



International Civil Aviation Organization

**The Fourth Meeting of the Regional Airspace Safety Monitoring Advisory Group
(RASMAG/4)**

Bangkok, Thailand, 25 – 28 October 2005

Agenda Item 4: Review the airspace safety monitoring arrangements in the Asia/Pacific Region and the activities of regional airspace safety monitoring agencies

**PROGRESS REPORT ON SAFETY MONITORING AGENCY (SMA)
ESTABLISHMENT FOR ASIA REGION**

(Presented by Monitoring Agency for Asia Region)

SUMMARY

This working paper provides the progress and estimated costs of establishing the Safety Monitoring Agency (SMA) for safety monitoring of RNP-based horizontal-plan separation minimum application in the Asia Region, including the Bay of Bengal (BOB) and Western Pacific/South China Sea (WPAC/SCS) airspace.

1. Background

1.1 In RASMAG/3 (6-7 June 2004, Bangkok, Thailand), the following remarks regarding MAAR's intension to assist ICAO in the safety monitoring of RNP-based horizontal-plan separation minimum application in the Asia Region were discussed:

- **MAAR updated the meeting in respect of future activities, expressing its intention to fulfill the role of SMA to support the implementation of RNP-based horizontal-plane separation minima in the Asia Region, in addition to its current RMA duties.**
- In regards to the provision of airspace safety monitoring for the implementation of the RNP-based horizontal-plane separation minima in the Asia Region, although the technical capability and prior experience of MAAR as an RMA provided valuable expertise, MAAR would still need to acquire the specific technical/operational know-how for the provision of RNP-based horizontal-plane separation minima airspace monitoring. MAAR reported that, in this regard, the agency was in consultation with the FAA Technical Center and coordinating a business arrangement with CSSI, allowing MAAR to fulfill the roles and responsibilities of the SMA for the Asia Region.
- MAAR reported that in order to expand its role to provide SMA services in addition to the RMA services currently provided at no charge, MAAR would require financial support on a cost-recovery basis.

- **The meeting expressed appreciation for MAAR's existing RMA work and encouraged MAAR to pursue its present initiatives to provide SMA services.** The SMA services in the Asia Region are very limited and having an operational SMA readily available would assist States in meeting their obligations in respect of ICAO safety provisions.

1.2 At APANPIRG/16 (22-26 August 2005, Bangkok, Thailand), MAAR also reconfirmed the willingness to assume the additional safety management responsibilities as an organization approved by regional agreement to provide airspace safety services in international airspace of the Asia/Pacific Region for the implementation and operation of reduced horizontal separation. In this regards, MAAR requests the support of other concerning States in financing such expansion.

2. Progress Report

2.1 To fulfill the roles and responsibilities of the SMA for the Asia Region, AEROTHAI has been in consultation with the FAA Technical Center for the possibility of transferring the technical know-how on airspace safety monitoring for the implementation of RNP-based horizontal-plane separation minima.

2.2 AEROTHAI was advised by the FAA Technical Center that FAA is willing to assist AEROTHAI in fulfilling the roles and responsibilities of the SMA for the Asia Region under the same basis of establishing MAAR as an RMA for the RVSM implementation in Asia Region. Nonetheless, it is important to make a formal modification to the existing United States-Thai agreement covering FAA-AEROTHAI cooperation in the RVSM airspace safety monitoring before such assistance is provided. In this regard, the FAA Technical Center and AEROTHAI are in process of modifying such agreement.

2.3 Given the technical capability and prior experience of the RMA for the RVSM implementation in Asia Region, AEROTHAI/MAAR proposed the action plan for the establishment of SMA services provided in [Attachment 1](#).

2.4 It is important to note that, although the technicality for assessing risks for the implementation of RVSM and RNP-based horizontal-plane separation minima are similar, the number of different aspects needs to be reviewed. Hence, two training phases are proposed to ensure the quality of the SMA services. The agenda for the first training is provided in [Attachment 2](#). The agenda for the second training is to be determined later.

3. Cost Estimation for SMA Establishment

3.1 Based on the proposed action plan, the estimated cost of SMA establishment is provided in Table 1.

Cost Items	Estimated Cost (US Dollar)	
	Initial Setup (2006-07 Combined)	Per-Year After Initial Setup (Starting 2008)
Setup Cost-Training	40,000	-
Setup Cost-System and Equipment	10,000	-
Operating Cost-Coordination/Task Force Meetings	25,000	40,000
Staff Wages	80,000	60,000
Total cost	155,000	100,000

Table 1: Total Cost of SMA Establishment

3.2 The total costs shown above represents all of the expected expenses incurring in the SMA establishment and ongoing services, which include the setup, operating (meeting and coordination), and staff-wage costs.

4. Actions by the Meeting

4.1 The meeting is invited to note:

- a) The progress of AEROTHAI in fulfilling the roles and responsibilities of the SMA for the Asia Region.
- b) The proposed cost of SMA establishment and services for further discussion on the required funding arrangement.

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Attachment 1

PROPOSED ACTION PLAN FOR SMA ESTABLISHMENT

Item	Work Description	2005			2006										2007							
		O c t	N o v	D e c	J a n	F e b	M a r	A p r	M a y	J u n	J u l	A u g	S e p	O c t	N o v	D e c	J a n	F e b	M a r	A p r	M a y	J u n
1	Consult with FAA Technical Center for SMA establishment												If a p p r o v a l is g r a n t e d .									
2	Modify FAA-AEROTHAI agreement																					
3	Arrange funding requirements																					
4	SMA Training 1																					
5	Review collision risk model and risk estimation methodology																					
6	Setup SMA system																					
7	Provide the progress report of SMA establishment to RASMAG for acknowledgement and endorsement																					
8	Propose the progress report of SMA establishment in ATM/AIRSAR Subgroup for endorsement																					
9	Propose the action plan of SMA establishment to the APANPIRG for official approval																					
10	Assume SMA duties and responsibilities													→	←							
11	Request required data for the preliminary safety assessment																					
12	Conduct preliminary safety assessment																					
13	SMA Training 2																					
14	Report the first airspace safety review in RASMAG																					

Attachment 2

SAFETY MONITORING AGENCY TRAINING

PROPOSED AGENDA

Agenda Item 1: Safety Monitoring Agency (SMA): Overview

- Basis for SMA Establishment
- SMA Duties and Responsibilities

Agenda Item 2: SMA Requirements

- Required Data
- Required Forms and Templates
- Database Structure
- Data Sharing

Agenda Item 3: Safety Assessment Procedures

- Overview of collision risk methodology
 - o Assumptions underlying the model
 - o Development of the basic model
- Collision risk methodology
- RNP safety goal: the Target Level of Safety (TLS)
- Know Your Airspace Analysis for Lateral Safety Assessment
- Lateral deviations
 - o Categories and causes
 - o Reporting mechanism of the deviation occurrences within a Region

Agenda Item 4: Estimation of CRM Parameters

- Overview of CRM Parameters
- Estimation Methodology
- Associated Data Requirements

Agenda Item 5: Review of Draft SMA Handbook (if available)

Agenda Item 6: Any Other Business

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