International Civil Aviation Organization

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

Bangkok, 27 - 29 March 2024

Agenda Item 6: Proposed revision in PBN Elements of Seamless ANS Plan V3.0

PROPOSED REVISION IN PBN ELEMENTS OF SEAMLESS ANS PLAN V3.0

(Presented by Secretariat)

SUMMARY

This paper presents Proposed revision in PBN Elements of Seamless ANS Plan V3.0

1. INTRODUCTION

1.1 APAC seamless plan v3.0 was published in 2019 and is presently under revision in view of the sixth edition of GANP and other developments in ANS. PBN elements in the Seamless ANS plan needs to be revisited to align with sixth edition of GANP, fifth edition of PBN Manual and significant maturity of PBN technology and its implementation in the region.

2. DISCUSSION

PBN Elements are mentioned in the operational part of Table 1 of Seamless ANS Plan on page 15 & 16 and associated PARS from page 35 -38 of the plan. A detailed discussion is in the attached ppt.

2.2 Draft Conclusion/Decision

<table>
<tr><td colspan="3">Draft Conclusion PBNICG/11/01 - PROPOSED REVISION IN PBN ELEMENTS OF SEAMLESS ANS PLAN V3.0</td></tr>
<tr><td colspan="2">What: PROPOSED REVISION IN PBN ELEMENTS OF SEAMLESS ANS PLAN V3.0 as per Appendix A of the WP.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
■ Ops/Technical</td></tr>
<tr><td>Why: PBN Elements in Seamless ANS Plan need to be revised to align with 6th edition of GANP & fifth edition of PBN Manual.</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
<tr><td>When: 29-March-24</td><td colspan="2">Status: Draft to be adopted by PIRG</td></tr>
<tr><td colspan="3">Who: ☐Sub groups ☐APAC States ☐ICAO APAC RO ☐ICAO HQ ☐Other: XXXX</td></tr>
</table>

3. ACTION REQUIRED BY THE MEETING

3.1 The meeting is invited to: amend as appropriate

a) note the information contained in this papers;
b) discuss any relevant matters as appropriate:and
c) adopt the proposed revision in the PBN elements of Seamless ANS plan as placed in Appendix A.

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Appendix A

Proposed Table 1 of the plan

APTA-B0/1 : PBN ~~non-precision~~ approaches(with basic capability); (PARS 7.4, 7.5, 7.10, 7.13, 7.14, 7.21)

APTA-B0/2: ~~Basic~~ PBN SID and STAR procedures(with basic capability); (PARS 7.4, 7.5, 7.10, 7.13, 7.14, 7.21)

APTA-B0/3 : SBAS/GBAS CAT I precision approach procedures; PARS 7.5, 7.6, 7.10, 7.14, 7.21

APTA-B0/4 : CDO (Basic): (PARS 7.14, 7.19, 7.21)

APTA-B0/5 : CCO (Basic) : (PARS 7.14, 7.19, 7.21)

APTA-B0/6: PBN Helicopter Point in Space (PinS) Operations; (PARS 7.5, 7.6, 7.10, 7.14, 7.21)

APTA-B0/7 :Performance-based aerodrome operating minima for advanced aircraft (PARS 7.14, 7.19, 7.21)

APTA-B0/8: Performance-based aerodrome operating minima for basic aircraft (PARS 7.14, 7.19, 7.21)

APTA-B1/1: PBN approaches (with advanced capability), (PARS 7.14, 7.21, 7.22, 7.23)

APTA-B1/2: PBN SID and STAR procedures(with advanced capability) (PARS 7.14, 7.21, 7.22, 7.23)

APTA-B1/3: Performance-based aerodrome operating minima for advanced aircraft with SVGS (PARS 7.14, 7.21, 7.22, 7.23)

APTA-B1/4: CDO(Advanced) (PARS 7.14, 7.21, 7.22, 7.23)

APTA-B1/5: CCO (Advanced) (PARS 7.14, 7.21, 7.22, 7.23)

Proposed PARS 7.5

7.5 Where practicable, all instrument runways serving aeroplanes should have the following

~~precision approach systems (or if an APV is not practical, PBN non-precision approaches)~~ **approach procedures** consistent with APTA-B0/1 ~~(Priority 1)~~ and APTA-B0/3:

a) SBAS/GBAS **Cat I** precision approaches; or ILS **Cat I**/~~MLS~~ approaches (with APV approach as a backup); or

b) Approaches with Vertical Guidance (APV), ~~either~~ ~~RNP APCH with Barometric Vertical Navigation (Baro VNAV) or augmented GNSS (e.g. SBAS)~~; **RNP APCH with LNAV-VNAV or LPV Minima** or

c) if an APV is not practical, straight-in RNP APCH with Lateral Navigation (LNAV).

* APV - RNP APCH with LNAV-VNAV or LPV Minima

Appendix A

Proposed PARS 7.6

7.6 ~~All international aerodromes with rotary wing operations should establish PBN arrival/departure, approach and/or en-route transiting procedures~~. PBN Helicopter PinS Operations should be established consistent with APTA-B0/6 ~~where there is an operational benefit~~ (Priority ~~3~~ 2).

Proposed PARS 7.14

7.14 As far as practicable, all new ATS Routes should be PBN Routes in accordance with the following specifications to support APTA-B0/1 – 8, and APTA-B1/1 – 5:

- Category R airspace – RNP 4, RNP 10 (RNAV 10), (~~other acceptable navigation specifications –~~ RNP 2 ~~oceanic~~); and
- Category S airspace –RNAV 2 or RNP 2.

Proposed PARS 7.21

7.21 As far as practicable, all new ATS Routes should be PBN Routes in accordance with the following specifications to support COMS-B0/1 – 2, COMS-B1/1 – 3, APTA-B0/1 – 8, and APTA-B1/1 – 5:

- Category R airspace – RNP 2 ~~Oceanic or (other acceptable navigation specification –~~ RNP 4); and
- Category S airspace –RNAV 2 or RNP 2.

Proposed PARS 7.22

7.22 **Where there is an operational benefit**, all international aerodromes should implement advanced capability PBN SID and STAR procedures and performance-based aerodrome operating minima for advanced aircraft with SVGS consistent with APTA-B1/1 – 3.