



International Civil Aviation Organization

**The Thirteenth Meeting of the Regional Airspace Safety Monitoring
Advisory Group (RASMAG/13)**

Bangkok Thailand, 02 - 05 August 2010

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

ESTABLISHMENT OF PBN APPROVALS DATABASE

(Presented by Japan)

SUMMARY

This working paper presents the establishment of database of PBN approvals by Japan RMA. The database will be updated and maintained, and it will lead to the activities as a future Japan EMA. The format of the database established by Japan RMA is the combination of the RVSM database and PBN database, whose concept was proposed by New Zealand at the RASMAG/12 meeting.

1. Introduction

1.1 One of the duties of the En-route Monitoring Agency (EMA) prescribed in the *En-route Monitoring Agency (EMA) Handbook* is to establish and maintain a database of operational approvals specific to the horizontal-plane separation applied in the EMA's area of responsibility. Japan RMA has established PBN approvals database of the aircraft registered in Japan. The database will be regularly updated and maintained, which will lead to the activities as a future Japan EMA.

1.2 At RASMAG/12 meeting, New Zealand proposed the benefit of combining and linking the RVSM and PBN databases. Japan RMA has been inspired by the proposal, and combined the PBN database with the RVSM database.

1.3 At present there are five types of PBN operational approvals in Japan. They are RNP-10 (RNAV-10), RNAV-5, RNAV-1&2, RNP approach, and RNP-4. Basic RNP-1 will be added in the near future.

2. Discussion

2.1 The RVSM/PBN combined database established by Japan RMA consists of the information of 753 aircraft in total as of 2 July 2010. It includes 688 RVSM approved aircraft, 386 RNP-10 approved aircraft, 716 RNAV-5 approved aircraft, 708 RNAV-1&2 approved aircraft, 16 RNP-approach approved aircraft, and 1 RNP-4 approved aircraft. There are 65 aircraft which have PBN operational approvals but no RVSM operational approval, and they are the aircraft such as DH8D, SB20, B350, AS65 and D228.

2.2 Japan RMA has also combined the RMA F2/F3 forms and EMA A2/A3 forms as shown in **Appendix A**.

2.3 The format of the RVSM/PBN combined database established by Japan RMA as shown in **Appendix B** has been made on an as-needed basis. They are less comprehensive compared with the format proposed by New Zealand at the RASMAG/12 meeting. This is because of the current mixed environment of data sharing. As an RMA, RVSM related data shall be exchanged with the other RMAs, whereas PBN related data have not been exchanged among EMAs yet. The database established by Japan RMA is the combination of the globally shared RVSM data and the locally required PBN data. Japan RMA foresees lasting improvement of the database format according to the development of PBN operations.

3. Action by the meeting

3.1 The meeting is invited to note the information provided in this paper.

- END -

Appendix A

Japan RMA FORM F2
RECORD OF APPROVAL TO OPERATE IN RVSM AIRSPACE AND ON PBN ROUTES

1. When a State of Registry approves or amends the approval of an operator/aircraft for operations in RVSM airspace and/or on PBN routes, details of that approval must be recorded and sent to the Japan Regional Monitoring Agency (Japan RMA) to reach it by the tenth day of the month following the month that the approval was issued.

2. Before providing the information as requested below, reference should be made to the accompanying notes (PLEASE USE BLOCK CAPITALS).

State of Registry¹:

Name of Operator²:

State of Operator¹:

Aircraft Type³:

Aircraft Series⁴:

Manufacturers Serial No:

Registration No:

Mode S Address Code⁵:

Airworthiness Approval⁶:

Date Issued (mmddyy)⁷:

RVSM Operational Approval⁶: Issued Date of Operational Approval⁷ Expiry Date (If Applicable)⁷

RNAV10(RNP10) Operational Approval⁶: Issued Date of Operational Approval⁷ Expiry Date (If Applicable)⁷

RNAV5 Operational Approval⁶: Issued Date of Operational Approval⁷ Expiry Date (If Applicable)⁷

RNAV1and2 Operational Approval⁶: Issued Date of Operational Approval⁷ Expiry Date (If Applicable)⁷

RNP APCH Operational Approval⁶: Issued Date of Operational Approval⁷ Expiry Date (If Applicable)⁷

RNP4 Operational Approval⁶: Issued Date of Operational Approval⁷ Expiry Date (If Applicable)⁷

Remarks⁸:

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1. Enter the 1 or 2 letter ICAO identifier as contained in ICAO Doc7910, Index to Nationality Letters for Location Indicators. In the case of there being more than one identifier designated for the State, use the identifier that appears first.

*ICAO State Code for Japan: **RJ***

2. Enter the operator's 3 letter ICAO identifier as contained in ICAO Doc 8585.
For International General Aviation, enter "**IGA**".
For Military Aircraft, enter "**MIL**".
If none, place an **X** in this field and write the name of the operator/owner in the Remarks row.
3. Enter the ICAO designator as contained in ICAO Doc8643, e.g., for Airbus A320-211, enter A320; for Boeing B747-438 enter B744.
4. Enter series of aircraft type or manufacturer's customer designation, e.g., for Airbus A320-211, enter 211; for Boeing B747-438, enter 400 or 438.
5. Enter ICAO allocated Aircraft Mode S address code (in hexadecimal).
*This Mode S address code begins with the proper bit string **84, 85, 86, 87** as defined by ICAO for Japanese-registered aircraft.*
6. Enter state of approval for yes, enter "**Y**", for no, enter "**N**".
7. Example: For July 31, 2008 write 073108.
Fill in Initial Airworthiness Approval Date and Initial RVSM Operational Approval Date for International General Aviation.
8. Use a separate sheet of paper if insufficient space available.

When complete, please return to the following address by the next business day:

Civil Aviation Bureau of Japan
Flight Procedures and Airspace Program Office
Air Traffic Control Division, Air Traffic Services Department
Japan Civil Aviation Bureau Regional Monitoring Agency
2-1-3, Kasumigaseki, Chiyoda-ku, Tokyo, 100-8918, JAPAN

Telephone: +81-3-5253-8111 ext.51238
Fax: +81-3-5253-1664
E-Mail: RVSM_report@mlit.go.jp

Japan RMA FORM F3
WITHDRAWAL OF APPROVAL TO OPERATE IN RVSM AIRSPACE AND ON PBN ROUTES

1. When a State of Registry has cause to withdraw the approval of an operator/aircraft for operations in RVSM airspace and/or on PBN routes, details as requested below, must be submitted to the Japan Regional Monitoring Agency (Japan RMA) by the most appropriate method.

2. Before providing the information as requested below, reference should be made to the accompanying notes **(PLEASE USE BLOCK CAPITALS)**.

State of Registry¹:

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Name of Operator²:

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State of Operator¹:

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Aircraft Type³:

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Aircraft Series⁴:

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Manufacturers Serial No:

--	--	--	--	--	--	--	--	--	--

Registration No:

--	--	--	--	--	--	--	--

Mode S Address Code⁵:

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Date of Withdrawal of RVSM Approval⁶:

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Date of Withdrawal of RNAV10 (RNP10) Approval⁶:

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Date of Withdrawal of RNAV5 Approval⁶:

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Date of Withdrawal of RNAV1and2 Approval⁶:

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Date of Withdrawal of RNP APCH Approval⁶:

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Date of Withdrawal of RNP4 Approval⁶:

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Reason of Withdrawal of Approval⁷

Remarks⁷:

1. Enter the 1 or 2 letter ICAO identifier as contained in ICAO Doc7910, Index to Nationality Letters for Location Indicators. In the case of there being more than one identifier designated for the State, use the identifier that appears first.

*ICAO State Code for Japan: **RJ***

2. Enter the operator's 3 letter ICAO identifier as contained in ICAO Doc 8585.
For International General Aviation, enter "**IGA**".
For Military Aircraft, enter "**MIL**".
If none, place an **X** in this field and write the name of the operator/owner in the Remarks row.
3. Enter the ICAO designator as contained in ICAO Doc8643, e.g., for Airbus A320-211, enter A320; for Boeing B747-438 enter B744.
4. Enter series of aircraft type or manufacturer's customer designation, e.g., for Airbus A320-211, enter 211; for Boeing B747-438, enter 400 or 438.
5. Enter ICAO allocated Aircraft Mode S address code (in hexadecimal).
*This Mode S address code begins with the proper bit string **84, 85, 86, 87** as defined by ICAO for Japanese-registered aircraft.*
6. Example: For July 31, 2008 write 073108.
7. Use a separate sheet of paper if insufficient space available.

When complete, please return to the following address by the next business day:

Civil Aviation Bureau of Japan
Flight Procedures and Airspace Program Office
Air Traffic Control Division, Air Traffic Services Department
Japan Civil Aviation Bureau Regional Monitoring Agency
2-1-3, Kasumigaseki, Chiyoda-ku, Tokyo, 100-8918, JAPAN
Telephone: +81-3-5253-8111 ext.51238
Fax: +81-3-5253-1664
E-Mail: RVSM_report@mlit.go.jp

Appendix B

Contents of the combined RVSM/PBN approvals database currently maintained by Japan RMA.

Basic information	State of Registry	State to which the aircraft is currently registered as defined in ICAO document 7910	PBN information	Full Approval RNP10	Yes or no indication RNAV10(RNP10) operational approval
	Operator	ICAO code for the current Operator as defined in ICAO document 8585		dtRNP10 approval	Date of RNAV10 (RNP10) approval
	State of Operator	State of the current Operator as defined in ICAO document 7910		Expired RNP10	Yes, if expired day applicable
	Type	Aircraft Type as defined by ICAO document 8643		dtExpiration RNP10	Date of expired if applicable
	Series	Aircraft generic series as described by the aircraft manufacturer		Full Approval RNAV5	Yes or no indication RNAV 5 operational approval
	Ser No	Aircraft Serial Number as given by manufacturer		dtRNAV5 approval	Date of RNAV5 approval
	Reg. No	Aircraft's current registration mark		Expired RNAV5	Yes, if expired day applicable
	Hex Mode S	Aircraft's current Mode S code 6 hexadecimal digits		dtExpiration RNAV5	Date of expired if applicable
	Airworthiness Approved	Yes or no indication of airworthiness approval		Full Approval RNAV1	Yes or no indication RNAV1 and RNAV2 operational approval
	dtAWissued	Date of airworthiness approval		dtRNAV1 approval	Date of RNAV1 and RNAV2 approval
RVSM information	Monitoring	Yes or no indication of RVSM monitoring	Expired RNAV1	Yes, if expired day applicable	
	dtMonitoring	Date of RVSM monitoring	dtExpiration RNAV1	Date of expired if applicable	
	ASE	ASE value (ft)	Full Approval RNP-APCH	Yes or no indication RNP APCH operational approval	
	Full Approval	Yes or no indication RVSM operational approval	dtRNP-APCH approval	Date of RNP APCH approval	
	dtRVSM approval	Date of RVSM approval	Expired RNP-APCH	Yes, if expired day applicable	
	Expired	Yes, if expired day applicable	dtExpiration RNP-APCH	Date of expired if applicable	
	dtExpiration	Date of expired if applicable	Full Approval RNP4	Yes or no indication RNP 4 operational approval	
Other			dtRNP4 approval	Date of RNP4 approval	
			Expired RNP4	Yes, if expired day applicable	
			dtExpiration RNP4	Date of expired if applicable	
			OpName	Name of the current Operator	
			Remarks	Open comments	

Example of the combined RVSM/PBN approvals database currently maintained by Japan RMA.

Basic information

State of Registry	Operator	State of Operator	Type	Series	Ser No	Reg. No	Hex Mode S	Airworthiness Approved	dtAWissued
RJ	ADO	RJ	B735	500	27434	JA300K	850D6B	Y	2008/05/13

RVSM information

Monitoring	dtMonitoring	ASE	Full Approval	dtRVSM approval	Expired	dtExpiration
Y	2008/9/2	-37	Y	2008/05/13		

PBN information

Full Approval RNP10	dtRNP10 approval	Expired RNP10	dtExpiration RNP10	Full Approval RNAV5	dtRNAV5 approval	Expired RNAV5	dtExpiration RNAV5	Full Approval RNAV1	dtRNAV1 approval	Expired RNAV1	dtExpiration RNAV1
				Y	2009/11/2			Y	2009/11/2		

Full Approval RNP-APCH	dtRNP-APCH approval	Expired RNP-APCH	dtExpiration RNP-APCH	Full Approval RNP4	dtRNP4 approval	Expired RNP4	dtExpiration RNP4

Other

OpName	Remarks
Hokkaido International Airlines Co. Ltd.	