



ICAO

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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 the Monitoring Agency for Asia Region)

SUMMARY

This paper presents the result of an annual audit of aircraft operating in the RVSM airspace under MAAR's responsibility. The audit was based on 2019 TSD and monthly Bangkok FIR FPLs, which resulted in **26** aircraft that operated in RVSM airspace without valid RVSM approvals in RMAs' database. **Two** of these aircraft were also detected in December 2018, one of which is a State Aircraft. Other observations include:

- States' response continued to improve after APANPIRG/28/12 conclusion;
- The highest number of aircraft on the list is from Indonesia; and
- The reduction in the number to 26 aircraft from 34 aircraft of last year's audit may be due to the reduction of flights in 2020, which decreased the ability to detect these non-RVSM approved aircraft, and the delay of this year's RASMAG.

1. INTRODUCTION

1.1 As part of the Regional Monitoring Agency (RMA) duties and responsibilities, MAAR conducts an annual audit of aircraft transiting through RVSM airspace based on the Traffic Sample Data (TSD) for the period of December from 24 FIRs under MAAR's responsibility.

1.2 The purpose of this paper is to summarize the result of an annual audit of aircraft filing 'W' to operate in the RVSM airspace that has no valid RVSM approvals in RMAs' database (a.k.a. rogue aircraft). These include aircraft registrations with (1) no RVSM approvals record or (2) expired approvals in RMAs' databases.

2. DISCUSSION

2.1 The 2019 TSD is used as the main data source for this paper. All States submitted their complete TSD this year. Since the previous RASMAG, the TSD format has been revised to include Item 10 and 18 of the Flight Plan. This allows MAAR to conduct the TSD audit based on actual Item 10 designator.

2.2 MAAR also conducts monthly audits of flight plans from the Bangkok FIR. The audit results up to August 2020 are included in the final result described in this paper. However, due to the drastic reduction in traffic in 2020, not many rogue aircraft could be detected from Bangkok FIR's FPLs.

2.3 The TSD was compared against the current MAAR approval database and other RMAs' latest approval snapshots. The MAAR approval database is updated based on F2 and F3 Forms from States and annual RVSM approval snapshots from States. Other RMAs' correspondence and monthly approval update are also used to update the rogue list.

Results

2.4 **Table 1** contains a summary of RVSM approval data submission from States. Afghanistan and Nepal were the only two States that did not submit their annual snapshots.

State of Operator	Submission
Afghanistan	F2 and F3 only
Bangladesh	F2, F3 and 2019 annual snapshot
Bhutan	F2, F3 and 2019 annual snapshot
Brunei Darussalam	F2, F3 and 2019 annual snapshot
Cambodia	F2, F3 and 2019 annual snapshot
China (Hong Kong)	F2, F3 and 2019 annual snapshot
China (Macau)	F2, F3 and 2019 annual snapshot
China (Taiwan)	F2, F3 and 2019 annual snapshot
India	F2, F3 and 2019 annual snapshot
Lao PDR	F2, F3 and 2019 annual snapshot
Malaysia	F2, F3 and 2019 annual snapshot
Maldives	F2, F3 and 2019 annual snapshot
Mongolia	F2, F3 and 2019 annual snapshot
Myanmar	F2, F3 and 2019 annual snapshot
Nepal	F2 and F3 only
Pakistan	F2, F3 and 2019 annual snapshot
Philippines	F2, F3 and 2019 annual snapshot
Singapore	F2, F3 and 2019 annual snapshot
Sri Lanka	F2, F3 and 2019 annual snapshot
Thailand	F2, F3 and 2019 annual snapshot
Viet Nam	F2, F3 and 2019 annual snapshot

Table 1: Summary of RVSM approval data submission from States

2.5 **Table 2** provides a summary of the number of rogue aircraft by RMA and State compared with RASMAG/24.

RMA	State	No. of Registrations – RASMAG/25	No. from RASMAG/24
AAMA	Indonesia	12	14
	Australia	2	0
		AAMA Total 14	14
ARMA	Tanzania	1	0
		ARMA Total 1	0
EURRMA	France	0	1
		EURRMA Total 0	1
MAAR	Afghanistan	0	2
	Bhutan	0	1
	Cambodia	0	1
	India	8	4
	Malaysia	0	2
	Pakistan	0	3

RMA	State	No. of Registrations – RASMAG/25	No. from RASMAG/24
	Thailand	1	1
	Viet Nam	0	1
		MAAR Total 9	15
NAARMO	United States	2	4
		NAARMO Total 2	4
		Grand Total 26	34

Table 2: Number of Rogue Aircraft by State and RMA

2.6 **Table 3** lists the individual registrations of rogue aircraft, where:

- * indicates aircraft previously reported in the December 2018 TSD;
- **bold case** indicates aircraft found from the December 2019 TSD; and
- *italic case* indicates aircraft found from Bangkok FIR’s FPLs.

RMA	State	Registration	Aircraft Type
AAMA	Indonesia	PKAZM	A320
		PKAZN	A320
		PKAZO	A320
		PKAZP	A320
		PKGTJ	A320
		PKLDY	A333
		PKLEI	A339
		PKLEJ	A339
		PKLPW*	B739
		PKLPY	B739
		<i>PKMYC</i>	<i>B733</i>
		<i>PKG HG</i>	<i>A339</i>
	Australia	VHCGO	GLEX
		<i>VHINT</i>	<i>GLF4</i>
ARMA	Tanzania	5HTCJ	B788
MAAR	India	VTEHB	BE20
		VTFAE	BE20
		VTIJG	A20N
		VTIUK	A21N
		VTIUM	A21N
		VTMRF	CL60
		VTSHG	GL5T
		<i>VTIUN</i>	<i>A21N</i>
	Thailand	HSTYV*	A345
NAARMO	United States	N175J	C650
		N656FN	FA7X

Table 3: Aircraft operating in the RVSM airspace with expired or no RVSM approvals

Overall Observations

2.7 By observing the past year’s State response to MAAR regarding non-RVSM approved aircraft, MAAR is convinced that *the APANPIRG/28/12 conclusion – “RMAs should treat aircraft with an unverified RVSM approval status for more than one month from the first RMA notification as a non-RVSM approved aircraft”* has been an effective means to increase States’ attentiveness to RMAs’ queries. Now, States typically respond to MAAR’s queries within 2-3 weeks.

2.8 In June 2020, MAAR presented the result of an annual audit of rogue aircraft to the Virtual RMA Coordination Group Meeting. The audit yielded **51** aircraft. Since there were a few months of time gap between RMACG and RASMAG this year, MAAR received responses on RVSM approval confirmations more than usual in time for this paper. Thus, the final result summarized in this paper reduced to **26** aircraft.

2.9 During the COVID-19 pandemic, MAAR could only detect a small number of rogue aircraft from the monthly Bangkok FIR's FPLs audit. The decreased ability to detect rogue aircraft also resulted in the reduction of the total number to **26** aircraft (from last year's **34** aircraft).

States' Highlights

2.10 Even though India has been having the highest number of rogue aircraft compared to other States under MAAR's responsibility, MAAR observed an improvement of India's response regarding aircraft's RVSM approval status. As shown in the **Table 3**, India became more attentive to long-term repeated rogue aircraft that there is now no longer Indian rogue aircraft from last year on the list.

2.11 MAAR became more concerned about the increasing number of Indonesian rogue aircraft on the list. After consultation with the AAMA, the AAMA informed MAAR that they sent an official letter to the DGCA Indonesia in July 2020 but they have not yet to receive a reply from them.

2.12 **Table 3** also shows that **2 of the 26 registrations** were also detected in the December 2018 TSD. These are **1 Thai aircraft** and **1 Indonesian aircraft**. The Thai aircraft is a State Aircraft own by Royal Thai Air Force. This aircraft also operates within the European airspace and has been listed on the EURRMA Bulletin for quite some time. As informed by the EURRMA during the Virtual RMA Coordination Group Meeting, the flight plans of aircraft identified in the EURRMA Bulletin will be rejected by EUROCONTROL's flight planning system at the beginning of 2021.

2.13 MAAR consulted the Civil Aviation Authority of Thailand (CAAT) regarding this issue, which prompted CAAT to hold a meeting with representatives from the Royal Thai Air Force and Thai Airways. The discussions clarified the safety requirements to operate in RVSM airspace for all aircraft and the consequences of being listed on the European RMA Bulletin. It was agreed that the Royal Thai Air Force should no longer file 'W' in its flight plans.

2.14 The MAAR already sent the list of aircraft that were detected from 2019 TSD to ATS States so that they can take the appropriate action. The process will be repeated for the list found from Bangkok FIR flight plan after 30 days of first notification.

APANPIRG List of Deficiencies

2.15 As **Lao PDR** and **Bhutan** are now providing MAAR the 2019 annual RVSM approval snapshot, the MAAR would like RASMAG to propose to APANPIRG to **remove Lao PDR** and **Bhutan** from the APANPIRG List of Deficiencies in the ATM/AIS/SAR fields for failure to submit the annual RVSM approval snapshot (under "Non-Provision of Safety Related Data by States").

2.16 Since **Afghanistan** failed to submit the annual RVSM approval snapshot for 2 consecutive years, the MAAR would like RASMAG to propose to APANPIRG to **include Afghanistan** on the APANPIRG List of Deficiencies in the ATM/AIS/SAR fields for failure to submit the annual RVSM approval snapshot (under "Non-Provision of Safety Related Data by States").

2.17 The following table summarizes MAAR's proposal regarding the List of Deficiencies, under "Non-Provision of Safety Related Data by States".

State	Proposed Action	Reason for Inclusion/Removal
Lao PDR	Removal	Already provided the annual RVSM approval snapshot
Bhutan	Removal	Already provided the annual RVSM approval snapshot
Afghanistan	Inclusion (new entry)	Failure to submit the annual RVSM approval snapshot for 2 consecutive years

2.18 In addition, MAAR would also like RASMAG to propose to APANPIRG to inform **Nepal** of the non-compliance status in regard of failure to submit the annual RVSM approval snapshot 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.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) discuss any relevant matters as appropriate; and
- c) endorse the proposal outlined in 2.15 – 2.18.

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