



International Civil Aviation Organization

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

Bangkok, Thailand, 08 – 10 March 2016

Agenda Item 3: Review of related global/regional plans, priorities and targets

ASIA/PACIFIC SEAMLESS ATM PLAN REVIEW 2016

(Presented by Secretariat)

SUMMARY

This paper presents proposed changes to the Asia/pacific Seamless ATM Plan Review 2016. The main updates are highlighted and should be discussed by States during the meeting.

1. INTRODUCTION

1.1 The Asia/Pacific Seamless ATM Plan taking into account its iterative process is updated at least every three years to keep current with aviation system changes. The first issue of the Plan took place in 2013.

1.2 Following the Global Air Navigation Plan (GANP) Aviation Safety Block Upgrade (ASBU) framework implementation, the review in 2016 included reference to the expected Block 1 ASBU and new Regional elements, to enhance safety and efficiency in the Asia/Pacific Region.

2. DISCUSSION

Proposed updates of the Asia/Pacific Seamless ATM Plan Review 2016

2.1 **Attachment A** provides the marked up version of the proposed Seamless ATM Plan for consideration by States. This is expected to be circulated by State Letter, but the CNS meetings also represent an opportunity for discussion.

2.2 The current review of the Plan proposed to extend the expected implementation date of **phase II** Preferred Aerodrome/Airspace and Route Specifications (PARS) and Preferred ATM Service Levels (PASL) items by one year to **07 November 2019**. This was proposed because of the slow implementation in some areas, and it also aligned with the expected implementation of the GANP ASBU Block 1 modules (note: this has not yet been formalised by the ICAO Assembly).

2.3 A new **Phase III** for the PARS and PASL is proposed for items expected to be implemented in **2022**.

2.4 A Seamless ATM Plan Element Analysis was developed to help guide States, International Organizations and ICAO in assessing the priorities, strengths and weaknesses of each new plan element (**Attachment B**). In addition, the element's relationships with other aviation system components and readiness for implementation are discussed.

2.5 The seamless ATM implementation guidance was also updated (**Attachment C**) to guide all stakeholders in implementing the selected items.

2.6 As a result, the following new ASBU Block 1 elements which were considered to be mature, and of some urgency were proposed to be added to Phase II (2019):

- B1-ACDM;
- B1-SURF;
- B1-RSEQ;
- **B1-CDO**;
- B1-TBO (only Datalink Clearance - DCL); and
- B1-NOPS.

2.7 In addition, new regional items were identified and added for Phase II:

- B1-SAR;
- Human-performance-language proficiency;
- Ballistic rocket launch/space re-entry management planning;
- Voice communications over IP between ATS units (VoIP);
- Common aeronautical Virtual private network (CRV) and
- Airport Master Plans.

2.8 The planned 2019 review of the Plan will analyse the implementation of the following ASBU Block 1 modules, some of which may be considered for 2019, 2022 and later phases:

- B1-SWIM;
- B1-DATM;
- B1-TBO;
- B1-RPAS;
- B1-SNET;
- B1-FICE;
- **B1-APTA**;
- B1-AMET;
- B1-WAKE; and
- B1-ASEP.

2.9 Of particular interest to PBNICG are:

- The significant increase in the number of busiest Asia/Pacific aerodromes (100,000 scheduled movements per annum or more) from 21 in 2012 to **51 in 2015** based on ICAO data, which automatically makes applicable all seamless ATM objectives applicable high density aerodromes to this new scope. Therefore the baseline to implement and report about would change once the new version is adopted by APANPIRG. This would include Seamless ATM items **90-CCO**, **100-CDO**, **110- PBN Approach** and **130- PBN Visual Departure and Arrival Procedures**, **150- PBN Airspace** should be implemented. The concerned aerodromes are as follows (underlined):

- Australia (Sydney, Melbourne, Brisbane);
 - China (Beijing, Shanghai Pudong and Hong Jiao, Guangzhou, Hong Kong, Xi'an, Shenzhen, Chengdu, Kunming, Hangzhou, Chongqing, Xiamen, Wuhan, Zhengzhou, Changsha, Nanjing, Qingdao, Urumqi, Dalian, Guiyang, Tianjin, Haikou, Sanya);
 - India (New Delhi, Mumbai, Chennai, Bangalore);
 - Indonesia (Jakarta, Surabaya, Bali, Makassar);
 - Japan (Haneda, Narita, Fukuoka, Osaka, Sapporo, Naha);
 - Malaysia (Kuala Lumpur);
 - New Zealand (Auckland);
 - Philippines (Manila);
 - Republic of Korea (Incheon, Jeju, Seoul);
 - Singapore (Changi);
 - Thailand (Suvarnabhumi, Don Mueang);and
 - Viet Nam (Ho Chi Minh, Hanoi).
- the expected implementation date of phase II Preferred Aerodrome/Airspace and Route Specifications (PARS) and Preferred ATM Service Levels (PASL) items postponed by one year to 07 November 2019 (see para 7.27)

This would include item **140 Performance-based Navigation (PBN) Routes**. Consequently the objective to have ATS routes designated as PBN routes in accordance with Seamless ATM Phase 2 (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 (other acceptable navigation specifications – RNAV 5) would be postponed from Nov. 18 to 07 Nov. 19.

- The introduction of **B1-CDO Improved Flexibility and Efficiency in Continuous Descent Operations (CDOs)** using VNAV, whose implementation would target end 2019 in high density aerodromes

The B0-CDO has implemented the performance-based airspace and arrival procedures allowing an aircraft to fly their optimum profile using continuous descent operations (CDOs).

The main difference brought by the B1-CDO module is the introduction of Baro – VNAV, which enhances the vertical flight path precision during descent, arrival, and enables aircraft to fly an arrival procedure not reliant on ground based equipment for vertical guidance. The main benefit is higher utilisation of airports, improved fuel efficiency, increased safety through improved flight predictability and reduced radio transmissions and better utilization of airspace.

- The introduction of **B1-APTA Optimized Airport Accessibility**, whose implementation would target end 2022 in high density international aerodromes

The B0-APTA has implemented the Performance-based Navigation (PBN) procedures with vertical guidance and GLS (CAT I). The B1-ATPA progress further with the universal implementation of performance-based navigation (PBN) and Ground-based Augmentation System (GBAS) Landing System (GLS) approaches. In addition, PBN and GLS (CAT II/III) procedures will be implemented to enhance the reliability and predictability of approaches to runways increasing safety, accessibility and efficiency.

3. ACTION BY THE MEETING

3.1.1 The meeting is invited to:

- a) discuss the proposed changes to the Asia/Pacific Seamless ATM Plan Review 2016 and Asia/Pacific Seamless ATM implementation guidance and provide feedback to the ICAO Regional Office;
- b) note the information contained in this paper; and
- c) discuss any relevant matters as appropriate.
