



International Civil Aviation Organization

**THE SIXTH MEETING OF PERFORMANCE BASED NAVIGATION
IMPLEMENTATION COORDINATION GROUP (PBNICG/8)**

Video Conference, 6 - 8 July 2021

Agenda Item 4: States' PBN Implementation Progress

INDONESIA PBN IMPLEMENTATION PROGRESS
(Presented by Indonesia)

SUMMARY

This paper presents an update on the progress of Indonesia's PBN implementation.

1. INTRODUCTION

- 1.1 On 2017, Indonesia has presented the State PBN Implementation Plan to the PBNICG/4 meeting.
- 1.2 For continuation of PBN implementation in the future, Indonesia has made the new PBN Implementation Plan until 2024. This plan accommodate the ICAO mandate to prioritize the international airports, international routes for flight connection between the states, and also accommodate the President of Indonesia program of boosting in tourism sector.
- 1.3 Indonesia also has presented the PBN Approach Chart Identification Transition Plan on AAITF/15 meeting. Indonesia has been progressing in renaming charts for the transition plan of RNP APCH Chart.

2. DISCUSSION

PBN Implementation status

- 2.1 By 25 June 2021, the number of Indonesia's airports that already implement fully/partly PBN flight procedures are as follows:
 - 2.1.1. International Airport (with instrument runway) with PBN IAP: 28 from total 32 airports (3 airports with RNP AR).

- 2.1.2. International Airport (with instrument runway) with PBN SID/STAR: 14 from total 32 airports.
- 2.1.3. Domestic Airport (with instrument runway) with PBN IAP: 21 from total 29 airports.
- 2.1.4. Domestic Airport (with instrument runway) with PBN SID/STAR: 5 from total 29 airports.

The details of the airports are attached on this paper.

- 2.2 As addition with data above, there are domestic and remote airports in Indonesia with PBN procedures as follows:

- 2.2.1. 11 domestic airports (non-instrument runway) with PBN IAP
- 2.2.2. 1 domestic airports (non-instrument runway) with PBN SID/STAR
- 2.2.3. 20 remote airports (non-instrument runway) with PBN IAP.

- 2.3 Indonesia has implemented PBN domestic enroute, as follows:

ATS Route	Routes	Publication	Navspec
T1	Jakarta - Bali	17 Aug 2017	RNAV 10
T2	Surabaya - Jakarta	27 Aug 2020	RNAV 2
T3	Jakarta - Surabaya - Bali	27 Aug 2020	RNAV 2
T4	Bali - Jakarta	27 Aug 2020	RNAV 2
T5	Jakarta - Makassar	27 Aug 2020	RNAV 2
T6	Makassar - Jakarta	27 Aug 2020	RNAV 2
Z21	Medan – Aek Godang	2 Mar 2017	RNP 2
Z22	Medan - Sibolga	2 Mar 2017	RNP 2
Z23	Medan - Binaka	2 Mar 2017	RNP 2
Z24	Medan - Lasikin	2 Mar 2017	RNP 2
Z25	Medan - Rembele	2 Mar 2017	RNP 2
Z26	Medan – Lhok Sukon	2 Mar 2017	RNP 2

- 2.4 To support the PBN implementation, Indonesia has some PBN cooperation projects as follows:

- 2.4.1. Cooperation with NAVBLUE to develop PBN procedures on airports not equipped with Instrument Flight Procedure and operated by ATR aircraft as follows:

- In 2019 : 2 airports (Haji Hasan Aroeboesman Airport - Ende and Torea Airport – Fakfak) published at 10 Sep 2020 and
- In 2020 : 2 airports (Gewayantana Airport - Larantuka and Soa Airport – Bajawa) still in publication process.

- 2.4.2. EU South East Asia Aviation Partnership Project – Design of RNP APCH Procedures for airports in Atambua, Bajawa, and Larantuka (kick off meeting on February 2020);

- 2.4.3. Cooperation with EASA for PBN implementation including assistance in New Staff Instruction on PBN and inspector training for RNP AR Approval (training held in April 2021).

2.5 Indonesia has been conducting socialization and training of PBN implementation for ATS personnel. In the first semester of 2021, there are PBN training at 9 airports.

New PBN Implementation plan until 2024

2.6 The Indonesia PBN implementation plan until 2024 are as follows:

	Airport / Route	Status	Target Year
International Airport IAP	Raja Haji Fisabilillah, Tanjung Pinang	Coordination with adjacent ATS authority	2021
	Hang Nadim, Batam	Coordination with adjacent ATS authority	2021
	H As Hanandjoeddin, Tanjung Pandan	Design process	2021
	Adi Sumarmo, Solo	Publication process	2021
	Supadio, Pontianak (Rwy 33)	Design process	2022
International Airport SID/STAR	Raja Haji Fisabilillah, Tanjung Pinang	Coordination with adjacent ATS authority	2021
	Hang Nadim, Batam	Coordination with adjacent ATS authority	2021
	Halim Perdanakusuma, Jakarta	Design process	2021
	H As Hanandjoeddin, Tanjung Pandan	Design process	2021
	Sam Ratulangi, Manado	Plan	2022
	Supadio, Pontianak	Plan	2022
	Minangkabau, Padang	Plan	2023
	Zainuddin Abdul Madjid, Lombok	Plan	2023
	El Tari, Kupang	Plan	2023
	Juwata, Tarakan	Plan	2024
	Sentani, Jayapura	Plan	2024
	Frans Kaisiepo, Biak	Plan	2024
	Adi Sumarmo, Solo	Plan	2024
Sultan Syarif Kasim II, Pekanbaru	Plan	2024	
Domestic Airport RNP AR	Sultan Babullah, Ternate	Design process	2022
Domestic Enroute RNAV 2	Cluster 1 : Banda Aceh - Jakarta	Publication process	2021
	Cluster 2 : Semarang - Surabaya - Kupang	Design process	2021

	Cluster 3 : Surabaya - Papua	Plan	2022
	Cluster 4 : Jakarta – Manado & Semarang – Surabaya - Balikpapan	Plan	2023
Lower ATS Domestic Enroute RNP2	Balikpapan - Tarakan	Plan	2022
	Kupang - Bali	Plan	2023
	Luwuk – Gorontalo - Palu	Plan	2024

*The plan may still be changed according to the needs or technical considerations of flight operations.

2.7 For International ATS route, Indonesia currently is in process of coordination with related countries.

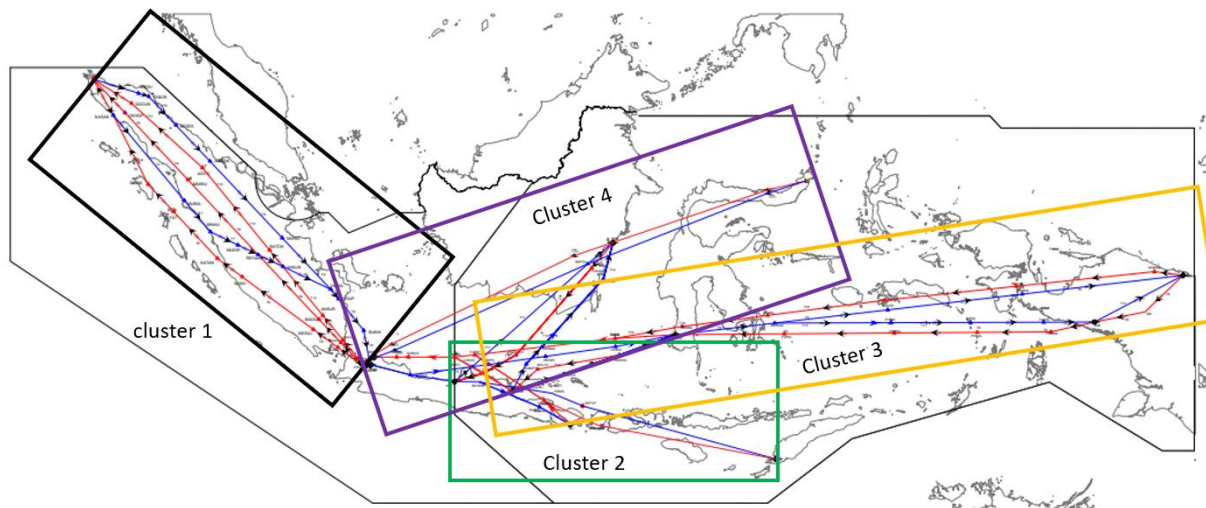


Figure 2. Design of PBN Domestic Enroute RNAV 2

Indonesia Transition Plan for RNP APCH Chart Identification from RNAV to RNP

2.8 To support the transition plan for RNP APCH Chart Identification from RNAV to RNP, Indonesia has been renaming/transiting a number of charts.

2.9 By the end of June 2021, the number of charts that have been renamed/transited from RNAV to RNP in Indonesia are as follows:

- 62 charts from total 76 charts are published (81.5%)
- Remaining 14 charts:
 - 4 are in publication process at 2021;
 - 10 are in reviewed process, planned to be published at 2022.

2.10 By the end of 2021, it is expected that the transition progress to be 86.8%.

Indonesia Operational PBN Approval

- 2.11 Indonesia is in process to increase the number of aircraft with PBN approval in order to optimize the PBN utilization.
- 2.12 Since 2020, there is a change on the scheme for PBN aircraft approval from aircraft registration based to fleet based. This would simplify the approval process and thus expected to increase the number of aircraft with PBN approval.

National PBN Stakeholders Forum Indonesia

- 2.13 As a follow up to the APANPIRG Conclusion 28/22 Establishment of National PBN Stakeholders Forums, Indonesia has formed a National PBN Stakeholder Forum that improve the PBN implementation in Indonesia. It consists members from DGCA, ANSP, airlines, and other related entities. This forum facilitates coordination and discussion among stakeholders regarding the implementation of PBN in Indonesia.
- 2.14 In addition to the National PBN Stakeholder Forum, Indonesia also has a National RNP AR Task Force since 2020. This task force accelerates the implementation of RNP AR in Indonesia and consists members from DGCA, ANSP, and airlines.

3. ACTION REQUIRED BY THE MEETING

- 3.1 The meeting is invited to:
 - a) Update the status of Regional Transition Plan RNAV to RNP Chart Identification Change of Indonesia and update the Point of Contact (POC);
 - b) Note the information contained in this paper; and
 - c) Discuss any relevant matters as appropriate.

Attachment

LIST OF AIRPORTD WITH PBN IN INDONESIA

Table 1. List of International Airport (with instrument runway) with PBN IAP

No.	Airport Name	Location	Remarks
1	Pattimura	Ambon	RNP AR
2	I Gusti Ngurah Rai	Bali	RNP APCH
3	Sultan Aji Muhammad Sulaiman Sepingg	Balikpapan	RNP APCH
4	Sultan Iskandar Muda	Aceh	RNP APCH
5	Husein Sastranegara	Bandung	RNP AR
6	Halim Perdanakusuma	Jakarta	RNP APCH
7	Soekarno Hatta International	Jakarta	RNP APCH
8	Sentani	Jayapura	RNP APCH
9	El Tari	Kupang	RNP APCH
10	Zainuddin Abdul Madjid International	Praya	RNP APCH
11	Sam Ratulangi	Manado	RNP AR
12	Minangkabau International	Padang	RNP APCH
13	Sultan Mahmud Badaruddin II	Palembang	RNP APCH
14	Sultan Syarif Kasim II	Pekanbaru	RNP APCH
15	Jenderal Ahmad Yani	Semarang	RNP APCH
16	Juanda	Surabaya	RNP APCH
17	Raja Sisingamangaraja XII	Siborongborong	RNP APCH
18	Kualanamu International	Medan	RNP APCH
19	Kertajati International	Majalengka	RNP APCH
20	Supadio	Pontianak	RNP APCH
21	Sultan Hasanuddin	Makasar	RNP APCH
22	Yogyakarta International	Kulonprogo	RNP APCH
23	Banyuwangi	Banyuwangi	RNP APCH
24	Frans Kaisiepo	Biak	RNP APCH
25	Juwata	Tarakan	RNP APCH
26	Radin Inten II	Lampung	RNP APCH
27	Syamsudin Noor	Banjarmasin	RNP APCH
28	Mopah	Merauke	RNP APCH

Table 2. List of International Airport (With Instrument Runway) With PBN SID/STAR

No.	Airport Name	Location	Remarks
1	Pattimura	Ambon	RNP AR
2	Husein Sastranegara	Bandung	RNP AR
3	Sam Ratulangi	Manado	RNP AR
4	I Gusti Ngurah Rai	Bali	RNAV 1
5	Sultan Aji Muhammad Sulaiman Sepingg	Balikpapan	RNAV 1

6	Soekarno Hatta International	Jakarta	RNAV 1
7	Sultan Hasanuddin	Makasar	RNAV 1
8	Juanda	Surabaya	RNAV 1
9	Sultan Mahmud Badaruddin II	Palembang	RNAV 1
10	Kualanamu International	Medan	RNAV 1
11	Yogyakarta International	Kulonprogo	RNAV 1
12	Kertajati International	Majalengka	RNP 1
13	Radin Inten II	Lampung	RNP 1
14	Sultan Iskandar Muda	Aceh	RNP 1

Table. 3 List of Domestic Airport (with instrument runway) with PBN IAP

No.	Airport Name	Location	Remarks
1	Sultan Syarif Haroen	Pelalawan	RNP APCH
2	Bersujud	Batulicin	RNP APCH
3	Fatmawati Soekarno	Bengkulu	RNP APCH
4	Djalaluddin	Gorontalo	RNP APCH
5	Sultan Thaha	Jambi	RNP APCH
6	Wamena	Jaya Wijaya	RNP APCH
7	Utarom	Kaimana	RNP APCH
8	Kuabang	Kao	RNP APCH
9	Halu Oleo	Kendari	RNP APCH
10	Rahadi Oesman	Ketapang	RNP APCH
11	Gusti Sjamsir Alam	Kotabaru	RNP APCH
12	Komodo	Labuan Bajo	RNP APCH
13	Rendani	Manokwari	RNP APCH
14	Tjilik Riwut	Palangkaraya	RNP APCH
15	Muara Sis Al Jufri	Palu	RNP APCH
16	Mathilda Batlayeri	Saumlaki	RNP APCH
17	Tebelian	Sintang	RNP APCH
18	Domestik Eduard Osok	Sorong	RNP APCH
19	Waikabukak	Tambolaka	RNP APCH
20	Sultan Baabullah	Ternate	RNP APCH
21	Mozes Kilangin	Timika	RNP APCH

Table 4. List of Domestic Airport (with instrument runway) with PBN SID/STAR

No.	Airport Name	Location	Remarks
1	Muara Sis Al Jufri	Palu	RNP 1
2	Komodo	Labuan Bajo	RNP 1
3	Tebelian	Sintang	RNP 1
4	Mozes Kilangin	Timika	RNP 1
5	Sultan Baabullah	Ternate	RNP 1

Table 5. List of Domestic Airports (non-instrument runway) with PBN IAP

No.	Airport Name	Location	Remarks
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1	Silampari	Lubuk Linggau	RNP APCH
2	Tampa Padang	Mamuju	RNP APCH
3	Pitu	Morotai	RNP APCH
4	Cut Nyak Dien	Nagan Raya	RNP APCH
5	Jenderal Sudirman	Purbalingga	RNP APCH
6	David Constanctine Sudele	Rote Ndao	RNP APCH
7	Aji Pangeran Tumenggung Pranoto	Samarinda	RNP APCH
8	Naha	Tahuna	RNP APCH
9	Toraja	Tanah Toraja	RNP APCH
10	Sultan Bantilan	Toli Toli	RNP APCH
11	Matahora	Wakatobi	RNP APCH

Table 6. List of Domestic Airports (non-instrument runway) with PBN SID/STAR

No.	Airport Name	Location	Remarks
1	Toraja	Tanah Toraja	RNP 1

Table 7. List of Remote Airports (non-instrument runway) with PBN IAP

No.	Airport Name	Location	Remarks
1	Buli	Halmahera	RNP APCH
2	Morotai	Halmahera	RNP APCH
3	Oesman Sadik	Halmahera	RNP APCH
4	Bade	Papua	RNP APCH
5	Ewer	Papua	RNP APCH
6	Kimam	Papua	RNP APCH
7	Kokonao	Papua	RNP APCH
8	Tanah Merah	Papua	RNP APCH
9	Sarmi	Papua	RNP APCH
10	Ayawasi	Papua	RNP APCH
11	Stenkol, Bintuni	Papua	RNP APCH
12	Inanwatan	Papua	RNP APCH
13	Kambuaya	Papua	RNP APCH
14	Merdei	Papua	RNP APCH
15	Teminabuan	Papua	RNP APCH
16	Bawean	East Java	RNP APCH
17	Takengon	North Sumatra	RNP APCH
18	Sinabang	North Sumatra	RNP APCH
19	Sibolga	North Sumatra	RNP APCH
20	Torea	Papua	RNP APCH