



International Civil Aviation Organization

**THE ELEVENTH MEETING OF PERFORMANCE BASED NAVIGATION
IMPLEMENTATION COORDINATION GROUP (PBNICG/11)**

Bangkok, 27 - 29 March 2024

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

PBN IMPLEMENTATION PROGRESS IN JAPAN
(Presented by Japan)

SUMMARY

This paper presents the update on the progress of Japan's PBN implementation, including the change of the procedure chart identification from RNAV to RNP.

1. INTRODUCTION

1.1 Japan developed the RNAV roadmap in 2007 to encourage the implementation of PBNs. Japan is progressively implementing PBN in all flight phases by working closely with airline operators to improve operational flexibility and efficiency.

2. DISCUSSION

PBN implementation status

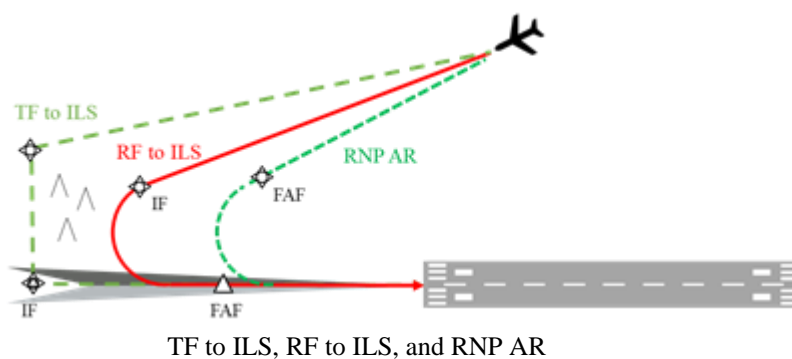
Approach

2.1 Japan Civil Aviation Bureau (JCAB) controls 32 international airports and 52 domestic airports in Japan. A total of 91 RNP APCH procedures were implemented across Japan to date. Of these, 35 RNP APCH procedures were deployed at the international airports, and 56 RNP APCH procedures were deployed at the domestic airports. JCAB identified some runways at five international airports where vertical guidance, including ILS, cannot be implemented due to the constraints from surrounding terrain or environmental factor.

2.2 There are 31 LPVs (APV I) serving airports, 9 at the international airports and 22 at the domestic airports. Trial operation is currently underway to validate two GLS procedures. JCAB continues to operate in a coordinated effort with stakeholders for full-scale implementation.

2.3 RNP AR was first implemented in 2012, and currently there are 79 RNP AR approaches has been implemented in Japan. Airlines expressed their desire for accelerated adoption of RNP AR approach as it provides them more flexible flight paths saving track miles.

2.4 The deployment of RF to ILS approach procedure started in 2023, and there are five RF to ILS approaches in Japan. For a long time, the ILS has been the predominant approach capability at airports across Japan, and it serves as the primary approach procedure at many airports. This prior familiarity of the ILS combined with reduced track mileage from RF leg resulted in a positive response from airlines.



2.5 Going forward, JCAB will focus efforts on continuing to replace conventional approach procedures with PBN procedures. At the same time, we should not be unduly hasty with regard to our process. We must demonstrate a sensitivity to the environmental concerns of the local communities, including noise impact.

En-route

2.6 For en-route applications, there are one RNP10, three RNP2s (including trial operation), one RNP4, and 278 RNAV5s. RNAV5 is used typically for domestic continental operations, and the nationwide transition to RNAV5 is almost complete. As we move towards TBO, RNP2 is expected to gradually replace RNAV5 in the long run.

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

2.7 On the AIRAC effective date in October 2022, the change of the procedure chart identification from RNAV to RNP took effect simultaneously at all airports across Japan. It involved a total of 166 approach procedures associated with 84 airports. Smooth transition was accomplished as a result of close coordination and successful collaboration with airlines.

3. ACTION REQUIRED BY THE MEETING

3.1 The meeting is invited to:

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