International Civil Aviation Organization

Performance Based Navigation Sub-Group (PBN SG)

First Meeting
(Cairo, Egypt, 1 - 3 April 2014)

Agenda Item 4: PBN Implementation in the MID Region

ADVANCED-RNP (A-RNP) IN THE MID REGION

(Presented by Jordan)

SUMMARY

The aim of this paper is to presents the need to establish a coordination team to foster the implementation of PBN application in the Region.

Action by the meeting is at paragraph 3.

REFERENCES

- Doc 9750 Global Air Navigation Plan 2013-2028
- Doc 9613 Performance-Based Navigation Manual
- Mid Region Performance-Based Navigation Implementation Strategy and Plan

1. INTRODUCTION

2.1 The airlines of the Middle East Regions are expected to experience the highest growth in passenger traffic at 5.8 per cent per annum through to the year 2025 compared to the world average of 4.6%.

2.2 The fast growing airlines in the region has stressed the limited airspace resources resulted in airspace capacity challenges that must be addressed at a regional level.

2.3 The international civil aviation organization (ICAO) and the aviation communities have identified the GNSS Operation (PBN) is the future enabler for the advance navigation capabilities, it support improved services that meet the airspace user demand and expectations.

2. DISCUSSION

2.1 The demand for a better ATM services in the limited airspace resources environment requires the ATM to progresses to a new horizon of technical and operation solution to cope with this high level of demand. to improve the airspace efficiency specially in the arrival and departure airspace makes it necessary to optimize the available airspace around airports this optimization and efficiency can be achieved by the application of advance ATM solutions specially PBN (A-RNP) in all phases of flight.

2.2 To overcome the constrains associated with the traditional ATS route system and based on the operational requirements of the aviation community, the Middle east has made the decision to move to satellite navigation early enough with agreed implementation date for PBN, the middle east has already implemented some of the PBN application in the region Ex. implementing GNSS RNAV 5 at regional level , GNSS RNAV 1 SIDs, STARs, and Baro VNAV Approaches.

2.3 The 12th Air Navigation Conference in 2012 endorsed the concept of ICAO Aviation System Block Upgrades (ASBUs) the PBN is an important module of ASBU, any BPN application like A-RNP will be implemented in support of the ICAO ASBUs and Global Air Navigation Plan time frame.

2.4 The MID Region performance-based navigation implementation strategy and plan has identify at point 7.29 that - current development of Advanced RNP-1 navigation specification, it is expected that this navigation specification will play an important role in the long term implementation of PBN for en-route and terminal operations.

2.5 The global air navigation plan has identified that the Advanced-RNP (A-RNP) will provide a single aircraft qualification requirement for all terminal and en-route applications. This simplification of approvals should, in time, reduce costs to operators and improve understanding among pilots and controllers. The core functions of A-RNP include RNP 0.3 on final approach, RNP 1 in all other terminal phases and continental en-route, holding and constant radius arc to a fix (RF) functionality outside final approach in terminal airspace. This will result in improved track predictability and should lead to closer route spacing.

2.6 The Successful implementation of any PBN application depends on various actors; it cannot be achieved without collaboration between all stakeholders. For example, an ANSP can develop procedures and deploy the proper infrastructures, but if the airspace users are not willing or can't install the suitable systems it will lead to nowhere.

2.7 Regional coordination and collaboration is crucial to ensure that harmonized separation standards and procedures are developed and introduced parallel in adjacent flight information regions along major traffic flows to allow for a seamless transition to GNSS based navigation.

2.8 The full benefits of the regional coordination and collaboration can't be achieved without establishing a core team to plan, coordinate and synchronize all implementation phases between all ATM community partners.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information in this WP;

b) agree on the advance RNP can be implemented in the middle east at the Medium Term (2018- 2022) time frame and update the middle east PBN implementation strategy and plan accordingly; and

c) agree on the establishment of a coordination team to foster the implementation of A- RNP in the MID Region.

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