



*International Civil Aviation Organization*

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

Bangkok, Thailand, 27-30 March 2012

---

**Agenda Item 5: State/Industry Updates**

**Update on Hong Kong, China PBN Implementation**

**(Presented by Hong Kong, China)**

**Summary**

This paper provides information on the latest progress of PBN implementation in Hong Kong, China. The paper presents the publication of mandate requirements for Basic-RNP 1 (Terminal) & RNP 4 (En-route) and implementation of new PBN procedures at Hong Kong International Airport (HKIA).

**1 Introduction**

- 1.1 PBN procedure enable much better efficient use of airspace and better flexibility for procedure design. This synergistic effect enhances safety, accessibility, capacity, operational efficiency, fuel economy and environment. All of the stakeholders in the industry can be beneficial by this latest navigation technology.
- 1.2 As per the Resolution A36-23 of the 36th session of the ICAO Assembly, since the submission of Hong Kong, China (Hong Kong, to be used for the rest of the paper) PBN Implementation Plan (the Plan) to ICAO at the PBN/TF/4 in March 2009, Hong Kong has been implementing PBN procedures in a steady and progressive manner.
- 1.3 The Plan adopts 3 phased approach: Short Term (2009-2012), Medium Term (2013-2016) and Long Term (beyond 2016).
- 1.4 With full support of and close collaboration with the stakeholders in Hong Kong (through the PBN Planning and Implementation Team – PBN PIT, established in 2007 and consisted of local airlines, ANSP, regulators, engineer, etc), Hong Kong has completed most of the Short Term PBN projects and is expecting to accomplish all other Short Term PBN projects in 2012 (see Appendix 1).

**2 Discussion**

**2.1 Mandating Basic-RNP 1 and RNP 4 within Hong Kong FIR**

- 2.1.1 Hong Kong Aeronautical Information Circular (AIC 03/12) has been issued on 12 January, 2012 for promulgating the mandate requirements for Basic-RNP 1 (for SIDs and STARs in Terminal airspace) and RNP4 (for En-route airspace when operating at or above FL290).

- 2.1.2 Hong Kong will mandate the requirement for all aircraft flying the SIDs and STARs within the Hong Kong FIR, including SIDs and STARs of Hong Kong International Airport and Macao International Airport as published in the Hong Kong AIP, to be approved for Basic-RNP 1 with effect from 1 January 2013.
- 2.1.3 Hong Kong will mandate the requirement for all aircraft operating at or above FL290 in the Hong Kong FIR to be approved for RNP 4 with effect from 31 December 2014.

**2.2 Implementation of New PBN procedures**

- 2.2.1 Two RNP AR APCH procedures to HKIA (north runway, RWY25R and RWY07L) have been implemented in June 2010.
- 2.2.2 To maximize the benefits brought by PBN, Hong Kong has implemented new sets of RNP SID for noise mitigation in February 2012.
  - 2.2.2.1 The new sets of SID utilize the latest fleet on-board capability to minimize the noise impact to environment
- 2.2.3 On the other hand, Hong Kong is also developing a new RNP AR APCH to HKIA (from different direction to land on north runway) for environmental and operational efficiency enhancement.
  - 2.2.3.1 Primary objective of the procedure is to reduce the noise footprint of flight when approaching the terrain-rich HKIA. The new RNP AR APCH procedure will route over the water most of the time to minimize the noise disturbance to residents near the flight path.
  - 2.2.3.2 The procedure can also be used for weather avoidance near Hong Kong highest mountain (i.e. near the IF of the existing ILS approach) and saving track miles.
  - 2.2.3.3 Latest ICAO initiative, Continuous Descent Operation (CDO), will also be introduced in this approach to optimize the aircraft operating efficiency.
  - 2.2.3.4 Unfortunately, owing to the FMS limitation, only small fraction of aircraft can fly the new procedure.
  - 2.2.3.5 The problem encountered will be discussed in another paper submitted by Hong Kong

**3. Action by the meeting**

- 3.1 The meeting is requested to note that:
  - a) Hong Kong has completed most of the short term PBN implementation projects and is expecting to accomplish all other short term PBN projects in 2012; and
  - b) Hong Kong has published the mandate requirements for Basic-RNP 1 and RNP 4 (details please refer to Hong Kong AIC 03/12)

.....