



International Civil Aviation Organization

**The Nineteenth Meeting of the Regional Airspace Safety Monitoring
Advisory Group (RASMAG/19)**

Pattaya, Thailand, 27-30 May 2014

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

MAAR ASSESSMENT OF NON-RVSM APPROVED AIRCRAFT

(Presented by the Monitoring Agency for Asia Region)

SUMMARY

This paper presents an assessment of aircraft operating in the WPAC/SCS and/or BOB RVSM airspace without proof of RVSM approval for the period of December 2013 based on the RVSM approvals data received from State CAAs and other RMAs.

This paper relates to –

Strategic Objectives:

A: *Safety – Enhance global civil aviation safety*

Global Plan Initiatives:

GPI-2 Reduced vertical separation minima

1. INTRODUCTION

1.1 As part of the Regional Monitoring Agency (RMA) duties and responsibilities, MAAR conducts an assessment on aircraft compliance with State approval requirements in Asia airspace where the RVSM is applied.

1.2 The purpose of this paper is to provide an assessment of aircraft operating within the RVSM airspace with no RVSM approval records available.

2. DISCUSSION

2.1 The Traffic Sample Data (TSD) for the month of December 2013 was used in the assessment. **Table 1** contains a summary of TSD from States under MAAR's responsibility.

States	FIR Name	Status	Aircraft Registration
Afghanistan	Kabul	Received	Available
Bangladesh	Dhaka	Received	Available
Cambodia	Phnom Penh	Received	Available
China	Sanya	Received	Available

States	FIR Name	Status	Aircraft Registration
	Hong Kong	Received	Available
India	Chennai	Received	Available
	Delhi	Received	Available
	Kolkata	Received	Available
	Mumbai	Received	Available
Lao PDR	Vientiane	Received	Available
Malaysia	Kuala Lumpur	Not Received	Not Available
	Kota Kinabalu	Received	Available
Maldives	Male	Received	Available
Mongolia	Ulaanbaatar	Received	Available
Myanmar	Yangon	Received	Available
Nepal	Katmandu	Received	Available
Pakistan	Karachi	Received	Available
	Lahore	Received	Available
Philippines	Manila	Received	Available
Singapore	Singapore	Received	Available
Sri Lanka	Colombo	Received	Available
Thailand	Bangkok	Received	Available
Vietnam	Hanoi	Received	Available
	Ho Chi Minh	Received	Available

Table 1: Summary of TSD Submission by States

2.2 States in Asia region are requested to provide an annual update of RVSM approvals to RMAs according to APANPIRG Conclusion 20/22.

2.3 **Table 2** contains a summary of RVSM Approval Data submission as an annual update for Period ending 2013.

States	Status
Afghanistan	Partial
Bangladesh	Received
Bhutan	Received
Brunei Darussalam	Not Received
Cambodia	Received
Hong Kong, China	Received
India	Not Received
Lao PDR	Not Received
Macau, China	Received
Malaysia	Not Received

Maldives	Not Received
Mongolia	Received
Myanmar	Not Received
Nepal	Not Received
Pakistan	Partial
Philippines	Partial
Singapore	Received
Sri Lanka	Received
Thailand	Received
Vietnam	Not Received

Table 2: Summary of RVSM Approval Data Submission

2.4 The RMA approvals database information used in the comparison is provided in **Table 3**.

RMA	Availability Period
AAMA	Up to February 2014
AFIRMA	Up to January 2014
CARSAMMA	Up to February 2013
China RMA	Up to February 2014
EurAsia	Up to February 2014
EURRMA	Up to February 2014
JASMA	Up to January 2014
MAAR	Up to April 2014
MIDRMA	As of April 2014
NAARMO	Up to February 2014
PARMO	Up to January 2014

Table 3: RVSM Approval Data Source

2.5 From the airspace policing exercise, MAAR found a total number of 130 aircraft registrations operating within the RVSM airspace without proof of RVSM Approval, with 16 aircraft confirmed as non-RVSM approved. 3 of 130 rogue airframes were previously detected in the December 2012 assessment. In addition to the above list of rogue aircraft, there were 45 of military aircraft operating within the airspace where RVSM approvals are yet to be confirmed.

2.6 **Table 4** provides a summary of the number of aircraft registrations found operating without proof of RVSM approval by RMA/State.

RMA	State	Number of aircraft without RVSM approvals	Number of aircraft previously detected in December 2012
AAMA	Australia	1	
	Indonesia	12	
AAMA Total		13	
ARMA	Gambia	1	
	Nigeria	1	
ARMA Total		2	
China RMA	China	10	1
China RMA Total		10	1
EURRMA	Czech Republic	1	

RMA	State	Number of aircraft without RVSM approvals	Number of aircraft previously detected in December 2012
	France	2	
	Germany	1	
	Luxembourg	1	
	Moldova	2	
	Netherlands	1	
	Ukraine	1	
EURRMA Total		9	
EURASIA	Kazakhstan	4	
	Russian Federation	3	
EURASIA Total		7	
MAAR	Cambodia	1	
	India	38	
	Laos	2	
	Malaysia	1	
	Pakistan	21	
	Philippines	7	1
	Sri Lanka	1	
	Thailand	2	
	Viet Nam	5	
MAAR Total		78	1
MIDRMA	Iran	1	
	United Arab Emirates	1	
MIDRMA Total		2	
NAARMO	United States	3	
NAARMO Total		3	
PARMO	Republic of Korea	1	
	Tonga	1	
PARMO Total		2	
Unknown Total		4	1
Grand Total		130	3

Table 4: Number of aircraft operating without proof of RVSM approval by RMA/State

2.7 **Appendix A** provides registrations of civil aircraft operating in the RVSM airspace but no record of RVSM approval was found.

2.8 **Appendix B** provides the registrations of Military aircraft.

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.

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Appendix A: Registrations of aircraft operating in the RVSM airspace but no record of RVSM approval was found.

Note: - Registration in **red** represents airframes confirmed as non-RVSM approved.
 - Registration in **blue** represents airframes previously detected in the December 2012 TSD.

RMA	State	Registration	Aircraft Type
AAMA	Indonesia	PKCKJ	B733
		PKECN	SU95
		PKGLP	A320
		PKGLT	A320
		PKGLU	A320
		PKGLW	A320
		PKGLX	A320
		PKGLY	A320
		PKLKR	B738
		PKLKZ	B738
		PKLOF	B739
		Australia	VHOWS
AFIRMA	Nigeria	5NMDK	B744
	Gambia	C5AAR	A320
CHINA RMA	China	B1907	B738
		B2927	B733
		B3099	E135
		B3799	E135
		B5809	B737
		B6284	B752
		B8257	GLF4
		B8291	GLF4
		B9465	C560
	B9630	A321	
EURRMA	Ukraine	78785	IL76
	Germany	DCRIS	ASTR
	Moldova	ERIAH	IL76
		ERIBZ	IL76
	Belarus	EW78843	IL76
	France	FRAJA	A342
	France	FRARF	A332
	Czech Republic	IN320	B738
	Luxembourg	LXECV	B744
	Netherlands	PHBBG	B77W
EURASIA	Kazakhstan	FONGB	B738
		UP17625	IL76
		UPI7625	IL76
		UPI7626	IL76
	Russian Federation	RA64021	TU20
		RA76799	IL76

RMA	State	Registration	Aircraft Type
		RF85135	T154
MAAR	Cambodia	XU703	MD83
	India	VTANE	B788
		VTANG	B788
		VTGOM	A320
		VTGON	A320
		VTGOO	A320
		VTGOP	A320
		VTIFM	A320
		VTIFN	A320
		VTIFO	A320
		VTIFP	A320
		VTIFQ	A320
		VTIFR	A320
		VTIFS	A320
		VTIFT	A320
		VTIFU	A320
		VTIFV	A320
		VTIFW	A320
		VTIFX	A320
		VTJEN	B77W
		VTJEP	B77W
		VTJER	B77W
		VTJFG	B738
		VTJFH	B738
		VTJFJ	B738
		VTJFK	B738
		VTJFL	B738
		VTJFM	B738
		VTJFN	B738
		VTJFP	B738
		VTJSG	P180
		VTSZD	B738
		VTSZE	B738
		VTSZF	B738
		VTSZG	B738
		VTSZH	B738
		VTSZI	B738
		VTTRI	LJ45
		VYIFT	A320
	Lao People's Democratic Republic	RDPL34183	B734
		RDPL34195	SU95
	Malaysia	9MMSJ	B738
Pakistan	APBHD	C550	
	APBJO	B734	
	APBJP	B734	

RMA	State	Registration	Aircraft Type
		APBJQ	B734
		APBJR	B734
		APBJT	B734
		APBJV	B734
		APBKM	A333
		APBKN	A333
		APBLE	B733
		APBLF	B733
		APBLH	A320
		APBLI	A320
		APBLJ	A320
		APBLK	A320
		APBLM	A320
		APEDG	A320
		APFBC	A320
		APFBD	A320
		APPFL	C25B
		APRRR	HA4T
	Philippines	RPC3276	A320
		RPC7772	B77W
		RPC8970	A320
		RPC8986	A320
		RPC8987	A320
		RPC8996	A320
		RPC8997	A320
	Sri Lanka	4RMVE	A321
	Thailand	HSPPH	A320
		HSSLC	B350
	Viet Nam	VNA394	A321
		VNA542	F70
VNA558		A320	
VNA608		A321	
VNB444		A340	
MIDRMA	United Arab Emirates	A6FEI	B738
	Iran	EPMNF	A310
NAARMO	United States	N223CY	B763
		N688JH	CL60
		N850ZD	TBM8
PARMO	Tonga	DQFJV	A332
	Republic of Korea	HL8281	A321
Unknown	Unknown	L3458	G100
		L3467	G100
		M10101	KA35
		M10102	JET

Appendix B: Registrations of Military aircraft operating in the RVSM.

Note: - Registration in *blue* represents airframes previously detected in the December 2012 TSD.

RMA	State	Registration	Aircraft Type
AAMA	Australia	60206A	C17
		60207A	C17
		60208A	C17
		60209A	C17
ARMA	Gambia	ZZ172	C17
	Kenya	00174A	C17
		30599A	C17
		55151A	C17
CARSAMMA	Ecuador	FAE052	FA7X
EURRMA	Germany	1023	A310
	Italy	62226	B762
	Switzerland	T785	F900
JASMA	Japan	73604	B762
MAAR	India	CB8005	C17
		K2901	IL76
		K3012	IL76
		K3077	IL76
		K3602	E135
		K3603	E135
		K3604	E135
		K5012	B737
		K5013	B737
		K5014	B737
		KC3803	C30J
	KC3805	C30J	
	Malaysia	M4802	GLEX
	Pakistan	J756	GLF4
Thailand	HSTYR	A319	
	HSTYS	B738	
MIDRMA	United Arab Emirates	1223	C17
		1226	C17
		1227	C17
NAARMO	Canada	77703A	C17
		77704A	C17
	United States	10015	B737
		10065	GLF5
		165833	B737
		980002	B752
		55149A	C17
		60038S	DC10
66156A	C17		
77185A	C17		

RMA	State	Registration	Aircraft Type
		90434S	DC10
PARMO	New Zealand	NZ7572	B752
Unknown	Unknown	00171A	C17