



ICAO

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**Twenty-Fifth Meeting of the Regional Airspace Safety
Monitoring Advisory Group (RASMAG/25)**

Video Teleconference, 27 – 30 October 2020

Agenda Item 5: Airspace Safety Monitoring Activities/Requirements in the Asia/Pacific Region

**ESTIMATE OF RVSM LONG TERM HEIGHT MONITORING BURDEN FOR THE
AUSTRALIAN AIRSPACE MONITORING AGENCY (AAMA)**

(Presented by AAMA)

SUMMARY

This paper presents the current monitoring burden for aircraft registered and operated by Australia, Indonesia, the Solomon Islands, Papua New Guinea and Vanuatu to meet Annex 6 requirements.

1. INTRODUCTION

The Long Term Height Monitoring Impact Statement developed by RASMAG was endorsed by APANPIRG/20 in September 2009. That statement included a determination by each of the Asia/Pacific Regional Monitoring Agencies (RMAs) of the anticipated monitoring burden for each State within the region. This paper provides an update to the anticipated monitoring burden data provided by the Australian Airspace Monitoring Agency (AAMA) at RASMAG/24.

2. DISCUSSION

2.1 The AAMA has previously supplied data on its anticipated monitoring burden following the implementation of long term height monitoring in November 2010. The data was based on a review of the current RVSM approvals data for the State airspaces that the AAMA is responsible for, taking into account completed successful monitoring activity.

2.2 A review of the most recent RVSM approvals databases maintained by the AAMA on behalf of ICAO determined that the total number of RVSM approved aircraft totalled 1234 as at 27 September 2020. This represents an increase of 25 aircraft since RASMAG/24 in July 2019.

2.3 Applying the minimum monitoring requirements (MMR) to the total of approved aircraft (including Australian military) results in a total monitoring burden of 367 aircraft. Taking into account the aircraft already successfully monitored, the current outstanding burden is 92 aircraft which represents an increase of 46 from that reported in July 2019. Table 1 shows a summary of the total approved airframes and the current outstanding burden:

State	Total number of approved airframes	Total number of Airframes contributing to Resultant Monitoring Burden	Total number of airframes Remaining To Be Monitored (Current burden)
Australia	693	269	44
Indonesia	518	83	46
Solomon	1	1	1

Islands			
PNG	21	13	1
Vanuatu	1	1	0
Total	1234	367	92

Table 1. Summary of Monitoring Burden

2.4 Of the total Australian civil registered and military RVSM approved fleet, 44 airframes are considered overdue in terms of the minimum monitoring requirements (MMR). This means that either the aircraft have not been monitored at all, or the operator has not met the 2 year requirement for subsequent monitoring. Each of these 44 aircraft are either operated by the Australian military, are business jets or single aircraft private operators. Some of the Australian military aircraft are fitted with ADS-B as required under the Australian mandate but the aircraft were not squitting geometric height in the ADS-B message and therefore cannot be monitored using the AAMAs ADS-B Height Monitoring System (AHMS). The AAMA continues to follow up the status of these operators with the relevant authorities.

2.5 In relation to Indonesian registered RVSM approved aircraft, 46 aircraft remain overdue in terms of the MMR. This is equal to 55.4% of the total number of airframes contributing to Indonesia’s Monitoring Burden, and represents an increase of 29 aircraft from the number reported at RASMAG/24. Difficulties with accessing GMU monitoring in a timely way, renewing of approvals or not operating outside Indonesian FIRs underlie the overdue status for these aircraft. The AAMA will continue to source suitable ADS-B data so that more effective monitoring of Indonesian aircraft can take place.

2.6 The AAMA has also monitored a number of Royal Australian Air Force aircraft including the A737-AWACS, KC30 and B737NX fleets. These aircraft were monitored with a mix of ADSB and GMU systems. Monitoring data for the C17 fleet has previously been provided by other RMAs using Height Monitoring Units (HMUs).

APANPIRG List of Deficiencies

2.7 AAMA would like RASMAG to propose to APANPIRG to inform **Indonesia** of the non-compliance status with regards to LTHM requirement (remaining monitoring burden more than 30%) this year, which may result in an inclusion in the APANPIRG List of Deficiencies in the ATM/AIS/SAR fields next year if the problem persists.

ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) Review the information provided in the paper and Attachment 1; and
- b) Use the information to update the current monitoring burden anticipated for the Asia/Pacific RMAs.

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Australia

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1,2,3)	Total #Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of Aircraft Remaining To Be Monitored
ANO	CAPITEQ LTD	E170-190	1	4	2	0
CFH	CAREFLIGHT LIMITED	BE40	1	3	2	0
IGA	AERO CORPORATE CHARTERS PTY LTD	C560	1	1	1	0
		BE30	2	1	1	1
	AIR NATIONAL AUSTRALIA PTY LTD	CL600	1	1	1	0
		GLEX	1	1	1	0
	AIRCORRIGAN PTY LTD	TBM	2	1	1	0
	ALTITUDE AVIATION PTY LTD	C525	1	3	2	0
	ANTHONY JOHN LODGE	TBM	2	1	1	1
	AUS WEST AIRLINES (2010) PTY LTD	LJ35-36	2	3	2	0
	AUSTRALIAN CORPORATE JET CENTRE	C560	1	1	1	0
		CL600	1	2	2	1
		GLEX	1	1	1	0
		H25B-800	1	2	2	0
		C500	2	1	1	0
	AVCAIR PTY LTD	E50P	1	1	1	0
		LJ60	1	1	1	0
		BE20	2	2	2	0
		BE30	2	1	1	0
	AVIAIR PTY LTD	C510	1	1	1	0
	AVIATION LOGISTICS OPERATIONS	C510	1	2	2	0
	BALMORAL AIR PTY LTD	F2TH	2	1	1	0
	BARON CAPITAL PTY LTD	C525	1	1	1	0
	BASAIR AUSTRALIA PTY LTD	BE20	2	1	1	0
	BDC AVIATION PTY LTD	CL600	1	1	1	0
	BELUGA CHARTER COMPANY PTY LTD	GLEX	1	1	1	0
	BRENZIL PTY LIMITED	FA7X	1	1	1	0
	BUSINESS AVIATION SOLUTIONS PTY LTD	BE40	1	1	1	1
		C650	1	1	1	1
		CL600	1	1	1	0
		GLEX	1	1	1	0
		FA20	2	2	2	0
		FA50	2	1	1	0
	CAPITAL JET RESOURCES PTY LTD	WW24	2	1	1	0
	CML AVIATION PTY LTD	GLF4	1	1	1	1
CROWN MELBOURNE LTD	GLEX	1	3	2	0	
	GLF4	1	1	1	0	
DAVID STUART FISHER	C510	1	1	1	0	
DIVAIR PTY LTD	C25B	1	1	1	0	

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1,2,3)	Total #Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of Aircraft Remaining To Be Monitored
	EDWARDS COACHES PTY LTD	C650	1	1	1	1
	EMPRJA PTY LTD	C550-II	2	1	1	0
	EXECUJET AUSTRALIA PTY LTD	CL600	1	1	1	0
		GLEX	1	3	2	0
		H25B-800	1	1	1	0
	EXECUTIVE AIRLINES PTY LTD	C680	1	1	1	0
		C550-B	2	1	1	0
	EXPRESS FREIGHTERS AUSTRALIA	B737CL	1	5	2	0
		B767	1	1	1	0
	FALCONAIR PTY LTD	F900	1	1	1	0
		F2TH	2	1	1	0
	FLIGHT OPTIONS (AUSTRALIA) PTY LTD	C510	1	1	1	0
		C650	1	3	2	0
		E55P	1	1	1	0
		C550-B	2	1	1	0
	FMG AIR PTY LTD	GLEX	1	1	1	0
	GAMBAMORA INDUSTRIES PTY LTD	BE30	2	1	1	0
	GANDEL INVESTMENTS PTY LTD	GLEX	1	1	1	0
		GL7T	2	1	1	0
	GOJET PTY LTD	LJ60	1	2	2	0
		LJ31	2	1	1	0
		LJ35-36	2	13	8	0
	GRAHAM AVIATION CAIRNS PTY LTD	C510	1	1	1	0
	GULF AIRCRAFT PTY LTD	C680	1	1	1	0
	HENADECK PTY LTD	C525	1	1	1	0
	HOMADA PTY LTD	C56X	1	1	1	0
	INTERAIR PTY LTD	P180	2	1	1	0
	IVAN ERCEG	C525	1	1	1	0
	JET CITY PTY LTD	C750	1	1	1	0
		GLF4	1	1	1	0
		LJ45	1	2	2	2
		LJ31	2	1	1	1
	JETGO AUSTRALIA HOLDINGS PTY LTD	E135-145	1	5	2	2
	LANSTAL PTY LIMITED	BE20	2	1	1	0
	LEPPINGTON PASTORAL CO PTY LTD	BE30	2	1	1	0
	LIFEFLIGHT AUSTRALIA LIMITED	CL600	1	1	1	0
		CL604	1	3	2	0
		LJ45	1	2	2	0
	LITTLE AVIATION PTY LTD	GLF6	2	1	1	0
	LLOYD AVIATION JET CHARTER PTY LTD	F900	1	1	1	0

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1,2,3)	Total #Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of Aircraft Remaining To Be Monitored
	MACHJET INTERNATIONAL PTY LTD	C525	1	2	2	0
	MARCPLAN CHARTER PTY LTD	E135-145	1	1	1	0
		GLF4	1	1	1	1
	MATTHEW ALEXANDER LUMB	PAY4	2	1	1	1
	MAXEM AVIATION PTY LTD	C560	1	1	1	0
		F900	1	2	2	0
		C550-B	2	1	1	0
	MITCHELL WATER AUSTRALIA PTY LTD	C525	1	1	1	0
	NANTAY PTY LTD	H25B-800	1	1	1	0
	NAVAIR FLIGHT OPERATIONS PTY LTD	C510	1	1	1	0
		BE20	2	1	1	0
	OBERON AVIATION SERVICES PTY LTD	WW24	2	1	1	0
	PACIFIC AIR EXPRESS AUSTRALIA PTY LIMITED	B752	1	1	1	0
	PACIFIC FLIGHT SERVICES PTY LTD	GLF5	1	1	1	0
		LJ45	1	1	1	0
		LJ60	1	1	1	0
		C550-B	2	1	1	0
		G150	2	2	2	0
		LJ35-36	2	1	1	0
	PEL-AIR AVIATION	WW24	2	4	3	2
	PILATUS AUSTRALIA PTY LTD	PC24	2	2	2	0
	PRATT AVIATION PTY LTD	GLEX	1	3	2	1
	PROFESSIONAL JET AVIATION PTY LTD	C525	1	1	1	0
	REVESCO AVIATION PTY LTD	CL600	1	1	1	1
		E50P	1	1	1	0
		E55P	1	1	1	0
		GLF4	1	1	1	0
		C550-B	2	1	1	0
	SELETAR JET CHARTER PTY LTD	C680	1	1	1	1
		CL600	1	1	1	0
		GLEX	1	1	1	1
		H25B-800	1	1	1	0
		LJ60	1	2	2	0
	SG AVIATION AUSTRALIA PTY LTD	GLEX	1	1	1	0
	SHORTSTOP JET CHARTER PTY LTD	F900	1	1	1	0
		C550-SII	2	1	1	0
		H25C	2	1	1	1
	SILVER LININGS AVIATION PTY LIMITED	C680	1	1	1	0
	SKIPPERS AVIATION PTY LTD	F100	1	2	2	0

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1,2,3)	Total #Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of Aircraft Remaining To Be Monitored
	SKYTRADERS PTY LTD	A320	1	3	2	0
	SOUTHERN AIR SERVICES PTY LTD	C525	1	1	1	0
	STATE OF QUEENSLAND	C560	1	1	1	0
		H25B-800	1	1	1	0
		BE30	2	1	1	0
	SUNSHINE AIR SERVICES PTY LTD	CL600	1	1	1	0
	SURVEILLANCE AUSTRALIA PTY LTD	CL600	1	2	2	0
		CL604	1	2	2	0
	T R PASTORAL PTY LTD	C25A	1	1	1	1
	TEYS AUSTRALIA PTY LTD	C525	1	1	1	0
	TWENTIETH SUPER PACE NOMINEES PTY LTD	C680	1	1	1	0
	UP AVIATION PTY LTD	GLEX	1	1	1	0
	VEE H AVIATION PTY LTD	C441	2	1	1	0
	VH-JSO PTY LTD	C525	1	1	1	0
	WALKER AIR SERVICES PTY LTD	GLEX	1	1	1	0
YULGILBAR PASTORAL CO PTY LTD	C560	1	1	1	0	
JST	JETSTAR AIRWAYS PTY LTD	A320	1	58	2	0
		B787	1	11	2	0
MIL	ROYAL AUSTRALIAN AIR FORCE	B737-AWACS	1	6	2	0
		B737NX	1	2	2	0
		C130	1	12	2	2
		C17	1	6	2	2
		A332-M	2	6	4	1
		BE30	2	8	5	5
		P8	2	12	8	8
NHN	NETWORK AVIATION PTY LTD	A320	1	4	2	0
		F100	1	17	2	0
NJS	NATIONAL JET SYSTEMS PTY LTD	B712	1	20	2	0
OZW	VIRGIN AUSTRALIA REGIONAL AIRLINES PTY LTD	A320	1	5	2	0
		F100	1	14	2	0
QFA	QANTAS AIRWAYS LTD	A330	1	28	2	0
		A380	1	12	2	0
		B737NX	1	75	2	0
		B744-10	1	6	2	0
		B787	1	12	2	0
RFDS	ROYAL FLYING DOCTOR SERVICE (SOUTH EAST)	PC12	1	1	1	0
		BE30	2	4	3	1

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1,2,3)	Total #Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of Aircraft Remaining To Be Monitored
	ROYAL FLYING DOCTOR SERVICE (WESTERN OPERATIONS)	PC24	2	2	2	0
	ROYAL FLYING DOCTOR SERVICE AUSTRALIA (QLD)	BE20	2	16	10	0
		BE30	2	4	3	0
	ROYAL FLYING DOCTOR SERVICE CENTRAL OPERATIONS	PC24	2	2	2	0
RON	NAURU AIR CORPORATION	B737CL	1	5	2	0
TGW	TIGER AIRWAYS AUSTRALIA PTY LTD	A320	1	10	2	0
		B737NX	1	6	2	0
TMN	TASMAN CARGO AIRLINES PTY LTD	B752	1	1	1	1
		B767	1	1	1	0
UTY	ALLIANCE AIRLINES PTY LTD	F100	1	26	2	0
		F70	2	12	8	0
VAU	VIRGIN AUSTRALIA INTERNATIONAL AIRLINES PTY LTD	A330	1	6	2	0
		B737NX	1	14	2	0
		B773	1	5	2	0
VOZ	VIRGIN AUSTRALIA AIRLINES PTY LTD	B737NX	1	65	2	0
		E170-190	1	5	2	2
Australia Grand totals:				693	269	44

Indonesia

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1,2,3)	Total #Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of Aircraft Remaining To Be Monitored
AFE	AIRFAST INDONESIA	E135-145	1	1	1	1
		MD80	1	3	2	0
	PT. AIRFAST INDONESIA	MD10	1	1	1	1
AWQ	INDONESIA AIR ASIA	A320	1	31	2	0
BTK	BATIK AIR INDONESIA	A320	1	30	2	0
		B737NX	1	26	2	0
CGR	CARDIG AIR	B737CL	1	5	2	2
CTV	CITILINK INDONESIA	A320	1	53	2	0
		A330	1	2	2	1
DAN	DABI AIR NUSANTARA	C560	1	1	1	1
GIA	GARUDA INDONESIA	A320	1	1	1	1
		A330	1	29	2	0
		B737CL	1	5	2	2
		B737NX	1	76	2	0
		B773	1	10	2	0
		CRJ10	2	18	11	5
IDX	INDONESIA AIRASIA EXTRA	A330	1	2	2	2
IGA	ALFA TRANS DIRGANTARA	PRM1	1	1	1	1
	ANGKASA SUPER SERVICES	H25B-800	1	1	1	1
	BALAI KALIBRASI	H25B-700	2	1	1	1
	EKSPRES TRANSPORTASI ANTARBENUA	C560	1	1	1	1
		E135-145	1	5	2	1
	ELANG LINTAS INDONESIA	BE40	1	3	2	2
	ENGGANG AIR SERVICES	E135-145	1	1	1	0
	INDONESIA AIR TRANSPORT	E135-145	1	1	1	1
PURAWAISATA BARUNA	E55P	1	1	1	1	
JLB	JHONLIN AIR TRANSPORT	H25B-800	1	2	2	1
LNI	LION MENTARI AIRLINES	A330	1	3	2	0
		B737CL	1	1	1	1
		B737NX	1	114	2	0
		B744-5	1	1	1	1
		H25B-800	1	1	1	1
NAM	NAM AIR	B737CL	1	11	2	2
PAS	PELITA AIR SERVICE	F100	1	1	1	1
SJY	SRIWIJAYA AIRLINES	B737CL	1	22	2	2
		B737NX	1	27	2	0
SQS	SUSI AIR	P180	2	3	2	0
TGN	TRIGANA AIR SERVICE	B737CL	1	1	1	1
		B732	2	2	2	2

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1,2,3)	Total #Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of Aircraft Remaining To Be Monitored
TMG	TRI-MG INTRA ASIA AIRLINES	B737CL	1	3	2	0
		BE40	1	1	1	0
		B732	2	1	1	1
TNR	TRANSNUSA AVIATION MANDIRI	F70	2	1	1	1
TRV	TRAVIRA AIR	B737CL	1	1	1	1
		B737NX	1	1	1	1
		GLF4	1	1	1	1
		H25B-800	1	1	1	1
TWA	TRANSWISATA AIRLINE	GLF4	1	1	1	1
XAR	TRAVEL EXPRESS AVIATION SERVICES	B737CL	1	9	2	2
Indonesia Grand totals:				518	83	46

Solomon Islands

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1,2,3)	Total #Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of Aircraft Remaining To Be Monitored
SOL	SOLOMON AIRLINES	A320	1	1	1	1
Solomon Islands Grand totals:				1	1	1

Papua New Guinea

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1,2,3)	Total #Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of Aircraft Remaining To Be Monitored
ANG	AIR NIUGINI	B737NX	1	3	2	0
		B767	1	2	2	0
		F100	1	7	2	0
		F900	1	1	1	0
		C550-II	2	1	1	1
		F70	2	6	4	0
IGA	TROPIC AIR	C25B	1	1	1	0
Papua New Guinea Grand totals:				21	13	1

Vanuatu

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1,2,3)	Total #Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of Aircraft Remaining To Be Monitored
AVN	AIR VANUATU	B737NX	1	1	1	0
Vanuatu Grand totals:				1	1	0