



*International Civil Aviation Organization*

**The Sixteenth Meeting of the Regional Airspace Safety Monitoring  
Advisory Group (RASMAG/16)**

Bangkok, Thailand, 20-24 February, 2012

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

**Assessment of Non-RVSM-Approved Aircraft Operating in the RVSM Airspace of Chinese  
Flight Information Regions and Pyongyang Flight Information Region**

(Presented by the China RMA)

**SUMMARY**

This working paper presented the process and results of scrutiny assessment in the airspace of Chinese Flight Information Regions and Pyongyang Flight Information Region for the period of December, 2011. The purpose of this assessment is to identify the airframes conducted RVSM flights with no registration information in RMA's approval database.

**1. INTRODUCTION**

1.1. As part of the duties and responsibilities of an RMA, the China RMA conducts an assessment on operator compliance with State RVSM approval requirements in the airspace of Chinese FIRs and Pyongyang FIR.

1.2. The purpose of this working paper is to provide the updated results for the scrutiny assessment of operators/aircraft type operating within these areas, which the RVSM approval records were not found in the RMA database.

**2. DISCUSSION**

2.1. According to the Conclusion of RASMAG/15, the RMAs are urged to utilize monthly flight plan data to undertake frequent assessments of non-compliant aircraft and to provide this information to States for onward transmission to ANSPs. During RMACG/6 meeting, all RMAs present also agreed that actions should be taken against operators of unapproved operations and evidence of actions taken will reduce occurrences, and agreed to conduct a global survey of flight plans submitted in December 2011 to identify the number of non-RVSM approved aircraft operating as RVSM approved.

2.2. The China RMA initiated a nationwide program to improve the RVSM approval registration procedure and refine the data quality in September 2011. Our domestic point of contact (POC) of approval registration used to send the electronic copy of F2 and F3 forms to submit registration data. But there are always a lot of non-standard reporting formats. For instance, the aircraft type, the series, the hex mode S code, and the registration and expiration date, which brought quite a lot of additional work of confirmation and post-processing. After RMACG6, all RMA agree to start the flight plan check program, and the China RMA come to realize that we need to standardize

approval reporting mechanism and refine data quality. So in late 2011, the China RMA started to review our database and develop an online reporting platform in our security website. Users can log on to submit F2 and F3 forms. In this platform, the aircraft type is chosen by the users, but they are standard format reading from the database and are based on Doc8643 and the latest MMR. The ICAO types are automatically written to the database according to the relation between aircraft type and ICAO type designator. The Mode S code can be automatically checked, found duplicates and changed to hexadecimal if it is reported in binary or octal format, and the date format can be transformed to whatever format data sharing required. Previously registered approval data were reviewed against the nationwide China Civil Aviation Regulations (CCAR) Operations Specification. Error data were corrected and missing aircraft information were reported to the responsible POC and reported thereafter. This work completed in late January 2012, and the updated Chinese RVSM approval dataset was uploaded to the KSN website and sent to the NAT CMA to support produce the combined global approval dataset.

2.3. To get prepared for the survey, the China RMA also coordinated with the domestic ANSP (Air Traffic Management Bureau of CAAC) to obtain the monthly flight plan data from the adjusted flight mission entity (FME) database on a monthly basis. This FME database, which contains the raw flight plan data merged by AFTN message (including FPL, DEP and ARR messages), reflects the real flight operation. The Flight plan data from DPR Korea has different format, which contains only flight date, callsign, registration number and Item 10 information.

2.4. In undertaking the comparison process, the China RMA was reliant on the latest global RVSM approval dataset (RVSM\_Approvals\_CombinedSnapshot\_20111220) provided by NATCMA. Considering the time lag between the combined dataset and the newly updated approval dataset, China RMA also implemented our latest domestic approval data and the up-to-date approval database uploaded to the KSN by other RMAs to re-check.

2.5. After all the data were prepared, clean up were conducted before the correlation with approval data and identification of potentially non-approved aircraft. To clearly specify the various results, the China RMA used two track list tables to provide the detail information (Please see Attachment A). The result of survey for flight plan data of December 2011 is in Attachment B.

#### **FUTURE WORK**

2.6. The China RMA is trying to refine the domestic approval data, and improve the software to reduce the burden of re-check. The check of light plan data will be conducted on a monthly basis. It is also suggested that a common content and format of track list table for the survey of potentially non-approved aircraft be developed.

### **3. ACTION BY THE MEETING**

3.1. The meeting is invited to:

- a) Note and discuss the results of potentially non-approved aircraft presented in this working paper;
- b) Suggest a common content and format of track list table for the survey of potentially non-approved aircraft be developed;

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**Attachment A****Track List Table****Table 1 Potentially Non-Approved Aircraft by States**

<b>Field</b>	<b>Description</b>
State of Registry	Nationality identifier as specified in Doc 7910 for the current State of Registry
State Name	The name of State of Registry
RMA	Responsible regional monitoring agency
FlightNo by State	Count of flights identified to be potentially non-approved aircraft for each State. By ‘potentially non-approved’, the situations include: <ol style="list-style-type: none"> <li>1. Full RVSM Approval indicator is ‘N’, the Date Full RVSM Approval Issued is null, and is not expired or deregistered</li> <li>2. Full RVSM Approval indicator is ‘Y’, but the Date of deregistration or Date of expiration is before the Date of flight</li> <li>3. No Approval information is found</li> </ol>

**Table 2 Potentially Non-Approved Aircraft by Operator and Registration Number**

<b>Field</b>	<b>Description</b>
RMA	Responsible regional monitoring agency
State of Registry	Nationality identifier as specified in Doc 7910 for the current State of Registry
Operator	ICAO designator for the current operator as defined in Doc 8585
Registration Number	Aircraft’s current registration mark
FlightNo by Opr-RegNo	Count of flights identified to be potentially non-approved aircraft for each Operator-RegNo. By ‘potentially non-approved’, the situations include: <ol style="list-style-type: none"> <li>1. Full RVSM Approval indicator is ‘N’, the Date Full RVSM Approval Issued is null, and is not expired or deregistered</li> <li>2. Full RVSM Approval indicator is ‘Y’, but the Date of deregistration or Date of expiration is before the Date of flight</li> <li>3. No Approval information is found</li> </ol>
Remark	Comment to indicate which situation of ‘potentially non-approved’ it belongs to. This remark is produced automatically by the software
CheckComment	Comment to indicate the result of re-check of ‘potentially non-approved aircraft’ by comparing the up-to-date approval dataset uploaded to the KSN by other RMAs. This comment is added manually.
Track Flag	A flag used to track the status of confirmation of ‘potentially non-approved aircraft’. It is set ‘1’ to indicate the status of ‘potentially non-approved’. If the aircraft is confirmed to be RVSM approved later on, this flag is changed to ‘0’.
FlightNo Confirmed	Count of flights for Track Flag with ‘0’ (for each Operator-RegNo)
FlightNo to be confirmed	Count of flights for Track Flag with ‘1’ (for each Operator-RegNo)

**Potentially Non-Approved Aircraft Identified by the China RMA**

**Table 1 Potentially Non-Approved Aircraft by States**

State of Registry	State Name	RMA	FlightNo by State
EG	United Kingdom	EUR RMA	94
MM	Mexico	NAARMO	15
VA	India	MAAR	13
LI	Italy	EUR RMA	10
TX	Bermuda	PARMO	3
OA	Afghanistan	MAAR	2
EY	Lithuania	EUR RMA	1
			<b>138</b>

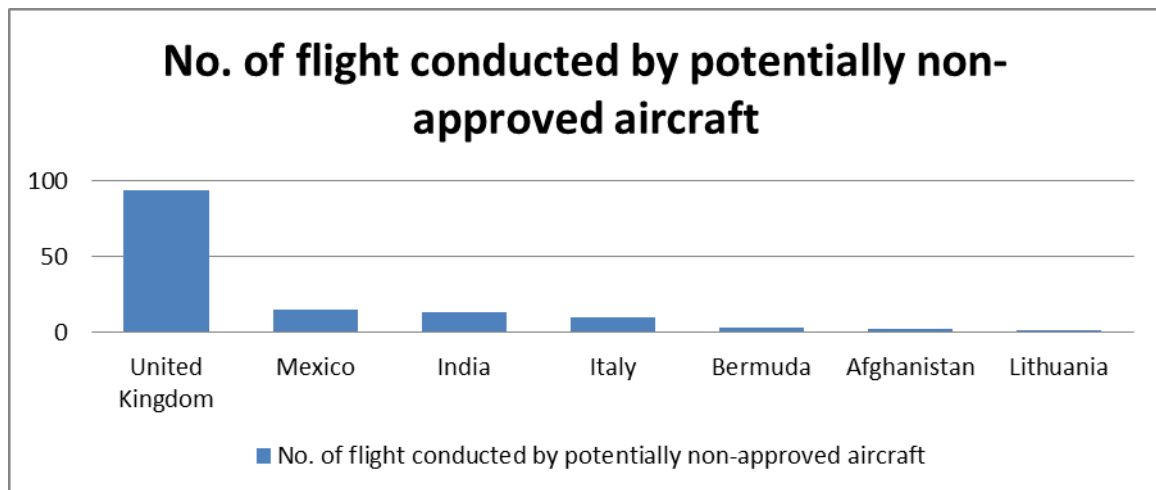


Figure 1: Illustration of Potentially Non-Approved Aircraft by States

**Table 2 Potentially Non-Approved Aircraft by Operator and Registration Number**  
**(The column of comments and remarks etc. are not demonstrated below)**

RMA	STATE	OPR	REGNO	FLIGHT COUNT
EUR RMA	EG	BAW	GYMMK	10
EUR RMA	EG	BAW	GBYGG	8
EUR RMA	EG	BAW	GYMMI	8
EUR RMA	EG	BAW	GYMMN	7
EUR RMA	EG	BAW	GYMMP	7
EUR RMA	EG	BAW	GYMMH	6
EUR RMA	EG	BAW	GYMMO	5
EUR RMA	EG	BAW	GCIVS	4
EUR RMA	EG	BAW	GCIVX	4
EUR RMA	EG	BAW	GCIVV	4
EUR RMA	EG	BAW	GYMMG	3
EUR RMA	EG	BAW	GBNLR	2
EUR RMA	EG	BAW	GBNLT	2
EUR RMA	EG	BAW	GBYGB	2
EUR RMA	EG	BAW	GCIVD	2
EUR RMA	EG	BAW	GCIVY	2
EUR RMA	EG	BAW	GYMML	2
EUR RMA	EG	BAW	GCIVZ	2
EUR RMA	EG	BAW	GCIVH	2
EUR RMA	EG	BAW	GCIVR	2
EUR RMA	EG	BAW	GCIVI	2
EUR RMA	EG	BAW	GCIVF	2
EUR RMA	EG	BAW	GBYGC	2
EUR RMA	EG	BAW	GBYGF	2
EUR RMA	EG	BAW	GBYGD	2
EUR RMA	EY	LIL	LYFLG	1
EUR RMA	LI	AZA	EIEJK	10
NAARMO	MM	AMX	N746AM	8
NAARMO	MM	AMX	N774AM	4
NAARMO	MM	AMX	N745AM	2
NAARMO	MM	AMX	N776AM	1
MAAR	OA	AFG	YACAQ	2
PARMO	TX	IGA	VPBJE	3
MAAR	VA	AIC	VTALL	7
MAAR	VA	AIC	VTALE	1
MAAR	VA	IGA	VTVKR	1
MAAR	VA	JAI	VTJEK	4
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