



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 6: State / Industry Presentations

6.1 State PBN Plan and Status of PBN Implementation Progress

**UPDATE ON PBN IMPLEMENTATION PROGRESS
HONG KONG, CHINA**

(Presented by Hong Kong, China)

SUMMARY

This paper presents the most up-to-date PBN Implementation status in Hong Kong, China.

1. INTRODUCTION

1.1 The 36th session of the ICAO Assembly in its Resolution A36-23 requested the States and Planning and Implementation Regional Groups (PIRGs) to develop PBN implementation plans and implement PBN in accordance with the timelines established in those plans. In line with the ICAO target, Hong Kong, China has developed the PBN Implementation Plan and initiated various initiatives with a view to implementing PBN procedures in a steady and progressive manner.

2. DISCUSSION

2.1 The Hong Kong PBN Implementation Plan (the Plan) was developed in line with the ICAO Regional PBN Implementation Plan. The Plan adopts a 3 phased approach; Short Term (2009-2012), Medium Term (2013-2016) and Long Term (beyond 2016). The Plan was presented to ICAO at the PBN/TF/4 held in Japan in March 2009 (See **Attachment**).

2.2 So far, the Hong Kong Civil Aviation Department (CAD) has been following the Plan in moving forward the PBN project and the implementation progress is satisfactory. The PBN Planning and Implementation Team (PBN PIT) established in November 2007 also facilitated and harmonized the requirements of various stakeholders in the course of PBN implementation in Hong Kong.

2.3 As from 1 February 2009, we have been conducting operational trial on RNP AR APCH (with Baro-VNAV) procedures to the north runway at Hong Kong International Airport. Due to airspace limitation and obstacle protection requirements, RNP 0.3 containment is required in the intermediate and missed approach segments of the relevant flight procedures and they are therefore categorized as RNP AR APCH procedures. The results of trial so far are satisfactory. Comments received from pilots are positive and the majority commented that both vertical and lateral track keeping accuracies are very high.

2.4 CAD plans to complete the implementation of RNP AR APCH with Baro-VNAV procedures to the north runway in 2010. Tentatively, the AIP Supplement will be published on 11 February 2010 and the effective date of the procedure will be 8 April 2010. 2 AIRAC cycles prior notification will be provided in accordance with the ICAO provisions.

2.5 At the same time, CAD is finalizing the relevant RNP AR APCH operational approval procedures and requirements. Initially, consideration would be given to approved local airline operators with specific aircraft types that satisfy the ICAO RNP AR APCH requirements. With experience gained, CAD will consider extending the procedures to foreign operators for the conduct of RNP AR APCH procedures in Hong Kong. The specific authorization procedures will be promulgated through the issuance of AIP supplement or Aeronautical Information Circular (AIC) in due course.

2.6 CAD is also concurrently developing more RNP APCH procedures with a view to improving the overall operational efficiency.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note:

- a) the current status of PBN Implementation in Hong Kong, China;
- b) the effective date of RNP AR APCH with Baro-VNAV procedures.

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Hong Kong Implementation Plan

	Oceanic	Terminal(SID/STAR)	Approach
Short Term (2009-2012)	<p>Application of 50NM Longitudinal separation on RNP 10 Routes.</p> <p>Trial operation for RNP4 on L642 & M771 by 2012. Within 2010, issue mandate for RNP4 capability within HK en-route airspace by 2014.</p>	<p>Implementation of RNAV 1 STARs. RNP1 SIDs implemented in 2005.</p> <p>Redefine all RNP1 SID to RNAV1 specification. Within 2010, issue mandate for RNAV1 capability within HK TMA by 2013</p>	<p>Implementation of RNAV APCH (with Baro VNAV) Procedure to North RWY (RNP AR APCH)</p> <p>Implementation of RNAV APCH (with Baro VNAV) Procedure to ALL RWY by 2012</p> <p>Feasibility study of GBAS</p>
Medium Term (2013-2016)	<p>Implementation of RNP 4 on selected Route(s) within</p> <p>Mandate RNP 4 application for aircraft operate within en-route airspace by 2014. Achieve 100% RNP 4 within en-route airspace.</p>	<p>Implementation of RNAV 1 Application in TMA airspace</p> <p>Mandate RNAV 1 application for aircraft operate within PRD TMA by 2013. Achieve 100% RNAV1 SID/STAR in TMA</p>	<p>Trial of GBAS for capable aircraft/operators.</p> <p>Within 2013, issue mandate for RNP 0.3 capability within approach airspace by 2016+</p>
Long Term (2016+)	<p>Consider mandate better navigation specification in accordance with the ICAO regional roadmap, e.g. RNP2.</p>		<p>Expanded use of RNP 0.3. Subject to satisfactory results of the trial, consider GBAS as backup to the ILS.</p> <p>Mandate RNP 0.3 application for aircraft operate within approach airspace by 2016+. Achieve 100% RNP 0.3 within approach airspace.</p>