Seventh ATS Coordination Meeting of Bay of Bengal, Arabian Sea and Indian Ocean Region (BOBASIO/7)
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AGENDA ITEM 4: Strategic ATM Plans of Participating States

PBN IMPLEMENTATION IN NEPAL

(Presented by Civil Aviation Authority of Nepal)

SUMMARY

This paper presents the PBN implementation status and initiatives done by Civil Aviation Authority of Nepal (CAAN) to enhance PBN implementation in Nepal and to fulfill global obligation towards PBN implementation.

1. INTRODUCTION

1.1 CAAN has developed Nepal PBN Implementation Plan which is in line with ICAO Assembly Resolution A36/23 in September 2007, which has been categorized by ICAO as Robust.

1.2 In order to enhance civil aviation safety and to support the global effort for environmental protection and sustainable development of air transport, Nepal is also putting its optimum effort in implementing PBN as planned. .

2. DISCUSSION

2.1 As per the ICAO guidelines, Nepal has started implementing PBN in three phases, viz. Short Term, Medium Term and Long Term.

2.2 Under short term plan (2010-2012),

2.2.1 L626 (RNP 10) route has been implemented for en-route operations between Kathmandu and Delhi. Most of the international operators flying from Kathmandu to Delhi and to West are following this route, saving both flying time and track miles.

2.2.2 One RNAV STAR for RNAV (GNSS) APCH at Biratnagar Airport (VNVT) and six RNAV STARs for RNP AR APCH at Tribhuvan International Approach (VNKT) have been implemented for terminal operations since 2012.

2.2.3 RNP AR APCH for VNKT and RNP APCH for VNVT have been implemented since 2012.

2.3 Under medium term plan (2013-2016),

2.3.1 Preliminary design of RNAV 5 domestic routes has been accomplished for En-route operations, which will be materialized during next phase.

2.3.2 Preliminary designs of two RNAV SIDs and RNAV STARs for Dhangadi Airport (VNDH) have been developed for terminal operations which will be materialized in next phase.

2.3.3 Seven RNAV STARs (including new and updated) for RNP AR APCH at VNKT have been revised and implemented since March 2017.

2.3.4 RNP AR Missed APCH segment at Kathmandu has been modified and implemented since March 2017.

2.3.5 Preliminary design of RNAV (GNSS) APCH has been developed for VNDH and will be implemented in the next phase.

2.4 Under Long Term Plan (2017-2025),

2.4.1 L626 is planned to be connected to proposed Himalayan-2 Route between Kathmandu and Kunming, and will be proposed to make bidirectional in consultation with authorities of adjacent FIRs. This route will connect West and Far East which significantly reduces the flying time, track miles and CO2 emissions once agreed and implemented.

2.4.2 Existing three conventional domestic routes W17, W19 and W41 will be replaced by RNAV 5 routes. Some more RNAV routes will be designed and implemented to connect the major domestic airports.

2.4.3 Selective International ATS routes B345, R344, G335, G336, R325 and G348 will be redefined as RNAV 5 routes in consultation with the authorities of adjacent FIRs.

2.4.4 RNAV SIDs will be designed and implemented at VNKT and RNAV SIDs/STARs will be designed/implemented in other five major domestic airports.

2.4.5 RNAV (GNSS) APCH will be designed and implemented at other five major airports VNNG, VNCG, VNDH, VNBW and VNJP, and at other feasible airports as needed.

2.4.6 Feasibility study for RNP Approach (APV BARO-VNAV) will be done and introduced in selective instrument runways.

2.4.7 Feasibility study for RNP APCH (APV SBAS) will be done and regional cooperation will be sought for the planned implementation if such procedures are desirable.

2.5 CAAN in-house capability has been utilized in developing all the domestic RNAV SIDs, STARs and APCHs. CAAN is educating Air Traffic Controllers regarding PBN concept, its applications and benefits and PBN flight procedures that have been introduced.

2.6 With the implementation of PBN flight procedures, including the PBN en-route procedures, following benefits are realized and anticipated:

2.6.1 Reduction in air traffic congestion over SIMARA.

2.6.2 Significant reduction in flying time with the introduction of shorter possible routes.

2.6.3 Reduction in fuel consumption and obviously in the cost of aircraft operation, ultimately benefiting the travelling public.

2.6.4 Reduction in CO2 emissions thereby addressing the global concern of environmental protection.

2.6.5 Optimum utilization of airspace.

2.6.6 Reduction in ATC workload and improvement in ATC efficiency.

2.6.7 Contribution to the safer, economically viable, cost-effective and environment friendly air transportation system.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper regarding Nepal's efforts in implementing PBN, and proposal on connection of L626 with Himalaya-2 route between Kunming and Kathmandu.

b) Discuss any other matters, as appropriate.
