



INTERNATIONAL CIVIL AVIATION ORGANIZATION

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

Hong Kong, China, 3 – 5 February 2010

Agenda Item 4: PBN Implementation Issues

**4.2 PERFORMANCE BASED NAVIGATION (PBN)
OPERATIONAL APPROVAL**

(Presented by COSAP-SEA)

SUMMARY

This discussion paper addresses the needs and developments related to PBN Operational Approval and makes recommendations for the review and comment of the PBN Task Force Meeting 6.

1 INTRODUCTION

1.1 This discussion paper addresses the needs and developments related to PBN Operational Approval and makes recommendations for the review and comment of the PBN Task Force Meeting 6.

2 BACKGROUND

2.1 The COSCAP programmes in Asia Pacific have established Regional Aviation Safety Teams (RASTs) to develop safety interventions to reduce aviation risk. Controlled Flight Into Terrain (CFIT) has been a major cause of accidents and one of the interventions developed by the COSCAP programmes was an Advisory Circular (AC) – **Guidance for Operators for Conducting Continuous Descent Final Approach (CDFA) For Non-Precision Approaches**.

2.2 Recognizing that the accident rate for non-precision approaches is five times greater than for precision approaches, the CDFA Advisory Circular provided information to States and air operators on the techniques that could be utilized to eliminate drive and drive type approaches. The AC was first developed in 2004 and subsequently updated in 2008 after ICAO released the PBN Manual (DOC 9613). The AC was developed with the kind support of ICAO staff and encourages the development and use of approaches utilizing baro-VNAV in the interest of safety.

2.3 Furthermore, in order to assist Member Administrations with the establishment of baro-VNAV approaches, the three Asian programmes with the kind support of DGAC France and Airbus, engaged ENAC to provide three PBN Approach Design Courses and subsequently a PBN Approach Design Instructor Course. ICAO assisted COSCAPs with the coordination and development of these programmes.

2.4 With the establishment by ICAO of the PBN Task Force in the Region COSCAP has been less active with PBN implementation. Nevertheless, recently some COSCAP States have requested COSCAP support concerning PBN Operational Approval. While the PBN Manual does contain some basic information concerning PBN Operational Approval (Volume I, Part A, 3.4),

there is no detailed guidance nor is training available to assist States with the PBN operational approval process.

2.5 In cooperation with ICAO, the COSCAP programmes, with the support of available expertise, are actively pursuing the development of PBN Operational Approval procedures and a related training programme.

2.6 IATA has developed guidance manual for its members - **General Guidelines for Obtaining Airworthiness and Operational Approvals for PBN Navigation Specifications (Version 1.0)**. The document provides guidance to Air Operators for obtaining Airworthiness and Operational Approval for all Navigation Specifications contained in Volume II of the PBN Manual.

3 DISCUSSION

3.1 In cooperation with ICAO and COSCAP, during the period of 17 to 19 November 2009 the FAA kindly hosted a PBN Operational Approval Meeting/Workshop in Los Angeles, USA, to discuss aspects of operational approval. In addition to experts from the FAA, there was participation by ICAO, CASA Australia and two operational staff from each of Hong Kong China, Thailand, and Singapore. The meeting provided a forum for the exchange of best practices related to PBN Operational approval and the development of a proposed training programme for future delivery.

3.2 CASA Australia advised ICAO that they are developing a PBN Operational Approval Manual and kindly offered to provide this material to ICAO. In addition to the FAA, CASA Australia may also be able to provide some support concerning the training programme.

3.3 The COSCAP programmes in Asia Pacific have undertaken to lead the coordination of this initiative and could provide some funding if necessary. Singapore has kindly offered to provide a venue for the training programme and at the recently completed COSCAP-SEA Steering Committee Meeting; this offer was endorsed by the Member Administrations of the COSCAP-SEA programme.

3.4 Concerning the training programme, Attachment I highlights some of the issues and views from the participants of the meeting kindly hosted by the FAA during the period of 17 to 19 November 2010.

4 RECOMMENDATIONS

4.1 PBN Task Force Meeting provide inputs on PBN Operational Approval requirements and training programme as highlighted in **Attachment I**.

4.2 ICAO, COSCAP, FAA and CASA kindly requested to continue to support this initiative.

PBN Operational Approval Training Programme Proposal

1. Scope

- RNP APCH
- RNAV 1 and RNP 1
- RNP AR APCH – Issue - **may require significant resources and time beyond what could be provided? How large are the needs here in Asia Pacific Region for RNP AR APCH?**

2. Target participants

- Inspector with Ops Approval experience with the main focus on Flight Operations. May require some airworthiness aspects?
- Knowledge of foundational PBN material and related NavSpecs
 - RNAV and RNP fundamentals
 - Positioning sensors
 - Avionics
 - Phraseology
 - Charting etc) and
 - Respective Navigation Specifications
 - **Issue - is there now or should a module be provided as introduction to PBN Operational Approval**
- Three COSCAP programme with regional application
- Maximum number of “students 20-30?”

3. Prerequisites

- Pre-course study(foundational material)
- Doc 9613
- ICAO-FAA-EUROCONTROL PBN Seminar Material
- “Handbook”
 - Ops Approvals mechanisms
 - job aids/checklists/sample applications/ templates

4. Course Materials

- “Handbook”
 - Ops Approvals mechanisms
 - job aids/checklists/sample applications/ templates
- Sample of home State approval document (ICAO Ops spec)

5. Initial cadre

- a. Not “train the trainers”
- b. Develop Regional experts
 - i. Regulators
 - ii. Operators

6. Instructor pool

- a. FAA (HQ-field inspectors)
- b. Industry (for generic, not” inspector” material?) not co-students at least now (SE)
 - i. FAA RNP SAAAR Approval Consultants?
 - ii. IATA?
 - iii. OEMs?

7. Funding sources

- a. COSCAP can provide some funding
- b. Industry?

8. Venue and Tentative Date

- a. Singapore Aviation Academy
- b. Late April or May 2010 (26-30 April 2010?)

9. Planning group?

- a. Curriculum
- b. Logistics
- c. Funding
- d. Length
- e. Educational devices

10. Follow on to classroom training

- a. Flight Training
- b. Application Guidance
- c. Info Sharing
- d. OJT

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