



International Civil Aviation Organization

**THE TENTH MEETING OF PERFORMANCE BASED NAVIGATION
IMPLEMENTATION COORDINATION GROUP (PBNICG/10)**

(Bangkok, 19 – 21 April 2023)

Agenda Item 4: States' PBN Implementation Progress and the challenges faced by the States and lessons learnt

PBN Implementation: Department of Civil Aviation Brunei Darussalam
(Presented by name of States/Administration)

SUMMARY

This paper provides the update the planning and limitations/challenges of PBN Implementation for Department of Civil Aviation Brunei Darussalam.

1. INTRODUCTION

Department of Civil Aviation Brunei Darussalam (DCA Brunei) has revised the Implementation Planning for Performance Based Navigation (PBN) to year 2023-2025. Currently, DCA Brunei is reviewing potential design for airspace and routes by considering Stakeholders' demand, existing CNS/ATM infrastructure and potential negotiation/coordination with neighboring states.

2. DISCUSSION

Brunei Air Navigation Service-CNS/ATM Masterplan which include the implementation of Performance Based Navigation (PBN) as shown below:

Initial Planning	2012-2015	2016-2020	2021-2025	REMARKS
Revised Planning	2023-2025			
AIRSPACE	<ul style="list-style-type: none"> Alignment airspace to new system RNAV 1 (SID & STAR) 	<ul style="list-style-type: none"> Flexible ATS routes, RNP & RNAV Extension of airspace Sectorisation & Flexible Use Airspace 	<ul style="list-style-type: none"> GNSS (GBAS) approach 	Incremental implementation of PBN & flexible routing Expansion and sectorisation
ATC/ATS	<ul style="list-style-type: none"> ATS procedure to be aligned to airspace and new system Update (LOA) MALAYSIA 	<ul style="list-style-type: none"> ATS procedure to be aligned to airspace changes Automatic coordination (AIDC) Arrival sequencing 	<ul style="list-style-type: none"> ATS procedure to be aligned to GNSS approach ADSB IN usage Functional integration (ground-air) 	ATC procedure incrementally aligned to airspace and new technology capabilities

CHALLENGES

The primary issues relate to implementation of Performance Based Navigation (PBN):

- RNAV 5 &2 (acceptable) or RNAV1 & RNP1 (preferred) for en-route

RNAV and RNP for en-route will further enable for dynamic and flexible ATS route management. However, this is not yet applicable for Brunei. To date, such programme has not initiated.

- RNAV 1 or RNP 1 (SIDs/STARs) for Terminal Area
- RNP APCH (Baro-VNAV) and APV for approaches

Lack of resources affects DCA's ability to implement projects to improve airspace design. Key expertise within procedural design is not available. Hence, DCA has initiated to outsource the experts since 2022. However, such process takes longer than expected and still in progress.

3. ACTION REQUIRED BY THE MEETING

3.1 The meeting is invited to: amend as appropriate

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

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