International Civil Aviation Organization

The Twelfth Meeting of the FANS Implementation Team, Bay of Bengal (FIT-BOB/12) and the Second Meeting of the Bay of Bengal Reduced Horizontal Separation Implementation Task Force (BOB-RHS/TF/2)

Bangkok, Thailand, 22 – 26 February 2010

Agenda Item 8: Any Other Business

OUTCOMES OF RASMAG/12

(Presented by the Secretariat)

SUMMARY

This paper presents outcomes of the 12th Meeting of the Asia/Pacific Regional Airspace Safety Monitoring Advisory Group (RASAMG/12, December 2009) in regard to data link operations, for the meeting's review.

1. INTRODUCTION

1.1 RASMAG/12 was held in the Regional Office, Bangkok, Thailand from 14 to 18 December 2009. The outcomes of RASMAG/12 in terms of data link operations and FIT/CRA are recorded in the report as follows:

2. DISCUSSION

Airspace Safety Monitoring Documentation and Regional Guidance Material

RASMAG List of Competent Airspace Safety Monitoring Organizations

*4.1 RASMAG is required by its terms of reference to recommend and facilitate the implementation of airspace safety monitoring and performance assessment services and to review and recommend on the competency and compatibility of monitoring organizations. Accordingly, the meeting reviewed and updated the "*RASMAG List of Competent Airspace Safety Monitoring Organizations*"* (shown at **Attachment A** hereto) *for use by States requiring airspace safety monitoring services.*

Airspace Safety Monitoring Activities/Requirements in the Asia/Pacific Region

EMA Handbook PBN Approvals Database Format

5.1 It was recalled that RASMAG/11 considered that EMAs would, initially at least, only conduct safety assessments for en-route traffic. However, if the EMA databases were designed to include a set of PBN approval fields that covers all PBN approval types, they would be future-proofed against changes in the scope of the tasks of the EMAs.

5.2 A format had been developed that specifically includes all current PBN and data link approval type, as shown at Appendix D to this report (**Attachment B** hereto). *New Zealand had proposed combining the RVSM, PBN and data link approvals databases, and so, in anticipation, the proposed format also allows for RVSM approvals. While Appendix D shows a proposed database record format, the same structure could be used as the form for States to report additions and changes to their approvals.*

5.4 The meeting thanked New Zealand for the revised proposal and discussed issues associated with the format. The meeting endorsed the format at Appendix D and tasked the Secretary to amend the EMA Manual accordingly.

Unified Approvals Database

5.5 New Zealand reported that in discussing the notion of a Regional PBN Approvals database, RASMAG/11 had agreed not to pursue the regional database at the present time but had requested States to consider the proposal and how to best provide data for inclusion when it was eventually established. The number of PBN approvals that an aircraft may hold requires a more complex database than for RVSM approvals. There are a number of navigation specifications that must be allowed for; the approvals are not hierarchical and may be airspace-dependent. For example, an aircraft's navigation equipment may qualify it to hold an RNP 1 approval but not an RNP 4 approval, and that RNP 1 approval may only apply in airspace where the required navigation infrastructure is in place.

5.7 Where an organisation provides both RMA and EMA functions it would be feasible to combine the RVSM, PBN and data link approvals databases. This would provide a single record for each aircraft and would avoid the duplication of the nine or more fields of common data for that aircraft, such as aircraft type, operator and state of registry. A combined RVSM, PBN and data link approvals database would allow States to provide approvals data to a single Monitoring Agency; the data will be distributed to other agencies through Monitoring Agency internal data exchange mechanism. Sending data to a single agency is considered to be a significant benefit in reducing overhead activities and minimizing the risks of errors.

5.8 The meeting thanked New Zealand for the paper and some States commented that a number of RMAs already make the approvals data available to ANSPs and that as a result possibly this was an issue that only affected New Zealand. However, the meeting agreed to review the proposal to collect the additional data and to bring comments on the proposal to RASMAG/13 for further consideration.

China as RMA for the Oceanic Airspace of the Sanya FIR

5.15 The meeting noted the intention of China, and endorsed the proposed action. In Conclusion 19/14, APANPIRG had explicitly authorised China as the RMA for China's sovereign airspace. It was also noted that RASMAG/11 had endorsed China RMA's taking over from MAAR as the RMA for the Pyongyang FIR. The meeting therefore drafted a draft Conclusion for submission to APANPIRG/21 in September 2010

RVSM Non-Approved Operators Using RVSM Airspace

5.21 China RMA advised the meeting that in Chinese RVSM airspace, air traffic controllers were required to check the item 10 of the flight plan ("/W" or "/Q" for the aircraft RVSM approval). In practice, some operators were simply filing a flight plan indicating that RVSM approval has already been issued and flying at RVSM levels while in fact the operator is identified as operating a non-approved aircraft. To assist in resolving these types of issues and to provide better oversight for controllers, China RMA has a plan to establish a system to identify non-approved aircraft using Chinese airspace and provided full details on this system to the fourth Global Regional Monitoring Agency Special Coordination Meeting (RMASCM/4) in November 2009.

RVSM Approved Aircraft ADS-B Equipage in Australia

5.21 Given the extensive coverage of ADS-B within the RVSM flight levels in Australia, the AAMA has been undertaking an analysis to determine which operators and aircraft type have the potential to be monitored using ADS-B surveillance system in the short-term. In doing this work, the AAMA was cognizant of the fact that after 12 December 2013, all aircraft operating over Australian territory above FL290 must be ADS-B equipped. This paper provides some details of that analysis.

5.22 Table 1 below summarises the main Australian operators that flight planned within the RVSM airspace during May 2009 and whether they have aircraft that are ADS-B equipped that would enable height-keeping monitoring using that system.

Australian Operator	Aircraft Type	ADS-B equipped
Qantas	A330	yes
	A380	yes
	B737CL	no
	B737NX	yes
	B747CL	no
	B744	yes
	B767CL	no
Virgin Blue	B737NX	yes
	E170-190	no
Jetstar Australia	A320	yes
	A330	yes
V Australia	B773	yes
National Jet Systems Group	B712	no
	AVRO	no
Alliance Airlines	F100	no
SkyWest Airlines	F100	yes
Tiger Airways Australia	A320	yes
Strategic Airlines	A320	yes
	A330	no

Australian Operator	Aircraft Type	ADS-B equipped
Pel-Air	LJ35/6	no
	IAI1124	no
Airnorth	E170-190	no

Table 1: *Australian Operators That Flight Planned within the RVSM Airspace during May 2009*

Data Link Performance

5.41 New Zealand noted a report to the Informal South Pacific ATS Coordination Group (ISPACG) FANS Interoperability Team (FIT) Central Reporting Agency (CRA) that an A345 fleet had displayed a downward trend in data link performance in terms of both ADS-C and CPDLC round-trip times. This was thought to be due to increasing use of on-board passenger facilities for the Internet access and in-flight telephone connectivity via satellite. The New Zealand ANSP had, as a result, curtailed reduced distance-based separation for that A345 fleet that required compliance with the Oceanic SPR communications performance standards. It was understood that a software upgrade to the ground earth station would resolve the problem, and that this upgrade had been approved.

5.42 *The meeting thanked New Zealand for brining this issue to its attention and asked that it be kept appraised of any further developments. The Chairman stated that in his view and as initially proposed when RASMAG was established, that the group should be provided with meeting outcomes and data analysis presented at CRA and FIT meetings so that RASMAG can maintain a high-level overview of issues that may impact safety in the region. This was agreed by the meeting and the Secretary was tasked to write formally to the Chairs of the relevant groups asking for such material to be provided to RASMAG on an on-going basis.*

Review and Update RASMAG Task List

6.1 The meeting agreed that the updated task list included (as **Attachment B** hereto) *accurately reflected the work programme of RASMAG.*

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the outcomes of RASMAG/12.

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APANPIRG Asia/Pacific Airspace Safety Monitoring

RASMAG LIST OF COMPETENT AIRSPACE SAFETY MONITORING ORGANIZATIONS

The Regional Airspace Safety Monitoring Advisory Group of APANPIRG (RASMAG) is required by its terms of reference to recommend and facilitate the implementation of airspace safety monitoring and performance assessment services and to review and recommend on the competency and compatibility of airspace monitoring organizations. In order to assist in addressing these requirements, RASMAG updates and distributes the following list of competent airspace safety monitoring organizations for use by States requiring airspace safety monitoring services. In the context of the list, abbreviations have meanings as follows:

- RMA – Regional Monitoring Agency – safety assessment and monitoring in the vertical plane (i.e. RVSM);
- EMA – En-route Monitoring Agency – safety assessment and monitoring in the horizontal plane (i.e. RHSM, RNAV10, RNP4);
- CRA – Central Reporting Agency – technical performance of data link systems (i.e. ADS/CPDLC); and
- FIT – FANS 1/A Interoperability/Implementation Team – parent body to a CRA.

(Last updated ~~12 June~~ 17 December 2009)

Organisation *(including contact officer)*	State	Competency	Status	Airspace assessed (FIRs)
Australian Airspace Monitoring Agency (AAMA) - Airservices Australia http://www.airservicesaustralia.com/organisations/aama/default.asp Mr. Robert Butcher, Operational Analysis Manager, Safety and Environment Group email: robert.butcher@airservicesaustralia.com or aama@airservicesaustralia.com	Australia	APANPIRG RMA	Current	Brisbane, Honiara, Jakarta, Melbourne, Nauru, Port Moresby and Ujung Pandang FIRs.
		EMA	Current	Brisbane, Melbourne FIRs.

ATTACHMENT A

Organisation *(including contact officer)*	State	Competency	Status	Airspace assessed (FIRs)
China RMA - **Air Traffic Management Bureau, (ATMB) of Civil Aviation Administration of China (CAAC)** http://www.chinarma.cn (secure site) Mr. Tang Jinxiang, Engineer of Safety and Monitoring Technical Group, ATMB email: tangjx@adcc.com.cn	China	APANPIRG RMA	Current	Beijing, Guangzhou, Kunming, Lanzhou, Shanghai, Shenyang, Urumqi Wuhan Sanya and Pyongyang FIR.
JCAB RMA - **Japan Civil Aviation Bureau** Mr. Noritoshi Suzuki, Special Assistant to the Director, Flight Procedures and Airspace Program Office, email: suzuki-n248@mlit.go.jp	Japan	APANPIRG RMA	Current	Fukuoka FIR
		EMA	Available fourth quarter – 2009	Fukuoka FIR

Organisation *(including contact officer)*	State	Competency	Status	Airspace assessed (FIRs)
Monitoring Agency for the Asia Region (MAAR) – Aeronautical Radio of Thailand LTD http://www.aerothai.co.th/maar Mr. Nuttakajorn Yanpirat, Executive Officer, Systems Engineering,Aeronautical Radio of Thailand Ltd. email: nuttakajorn.ya@aerothai.co.th or maar@aerothail.co.th	Thailand	APANPIRG RMA	Current	Bangkok, Kolkatta, Chennai, Colombo, Delhi, Dhaka, Hanoi, Ho Chi Minh, Hong Kong, Karachi, Kathmandu, Kota Kinabalu, Kuala Lumpur, Lahore, Male, Manila, Mumbai, Phnom Penh, Singapore, Taibei, Ulaan Bataar, Vientiane, Yangon FIRs
Pacific Approvals Registry and Monitoring Organization (PARMO) – Federal Aviation Administration (US FAA) http://www.tc.faa.gov/acb300/parmo Mr. Dale Livingston, Manager, Separation Standards Analysis Team, FAA, email: dale.livingston@faa.gov or aparmo@faa.gov	USA	APANPIRG RMA	Current	Anchorage Oceanic, Auckland Oceanic, Incheon, Nadi, Oakland Oceanic, Tahiti FIRs
		EMA	Current	Anchorage Oceanic, Oakland Oceanic

ATTACHMENT A

Organisation *(including contact officer)*	State	Competency	Status	Airspace assessed (FIRs)
South East Asia Safety Monitoring Agency (SEASMA) - Civil Aviation Authority of Singapore (CAAS) Mr. Kuah Kong Beng, Chief Air Traffic Control Officer, email: KUAH_Kong_Beng@caas.gov.sg	Singapore	EMA for South China Sea	Current	Hong Kong, Ho Chi Minh, Kota Kinabalu, Kuala Lumpur, Manila, Sanya and Singapore FIRs
FIT - SEA (ICAO Regional Office email icao_apac@bangkok.icao.int & **CRA Japan** Mr. Mitsuo Hayasaka, Deputy Director, Air Traffic Control Association Japan, email:hayasaka@atcaj.or.jp	ICAO Regional Office & CRA Japan	FIT & CRA	Current	South China Sea FIRs
IPACG/FIT Mr. Takahiro Morishima, JCAB Co-Chair email: morishima-t2zg@mlit.go.jp & Mr. Reed Sladen, FAA Co-Chair, email: reed.b.sladen@faa.gov	Japan & USA	FIT & CRA	Current	North & Central Pacific (Oceanic airspace within Fukuoka FIR, and Anchorage & Oakland FIRs)

Organisation *(including contact officer)*	State	Competency	Status	Airspace assessed (FIRs)
CRA Japan Mr. Mitsuo Hayasaka, Deputy Director, Air Traffic Control Association Japan, email: hayasaka@atcaj.or.jp	Japan	CRA	Current	Fukuoka FIR for IPACG/FIT Ho Chi Minh, Manila, Singapore FIRs for FIT-SEA
FIT - BOB ICAO Regional Office email icao_apac@bangkok.icao.int & Mr. Bradley Cornell, Boeing Engineering email: Bradley.D.Cornell@Boeing.Com	ICAO Regional Office & Boeing USA	FIT & CRA	Current	Bay of Bengal FIRs, Ujung Pandang and Jakarta FIRs, provides assistance to the members of the Arabian Sea/Indian Ocean ATS Coordination Group (ASIOACG)
ISPACG/FIT Mr. Bradley Cornell, Boeing Engineering email: Bradley.D.Cornell@Boeing.Com	Boeing USA	FIT & CRA	Current	South Pacific FIRs and members of the Informal South Pacific ATS Coordination Group (ISPACG)

RASMAG — TASK LIST

(last updated ~~12 June~~16 December 2009)

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
8/6	Take action to implement Long-Term Height Monitoring (LTHM) Actions ~~1 6~~1, 5 and 6 as described in RASMAG/8 report. In particular, ensure arrangements for regional cooperation between RMAs.	~~RASMAG/12~~ RASMAG/13	Asia/Pacific RMAs	Open	RASMAG LTHM Actions promulgated by State Letter AP018/8 of 31 January 2008. RASMAG/9 informed no progress made due to priority workloads for all RMAs and Regional Office. RASMAG/10 informed of actions taken so far, update RASMAG/11 about progress RASMAG/12 agreed: LTHM Action 1 Open LTHM Action 2 Completed LTHM Action 3 Completed LTHM Action 4 Completed LTHM Action 5 Open LTHM Action 6 Open
~~9/4~~	~~Japan to attempt to capture and analyse data in relation to implementation of AIDC with Republic of Korea during 2009 Attempt to show Category E LHD performance before and after implementation of AIDC~~	~~RASMAG/12~~	~~JCAB RMA~~	~~Open~~ Completed	~~AIDC trials commenced May 2009, implementation scheduled June 2009, JCAB RMA will update RASMAG/12~~
~~10/1~~	~~Standardise annual December TSD data collection template across all RMAs for regional application. Noting intention to expand use of December TSD to EMA and general planning and implementation, ensure collection of "En route PBN Approvals Status" (e.g. RNP 4) and ATS route parameters.~~	~~RASMAG/11~~	~~Asia/Pacific RMAs, EMAs~~	~~Open~~ Completed	~~Lead RMA is PARMO. RMAs to work by correspondence, present final template to RASMAG/11 for adoption~~ ~~RASMAG/11 adopted standardised temp[late with new columns for aircraft registration and en route PBn capability~~

ATTACHMENT B

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
10/2	Undertake studies to quantify the magnitude of the problem of RVSM non-approved flights operating in RVSM airspace. Identify solutions.	~~RASMAG/12~~ RASMAG/13	Asia/Pacific RMAs,	Open	Lead RMA is PARMO. RMAs to work by correspondence, present adequate information to RASMAG/11 to compile briefing for APANPIRG PARMO provided update report to RASMAG/11, further development required before reporting to APANPIRG RMAs will provide RASMAG/13 with activity reports on solutions.
~~10/3~~	~~Recognising delays in RMA manual, Annex 6 monitoring requirements not implemented until Nov 2010, encourage APANPIRG to adopt MAAR MMRs as recommended by RASMAG.~~	~~RASMAG/12~~	~~RASMAG, Regional Office~~	~~Open~~ Completed	~~RASMAG/10 prepared draft APANPIRG Conclusion for consideration by APANPIRG in September 2009.~~ ~~RASMAG/11 updated MMRs to include E170, E190 & A388.~~
10/7	Prepare Taxonomy of RMA related terms with objective of clarifying and standardising reporting of LHD by States and limiting under reporting. Consider inclusion of taxonomy as appendix to Regional Monitoring Impact Statement	~~RASMAG/12~~ RASMAG/13	Asia/Pacific RMAs	Open	Lead RMA is AAMA. RMAs to work by correspondence, present final version to RASMAG/11 for inclusion in impact statement
~~10/8~~	~~Prepare final version of EMA Handbook for recommendation by RASMAG/11 to APANPIRG for adoption as regional guidance material~~	~~RASMAG/12~~	~~Small drafting Group (SEMAHRT members)~~	~~Open~~ Completed	~~Present final version to RASMAG/11 for Recommendation~~ ~~RASMAG/11 adopted advanced draft and continued small drafting group to prepare a submission to APANIRG/20 in September 2009.~~

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
~~10/9~~	~~Write advanced draft of Regional Impact Statement for long-term height monitoring as required by APANPIRG Conclusion 18/4~~	~~RASMAG/12~~	~~Small drafting Group (Mr Butcher, Mr Tang Jinxiang, Mr Yanpirat, Mr Oseto, Ms Falk, Mr Farmer and RASMAG Secretary)~~	~~Open~~ Completed	~~Present advanced version to RASMAG/11 as basis for APANPIRG briefing~~ ~~RASMAG/11 adopted advanced draft and continued small drafting group to prepare a submission to APANIRG/20 in September 2009. RMAs to populate monitoring burden tables and send to Regional Office by 31 July.~~
10/11	Standardise methodology of assessing duration of LHDs in application of the CRM	~~RASMAG/12~~ RASMAG/13	Asia/Pacific RMAs	Open	Lead RMA is AAMA. RMAs to work by correspondence, present updated information to RASMAG/11. PARMO presented information to RASMAG/11 on durations for crossing flight levels, further study and update to RASMAG/12. PARMO will present updated information to RASMAG/13 on durations for crossing flight levels.
~~11/1~~	~~RMAs agreed to amend wording on LHD submission template to read to read "*Were the Supervisors of the transferring and receiving ACCs advised of this LHD occurrence?*"~~	~~RASMAG/12~~	~~Asia/Pacific RMAs~~	~~Open~~ Completed	

ATTACHMENT B

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
11/2	Prepare RASMAG template letter for use by RMAs in resolving difficulties with States. Such a letter would specify that the request has been made on behalf of RASMAG which has specific empowerment from APANPIRG. RASMAG/11 paragraph 2.8 refers.	~~RASMAG/12~~ RASMAG/13	Asia/Pacific RMAs, Secretariat	Open	RMAs to work by correspondence and present a draft template letter to RASMAG/13.
~~11/3~~	~~Include aircraft identification and en-route PBN approval type in RMA TSD templates to encourage inclusion of this data in Annual December TSD~~	~~RASMAG/12~~	~~Asia/Pacific RMAs~~	~~Open~~ Completed	
12/1	The Chairman to develop proposed wording for the RVSM Manual (Doc 9574) as detailed in para 2.4 of RASMAG/12 report and to circulate the material to the RASMAG members for review prior to the end of March 2010. The Chairman to ensure that the wording was included in the revised draft to be presented to SASP in May 2010.	31 March 2010	Chairman	Open	Australia presented the draft amendment to RASMAG/12. Experience of Western Pacific/South China Sea (WPAC/SCS) RVSM Scrutiny Group could be included.
12/2	Initial analysis of LTHM infrastructure developed at RASMAG/12 detailed in para 2.15 of the report, should be reviewed by each RMA and State represented at RASMAG to consider further details in the interim before RASMAG/13. Additionally each of the RMAs to develop an analysis of the States for which they are responsible assuming that the proposed monitoring systems were in place. The analysis should determine the aircraft numbers and types that would be monitored by those systems. The data is to be presented in tables similar to those used by Australia in WP/20 at RASMAG/12. The data should be collected, analysed and forwarded to MAAR by end of April 2010, and thereafter reported by States to RASMAG/13.	1/ End of April 2010 2/ RASMAG/13	All RMAs	Open	APANPIRG/20 (September 2009, Bangkok) was of view that more information was needed on which to base any decision and agreed that RASMAG would be tasked.
12/3	Expand coordination with FANS Implementation/Interoperability Teams (FIT) and/or Central Reporting Agencies (CRA) to obtain updated information on data link system performance	RASMAG/13	Regional Office	Open	Regional Office will send a State letter to Chairpersons of FIT and/or CRAs to have the holistic view of the data link application problems

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
12/4	Provide analysis of AIDC implementation and the effect of those implementations of the level of Category E LHD reports.	RASMAG/13	Asia/Pacific RMAs	Open	Japan captured and analysed data in relation to implementation of AIDC. RMAs will attempt to show Category E LHD performance before and after implementation of AIDC.
12/5	EMA Manual to be amended by Appendix D PROPOSED APPROVALS DATABASE RECORD FORMAT to the RASMAG/12 report.	RASMAG/13	Secretary	Open	Para 5.4 of the RASMAG/12 report
12/6	Review the proposal contained in WP/2 of RASMAG/12 and bring comments on the proposal to RASMAG/13 for further consideration.	RASMAG/13	ALL	Open	RASMAG/12 was presented by New Zealand on a common approvals database.
12/7	Coordinate the proposal to use Field 18 of the flight plan on a regional basis to identify an aircraft's PBN approvals, to the Flight Plan & ATS Message Task Force and to the ATM/AIS/SAR Sub-Group	February 2010	Secretary and Singapore	Open	RASMAG/12 Report para 5.12
12/8	State letter to be sent from Regional Office to China requesting them to provide China RMA with the necessary support for the establishment of a ground-based monitoring system.	Following coordination of draft letter	Secretary and China RMA	Open	RASMAG/12 report para 5.20
12/9	Continue joint research activity to explore ADS-B derived geometric height as a data source for aircraft height-keeping performance monitoring	RASMAG/13	Australia and United States	Open	