



International Civil Aviation Organization

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

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Agenda Item 4: States' PBN implementation progress

PBN IMPLEMENTATION STATUS IN CHINA
(Presented by CAAC)

SUMMARY

This paper presents the update of PBN implementation status in China.

1. INTRODUCTION

PBN Road Map of China

1.1 "PBN Road Map of China" was issued in 2009. It determined the steps by which PBN can be gradually implemented in China. According to this road map, China should published the PBN procedures, including RNAV, RNP APCH and RNP AR, for all existing airports by the end of 2016. New airports in the future shall provide PBN implementation services.

1.2 CAAC is responsible for overall PBN implementation plan in China. Its seven regional sub-branches are respectively responsible for the PBN implementation in their own regions. According to the initial targets of the road map, major international hubs, including Beijing, Shanghai, Guangzhou, etc, will provide RNAV SIDs and STARs, to facilitate different aircraft with various PBN capabilities. RNAV/ILS procedures are also provided for approach. Regional and/or domestic airports will provide RNP SIDs and STARs, as well as RNP APCH procedures for approach. CAAC had achieved its initial targets by the end of 2016.

1.3 As required by ICAO, CAAC adjusted its goals in 2017, which required to supplement and publish RNP APCH procedures for major international hubs. By the end of 2018, CAAC and its sub-branches had completed the RNP APCH procedure designs for airports, including Guangzhou, Shenzhen and Xi'an, which were published in successively in 2019. so far, most of major airports have been providing RNP APCH procedures implementation services.

2. DISCUSSION

- 2.1 **PBN Implementation status**
- 2.1.1 **Terminal / Approach Implementation**

By 21st June, 2021, CAAC had published 559 PBN approach procedures for 252 airports and 553 runways in China. The detailed information is shown below:

Table 1 Approach PBN Implementation Status

Total number of airports		Total number of instrument runway ends	
252		553	
International	Domestic	International	Domestic
71	181	193	360
PBN approach procedures			Total number of airports without PBN approach procedures
LNAV/VNAV	LNAV ONLY	RNP AR	14
476 (Total) 166 (International airports) 310 (Domestic airports)	10 (Total) 7 (International airports) 3 (Domestic airports)	73 (Total) 31 (International airports) 42 (Domestic airports)	

2.1.2 **Standard Instrument Departures/ Standard Terminal Arrivals (SID/STAR)**

By 21st June, 2021, CAAC had published 660 SID and 549 STAR PBN procedures. The detailed information is shown below:

Table 2 SID/STAR Implementation Status

SID		STAR	
660		549	
International	Domestic	International	Domestic
303	357	216	333

2.1.3 **En-route Implementation**

By 21st June, 2021, CAAC had 753 air routes implemented PBN operation in China, including RNAV and RNP. The general information is shown below:

Table 3 En-route PBN Implementation Status

Total number of routes	Total number of PBN	Total number of
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			operation routes	conventional routes
1029			753	276
RNAV 1	RNAV 2	RNP 1	RNP 4	RNP 10
2	627	21	100	3

2.1.4 **Continuous Descent Operations (CDO)- Continuous Climb Operations (CCO)**

By 21st June, 2021, CAAC had 7 international airports implemented CDO/CCO track operations in China, including 10 CDO and 16 CCO procedures. Changchun/Longjia and Guilin/Liangjiang plan to implement CDO/CCO track operations by the end of 2021.

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

CAAC have made a plan to finish the PBN charts name transition , By 21st June, 2021, a total of 188 airports have finish the PBN chart name transition, it is expected that the rest will have been completed before Nov.2022.
