



International Civil Aviation Organization

The Ninth Meeting of the ICAO Asia/Pacific Performance-Based Navigation Task Force (PBN/9)

Bangkok, Thailand, 27-30 March 2012

Agenda Item 5: State/Industry Updates

RECENT PBN ACTIVITIES IN AUSTRALIA

(Presented by Australia)

SUMMARY

This paper presents an overview of current PBN and APV activities in Australia over the past twelve months including PBN standards development and RNP-AR operations.

Strategic Objectives:

A: *Safety – Enhance global civil aviation safety*

C: *Environmental Protection and Sustainable Development of Air Transport – Foster harmonized and economically viable development of international civil aviation that does not unduly harm the environment*

Global Plan Initiatives:

GPI-5 RNAV and RNP (Performance-based navigation)

GPI-11 RNP and RNAV SIDs and STARs

GPI-21 Navigation systems

1. INTRODUCTION

1.1 PBN implementation continues as a high priority for Government in Australia. This paper provides an update on activities over the past twelve months highlights some issues noted and makes recommendations on addressing those issues.

2. DISCUSSION

2.1 The Department of Infrastructure and Transport has recently released a policy paper entitled “Air Traffic Management Policy Direction”. The paper includes material on PBN and APV planning and implementation. This paper is available at: <http://www.infrastructure.gov.au/aviation/atmpolicydirections/index.aspx>.

2.2 The Civil Aviation Safety Authority is also near to completing the Civil Aviation Order CAO 20.91 that will consolidate the Australian PBN rules into one publication. These rules are expected to be published by mid-2012. The current draft rules are available on the CASA web site at www.casa.gov.au. These proposed rules could provide the basis for other States to draft PBN legislation.

2.3 Australia is also developing mandates for a number of systems to facilitate the use of PBN based ATM. This includes requirements for ADS-B for all civil aircraft operating in the Australian FIR above FL290 by December 2013. There will also be published mandates for existing and new aircraft to be fitted with GNSS, ADS-B commencing in the 2014-2016 timeframe. A summary of these requirements is available at www.casa.gov.au.

2.4 Australia continues to be involved in various ICAO and other groups that focus on PBN implementation. These include the ICAO PBN Study Group, the PBN Tiger Team, the Instrument Flight Procedures Panel, the Flight Procedures Programme Office, the Australia/New Zealand RNP Users Conference, the GE RNP Summit and related COSCAP activities.

2.5 PBN based approach and departure procedures are now available at some 15 airports around Australia. These are being modified to use the new Multi-variant design. Commercial approach design companies are being used to facilitate the faster implementation of APV approaches. Further details on these will be provided in another presentation.

2.6 Instrument approach design work on a number of ICAO standard Baro-VNAV approaches has now been completed. The procedures and requirements for the flight validation of these approaches are being formulated. The PBN Task Force could formulate a common policy on APV flight validation requirements.

2.7 Some issues with the current ICAO PANS OPS design standard for Baro-VNAV have been noted that could be taken up by the Task Force. These include:

1. The current APV design requires runway alignment unlike the RNAV (GNSS).
2. The MAP for Baro-VNAV must be at the runway threshold.
3. The design technically requires the use of “W surfaces” even though these are intended for SBAS LNAV/VNAV design only.

2.8 As an action from the ICAO Future Air Navigation Challenge Team a small group of PBN experts was formed called the Tiger Team to assist in the review and development of PBN standards, operational guidance material and e-learning modules. Also on their program is the development of a new PBN Operations Approval Manual.

2.10 The APRAST/1 meeting was held in Bangkok 20-24 February 2012. Many of the Safety Enhancement Initiatives (SEI) coming from that meeting include PBN and APV activities that are already underway through the Regional and State PBN plans. The need to ensure coordination between these groups is recognized.

2.11 The Inter regional Satellite Voice Communications Task Force (IRSVTF/X) was held in Bangkok in February, 2012 and the draft guideline manual for Sat Com (Voice) were finalized for presentation to ICAO. While some States are in a position to implement SCV use in their FIR, for others this capability will not be available for a number of years. SCV use is not one of the communications systems that support reduced PBN based separation standards such as 30/30. The Task Force also noted safety issues related to separation breakdowns and inappropriate communications if SCV is incorrectly used.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) discuss any relevant matters as appropriate and formulate recommendations as appropriate.

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