



International Civil Aviation Organization

**THE THIRD MEETING OF PERFORMANCE BASED NAVIGATION
IMPLEMENTATION COORDINATION GROUP (PBNICG/3)**

Bangkok, Thailand, 08 – 10 March 2016

Agenda Item 5: States' PBN Implementation Progress

PBN IMPLEMENTATION IN THE MALDIVES

(Presented by Maldives)

SUMMARY

This paper presents an update on the efforts and progress made by Maldives in Implementing Performance Based Navigation (PBN)

1. INTRODUCTION

1.1 PBN Implementation Plan was developed to support the ICAO PBN Concept and as a strategy to achieve the goals set in the Regional PBN Implementation Plan.

1.2 PBN implementation in Maldives is based on the following objectives:

- To ensure that the implementation of the navigation portion of the CNS/ATM system is based on clearly established operational requirements;
- To avoid unnecessarily imposing the mandate for multiple equipment on board or multiple systems on the ground;
- To avoid the need for multiple airworthiness and operational approvals
- To prevent unnecessary costs for the country as well as for airspace users.

1.3 A 3-phased approach in the implementation of PBN:

- o Short Term (2008-2012)
- o Medium Term (2013-2016)
- o Long Term (Beyond 2016)

2. DISCUSSION

Implementation

2.1 Maldives successfully achieved the Short Term goals (2008-2012):

- RNAV1(GNSS) SIDs and STARs implemented for Male International airport

- RNP APCH LNAV and LNAV/VNAV implemented for Male International airport
- RNAV 10 implemented on designated routes as agreed between the ANSPs in the region

2.2 Maldives is working to achieve the Medium Term goals (2013-2016):

- PBN (RNP1) Domestic routes implemented, to efficiently manage traffic between Male International airport and all other the airports in the south.
- PBN (RNP1) Domestic routes will be expanded to cover northern part of the archipelago
- RNP APCH LNAV for 5 domestic airports published.
- RNP APCH LNAV will be published for the remaining airport, paving the way to decommission of the NDBs

PBN expansion (beyond 2016)

2.3 PBN City Pair between Male and Colombo which was proposed by Maldives in the PBNICG /2 have now been discussed with the partners in Sri Lanka. Both parties agreed on the concept. However, the process have been deferred to allow implementation of PBN SIDs and STARs at Colombo airport; and for further discussion to assimilate the City Pair with the SIDs and STARs

2.4 Maldives has planned to develop instrument approach procedures that would connect RNAV segments to conventional ILS. Pilots often prefer to fly RNAV STAR and then to establish on Localizer.

2.5 By the time the new runway at Male International airport is complete, in 2018, the terminal airspace around the airport will be reorganized to reduce random vectoring, by adopting:

- o More segregated and strategically separated SIDs and STARs; and
- o The Point Merge arrival flow integration technique

3. ACTION REQUIRED BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) note that Maldives will request support from RSO for future expansion of PBN;
- c) provide guidance to Maldives ; and
- d) discuss any relevant matters as appropriate.
