



International Civil Aviation Organization

**Performance Based Navigation/Global Navigation Satellite System
Task Force (PBN/GNSS TF)**

Fourth Meeting
(Cairo, Egypt, 02 – 04 October 2011)

Agenda Item 3: Recent development in PBN and GNSS

UPDATE ON OTHER ICAO REGIONS

(Presented by the Secretariat)

SUMMARY

This paper provides an update on ICAO APAC Regions PBN implementations.

Action by the meeting is at Paragraph 3.

REFERENCES

- APAC PBN/TF/8 Report
- PBN GNSS TF/3 Report

1. INTRODUCTION

1.1 The Eighth Meeting of the ICAO APAC Region Performance Based Navigation Task Force (PBN/TF/8) was held in conjunction with the PBN Workshop and the PBN Implementation Seminar 2011, in India from 09 to 13 May 2011.

1.2 The ICAO APAC Region organized a PBN Workshop that was conducted by Eurocontrol from 9 to 12 May 2011 in parallel with the PBN Implementation Seminar, which was held from 10 to 11 May 2011. The PBN/TF/8 meeting was held from 12 to 13 May 2011.

1.3 The MIDANPIRG/12 meeting was held in Amman, Jordan 17-21 October 2010. The meeting adopted 80 Conclusions and Decisions of which two (11) Conclusions are considered relevant to the work of the PBN/GNSS TF.

1.4 The PBN GNSS TF/3 meeting held in Cairo, Egypt, 30 November - 02 December 2010, was attended by 35 participants, which included experts from eight (8) States (Bahrain, Egypt, Iraq, Jordan, Kuwait, Qatar, Saudi Arabia and U.A.E.) and two (4) International Organizations (IATA, and IFALPA). The meeting developed 5 Conclusions and decisions.

2. DISCUSSION

2.1 The meeting may wish to recall that the Workshop on PBN Airspace Planning was successfully held by the Syrian Civil Aviation Authority (SCAA) in Sydnaiia (Damascus), from 25 to 28 October 2010 and was attended by a total of forty four (44) participants, including experts from eleven (11) States (Bahrain, Egypt, Iraq, Iran, Jordan, Lebanon, Libya, Qatar, Saudi Arabia, Syria and United Arab Emirates) and (1) one International Organizations (IATA).

2.2 The meeting may further wish to recall that most of the Workshop presentations were conducted by experts from EUROCONTROL and the FAA. The presentations re-introduced the PBN concept that took place during the introduction to Performance Based Navigation (PBN) Seminar, held in Cairo, 12-15 November 2007, which explained the processes for implementation of PBN, the contents and purpose of an Airspace concept.

2.3 The meeting may wish to note that that an Airspace Concept Handbook for PBN Implementation which has been developed by EUROCONTROL was introduced. The handbook contained the sixteen (16) activities that formed the basis of the workshop.

2.4 The meeting may wish to note key global ICAO PBN initiatives and features included the following:

- a) Measurement of the PBN implementation performance using an actual implementation database coordinated with Jeppesen, and an ATM Operational Improvement tool;
- b) Measurement of actual PBN;
- c) Adoption of Assembly Resolution 37-11;
- d) Educational activities of the GO Teams, which have been to three States, including UAE in the MID Regions;
- e) PBN Airspace planning workshops (including Syria in 2010);
- f) ICAO is developing Operational Approval guidance for global application, based to a large degree on the APAC Cooperative Development of Operational Safety and Continuing Airworthiness Programmes (COSCAP) Handbook in cooperation with the Civil Aviation Safety Authority of Australia (CASA);
- g) Separation and Airspace Safety Panel (SASP) regarding:
 - i. variations allowed in true airspeed;
 - ii. ADS-B and MLAT 3 NM aircraft separations;
 - iii. applicability of the 2.5 NM radar separation to 20 NM;
 - iv. availability of GLS approaches;
 - v. Five Minute Arrival/Departure Procedure amendment;
 - vi. Advanced Strategic Offset Concept;
 - vii. 5 NM minima for terminal operations between B-RNP1 aircraft;
- h) Instrument Flight Procedures Panel (IFPP) regarding PANS OPS amendments:
 - i. Definition of GLS (GBAS - Ground-based Augmentation System (Landing System));
 - ii. General cautions in conventional procedure design;
 - iii. Quality assurance;
 - iv. Alignment of RNAV holding criteria with PBN;
 - v. Use of SBAS equipment for flying APV/Baro-VNAV procedures;
 - vi. Continuous Descent Operations (CDO, Doc 9931);
 - vii. RF legs charting to achieve an unambiguous description both for the pilot and for the navigation;
 - viii. Identification of SBAS service provider;
 - ix. Definition of the term 'course';

- x. Clarification on vertically guided approach requirements;
 - xi. Continuous Climb Operation (CCO Manual, Final draft Q3, 2012);
 - xii. Helicopter Manoeuvre Visual segment, LPV criteria, PBN Departure, En-route Criteria and PinS Departure procedures charting;
- i) Navigation Systems Panel (NSP) regarding the GNSS Manual ICAO Doc 9849);
 - j) Performance Based Navigation Study Group (PBN SG), regarding the:
 - i. RNP 2 navigation specification;
 - ii. Application of RF turns outside final approach for all RNP applications;
 - iii. 'Advanced' RNP navigation specification applicable for en-route, arrival, departure and approach;
 - iv. RNP 0.3 navigation specification; and
 - v. RNP AR departures.

2.5 The meeting may wish to note the implications of the new RNP 0.3 and 'Advanced RNP' Navigation Specifications. Where the participants of the APAC Region workshop were not clear on how these specifications would be applied, and in particular some delegates were not aware that the 'Advanced RNP' Specification was a means of bringing together appropriate specifications to account for all phases of flight. The RNP 0.3 navigation specification was explained as being designed for helicopter operations although its use by aeroplanes was not excluded.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information provided in this working paper and its ; and
- b) coordinate PBN implementation with other ICAO Regions

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