



International Civil Aviation Organization

The Twenty-First Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/21)

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

MAAR ASSESSMENT OF NON-RVSM APPROVED AIRCRAFT

(Presented by 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 2015 based on the RVSM approvals data received from State CAAs and other RMAs.

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 2015 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	Hong Kong	Received	Available
	Taipei	Received	Available
India	Chennai	Received	Available
	Delhi	Received	Available
	Kolkata	Received	Available
	Mumbai	Received	Available
Lao PDR	Vientiane	Received	Available
Malaysia	Kuala Lumpur	Received	Available
	Kota Kinabalu	Received	Available

States	FIR Name	Status	Aircraft Registration
Maldives	Male	Received	Available
Mongolia	Ulaanbaatar	Received	Available
Myanmar	Yangon	Received	Available
Nepal	Kathmandu	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	Not Available
	Ho Chi Minh	Received	Available

Table 1: Summary of TSD Submission by States

2.2 The December 2015 TSD was crossed checked against States annual RVSM approvals updates to RMAs as well as the RMA RVSM snapshots shared on the RMA KSN. **Table 2** contains a summary of RVSM Approval Data submission as an annual update for Period ending 2015. **Table 3** contains a summary of the RMA Approvals Data Source.

State of Operator	Status
Afghanistan	Received
Bangladesh	Received
Bhutan	Received
Brunei Darussalam	Received
Cambodia	Received
China (Hong Kong)	Received
China (Macau)	Received
China (Taiwan)	Received
India	Not Received
Lao People's Democratic Republic	Received
Malaysia	Received
Maldives	Received
Mongolia	Received
Myanmar	Received
Nepal	Received
Pakistan	Received
Philippines	Received
Singapore	Received
Sri Lanka	Received
Thailand	Not Received
Viet Nam	Received

Table 2: Summary of RVSM Approval Data Submission

RMAs	Availability Period
AAMA	As of March 2016
ARMA	As of April 2016
CARSAMMA	As of March 2016
CHINA RMA	As of February 2016
RMA EURASIA	As of February 2016
EURRMA	As of March 2016
JASMA	As of February 2016
MAAR	As of April 2016
MIDRMA	As of March 2016
NAARMO	As of February 2016
NATCMA	As of March 2016
PARMO	As of January 2016
Combined Snapshot	As of April 2016

Table 3: RVSM Approval Data Source

2.3 From the airspace policing exercise, MAAR found a total number of 106 aircraft registrations operating within the RVSM airspace without proof of valid RVSM Approval, compared to 234 aircraft in 2014. The lower number of rogue aircraft may be a result of better and more frequent collaboration between global RMAs. The generated list have the following characteristics:

- Indian aircraft represent 60% of the MAAR rogue list, comprised of registrations with expired approvals and new registrations from commercial operators such as AirAsia India, Air India, Go Air, Indigo Airlines, and Vistara. Upon further investigation, MAAR found that all expired Indian aircraft had fulfilled their LTHM requirement, but approvals extensions were not received from the State CAA.
- 24 of the 106 rogue aircraft were detected in the December 2014, where 21 are Indian aircraft containing 9 RVSM-expired registrations.

2.4 MAAR has contacted States and RMAs to try to resolve the rogue aircraft issues as much as possible. Nevertheless, we were unable to reduce the number of rogue aircraft from India, which accounts for 60% of the reported registration. MAAR would like to thank BOBASMA for its support in updating Indian RVSM approvals on their website along with the Indian PBN approvals. However, the BOBASMA list is missing some required data fields (such as Mode S address codes, Expiration dates, etc.) as well as RVSM approvals of aircraft with no PBN approvals. The above, in conjunction with a lack of communication between the DGCA India and MAAR, lead to the inefficiency in confirming the RVSM approvals status of Indian registrations.

2.5 Invalidity of RVSM approval due to States giving expiration dates in the RVSM approvals has become an issue in the ‘W’ compliance check process. This is because the required coordination workload is very high compared to approvals without expiration, and therefore, some States did not commit to updating the renewed approvals before they expire.

2.6 To reduce the number of unnecessary rogue aircraft reporting, which may lead to operational limitation in certain RVSM airspace, MAAR would like to urge States to,

- a) in case they intend to give expiration to their RVSM approvals, revisit their RVSM approvals data sharing procedures to take into account their ability to update RVSM approvals to RMAs before they expire.
- b) in case they do not intend to give expiration to their RVSM approvals to their RVSM approvals, notify the MAAR to remove all existing expiration dates (if any), and ensure that any future withdrawals of RVSM approvals are sent to the MAAR.

2.7 As the European States have now implemented a bulletin of non-RVSM approved aircraft which incorporate unconfirmed RVSM registries over a predetermined period. This may affect the operation of the aircraft which are listed on this European bulletin. Thus, MAAR would like to emphasize on the importance of State CAAs responding to RVSM approvals enquiries from MAAR in a timely manner as it may affect operators' entry in the European RVSM airspace.

2.8 **Table 4** and **figure 1** provide a summary of the number of aircraft registrations found operating without proof of valid RVSM approval by RMA/State.

RMA	State Name	Count of Registration
AAMA	Australia	2
	Indonesia	2
AAMA Total		4
ARMA	Kenya	2
	Seychelles	2
ARMA Total		4
CHINA RMA	China	4
CHINA RMA Total		4
EURRMA	Denmark	1
	Republic of Moldova	2
EURRMA Total		3
MAAR	Afghanistan	2
	Cambodia	1
	China (Hong Kong)	1
	India	60
	Malaysia	3
	Pakistan	2
	Thailand	3
	The Philippines	1
	Viet Nam	1
MAAR Total		74
MIDRMA	Saudi Arabia	4
MIDRMA Total		4
NAARMO	Canada	2
	United States	8
NAARMO Total		10
PARMO	Republic of Korea	3
PARMO Total		3
Grand Total		106

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

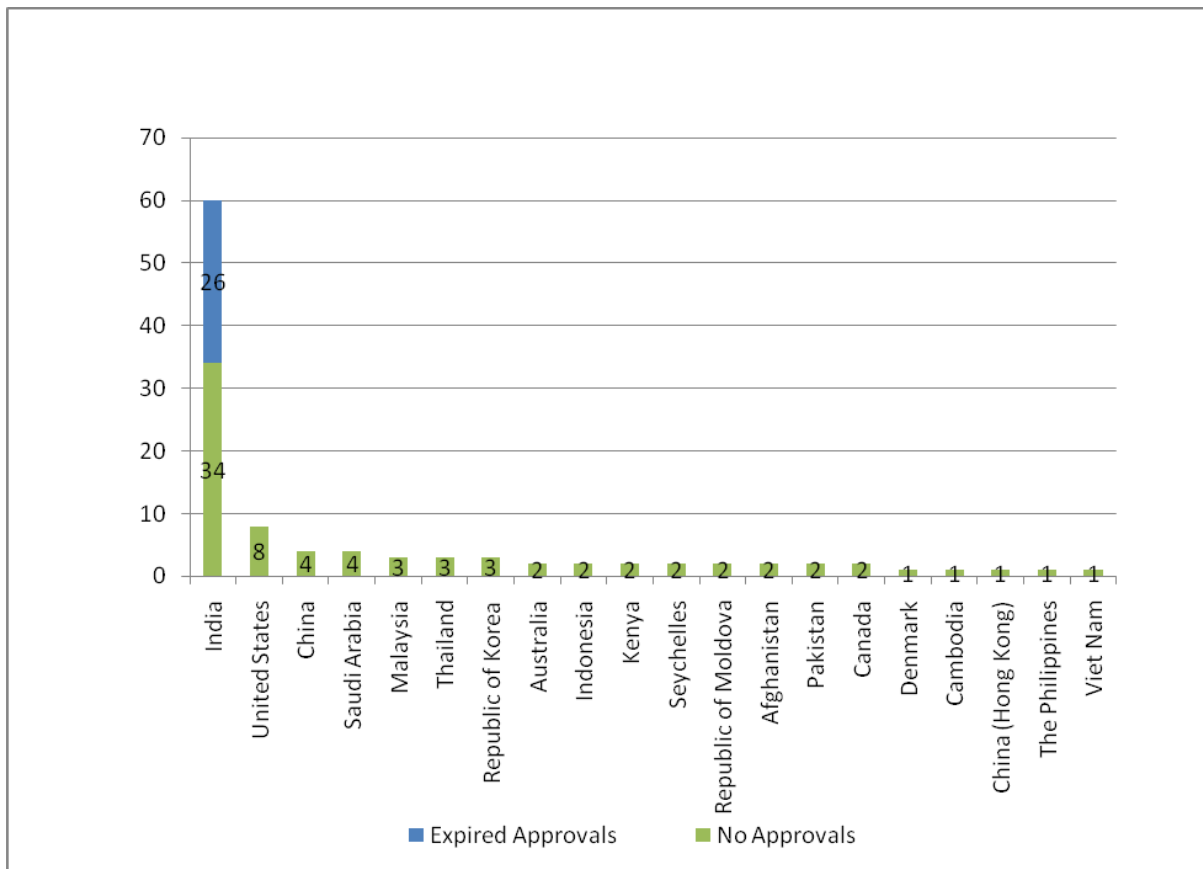


Figure 1: Aircraft operating without proof of valid RVSM approvals by State

2.9 **Appendix A** provides aircraft registrations operating in the RVSM airspace with expired or no record of RVSM approvals.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper, cross-check the aircraft identified in **Appendix A** against their respective approvals database and confirm their approval status;
- b) review and comment on the issues raised regarding expiration of RVSM approvals discussed in paragraph 2.5 and propose a draft conclusion to APANPIRG requesting States to follow the action describe in paragraph 2.6; and
- c) discuss any relevant matters as appropriate.

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Appendix A: aircraft registrations operating in the RVSM airspace with expired or no proof of RVSM approvals.

Notes:

- Registrations in *Italic* indicate aircraft with expired approvals.
- **Shaded rows** highlight aircraft previously reported in the December 2014 TSD.
- Aircraft registrations in **red** are confirmed non-RVSM approved aircraft.

RMA	State Name	Registration	Aircraft Type
AAMA	Australia	VHFIX	B350
		VHNFG	LJ45
	Indonesia	PKAJC	A320
		PKMYI	B733
ARMA	Kenya	5YCYC	B738
		5YCYE	B738
	Seychelles	S7AMI	A320
		S7SIL	A320
CHINA RMA	China	B3113	E50P
		B3909	H25B
		B4007	CRJ2
		B8158	GLF4
EURRMA	Denmark	OYVKI	A333
	Republic of Moldova	ERIAY	IL76
		ERIAZ	IL76
MAAR	Afghanistan	URCOB	MD83
		YAAJH	CRJ
	Cambodia	XU001	MA60
	China (Hong Kong)	BLFC	B744
	India	K2663	IL76
		<i>VTAPF</i>	<i>CL30</i>
		VTAPJ	A320
		VTASM	(blank)
		VTATB	A320
		VTATF	A320
		<i>VTAUV</i>	<i>CL60</i>
		<i>VTAVV</i>	<i>C56X</i>
		<i>VTBIP</i>	<i>C25A</i>
		<i>VTBIR</i>	<i>C56X</i>
		<i>VTBKL</i>	<i>H25B</i>
		VTBLR	A320
		VTCKP	E135
		<i>VTCLF</i>	<i>F2TH</i>
		<i>VTDBC</i>	<i>LR60</i>
		VTEXA	A320
VTEXB		A320	
VTEXC		A320	
VTEXD	A320		
VTEXE	A320		

RMA	State Name	Registration	Aircraft Type
		<i>VTGKB</i>	<i>G150</i>
		<i>VTGOM</i>	A320
		<i>VTGON</i>	A320
		<i>VTGOO</i>	A320
		<i>VTGOP</i>	A320
		<i>VTGOQ</i>	A320
		<i>VTGOR</i>	A320
		<i>VTHDL</i>	<i>F2TH</i>
		<i>VTIAG</i>	<i>E50P</i>
		<i>VTIBG</i>	GL5T
		<i>VTIDN</i>	A320
		<i>VTIDO</i>	A320
		<i>VTJRT</i>	A320
		<i>VTJSE</i>	<i>CL30</i>
		<i>VTJSI</i>	<i>E135</i>
		<i>VTKJG</i>	<i>E135</i>
		<i>VTLBR</i>	<i>E190</i>
		<i>VTLNR</i>	<i>E170</i>
		<i>VTLVR</i>	<i>E190</i>
		<i>VTMAM</i>	<i>LR60</i>
		<i>VTNGS</i>	<i>CL60</i>
		<i>VTRED</i>	A320
		<i>VTSDJ</i>	BE20
		<i>VTSEFM</i>	<i>E50P</i>
		<i>VTSMR</i>	B200
		<i>VTSSN</i>	H25B
		<i>VTTTB</i>	A320
		<i>VTTTC</i>	A320
		<i>VTTTD</i>	A320
		<i>VTTTE</i>	A320
		<i>VTTTF</i>	A320
		<i>VTTTG</i>	A320
		<i>VTTTH</i>	A320
		<i>VTTTI</i>	A320
		<i>VTTTJ</i>	A320
		<i>VTVAP</i>	<i>H25B</i>
		<i>VTVDM</i>	<i>HA4T</i>
		<i>VTVID</i>	<i>C525</i>
		<i>VTVKR</i>	<i>F2TH</i>
		<i>VTVPA</i>	<i>H25B</i>
	Malaysia	9MAHM	A320
		9MNAB	A320
		9MXBC	A333
	Pakistan	EYE77	CL60
		J756	GLF4
	Thailand	HSNGE	B738
		HSPPV	A320
		HSSLC	B350

RMA	State Name	Registration	Aircraft Type
	The Philippines	RPC8101	H25B
	Viet Nam	VNB444	B350
MIDRMA	Saudi Arabia	9MAZL	A332
		TFAAG	B744
		TFAAH	B744
		VPCXY	A320
NAARMO	Canada	CGNVU	CL60
		CNAMS	GLF5
	United States	N284CG	B772
		N4003L	LJ75
		N559GL	B734
		N703AC	B772
		N879TM	B738
		N881TM	B738
		N915GA	G150
		N966MS	E190
PARMO	Republic of Korea	HL8031	B738
		HL8049	B738
		HL8050	B738