



International Civil Aviation Organization
THE EIGHTH MEETING OF PERFORMANCE BASED NAVIGATION
IMPLEMENTATION COORDINATION GROUP (PBNICG/8)

(Video conference, 6 - 8 July 2021)

Agenda Item 4: States' PBN implementation progress

THAILAND PBN IMPLEMENTATION
 (Presented by Thailand)

SUMMARY

This paper discusses the overall PBN development within Thailand. The paper summarizes the implementation status of PBN approach procedures and SIDs and STARs in terminal airspaces throughout Thailand. It also presents progress of RNP-AR, updates on PBN route enhancement for en-route airspace as well as status on transition plan for RNP APCH Chart Identification.

1. INTRODUCTION

1.1 Resolution A37-11 of the 37th Session of the ICAO General Assembly requested Member States to develop national Performance Based Navigation (PBN) implementation and to implement RNAV and RNP air traffic services (ATS) routes and approach procedures in accordance with the ICAO PBN Manual (Doc 9613).

1.2 To provide appropriate guidance for air navigation service providers in the APAC Region, airspace operators and users, regulating agencies, and international organizations on the evolution of navigation capabilities as one of the key systems supporting air traffic management, Asia and Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) adopted Regional PBN Implementation Plan targeted in short, medium and long term.

2. DISCUSSION

PBN Implementation Status

Approach

2.1 The following table shows the list of twelve (11) international aerodromes as listed in the Asia-Pacific Regional Air Navigation Plan (APAC ANP). Where feasible, all instrument runways will be equipped with RNP APCH with Barometric Vertical Navigation (Baro-VNAV). At the airports where approaches with vertical guidance are currently not available, Baro-VNAV will be introduced during periodic review cycle. In 2021, Baro-VNAV procedures will be introduced at Chiang Mai, Don Mueang and Hat Yai International airport.

International Airport Name	Runway End	LNAV	LNAV/VNAV	RNP AR	RNAV/RNP VA	GLS	Implementation Target
Chiang Mai	18	✓	□	□	□	□	VNAV 2021
	36	✓	□	□	□	□	VNAV 2021

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Chiang Rai	03	✓	✓	□	□	□	
	21	✓	✓	□	□	□	
Don Mueang	03L	□	□	□	□	□	VNAV 2021
	03R	□	□	□	□	□	VNAV 2021
	21L	✓	✓	□	□	□	
	21R	✓	✓	□	□	□	
Hat Yai	08	✓	□	□	□	□	VNAV 2021
	26	✓	□	□	□	□	VNAV 2021
Hua Hin	16	✓	□	□	□	□	
	34	N/A	N/A	□	□	□	
Krabi	14	N/A	N/A	2022	□	□	
	32	✓	□	□	□	□	
Phuket	09	✓	✓	✓	□	TBD	
	27	✓	✓	✓	□	TBD	
Surat Thani	04	✓	✓	□	□	□	
	22	✓	✓	□	□	□	
Samui	17	✓	□	□	□	□	
	35	✓	✓	□	□	□	
Suvarnabhumi	01L	✓	✓	□	□	TBD	
	01R	✓	✓	□	□	TBD	
	19L	✓	✓	□	□	TBD	
	19R	✓	✓	□	□	TBD	
U-Tapao/ Rayong Pattaya	18	✓	✓	□	□	□	
	36	✓	✓	□	□	□	

2.2 An RNP AR approach has been designed for Krabi International Airport, where there is a terrain limitation, and, subject to an approval of aircraft required for flight validation, is expected to be implemented by 2022.

Terminal Airspace

2.3 In 2021, RNAV 1 SIDs/STARs have designed/reviewed and will become operational at Chiang Mai and Hat Yai International Airport. A SID is also planned to be implemented at Hua Hin in 2022. The following table shows the list of the international aerodromes at which PBN SIDs/STARs have been implemented or expected to be in operation by next year.

Airport Name	Runway End	SID	STAR	Implementation Target
Chiang Mai	18	☐	☐	2021
	36	✓	✓	2021
Chiang Rai	03	✓	☐	
	21	✓	☐	
Don Mueang	03L	✓	✓	
	03R	✓	✓	
	21L	✓	✓	
	21R	✓	✓	
Hat Yai	08	☐	☐	2021
	26	☐	☐	2021
Hua Hin	16	☐	☐	SID 2022
	34	N/A	N/A	
Krabi	14	✓	N/A	
	32	✓	✓	
Phuket	09	✓	✓	
	27	✓	✓	
Surat Thani	04	✓	✓	
	22	✓	✓	
Samui	17	✓	☐	
	35	✓	☐	
Suvarnabhumi	01L	✓	✓	
	01R	✓	✓	
	19L	✓	✓	
	19R	✓	✓	
U-Tapao/ Rayong Pattaya	18	✓	☐	
	36	✓	☐	

En-route

2.4 For en-route operations, all of 46 PBN routes are designated as RNAV2. In line with the Asia Pacific Seamless ANS Plan, RNAV2 specification is planned for all new ATS routes, international and domestic. Coordination and planning with neighboring countries will be carried out as appropriated.

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

2.5 To date, chart identification change from RNAV to RNP has been implemented at 29 airports. Through July and August, transition of additional 20 approach procedures at 9 airports will have become effective, marking the completion of the transition plan for Thailand. The process is spread out over 10 AIRAC cycles and takes a one year to complete.

3. ACTION REQUIRED BY THE MEETING

3.1 The meeting is invited to

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