



**MINISTRY OF TRANSPORTATION
DIRECTORATE GENERAL OF CIVIL AVIATION**

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To : Mr. Mokhtar A. Awan
Regional Director
ICAO Asia and Pacific Office
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From : Mr. Ichwanul Idrus
Director of Air Navigation
DGCA of Indonesia
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Subject: State PBN Implementation Plan.

Dear Sir,

Following up your letter Ref. T 3/10.0, T3/8.30 – AP042/11 (ATM) dated 25 March 2011 concerning the State PBN Implementation Plan. According to the regional roadmap on PBN implementation plan, I have the honour to submit our updated PBN Implementation Plan as attached.

Best regards,

Ichwanul Idrus
Director of Air Navigation

Cc:

1. Director General of Civil Aviation
2. Secretary of Directorate General of Civil Aviation
3. Director of Airworthiness and Aircraft Operations

THE PBN IMPLEMENTATION PLAN IN THE REPUBLIC OF INDONESIA

1 — THE OBJECTIVE

1.1 According to the 36th ICAO Assembly resolution (A36-23), the Republic of Indonesia established the PBN implementation plan within Ujung Pandang and Jakarta FIRs.

1.2 The PBN implementation plan presents the schedule of changing the current ground navigation aids based instrumental flight procedure to the PBN based instrumental flight procedure from 2010. If aircraft do not meet the PBN requirements of ICAO PBN Manual (Doc 9613), their operations will be restricted in PBN airspace.

1.3 The objective of this circular is to provide aircraft operators with the guideline for PBN transition for efficient operation under the new PBN based aviation environment.

2 — INTRODUCTION

2.1 The air traffic volume has continued to increase in Ujung Pandang and Jakarta FIRs. This trend will be maintained because the demand for traveling has increased according to the economic growth. However, the airspace assigned to civil aircraft is limited, so measures are necessary to meet the increased air traffic demands.

2.2 The Directorate General of Civil Aviation (DGCA) of Indonesia decided to implement PBN to meet the demands of enhancing airspace capacity and get the benefits by utilizing advanced aircraft equipments.

2.3 Accordingly, additional benefits are expected:

- flexible designation of flight routes
- reduce flight time
- enhance the airspace capacity
- mitigate the collision risks in airborne through continuous descent approaches
- and so on.

3 — PHASED PBN IMPLEMENTATION PLAN

3.1 General

3.1.1 RNAV5 or RNAV2 will be applied to the en route, RNAV1 will be applied to STAR and SID in the terminal, RNP Approach and RNP AR approach will be applied for approach procedures in Ujung Pandang and Jakarta FIRs.

3.2 Short-term Implementation Plan (2010 – 2012)

3.2.1 Current RNP10 routes will be changed to RNAV 5, and RNAV 2 will be introduced to the heavily congested route. It is expected that the aircraft which meet the requirements for those routes will be separated from the non-complying aircraft by altitude.

3.2.2 RNAV 1 based STAR and SID will be introduced to the international airports. During this term, both new and existing STAR and SID are expected to be operated at the same airspace.

3.2.3 RNP APCH with Baro VNAV will be introduced to high traffic instrument runways at first, and those procedures are expected to be applied with current procedures at the same time. Furthermore, RNP-AR APCH that needs to get special approval will be introduced on a trial basis at certain airports which will have operational advantages.

3.3 Mid-term Implementation Plan (2013 – 2016)

3.3.1 Current VOR routes will be changed to RNAV 5, and RNAV 2 will be introduced to heavily congested routes to establish unidirectional parallel routes. The aircraft which meet the requirements for those routes and the non compliance aircraft will be separated vertically.

3.3.2 RNAV1 based STAR and SID will be introduced in all international airports and in some congested domestic airports.

3.3.3 RNP APCH with Baro VNAV or APV will be introduced in all instrument runways and operated with current approach procedures at the same time. Furthermore, RNP-AR Approach that needs to get special approval will be introduced to the airports that have operation advantages, and trial operation of GBAS will be started at the selected airports.

3.4 Long-term Implementation Plan (2016+)

3.4.1 Taking into consideration of the airspace condition, the operational range of NAVAIDs, the traffic condition, and so on, GLS precision approach procedure will be

expanded to other airports. Also, the introduction of precision approach procedures will be reviewed, considering the maturity of SBAS related conditions.

3.4.2 Consider mandate better navigation specification in accordance with the ICAO regional PBN roadmap, selected ground navigation aids will be out of commission gradually after 2021.

| | Short Term (2010-2012) | Medium Term (2013-2016) | Long Term (2016+) |
|-----------------|--|--|---|
| En-Route | <ul style="list-style-type: none"> - Application of RNAV5 on selected existing route(s). - Feasibility Study of RNAV2 Implementation. | <ul style="list-style-type: none"> - Implements RNAV5 airspace by 2015. - Implementation of RNAV 2 on selected Route(s). | Consider mandate better navigation specification in accordance with the ICAO regional roadmap. |
| Terminal | RNAV 1 STAR/SID on selected international airport(s) | <ul style="list-style-type: none"> - Expands RNAV1 STAR/SID on international airports - Introduce RNAV1 on domestic airport(s) | Completes the implementation for both international and domestic airport |
| Approach | <ul style="list-style-type: none"> - RNP APCH (baro-VNAV) at certain instrument runways - Trial base operation for RNP AR at certain airport(s) - Feasibility study of GBAS | <ul style="list-style-type: none"> - RNP APCH (Baro-VNAV or APV) at all instrument runways. - RNP AR operation - Trial for GBAS | <ul style="list-style-type: none"> - Expanded use of RNP APCH - Expanded use of GBAS approach as a backup of the ILS. |

4 — AIRCRAFT OPERATION IN PBN AIRSPACE

4.1 Aircraft operating in PBN airspace should satisfy the requirements of ICAO PBN Manual (Doc 9613), and the aircraft operators supposed to operate aircraft in PBN airspace should get appropriate operational approval by countries where their aircraft are registered or operate.