



*International Civil Aviation Organization*

**The Fifteenth Meeting of the Regional Airspace Safety Monitoring  
Advisory Group (RASMAG/15)**

Bangkok, Thailand, 01 – 05 August 2011

---

**Agenda Item 2: Review Outcomes of Related Meetings**

**APANPIRG/22 AND APSAPG/1 OUTCOMES**

(Presented by the Secretariat)

**SUMMARY**

This paper presents the outcomes from APANPIRG/22 and APSAPG/1 relevant to the RASMAG for review.

This paper relates to –

**Strategic Objectives:**

A: *Safety – Enhance global civil aviation safety*

**Global Plan Initiatives:**

- GPI-2 Reduced vertical separation minima
- GPI-8 Collaborative airspace design and management
- GPI-9 Situational awareness
- GPI-16 Decision support systems and alerting systems
- GPI-17 Data link applications
- GPI-21 Navigation systems
- GPI-22 Communication infrastructure

**1. INTRODUCTION**

1.1 The Twenty Second Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/22) was held in Bangkok, Thailand from 5 to 9 September 2011 at the ICAO Asia/Pacific Regional Office.

1.2 The First Meeting of the ICAO Asia/Pacific Seamless ATM Planning Group (APSAPG/1) was held in Bangkok, Thailand from 31 January to 3 February 2012 at the Kotaite Wing of the ICAO Asia/Pacific Regional Office.

## 2. DISCUSSION

### Asia/Pacific Vertical Safety Assessments

2.1 The APANPIRG/22 meeting noted that the result of APAC Metric 1 (*Percentage of RMA sub- regions achieving the regional Target Level of Safety (TLS) for RVSM operations, as of April each year*) the percentage of RMA sub-regions achieving the regional TLS for RVSM operations, referenced as of April, was 66.7%, less than the 77.8% that had been achieved in 2010.

2.2 APANPIRG/22 noted the on-going work to meet Asia/Pacific Objective 1 (*Airspace Safety Monitoring to Achieve Regional TLS*) in the Performance Framework Form appended in **Attachment A**. Furthermore, the PFF for APAC Objective 3 (*Optimise Route Structure in En-route Airspace*) recognised the work of the FITs (FANS Interoperability Teams).

### Non-RVSM-Approved Aircraft Operating in Asia/Pacific RVSM Airspace

2.3 APANPIRG/22 discussed the matter of non-approved RVSM flights, noting that there were a large number of aircraft that were actually RVSM approved but which had not had their details made available to RMAs. However the meeting also noted that there were a significant number of non-approved aircraft that had filed as RVSM approved but which did not have such approval. APANPIRG/22 agreed to the following Conclusion:

#### ***Conclusion 22/10– RVSM Approvals***

*That, the States are urged to:*

*ensure that they provide point of contact details and complete RVSM approval data to the appropriate RMA in a timely manner; and*

*encourage their ANSP to provide details to their RMA, on a monthly basis, of all flight plans filed showing RVSM approval; and*

*take appropriate action regarding non-compliant aircraft, on the basis of the data provided by their RMA.*

### Endorsement of Amended Minimum Monitoring Requirements

2.4 RASMAG/15 had agreed that non-approved operations presented a risk to RVSM airspace safety and that Asia/Pacific RMAs should continue their work to identify rogue operators. The meeting did not support submitting rogue operator reports to APANPIRG but agreed that other actions put in place by RASMAG would assist in efficient processing of rogue operator information within the Region.

2.5 RASMAG/15 had also agreed that information concerning the United States regulation in regards to the 1,000 hours period for long term height-keeping monitoring should be forwarded to APANPIRG, noting that States should be informed of the information and decide whether or not to adopt the United States procedure.

2.6 APANPIRG/22 agreed to the following Conclusion:

#### ***Conclusion 22/11– Minimum Monitoring Requirements Amendment***

*That, the updated Minimum Monitoring Requirements (MMR) Table attached in Appendix B to the Report on Agenda Item 3.3 be endorsed for Regional application.*

### Data-link Performance Monitoring

2.7 APANPIRG/22 noted that while data link performance guidance material included information on performance data that ANSPs were expected to provide to CRAs, to date the CRAs had received minimal data. Consequently, little was known of data link performance in much of the Region, with the inevitable corollary that poor performance may not be detected or corrected. It was therefore important that all ANSPs, whether state agencies or independent organisations, collected data link performance data and pass it to the appropriate CRA for analysis, investigation and initiation of any required corrective action.

Accordingly, the meeting agreed to the following Conclusion:

#### ***Conclusion 22/12 - Provision of Data-link Performance Data to CRA***

*Noting the pre- and post-implementation system performance monitoring required by Annex 11<sup>1</sup>, the Global Operational Data Link Document (GOLD) and the Guidance Material for End-to-End Safety and Performance Monitoring of Air Traffic Service Data Link Systems in the Asia/Pacific Region, States are urged to ensure that the appropriate data link performance monitoring is undertaken and reported to CRAs/FITs, as required, in a timely manner.*

### Data-link Performance Monitoring Body

2.8 The Thirteenth Meeting of the FANS Implementation Team for the Bay of Bengal (FIT-BOB/13, Bangkok, 07 to 08 February 2011) recognised that FIT-BOB and FIT-SEA (Southeast Asia) could be combined in order to include more experts, enable lessons learnt in one sub-region to assist other areas, and to reduce meeting costs.

2.9 The ATM/AIS/SAR/SG/21 and RASMAG discussed this and, noting that there had been a lack of Problem Reports (PRs) provided to the FITs. RASMAG itself had previously raised concerns about the piece-meal nature of data link performance data that had been made available to RASMAG.

2.10 RASMAG/15 agreed with the combining of the two FIT meetings to strengthen the expertise and data assessment, and a change of reporting to RASMAG. RASMAG developed the combined body's Terms of Reference (TOR), appended at **Attachment B** and a Draft Decision was formulated.

2.11 APANPIRG/2 agreed to the following Decision:

#### ***Decision 22/13 – Data-link Performance Monitoring Body***

*That, the FANS Implementation Team - Bay of Bengal (FIT-BOB) and Southeast Asia (FIT-SEA) be combined as a new body (FIT-Asia), reporting to RASMAG, in accordance with the Terms of Reference appended<sup>2</sup> in **Appendix D to the Report on Agenda Item 3.3.***

### RASMAG List of Competent Airspace Safety Monitoring Organizations

2.12 RASMAG/15 had updated the list of *Competent Airspace Safety Monitoring Organizations*, including the endorsement of India and Japan as an EMA, and amended contact details as appropriate.

<sup>1</sup> – Air Traffic Service (Para 2.26.5)

<sup>2</sup> **Attachment B** to this Working Paper.

2.13 While noting the significant discussion on concerns raised by the FAA Technical Center regarding the Indian monitoring agency, APANPIRG/22 recognised the arrangement for further training, mentoring by another EMA and peer review of any safety assessments undertaken by BOBASMA.

2.14 APANPIRG/22 agreed to the following Decisions:

***Decision 22/14 – Bay of Bengal and Arabian Sea Airspace Safety Monitoring Agency (BOBASMA) Endorsement***

*That, the Bay of Bengal and Arabian Sea Airspace Safety Monitoring Agency (BOBASMA) be endorsed as an En-Route Monitoring Agency (EMA).*

***Decision 22/15 – Japan Airspace Safety Monitoring Agency (JASMA) Endorsement***

*That, the Japan Airspace Safety Monitoring Agency (JASMA) be endorsed as an En-Route Monitoring Agency (EMA), which will also undertake the current Japan Regional Monitoring Agency (RMA) functions.*

Frequency of RASMAG Meetings

2.15 APANPIRG noted the discussion from RASMAG/15 regarding whether it was necessary to hold one or two RASMAG meetings per year, given the need to be efficient in terms of time and the cost of the meeting attendance. It was suggested that the August RASMAG meeting was most important, as this allowed the assessment of safety reports up until the month of April, and reporting to APANPIRG one month later (see RASMAG16/WP08).

APSAPG/1 Outcomes

2.16 IFATCA emphasized that it fully supported the establishment of a Seamless ATM environment within the Asia/Pacific Region. They highlighted the fragmented nature of ANSP provision in the Asia/Pacific Region, compared to the North American and European major traffic areas. Noting that the NextGen and SESAR programmes were quite slow and expensive, IFATCA acknowledged the Asia/Pacific did not have to develop such extensive technology programmes.

2.17 IFATCA discussed the Functional Airspace Blocks (FAB) being used in Europe to optimize airspace. They noted that some FAB could not be developed as envisaged because of political or national security issues. For their part, the controllers were very concerned about ATC Centres being merged and the effect on the controller workforce, and the initial lack of engagement between EUROCONTROL and controllers was described as not assisting this process. The degree of recent coordination and cooperation between controllers and the Federal Aviation Administration (FAA) in NextGen system planning was acknowledged.

2.18 IFATCA stated that any change to Major Traffic Flows (MTF) could impact the many regional and domestic routes, particularly crossing routes. It was important that the APSAPG did not just focus on the MTF, but also included the airports, and terminal airspace elements. It was contended that one item that must be considered was controller workload and complexity using a safety case analysis.

2.19 IATA stressed that they were not pursuing a single sky, but seamless ATM. They noted that it cost EUR12B to provide European ATC, which was calculated to have an inefficiency cost of EUR4B. Of this, EUR3B was associated with the lack of Seamless ATM activity and EUR1B regarding disaggregation of ATC units or FIRs, thus a focus on Seamless ATM was the priority.

2.20 IATA advocated adoption of the ICAO Aviation System Block Upgrades (ASBU) to ensure global harmonization, with an initial focus on BLOCK 0 to better utilize current avionics. There was consensus by the meeting that the ASBU concept was an appropriate guiding mechanism. However as the ASBU document was still being drafted and not formally endorsed until the 12<sup>th</sup> Air Navigation Conference, it could not be formally endorsed by APSAPG/1.

2.21 Each MTF was intended to be analysed from airport gate to airport gate, with a focus on aerodrome operations. Each FIR that the ATS route passed through was intended to be examined in detail to determine the gap between:

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

2.22 The intention of the MTF Study was to provide accurate inputs into a Capabilities Matrix, and determine the portions of airspace that required an ATM service upgrade, an enhanced capability or a different approach by the States concerned.

2.23 APSAPG/1 noted the crucial role of civil/military cooperation in Seamless ATM development, noting the need to address this area. A Civil/Military Cooperation Seminar/Workshop was due to be held in Bangkok, Thailand, from 28 February to 1 March 2012.

### **3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) discuss any relevant matters as appropriate.

.....

APANPIRG/22  
 Attachment 1 to the Report on Agenda Item 3.0

**ASIA/PACIFIC REGION**

**PERFORMANCE FRAMEWORK FORM  
 (REGIONAL)**

*(Amended 11 September 2009)*

<b>REGIONAL PERFORMANCE OBJECTIVE: <u>APAC Objective 1</u></b>				
<b>AIRSPACE SAFETY MONITORING TO ACHIEVE REGIONAL TLS</b>				
<b>Benefits</b>				
<b>Safety</b>	<ul style="list-style-type: none"> <li>Improved safety management,</li> <li>Compliance with regional Target Level of Safety (TLS)</li> </ul>			
<b>Strategy</b>				
<b>Short term/medium term (2009-2015)</b>				
<b>ATM OC COMPONENTS</b>	<b>TASKS</b>	<b>TIME FRAME</b>	<b>RESPONSIBILITY</b>	<b>STATUS</b>
<b>AOM</b> <i>(Airspace Organization and Management)</i>	<ul style="list-style-type: none"> <li>Facilitate cooperative arrangements between States to undertake airspace safety assessments</li> <li>Review airspace safety monitoring that supports reduction in vertical and horizontal aircraft separation standards</li> </ul>	2009-2015	RASMAG	FIT ASIA has proposed to develop a RVSM non compliant aircraft strategy
	<ul style="list-style-type: none"> <li>Assist States to achieve established regional Target Levels of Safety (TLS)</li> <li>Provide advice to States to establish aspects of ATS safety management systems that support compliance with the regional TLS</li> </ul>	2009-2015	<b>RASMAG</b>  SEA RR/TF BOB RHS/TF PBN/TF	In progress
<b>GPIs</b>	GPI/2 Reduced vertical separation minima, GPI/5 Performance based navigation, GPI/7 Dynamic and Flexible ATS route management			
<b>References</b>	<ul style="list-style-type: none"> <li><i>Asia/Pacific Guidance Material for ADS/CPDLC/AIDC Ground Systems Procurement and Implementation;</i></li> <li><i>Guidance Material for End-to-End Safety and Performance Monitoring of Air Traffic Service (ATS) Data Link Systems in the Asia/Pacific Region</i></li> <li><i>Asia/Pacific En-route Monitoring Agency (EMA) Handbook</i></li> <li><i>Regional Monitoring Agency (RMA) Manual</i></li> <li><i>Global Operational Data Link Document (GOLD).</i></li> </ul>			

**ASIA/PACIFIC REGION**

**PERFORMANCE FRAMEWORK FORM  
(REGIONAL)**

*(Amended 10 September 2010)*

<b>REGIONAL PERFORMANCE OBJECTIVE: <u>APAC Objective 3</u></b>				
<b>OPTIMISE ROUTE STRUCTURE IN ENROUTE AIRSPACE</b>				
<b>Benefits</b>				
<b>Environment</b>	<ul style="list-style-type: none"> <li>• reductions in fuel consumption</li> </ul>			
<b>Efficiency</b>	<ul style="list-style-type: none"> <li>• increase airspace capacity</li> <li>• ability of aircraft to conduct flights more closely to preferred trajectories</li> <li>• facilitate utilization of advanced technologies thereby increasing efficiency</li> <li>• optimized demand and capacity balancing through the efficient exchange of information</li> </ul>			
<b>Safety</b>	<ul style="list-style-type: none"> <li>• enhance safety by use of modern capabilities onboard aircraft</li> </ul>			
<i>Strategy</i>				
<b>Short term (2010)</b>				
<b>Medium term (2011 - 2015)</b>				
ATM OC COMPONENTS	TASKS	TIME FRAME	RESPONSIBILITY	STATUS
<b>AOM</b> <i>(Airspace Organization and Management)</i>	<ul style="list-style-type: none"> <li>• Implement ATS route enhancements in the Asia Pacific Region, in collaboration with stakeholders, based on new technologies and procedures and in accordance with APANPIRG PBN Regional Plan, to improve en-route airspace efficiency.</li> <li>• Identify ATS and aeronautical communications problems in the Asia Pacific Region including Indian Ocean and the Arabian Sea, and prepare coordinated plans for actions for their resolution.</li> </ul>	2009 -2015	<u><b>Bay of Bengal and Arabian Sea</b></u> BBACG, FIT-BOB, Bay of Bengal Reduced Horizontal Separation Implementation Task Force (BOB-RHS/TF)  (Informal Arabian Sea/Indian Ocean ATS Coordination Group - ASIOACG)	Phase I implementation of 50NM separation in the Bay of Bengal selected routes on 11 March 2011
		2009-2015	<u><b>Southeast Asia AR9 Flow</b></u> SEACG, FIT-SEA Southeast Asia Route Review Task Force (SEA RR/TF)	ATM/AIS/SAR/SG/19 (2009) established the SEA Route Review Task Force (SEA RR/TF) AI/P901 longitudinal separation to be reduced to 30NM. Implementation at an advanced stage

APANPIRG/22  
Attachment 1 to the Report on Agenda Item 3.0

		2009-2015	<p><b>Pacific Area</b> No APANPIRG regional working group established</p> <p>(Informal</p> <ul style="list-style-type: none"> <li>• South Pacific ATS Coordination Group – ISPACG,</li> <li>• Pacific ATS Coordinating Group – IPACG, and</li> <li>• East Asia ATM Coordination Group EATMG)</li> </ul>	<p>50 NM longitudinal implemented North Pacific in 2008</p> <p>30/30 NM (RNP4) implemented Honiara, Nauru, Brisbane, Nadia Auckland Oceanic FIRs in January 2005</p> <p>30/30 NM Operational trial Oakland FIR commenced 2007, Fukuoka FIR from August 2008, Anchorage FIR estimated 2011</p>
<p><b>AOM</b> <i>(Airspace Organization and Management)</i></p>	<p><b>Cross-Polar routes</b></p> <ul style="list-style-type: none"> <li>• Improve alignment and use of cross polar routes at their south (Asian) ends.</li> </ul>	2010-2015	<p>Special ATS coordination meeting – China, Mongolia, Russian Federation, IATA (CMRI)</p> <p>Informal Cross Polar Working Group (CPWG)</p>	In progress
<b>GPIs</b>	GPI/5 Performance based navigation, GPI/8 Collaborative airspace design and management			
<b>References</b>	<ul style="list-style-type: none"> <li>• <i>Asia/Pacific Regional Performance Based Navigation Implementation Plan</i></li> <li>• <i>ICAO Performance Based Navigation Manual (Doc 9613)</i></li> <li>• <i>Terms of Reference of the ATM Coordination Groups and Task Forces implementing PBN based route structures and reduced horizontal separation minima.</i></li> </ul>			



**FANS INTEROPERABILITY TEAM - ASIA (FIT-ASIA)**  
**TERMS OF REFERENCE**

FIT-Asia Objective and Scope

The FANS Interoperability Team - Asia (FIT-Asia) shall be responsible for overseeing system configuration and the end-to-end monitoring process of datalink systems to ensure they are implemented and continue to meet performance, safety, and interoperability requirements within the Asian Region.

The FIT-Asia shall:

Implementation

- a) support the implementation and operational benefits of AIDC, CPDLC and ADS;

Reporting and problem resolution processes

- b) establish a problem reporting system;
- c) review de-identified problem reports, identify trends and determine appropriate resolution;
- d) develop interim operational procedures to mitigate the effects of problems until resolution;
- e) monitor the progress of problem resolution;
- f) prepare summaries of problems encountered and their operational implications;

System performance and monitoring processes

- g) determine and validate system performance requirements;
- h) establish a performance monitoring system;
- i) assess system performance based on information from the CRA;
- j) coordinate system testing and trials;
- k) identify accountability for each element of the end-to-end system;
- l) develop, document and implement a quality assurance plan that will provide a stable system;
- m) identify end-to-end system configurations that provide acceptable data link performance;
- n) ensure that such configurations are maintained by all stakeholders;

New procedures

- o) coordinate testing in support of implementation of enhanced operational procedures

Reporting

- p) report safety-related issues to the appropriate State or regulatory authorities for action;
- q) provide reports to relevant ATM coordinating groups; and
- r) report to RASMAG.

Relevant Central Reporting Agencies (CRA) and States will report, as required, to the FIT-Asia. ICAO Secretariat will submit reports to appropriate sub-groups of APANPIRG.

Composition of FIT-Asia

The FIT-Asia will consist of representatives from States (ANS Providers) communication service providers (CSP), CRAs, IATA, CANSO, IFALPA and IFATCA. Aircraft and ancillary equipment manufacturers may also be requested to participate.

.....