



*INTERNATIONAL CIVIL AVIATION ORGANIZATION*

**SIXTH MEETING OF THE PERFORMANCE BASED NAVIGATION  
TASK FORCE (PBN/TF/6)**

**Hong Kong, China, 3 - 5 February 2010**

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**Agenda Item 3: APAC Region PBN Implementation**

**3.3 RASMAG/12 OUTCOMES**

(Presented by the Secretariat)

**SUMMARY**

This paper presents the outcomes of RASMAG/12 in relation to PBN/TF matters.

**1. INTRODUCTION**

1.1 The 12<sup>th</sup> Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/12) was held from 14-17 December 2009.

**2. DISCUSSION**

2.1 Extracts from the Reports of RASMAG/12 that are relevant to the work of the PBN Task Force have been included as **Attachment A** to this paper. A copy of the revised PBN and Data Link Approvals Database Record Format in Appendix D to the EMA Handbook is at **Attachment B** to this paper.

**3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) Note the information in the reports from RASMAG/12;
- b) Review the attached revised PBN and Data Link Approvals Database Record Format, noting that the Appendix D to EMA Handbook will be updated with this format after the review by the PBN Task Force;
- c) Note the endorsement by RASMAG/12 that all PBN approval types should be included in Field 18 of the flight plan; and
- d) Consider the timing of the future PBN/TF meeting schedule based on the scheduling of the next RASMAG meeting from 2-5 August 2010.

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*Extracted from the Report of RASMAG/12, 14-17 December 2009*

**Agenda Item 2: Review Outcomes of Related Meetings**

**Review of PBN Task Force 5 (PBN/TF/5)**

2.17 The fifth meeting of the Performance Based Navigation Task Force (PBN/TF/5, July 2009) was held at ICAO Asia and Pacific Office in Bangkok, Thailand. The Secretariat reported to the meeting that PBN/TF/5 was invited to:

- a) Note information in the reports from RASMAG/11 (June 2009, Bangkok) and the 19<sup>th</sup> meeting of the ATM/AIS/SAR Sub-Group (ATM/AIS/SAR/SG/19, June 2009);
- b) Review the draft EMA Handbook;
- c) Note the assumption from ATM/AIS/SAR/SG/19 that the appendices of the PBN Regional Plan will be completed prior to presentation to APANPIRG/20;
- d) Consider the timing of the PBN/TF meeting schedule; and
- e) Identify solutions to the matters in terms of ensuring that adequate horizontal safety assessment and ongoing monitoring capabilities are available for the region.

2.18 In response, PBN/TF/5 noted the information in the reports from RASMAG/11 and ATM/AIS/SAR/SG/19. PBN/TF/5 reviewed the draft EMA Handbook and noted that a final version of the document would be presented to APANPIRG/20 in September 2009. PBN/TF/5 also reviewed the draft APAC Regional PBN Implementation Plan (Interim Edition Version 0.2) that included the two appendices and incorporated the revisions.

2.19 In relation to attempting to improve coordination between the Task force and APANPIRG sub-groups, i.e. ATM/AIS/SAR/SG and RASMAG, PBN/TF/5 noted the approximate schedule of future ATM/AIS/SAR/SG and RASMAG meetings, and agreed to adjust the schedule of PBN/TF meetings as best as possible.

2.20 In order for States to complete the required safety assessments for the implementation of PBN, the Task Force recognized that more guidance would be required from ICAO and there was a need to provide safety assessment training to States. PBN/TF considered, on its current assessment that there was no need for additional monitoring requirements to accommodate PBN-based operations.

2.21 RASMAG noted the outcomes from PBN/TF/5 and looked forward to improved coordination between the groups to ensure effective support was provided to the Task Force as required.

**Agenda Item 4: Airspace Safety Monitoring Documentation and Regional Guidance Material**

**RASMAG List of Competent Airspace Safety Monitoring Organizations**

4.1 RASMAG is required by its terms of reference to recommend and facilitate the implementation of airspace safety monitoring and performance assessment services and to review and recommend on the competency and compatibility of monitoring organizations. Accordingly, the

meeting reviewed and updated the “*RASMAG List of Competent Airspace Safety Monitoring Organizations*” for use by States requiring airspace safety monitoring services.

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

#### **EMA Handbook PBN Approvals Database Record Format**

5.1 New Zealand drew to the attention of the meeting that the format for the databases of PBN approvals in Appendix D to the EMA Handbook did not adequately cover the wide range of possible approvals for an individual aircraft. It was recalled that RASMAG/11 considered that EMAs would, initially at least, only conduct safety assessments for en-route traffic. However, if the EMA databases were designed to include a set of PBN approval fields that covers all PBN approval types, they would be future-proofed against changes in the scope of the tasks of the EMAs.

5.2 A revised format had been developed that specifically includes all current PBN and data link approval types (**Attachment B** to this paper). New Zealand proposed combining the RVSM, PBN and data link approvals databases, and so, in anticipation, the proposed format also allows for RVSM approvals. The same structure could be used as the form for States to report additions and changes to their approvals.

5.3 APANPIRG Conclusion 20/22 requested States to provide an annual update of their RVSM approvals to their RMA in conjunction with the annual traffic sample data. New Zealand suggested that the revised format could also be converted into spreadsheet format in anticipation that a similar request will eventually be made in respect of PBN and data link approvals.

5.4 The meeting thanked New Zealand for the revised format and discussed issues associated with the format. The meeting endorsed the format and tasked the Secretary to amend the EMA Manual accordingly. The meeting noted that Appendix C to WP/3 identified a number of other fields contained in the data base format and agreed to retain fields 1 and 3 but delete field 2.

#### **Unified Approvals Database**

5.5 New Zealand reported that in discussing the notion of a Regional PBN Approvals database, RASMAG/11 had agreed not to pursue the regional database at the present time but had requested States to consider the proposal and how to best provide data for inclusion when it was eventually established. The number of PBN approvals that an aircraft may hold requires a more complex database than for RVSM approvals. There are a number of navigation specifications that must be allowed for; the approvals are not hierarchical and may be airspace-dependent. For example, an aircraft’s navigation equipment may qualify it to hold an RNP 1 approval but not an RNP 4 approval, and that RNP 1 approval may only apply in airspace where the required navigation infrastructure is in place.

5.6 Both RVSM and PBN databases contain the same basic data on the aircraft, its operator and its state of registry. The PBN approvals database format suggested in the EMA Handbook is similar to that for the RVSM approvals, but also includes data link approvals. However, it is recognised that the PBN approvals field in this format is inadequate, and New Zealand proposed changes to the format.

5.7 Where an organisation provides both RMA and EMA functions it would be feasible to combine the RVSM, PBN and data link approvals databases. This would provide a single record for each aircraft and would avoid the duplication of the nine or more fields of common data for that aircraft, such as aircraft type, operator and state of registry. A combined RVSM, PBN and data link

approvals database would allow States to provide approvals data to a single Monitoring Agency; the data will be distributed to other agencies through Monitoring Agency internal data exchange mechanism. Sending data to a single agency is considered to be a significant benefit in reducing overhead activities and minimizing the risks of errors.

5.8 Occurrences of non-approved aircraft indicating RVSM approved on flight plans have led some ANSPs to express a need for rapid access to approvals databases to ascertain the approval status of specific aircraft. This would not involve automatic checking of the approvals status of every aircraft, but would allow ANSPs to request a check and receive a response within a few minutes when a specific aircraft's approval status was in some doubt. Combined approvals databases would make such a process, if agreed to, simpler to establish and operate.

5.9 The meeting thanked New Zealand for the paper and some States commented that a number of RMAs already make the approvals data available to ANSPs and that as a result possibly this was an issue that only affected New Zealand. However, the meeting agreed to review the proposal to collect the additional data and to bring comments on the proposal to RASMAG/13 for further consideration.

### **PBN Approvals Information on Flight Plans**

5.10 Singapore presented the need to include all PBN approval types into the flight plan for all flights so as to facilitate future implementation of reduced horizontal separation; this would also greatly assist in the airspace monitoring duties of the En-route Monitoring Agency. Information about the PBN readiness of airline fleets is crucial to the timely execution of the Asia and Pacific Regional PBN Implementation Plan. However, this information is not readily available in the current flight plan, and the new ICAO Flight Plan, with requirements for PBN approval data, will not be implemented until 2012.

5.11 In order to ease this difficulty, airlines can make use of the flight plan form Field 18 "Other Information" to include all type of PBN approvals pertaining to that aircraft when filing a flight plan even if the PBN approval is not required in that segment(s), route(s) and/or area concerned. This information should also be captured in the December TSD submitted by States. The inclusion of PBN approvals of aircraft for segments, routes and areas that do not currently require any PBN approvals will provide information on airline fleet readiness when considering that airspace for reduced horizontal separation minima. This will be a proactive route to achieving the short and medium term goals of the Regional PBN Implementation Plan.

5.12 The meeting discussed the need to include all PBN approval types in the flight plan and to make use of the flight plan form Field 18 as the means to include the PBN approval types. Australia noted that the entry of PBN approvals information in Field 18 was published in the Australia AIP as a requirement in Australia, and understood that other States, such as the United States had also made such a requirement. The meeting endorsed the proposal to use Field 18 of the flight plan on a regional basis to identify an aircraft's PBN approvals. The Secretary was tasked with coordinating this proposal to the Flight Plan Task Force and to the ATM/AIS/SAR Sub-Group.

### **Agenda Item 8: Date and Venue of the Next RASMAG Meeting**

8.1 With regards to the scheduling of the next meeting, it was agreed that RASMAG/13 would be held from 2-5 August 2010, at the Regional Office premises.

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**PROPOSED APPROVALS DATABASE RECORD FORMAT**

<b>Aircraft &amp; Operator Details</b>													
Registration No													
State of Registry													
Registration Date													
Name of Operator													
State of Operator													
Operator Identifier													
Operator Type		[CIV/MIL]											
Aircraft Type													
Aircraft Series													
Manufacturers Serial No													
Mode S Address Code													
<b>Approval</b>	Airworthiness Approval <i>(State)</i>	Primary Sensor Type <i>(DME-DME/ INS/IRS/GNSS)</i>	Time Limit <i>(hrs)</i>	Vertical Guidance <i>(APV/LPV)</i>	RF Leg Capable <i>(Yes/No)</i>	Limitations <i>(text)</i>	Date	Operational Approval <i>(State)</i>	Date	Expiry date	Approval withdrawn <i>(date)</i>	Information provided by State authority	Regional approval
RNAV10													
RNAV5													
RNAV2													
RNAV1													
RNP4													
RNP2													
Basic RNP1													
Advanced RNP1													
RNP APCH													
RNP AR APCH													
RVSM													
VDL													
Mode S													
SATCOM													
HF													
Remarks													