huayhongthong
- 100. Mr. Pawat Harnbumrunakit
- 101. Mr. Punlop Sungsilert
- 102. Ms. Nunnipak Nuntawatwong
- 103. Mr. Choosit Kuptaviwat
- 104. Mr. Suvichan Sthitgitpichead
- 105. Mr. Piyawut Tantimekabut
- 106. Ms. Wissinee Taechotirote
- 107. Mr. Koson Loyliw

Thailand (cont'd)

- 108. Mr. Phuwieng Prakhammintara
- 109. Mr. Vinai Thongphasuk

United States (6)

- 110. Mr. Mark Reeves
- 111. Mr. Maurice Hoffman
- 112. Mr. Brian Bagstad
- 113. Mr. Ahmad Usmani
- 114. Mr. Thien Ngo.
- 115. Ms. Mary Jo Marzinzik

Viet Nam (2)

- 116. Mr. Nguyen The Hung
- 117. Mr. Le Quoc Khanh

International Organization

CANSO (1)

- 118. Mr. Chiang Hai Eng

IATA (2)

- 119. Mr. Owen Dell
- 120. Mr. David Rollo

IBAC (1)

- 121. Mr. Kurt Edwards

IFALPA (1)

- 122. Captain Brian C Legge

ICAO Headquarters (1)

- 123. Mr. Michiel Vreedenburgh

ICAO Regional Office (8)

- 124. Mr. Arun Mishra
- 125. Mr. N. C. Sekhar
- 126. Mr. Len Wicks
- 127. Mr. Peter Dunda
- 128. Mr. Frederic Lecat
- 129. Mr. Noppadol Pringvanich
- 130. Mr. Pehrinba Renganathan
- 131. Mr. Liu Song

ATTACHMENT 2 to the APANPIRG/25 Report
List of Information and Working Papers

LIST OF INFORMATION AND WORKING PAPERS

Paper No.	Agenda Item	Title	Presented by
INFORMATION PAPERS			
IP/1	-	Meeting Bulletin	Secretariat
IP/2	1B	Update of RASG-APAC Activities	Secretariat
IP/3	2	Information on the Revision of the <i>Regional Supplementary Procedures</i> (Doc 7030)	Secretariat
IP/4	2	Planning and Implementation Regional Groups (PIRGs) Activities in other Regions	Secretariat
IP/5	3.6	The Integration of Human Factors in Research, Operations and Acquisitions	USA
IP/6 Revision 1	1B	RASG Activities in other Regions	Secretariat
IP/7	3.2	Implementation of Himalayan and Trans Himalayan Routes Via Kathmandu FIR	Nepal
IP/8	3.4	Implementation of Steep Glide Slope ILS at Tribhuvan International Airport	Nepal
IP/9	3.2	Simultaneous Take-Off and Go-Around – Safety Concerns	India
IP/10	3.2	Implementation of PBN Based RNAV 1 (GNSS) SID and Star at GOA Airport	India
IP/11	3.4	Update on GAGAN and Plans for Seamless Navigation	India
IP/12	3.6	Asia and Pacific Initiative to Reduce Emissions (ASPIRE)	Singapore
IP/13	3.6	Activities of ICAO Asia and Pacific Regional Sub-Office in 2013-2014	Secretariat
IP/14	3.2	Report of the First Meeting of Bangladesh, India, Myanmar, Thailand ATM Coordination Group (BIMT/1)	Bangladesh, India, Myanmar and Thailand
IP/15	3.6	Recent Developments in ICAO on International Aviation and Climate Change	Secretariat
IP/16	3.4	Progress on the Establishment of RAIM Prediction System	Thailand
IP/17	3.0	New Zealand National Airspace and Air Navigation Plan	New Zealand

Paper No.	Agenda Item	Title	Presented by
WORKING PAPERS			
WP/1	-	Adoption of the Provisional Agenda	Secretariat
WP/2 Revision 1	1.1	Review of the Actions of the Air Navigation Commission on the Report of the APANPIRG/24	Secretariat
WP/3	1.2	Status of Implementation of APANPIRG/24 Conclusions and Decisions	Secretariat
WP/4 Revision 1	1.3	Status of Implementation of Outstanding APANPIRG Conclusions and Decisions	Secretariat
WP/5 Revision 1	2	New Regional Air Navigation Plan (ANP) Template and Procedure for Amendment	Secretariat
WP/6	3.1	Report on the Second Meeting of AOP Working-Group	Chairman of AOPWG
WP/7 Revision 1	3.2	Report on the Second Meeting of ATMSG Outcomes	Secretariat
WP/8 Revision 1	3.3	RASMAG/19 Outcomes	Secretariat
WP/9 Revision 1	3.4	Report on the Eighteenth Meeting of CNS Sub-Group	Chairman of CNS SG
WP/10 Revision 1	3.5	Report on the Eighteenth Meeting of MET Sub-Group	Chairman of MET SG
WP/11	4	Status of Air Navigation Deficiencies in the Asia/PAC Region	Secretariat
WP/12	5	APANPIRG Work Programme 2015+	Secretariat
WP/13	5	Restructuring of the APANPIRG Contributory Bodies to align its Working Arrangements with revised GANP	Secretariat
WP/14	6	Adherence to the Principles and Recommendations Detailed in ICAO Docs 9082 and 9161	IATA
WP/15 Revision 1	3.0	U.S. Implementation of the Aviation System Block Upgrades (ASBU) Block 0 Modules	USA
WP/16	3.2	Presentation of the Mini-Global Demonstration	USA

Paper No.	Agenda Item	Title	Presented by
WP/17	3.6	Development of an ICAO Single Set of Forecasts and Impact on the Customized Sets to be Produced by the Traffic Forecasting Groups	Secretariat
WP/18	3.6	Progress on the Air Traffic Flow Management (ATFM) Operational Trial	Hong Kong China, Singapore and Thailand
WP/19	2	ANB Global Update	Secretariat
WP/20	3.0	Regional Priorities and Targets	Secretariat
WP/21	3.0	Measures for Planning & Implementation of Aviation System Block Upgrades (ASBU)	IBAC
WP/22	3.4	Harmonized SWIM Activities in Asia/Pacific Region	Japan
WP/23	3.0	Importance of State's Air Navigation Modernization Plan and Carats Activities in Japan	Japan
WP/24	3.2	Operationalising Seamless ATM through Collaboration Guided by APANPIRG's Priorities and Targets	Singapore
WP/25	1B	Improving Air Traffic Safety Performance	IATA
WP/26 Revision 1	3.0	ANRF, Seamless Reporting and Monitoring of Regional Progress	Secretariat
WP/27	3.0	Performance-Based Approach to Advance Air Traffic Management (ATM)	Singapore
WP/28	2	Strategic and Proactive Coordination between APANPIRG and RASG-APAC in Trials and Validations for ASBU Implementation	USA
WP/29	3.2	The Ongoing Cooperation between Mongolia and Its Neighboring Countries	Mongolia
WP/30	3.5	Planning for Volcanic Ash Exercise in APAC Region	Japan
WP/31	3.4	PBN Implementation Progress and ICAO Support	Secretariat
WP/32	3.3	Efforts to Improve Large Height Deviation Reporting from Air Traffic Control Units in China	China
WP/33 Revision 1	1B	Report of the Coordination Meeting between the Chairperson of APANPIRG and RASG-APAC	Secretariat

ATTACHMENT 3 to the APANPIRG/25 Report
APANPIRG/25 Conclusions/Decisions – Action Plan

APANPIRG/25 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date
D 25/1 A & B	Development of the new APAC eANP	That in support to the ICAO efforts to align the regional Air Navigation Plans (ANP) with the Fourth Edition of the Global Air Navigation Plan (GANP) (Doc 9750) APANPIRG and its sub groups be invited to: a) include the development of the APAC eANP based on the Council approved ANP template and action plan, in the work programmes of the related APANPIRG contributory bodies; and b) present the relevant Parts of the APAC eANP to APANPIRG/26 for endorsement.	APANPIRG and its sub groups	Work programmes of the related APANPIRG contributory bodies updated Sub groups	December 2014 August 2015
C 25/2 A & B	APAC Regional Air Navigation Priorities and Targets	That, the Regional Priorities and Targets contained in Appendix A to this Report on Agenda Item 3.0 be endorsed by APANPIRG.	ICAO APAC Office	State letter IOM to ICAO/HQ for inclusion and use in the public ICAO APAC Regional Performance Dashboard	September 2014

ATTACHMENT 3 to the APANPIRG/25 Report
APANPIRG/25 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date
C 25/3 A & B	Air Navigation Report Forms (ANRFs) and responsibility Matrix	That, the ANRF regarding the Block 0 ASBUs (except B0-RSEQ , B0-OPFL, and B0-WAKE) provided in the APANPIRG/25/ WP26 Appendices A to P together with the matrix of responsibilities placed at Appendices B and C to the Report on Agenda Item 3.0 be adopted for the APAC Region	ICAO APAC Office	State letter	September 2014
C 25/4 A & B	Seamless ATM Implementation Guidance	That, the Seamless ATM implementation guidance version 4.3, http://www.icao.int/APAC/Documents/edocs/Seamless%20ATM%20Implementation%20Guidance%20v4-3.pdf , May 2014 be adopted by APAC States/Administrations and maintained by the ICAO Regional Office.	ICAO APAC Office	State letter	October 2014
C 25/5 A & B	Web-based Seamless ATM Implementation Progress Reporting Process	That, States/Administrations be urged to report on their Seamless ATM implementation progress at least once a year through the ICAO online reporting process from November 2014 onwards.	ICAO APAC Office APAC States	State letter Reporting forms submitted	December of each year (intermediate reports are welcome, for example in June of each year)
C 25/6 A & B	Seminar/Workshop on the Aerodrome related Aspects of the Seamless ATM Plan Implementation	Recognizing the need for promoting, understanding and active involvement of the APAC States/Administration in taking forward the regional initiative, ICAO be invited to organize a seminar/workshop on the Seamless ATM Plan with a focus on aerodrome related elements.	ICAO APAC Office	Seminar conducted	2015

ATTACHMENT 3 to the APANPIRG/25 Report
APANPIRG/25 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date
C 25/7 A & B	Amendment to Figure 3-1 of Annex 14, Volume II	Recognizing that the Figure 3-1 in Annex 14, Volume II was not consistent with the standard in Para 3.1.22 and 3.2.21 of Annex 14, Volume II, ICAO be invited to review and revise the Figure as appropriate.	ICAO APAC Office	IOM submitted to ICAO HQ	October 2015
C 25/8 A & B	Guidance on Airport Operations in Thunderstorm/Lightning Conditions	Recognizing that guidance on airport operations in thunderstorm/lightning conditions, which are commonly experienced in tropical countries, was not available, ICAO be invited to consult with ACI and consider providing guidance material as a reference document for States and airport operators.	ICAO APAC Office	IOM submitted to ICAO HQ	October 2015
C 25/9 A & B	ACI APEX (Airport for Excellence) Programme	that States: a) Support the ACI APEX in Safety Programme at aerodromes in the APAC Region; and b) Encourage airport operators to approach ACI for assistance through the APEX in Safety Programme if deemed necessary; and to participate in the APEX Safety Reviews Programme.	ICAO APAC Office	State Letter	November 2015
D 25/10 A & B	ATFM/SG Terms of Reference	That, the proposed Terms of Reference (Attachment D to APANPIRG/25/WP07) be adopted for the Asia/Pacific Air Traffic Flow Management Steering Group (ATFM/SG).	ICAO APAC Office	Update the ATFM/SG TOR	October 2014

ATTACHMENT 3 to the APANPIRG/25 Report
APANPIRG/25 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date
C 25/11 A & B	Human Performance Initiatives	That, ICAO be urged to: a) conduct an Asia/Pacific human performance seminar/workshop for optimal Air Traffic Control (ATC) and Search and Rescue (SAR) operational safety and efficiency; and b) review the human performance provisions in the Asia/Pacific Seamless ATM Plan.	ICAO APAC Office	1. State Letter 2. Conduct of an Asia/Pacific human performance seminar/workshop 3. Review Seamless ATM Plan	1. October 2014 2. 2015 3. August 2015
D 25/12 A & B	Amend Regional ATM Contingency Plan Task Force (RACP/TF) Terms of Reference	That, the amended RACP/TF Terms of Reference (Attachment F to APANPIRG/25/WP07) be adopted.	ICAO APAC Office	Update the RACP/TF TOR	October 2014
C 25/13 A & B	ATS Route Catalogue Version 13	That Version 13 of the <i>Asia and Pacific Region ATS Route Catalogue</i> (Attachment H to APANPIRG/25/WP07) replaces Version 12 on the ICAO Asia/Pacific Regional Office web site (www.icao.int/apac).	ICAO APAC Office	1. Update ICAO website 2. State Letter	1. October 2014 2. October 2014
C 25/14 A & B	Access to ICAO Annexes and Documents	That, States are urged to ensure that all personnel having responsibility for the origination, reception, management and/or distribution of aeronautical information and aeronautical data have full access to the relevant ICAO Annexes and Documents, either in up-to-date hard copy form or by arranging internet access through the ICAO Secure Portal.	ICAO APAC Office	State Letter	October 2014

ATTACHMENT 3 to the APANPIRG/25 Report
APANPIRG/25 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date
<p>C 25/15 A & B</p>	<p>Aeronautical Information Management (AIM) Transition Reporting</p>	<p>That, considering:</p> <ol style="list-style-type: none"> 1. the Asia/Pacific Seamless ATM Plan expectation of implementation of Phase 1 and Phase 2 AIS to AIM roadmap transition steps by November 2015; 2. the Aeronautical Information Services-Aeronautical Information Management Implementation Task Force (AAITF) Terms of Reference requirement to monitor AIM transition; and 3. the information used for regional and global ATM performance reporting, <p>States be urged to:</p> <ol style="list-style-type: none"> a) verify the information currently recorded in the AIM Implementation Table (Attachment I to APANPIRG/25/WP07), and b) update the information in the AIM Transition Table at least once annually, by April 30 each year. 	<p>ICAO APAC Office</p>	<p>State Letter</p>	<p>October 2014</p>

ATTACHMENT 3 to the APANPIRG/25 Report
APANPIRG/25 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date
C 25/16 A & B	Duplicated 5LNC (Five Letter Name Code)	That, States take coordinated action to replace duplicated 5LNC as detailed in APANPIRG/25/WP07, Attachment J , recognising that the ICAO Regional Office may: a) make specific suggestions in regard to the duplicated 5LNC; or b) take appropriate actions if coordination between concerned States is not able to result in an agreed action	ICAO APAC Office	State Letter	October 2014
C 25/17 A & B	ICARD ATS Route Designators Function Access	That, taking into consideration the rising demand for ATS route designators, resulting from airspace capacity and efficiency changes and implementation of PBN routes and airspace, ICAO be requested to takes steps to develop the ATS Route Designators function in the ICARD application and provide Asia/Pacific ICARD 5LNC MANAGERS and ICARD 5LNC PLANNERS with access to it.	ICAO APAC Office	IOM to HQ	October 2014

ATTACHMENT 3 to the APANPIRG/25 Report
APANPIRG/25 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date
<p>C 25/18 A & B</p>	<p>Cospas-Sarsat Alert Responses</p>	<p>That, considering the importance of effective Cospas-Sarsat alerting and monitoring supporting the international Search and Rescue (SAR) system, States be urged to:</p> <p>a) consider becoming formally associated with the Cospas-Sarsat system;</p> <p>b) provide up-to-date SAR Point of Contact (SPOC) details to Cospas-Sarsat, and respond promptly to SPOC communications tests;</p> <p>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;</p> <p>d) support a simplified, serialised beacon unique identification coding system for next generation beacons;</p> <p>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</p> <p>f) provide post-alert advisories to Cospas-Sarsat on all alert outcomes as soon as practicable as a performance and system improvement measure.</p>	<p>ICAO APAC Office</p>	<p>State Letter</p>	<p>October 2014</p>

ATTACHMENT 3 to the APANPIRG/25 Report
APANPIRG/25 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date
C 25/19 A & B	Personal Locator Beacon	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, ICAO in cooperation with the IMO, be urged to consider means of effectively managing PLB alerts.	ICAO APAC Office	State Letter	October 2014
C 25/20 A & B	Global SAR Coordination	That, considering the need for global and inter-regional Search and Rescue (SAR) coordination, ICAO be urged to: a) consider securing the necessary technical resources for managing global SAR policy development and inter-regional coordination; and b) include SAR as part of the Aviation System Block Upgrades (ASBU).	ICAO APAC Office	IOM to ICAO HQ	October 2014
D 25/21 A & B	Search and Rescue (SAR) Library	That, States be urged to utilise the SAR Library located at http://www.uscg.mil/hq/cg5/cg534/SAR_Manuals.asp .	ICAO APAC Office	State Letter	October 2014

ATTACHMENT 3 to the APANPIRG/25 Report
APANPIRG/25 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date
C 25/22 A & B	Provision of MH370 Feedback	In accordance with Annex 12, Recommendation 5.9.2, that: a) Asia/Pacific States/Administrations involved in the SAR response to MH370 be urged to develop any lessons learned and suggestions for improvement for submission to the APSAR/TF/3 meeting, scheduled for 25-29 January 2015; and b) ICAO and IMO be urged to consider lessons learned and feedback in order to update global SAR standards and guidance material.	ICAO APAC Office ICAO/IMO	1. State Letter 2. IOM to HQ 3. Letter to IMO	1. October 2014 2. October 2014 3. October 2014
C 25/23 A & B	Data Link Implementation Strategy Guidance	That, the Data Link Implementation Strategy Guidance Material appended as Attachment A to APANPIRG/25/WP08 be adopted as guidance material for States/Air Navigation Service Providers and made available on the ICAO Asia/Pacific Regional Office Website (www.icao.int/apac).	ICAO APAC Office	1. Update ICAO website 2. State Letter	1. October 2014 2. October 2014
C 25/24 A & B	Contact Details for Airspace User Reporting of ADS- C/CPDLC Problems to ANSPs	That, States be urged to provide, and promulgate in their AIP, a point of contact for airspace users to report Automatic Dependent Surveillance-Contract/Controller Pilot Data-link Communications (ADS-C/CPDLC) problems to the State/Air Navigation Service Provider (ANSP).	ICAO APAC Office	State Letter	October 2014

ATTACHMENT 3 to the APANPIRG/25 Report
APANPIRG/25 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date
C 25/25 A & B	Submission of FPLs as Traffic Sample Data (TSD)	That, Asia/Pacific States that do not have an automated TSD generation capability be urged to consult with the appropriate Regional Monitoring Agency (RMA) and if agreed, submit their raw Flight Plan (FPL) messages to the appropriate RMA, instead of conventional TSDs.	ICAO APAC Office	State Letter	October 2014
C 25/26 A & B	Flights in RVSM Airspace by non-approved State Aircraft	That, Asia/Pacific States be urged to ensure close cooperation between civilian and military authorities, so that all RVSM operational requirements are clearly understood and complied with by State aircraft.	ICAO APAC Office	State Letter	October 2014
C 25/27 A & B	AN- Conf/12 Recommendations	That, the regional response to the Recommendations of the AN-Conf/12, in APANPIRG/25/WP09/Appendix A and flimsy 2 be adopted as guidance for consideration by the States.	ICAO APAC Office	State letter	November 2014

ATTACHMENT 3 to the APANPIRG/25 Report
APANPIRG/25 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date
<p>C 25/28 A & B</p>	<p>AMHS Naming Registration Procedure and Form</p>	<p>That, the States/Administrations be urged to follow the AMHS Naming Registration procedure as follows:</p> <p>a) The AMC Network Inventory Form and the Major Change Form - Pro forma for modification of AMHS MD Identifier and/or Addressing Scheme, provided in the APANPIRG/25/WP09 Appendix E1 and Appendix E2 be used;</p> <p>b) The Asia/Pacific AMHS Naming Registration Form no longer be used; and</p> <p>c) For NSAP addresses in AMC Information Form, insert a value of “91” for byte 5 of an NSAP address following instruction given in the Third Edition of the ASIA/PAC ATN Network Service Access point (NSAP) Addressing Plan.</p>	<p>ICAO APAC Office</p>	<p>State letter</p>	<p>October 2014</p>
<p>C 25/29 A & B</p>	<p>Proposal for Amendment to the Regional Air Navigation Plan FASID CNS Tables</p>	<p>That, Table CNS 1A, Table CNS 1B and Table CNS 1C of Regional ANP (Doc 9673 Vol. II) be amended in accordance with the established procedure based on information provided in APANPIRG/25/WP09 Appendices F, G and H.</p>	<p>ICAO APAC Office</p>	<p>Tables CNS 1A, Table CNS 1B and Table CNS 1C of Regional ANP (Doc 9673 Vol. II) published on ICAO APAC website</p>	<p>October 2014</p>

ATTACHMENT 3 to the APANPIRG/25 Report
APANPIRG/25 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date
C 25/30 A & B	Change of AMHS/SITA Interconnection Architecture	That, States/Administrations concerned in the APAC Region consider coordination with SITA for upgrading those existing interconnection between ANSPs and SITA using AMHS/SITA Interconnection Architecture Document provided in APANPIRG/25/ WP09 Appendix I .	ICAO APAC Office	State letter	October 2014
C 25/31 A & B	CRV (Common Regional VPN Task Force) Cost Benefit Analysis	That, the 1st iteration of the CRV Cost Benefit analysis provided in APANPIRG/25/ WP09 Appendix J be adopted and distributed to States/Administrations for their reference	ICAO APAC Office	State letter	September 2014
D 25/32 A & B	Terms of Reference of the APAC Aeronautical Common Regional VPN Task Force (CRV TF)	That, the Terms of Reference of the APAC Aeronautical Common Regional VPN Task Force (CRV TF) at APANPIRG/25/ WP09 Appendix L be adopted.	ICAO APAC Office	State letter	October 2014
C 25/33 A & B	CRV Concept of Operations (CONOP)	That, a) the initial Concept of Operation (CONOP) for the APAC CRV provided in APANPIRG/25/ WP09 Appendix M be adopted as version 1; and b) States/Administrations be urged to consider the initial Concept of Operations for the APAC CRV.	ICAO APAC Office States	State letter Concept of Operations for the APAC CRV commented	September 2014 December 2014

ATTACHMENT 3 to the APANPIRG/25 Report
APANPIRG/25 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date
<p>C 25/34 A & B</p>	<p>Aeronautical Common Regional Virtual (CRV) Private Network in APAC Stage I</p>	<p>That,</p> <p>a) Considering the number of States/Administrations (Australia, Fiji, France, Hong Kong China, India, Japan, Macao China, Malaysia, New Zealand, Philippines, Singapore, Thailand, and USA) that expressed interest to date (10 September 2014) to be Pioneer Parties and sign the MSA;</p> <p>b) Considering the favorable Cost Benefit for CRV operations as a major enabler for achieving GANP 4th edition roadmap;</p> <p>i) The Management Service Agreement (MSA) provided in APANPIRG/25/WP09, flimsy 1, Appendix B be adopted, pending some finer adjustments;</p> <p>ii) States/Administrations in APAC Region which have not expressed interest be urged to become Pioneer Parties before 14 November 2014 or join for Stage 2;</p> <p>iii) States/Administrations sign the MSA before 15 December 2014 and transfer the necessary funds to ICAO TCB for its services before 31 January 2015.</p> <p>iv) CRV Pioneer States be recommended to plan a provisional budget of USD20,000 with the view of funding on an equal basis the cost of TCB services in Stage 1 of the CRV project.</p>	<p>1. ICAO APAC Office</p> <p>2. States</p>	<p>1. State Letter</p> <p>2. Sign the MSA before 15 December 2014, plan a provisional budget of USD20,000 with the view of funding on an equal basis the cost of TCB services in Stage 1 of the CRV project and transfer the necessary funds to ICAO TCB for its services before 31 January 2015</p>	<p>October 2014</p> <p>January 2015</p>

ATTACHMENT 3 to the APANPIRG/25 Report
APANPIRG/25 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date
C 25/35 A & B	Adoption of Pan Regional ICD for AIDC	That, the Pan Regional ICD for AIDC provided in APANPIRG/25/WP09, Appendix O , be adopted as Version 1.0 serving as regional guidance for AIDC implementation in the APAC and NAT Regions.	ICAO APAC Office	State letter Pan Regional ICD for AIDC published on ICAO APAC website	October 2014
D 25/36 A & B	Dissolving Inter-regional AIDC Task Force	That, once Version 1 of the PAN Inter-regional ICD for AIDC is adopted by both APAC and NAT Regions, the Inter-regional AIDC Task Force established through NAT SPG Conclusion 48/28 and APANPIRG Conclusion 23/20 be dissolved	ICAO APAC Office	State letter	November 2014
D 25/37 A & B	AIDC Implementation Task Force	That, the AIDC Implementation Task Force be established with Terms of Reference provided in APANPIRG/25/WP09, Appendix D .	ICAO APAC Office	State letter	December 2014
C 25/38 A & B	Harmonization for AIDC Implementation	That, States/Administrations in the APAC Region be urged to share their implementation plans and experiences with concerned States for an expeditious AIDC implementation in a harmonized and timely manner.	ICAO APAC Office	State letter	December 2014
C 25/39 A & B	Navigation Strategy for the Asia/Pacific Region	That, the revised navigation strategy provided in APANPIRG/25/WP09, Appendix Q be adopted for the Asia/Pacific Region.	ICAO APAC Office	Revised navigation strategy published on ICAO APAC website	September 2014

ATTACHMENT 3 to the APANPIRG/25 Report
APANPIRG/25 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date
C 25/40 A & B	Revised ADS-B Implementation and Guidance Document	That, the revised ADS-B Implementation and Guidance Document (AIGD) provided in APANPIRG/25/WP09, Appendix T (including T2) be adopted.	ICAO APAC Office	Revised ADS-B Implementation and Guidance Document (AIGD) published on ICAO APAC website	September 2014
C 25/41 A & B	Flight Plan Item 10 ADS-B Indicators	<p>That, ICAO be invited to consider to amend relevant contents in Doc 4444 PANS/ATM Appendix 2 (A2-7) and Appendix 3 (A3-13) as shown below:</p> <ul style="list-style-type: none"> ○ E Transponder — Mode S, including aircraft identification, pressure-altitude and extended squitter (ADS-B out) capability ○ L Transponder — Mode S, including aircraft identification, pressure-altitude, extended squitter (ADS-B out) and enhanced surveillance capability ○ B1 ADS-B with dedicated 1 090 MHz ADS-B “out” capability using 1 090MHz extended squitter. ○ B2 ADS-B with dedicated 1 090 MHz ADS-B “out” and “in” capability using 1 090MHz extended squitter. <p>- In this recommended amendment, there was duplication of indication of ADS-B carriage for aircraft where the Mode S transponder was the transmission device.</p>	ICAO APAC Office	IOM to HQ	January 2015

ATTACHMENT 3 to the APANPIRG/25 Report
APANPIRG/25 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date
		<ul style="list-style-type: none"> - This recommendation would be unlikely to require significant changes to ATM systems; the descriptors were unchanged but their interpretation was clarified. Some adaptation changes could be required where ANSPs were currently using the descriptors as triggers for system processing such as controller HMI indications. - Changes to flight planning systems would be required in cases where the text associated with each descriptor was provided for pilot reference and to individual States' AIP where ICAO DOC 4444 flight planning requirements were repeated. 			
C 25/42 A & B	Regulations for Compliance of ADS-B Transmissions	That, States be urged to implement regulations to give effect to Regional Supplementary Procedure Serial APAC-S12/10 – MID/Asia 5-3 to ensure that all aircraft transmitting ADS-B are compliant with the standards.	ICAO APAC Office APAC States	State letter Regulations implemented	October 2014 June 2015
C 25/43 A & B	Promote Understanding of SWIM in APAC Region	That, recognizing SWIM as a building block of ASBU Block 1 and 2 modules, ICAO be invited to promote understanding of SWIM through organizing seminars/workshops with focus on both technical and operational aspects for SWIM development in the Asia Pacific Region.	ICAO APAC Office	Organized seminars/workshops with focus on both technical and operational aspects for SWIM development in the Asia Pacific Region	June 2016

ATTACHMENT 3 to the APANPIRG/25 Report
APANPIRG/25 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date
D 25/44 A & B	APANPIRG Performance-based Navigation Implementation Coordination Group (PBNICG)	That, the APANPIRG Performance-based Navigation Implementation Coordination Group (PBNICG) be established and its Terms of Reference provided in Appendix A be adopted.	ICAO APAC Office	State letter	November 2014
C 25/45 A & B	Improvement of OPMET data format	<p>That, ICAO urges States to:</p> <p>a) Ensure full implementation of the applicable Standards and Recommended Practices in Annex 3 with respect to the format of OPMET information; and</p> <p>b) Establish and implement necessary systems to provide for the quality management of the OPMET information, which should include verification, validation and monitoring to assure that the OPMET information complies with the stated requirements.</p> <p>Notes:</p> <p>i) IATA requested States to ensure the percentage of OPMET issued with formatting errors should be limited to less than 3%; and</p> <p>ii) all OPMET provided should be made available to the SADIS and WIFS gateways in accordance with provisions in FASID Table MET 2A and the Regional SIGMET Guide.</p>	ICAO APAC Office	State letter	4 th quarter 2014

ATTACHMENT 3 to the APANPIRG/25 Report
APANPIRG/25 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date
<p>C 25/46 A & B</p>	<p>Improvement of OPMET Data Availability for Aerodromes Listed in ANP FASID Table MET 2A</p>	<p>That, the ICAO be invited to urge APAC States to:</p> <p>a) continue efforts to improve the availability of OPMET data for aerodromes listed in FASID Table MET 2A;</p> <p>b) ensure all OPMET data for aerodromes listed in AOP Tables, and for aerodromes not listed in AOP Tables, in FASID Table MET 2A, is distributed to SADIS and WIFS Provider States via Regional OPMET Data Banks (RODB); and</p> <p>c) ensure only one type of TAF is issued and transmitted from aerodromes.</p> <p>Notes:</p> <p>i) IATA's requirements with respect to availability of OPMET (METAR and TAF) are 95% [90%] for all aerodromes listed in AOP Tables [not listed in AOP Tables] in FASID Table MET 2A; and</p> <p>ii) IATA's requirements with respect to the period of availability and validity of TAF are FT, i.e., F – Full (OPMET data as listed issued for the aerodrome all through the 24-hour period), and T (Requirement for 18/24-hour validity aerodrome forecasts in TAF code).</p>	<p>ICAO APAC Office</p>	<p>State letter</p>	<p>4th quarter 2014</p>

ATTACHMENT 3 to the APANPIRG/25 Report
APANPIRG/25 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date
D 25/47 A & B	Establishment of a Volcanic Ash Exercises Steering Group in the APAC Region	That, an APAC volcanic ash exercises steering group be established under the MET Sub-Group and in coordination with the ATM Sub-Group with the preliminary terms of reference and composition provided in the revised Attachment C to WP/10 to organize and conduct volcanic ash exercises in the APAC Region.	ICAO APAC Office	Steering group established	4 th quarter 2014
C 25/48 A & B	APAC MET/ATM Seminar	That, the ICAO and Japan be invited to conduct a MET/ATM seminar in Tokyo in 2015, in coordination with the WMO.	ICAO and Japan	Conducted MET/ATM seminar	2015
C 25/49 A & B	Update of ATM/AIS/SAR, AOP, CNS and MET Deficiency List	That, the list of air navigation deficiencies reported and identified in ATM/AIS/SAR, AOP, CNS and MET Deficiency List be updated as detailed in Appendices A to D to APANPIRG Working Paper 11.	ICAO APAC Office	Updated deficiency list	January 2015

ATTACHMENT 3 to the APANPIRG/25 Report
APANPIRG/25 Conclusions/Decisions – Action Plan

Conclusion/ Decision No --- Strategic Objective*	Title of Conclusion/Decision	Text of Conclusion/Decision	Responsibility	Deliverable	Target date
<p>D 25/50 A & B</p>	<p>APANPIRG Contributory Bodies Structure Review Task Force (ABSRTF)</p>	<p>That,</p> <p>a) The APANPIRG Contributory Bodies Structure Review Task Force with members consisting of Chairpersons/Vice Chairpersons of APANPIRG Contributory Bodies (Sub-groups, Working Groups and Task Forces) and voluntary members nominated by States be established with the Terms of Reference presented in Appendix B to this section of the report; and</p> <p>b) In coordination with the ICAO Regional Office, the Task Force undertakes a review of the Terms of Reference and activities of the APANPIRG Contributory Bodies and proposes rationalization of the APANPIRG structure to meet the changing environment to APANPIRG/26.</p>	<p>APANPIRG</p> <p>ABSRTF</p>	<p>ABSRTF established</p> <p>Working paper prepared with proposals for APANPIRG/26 consideration</p>	<p>December 2014</p> <p>May 2015</p>
<p>C 25/51 A & B</p>	<p>Consultation with Airspace Users on ANS Charges</p>	<p>That, States be encouraged to adopt the principles of transparency and consultation with airspace users on ANS charges in accordance with Assembly Resolution A 38-14 and as endorsed in ICAO Doc 9082 and Doc 9161.</p>	<p>ICAO APAC Office</p>	<p>State Letter</p>	<p>February 2015</p>