International Civil Aviation Organization

THE SEVENTH MEETING OF PERFORMANCE BASED NAVIGATION IMPLEMENTATION COORDINATION GROUP (PBNICG/7)

(Video conference, 21 – 23 October 2020)

Agenda Item 4: States' PBN Implementation Progress

THE PROGRESS OF PBN IMPLEMENTATION IN NEPAL

(Presented by Civil Aviation Authority of Nepal)

SUMMARY

This paper presents the status of PBN implementation in Nepal and initiatives done by Civil Aviation Authority of Nepal to ensure globally harmonized and coordinated transition to PBN.

1. INTRODUCTION

1.1. This report consists of progress on PBN implementation status in Nepal based on the plan produced in line with Resolution A36/23 adopted by ICAO assembly with a 3-phased approach for the PBN implementation:

- Short Term (2010-2012)
- Medium Term (2013-2016)
- Long Term (2017-2025)

2. DISCUSSION

2.1. The Status of PBN implementation Plan

Nepal PBN Implementation Plan was developed in year 2007 and submitted to ICAO Regional Office. In year 2011 the first amendment was developed and second amendment in year 2016. Nepal started implementing PBN in three phases with:

2.1.1. Short Term plan (2010－2012)

2.1.1.1. L626 (RNP 10) has been implemented for en-route operation between Kathmandu and Delhi. Most of the international operators flying towards Kathmandu to Delhi and further to west are following this route.

2.1.1.2. One RNP 1 STAR at Biratnagar airport (VNVT) and six RNP 1 STARs at Tribhuvan International Airport (TIA) has been implemented for terminal operations since 2012.

2.1.1.3. RNP AR APCH for TIA and RNP APCH for Biratnagar airport (VNVT) has been implemented since 2012.

2.1.2. **Medium term plan (2013-2016),**

2.1.2.1. Seven RNP1 STARs (including new and updated) for RNP AR APCH at international airport (TIA) have been revised and implemented since March 2017.

2.1.2.2. RNP AR APCH segment at TIA, Kathmandu has been modified and implemented since March 2017.

2.1.3. **Long Term Plan (2017-2025),**

2.1.3.1. L626 is planned to be connected to propose Himalayan-2 Route between Kathmandu and Kunming. Communication process is going on with Myanmar for their approval to connect L626 from their northern part of the FIR. This route will connect West and Far East which significantly reduces the flying time, track miles and CO2 emissions once agreed and implemented.

2.1.3.2. RNP1 STAR's, RNP1 SID's and RNP APCH were designed and implemented at Chandragadhi airport (VNCG) since June 2018.

2.1.3.3. RNP1 STAR's, RNP1 SID's and RNP APCH were designed and implemented at Dhangadhi Airport (VNDH) since March 2018.

2.1.3.4. RNP1 STAR's, RNP1 SID's and RNP APCH were designed and implemented at Janakpur airport (VNJP) since March 2020.

2.1.3.5. RNP1 STAR, RNP1 SID's and RNP APCH were designed and are in implementation phase at Rajbiraj airport (VNRB).

2.1.3.6. One additional RNP1 STAR, one RNP APCH and two RNP1 SID's are designed and are in implementation phase at Biratnagar airport (VNVT).

2.1.3.7. Ten (10) RNP2 domestic routes are designed and are in implementation phase connecting major domestic airports including TIA, Kathmandu (VNKT).

2.1.3.8. RNP1 SIDs, RNP1 STARs and RNP APCH (LNAV/VNAV, LNAV only) are designed and developed for Bhairahawa airport (Gautam Buddha International Airport) and is in implementation phase. There is a plan to operate this airport as International airport.

2.1.3.9. Existing three conventional domestic routes W17, W19 and W41 will be replaced by RNP 2 routes.

2.1.3.10. Selective International ATS routes B345, R344, G335, G336, R325 and G348 will be redefined as RNP 2 routes in consultation with the authorities of adjacent states.

2.1.3.11. RNP1 SIDs/STAR and RNP APCH will be designed and implemented at TIA, and RNP1 SIDs/STARs and RNP APCHs will be designed/implemented at Nepalgunj Airport (VNNG) and in some other major domestic airports as well.

2.1.3.12. RNP AR APCH for RWY 02/20 from East and West of TIA, Kathmandu will be designed and implemented.

2.1.3.13. RNP AR Departures will be designed and implemented at TIA.

2.1.3.14. RNP Approach (BARO-VNAV) will be designed and implemented in selective instrument runways at some domestic airports.

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

2.1.3.16. CAAN in-house capability has been utilized in developing all the domestic RNP1 SIDs, STARs and RNP APCHs. CAAN is educating Air Traffic Controllers regarding PBN concept, its applications and benefits and PBN flight procedures that have been introduced.

2.2 Transition from RNAV to RNP Chart Naming

2.2.1 ICAO through its Cir 336 has mandated each contracting state to designate the currently named RNAV as RNP to meet the PBN specification of RNP APCH and RNP AR APCH by 1 December 2022.

2.2.2 Nepal developed and implemented National transition plan under the guidance of ICAO Cir 353 with timeline of 1 January – 04 April 2020. The implemented plan covered the PBN Approach Chart naming of 4 approach charts, 1 of TIA and 3 of domestic airports (VNVT, VNDH and VNCG).

2.2.3 The process to change identification of PBN instrument flight procedure approach charts from RNAV to RNP was completed with the publication of AIP AIRAC supplement on March 26th, 2020.

2.2.4 Classes were conducted for ATC personnel, as part of in-house training, to share the knowledge about the provisions under Doc 8168 and the Circular 353 and changes thereto about the approach procedure. Similarly, classes were also conducted for Pilot/Dispatcher sharing the knowledge about the changes and requirement for change.

3 ACTION REQUIRED BY THE MEETING

3.2 The meeting is invited to:

a) Note the information contained in this papers; and
b) Discuss any relevant matters as appropriate.

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