



International Civil Aviation Organization

**The Fourth Meeting of the Asia Pacific Seamless ATM Planning Group
(APSAPG/4)**

Hong Kong, China, 3 – 7 June 2013

Agenda Item 4: Asia/Pacific Seamless ATM Status and Strategies

SIGNIFICANT POINTS IN THE DRAFT SEAMLESS ATM PLAN V0.9.b

(Presented by Hong Kong, China)

SUMMARY

The ICAO APAC Seamless ATM Plan is a plan aiming to foster a seamless ATM environment for the whole APAC Regions. The plan should be collaborative, practical and visionary. With the support of member States, the ICAO APAC Seamless ATM Planning Group (APSAPG) produced a draft seamless ATM Plan after 3 rounds of meetings in the past 1.5 years. This Paper highlights the salient points to note in version 0.9b of the draft plan to all APAC States. Discussions, clarifications, and thorough understanding of these key issues would be beneficial to the further development and finalization of the draft plan.

This paper relates to :-

Strategic Objectives:

*C: Environmental Protection and Sustainable Development of Air Transport –
Foster harmonized and economically viable development of international civil
aviation that does not unduly harm the environment*

Global Plan Initiatives:

GPI-4 Alignment of upper airspace classifications
GPI-5 RNAV and RNP (Performance-based navigation)
GPI-10 Terminal area design and management
GPI-11 RNP and RNAV SIDs and STARs
GPI-21 Navigation systems

1. INTRODUCTION

1.1 Hong Kong, China provided comments on Version 0.8b of the draft APAC Seamless ATM Plan to the ICAO on 1 May 2013. The ICAO subsequently enriched and revised the draft Seamless ATM Plan to Version 0.8c and 0.8d. In mid-May 2013, Hong Kong, China submitted a Working Paper to ATM/SG/1-WP/35, which highlighted the significant points to note in Version 0.8d for attention of the ATM/SG.

1.2 With ICAO further revised the draft Seamless ATM Plan to Version 0.9b (**refers to as the Plan in the following paragraphs**), it is necessary to highlight the salient changes to States in this latest version in order to generate constructive discussions at the APSAPG/4. Thus, this Working Paper follows similar lines of the ATM/SG/1-WP35. Thorough deliberation of the points raised in this Paper would ensure the Plan to become more robust, practical and visionary.

2. Discussion

2.1 New Aviation Terminology

2.1.1 A new scheme of Categorization of Airspace and two new terms describing expectations on performance of various aspects of aviation industry are introduced in the Plan for the first time. The new terms are established to facilitate the presentation of operational requirements for the Seamless ATM environment. Thorough understanding and pan-region adoption of the new aviation terminology is a pre-requisite for the implementation of the Seamless ATM plan.

2.1.2 Categorization of Airspace

2.1.2.1 In the Plan, airspace is categorized by reference to its CNS (Communications, Navigation and Surveillance) capability.

Category	ATC operation	ATS Communication and Surveillance coverage
Category R	Remote en-route airspace	Dependent on a third-party Communication Service Provider (CSP)
Category S	Serviced (or potentially serviced) en-route airspace	By direct ATS communications and Surveillance
Category T	Terminal operations	

2.1.3 Performance Objectives and their Phased Implementation

2.1.3.1 The Plan established two Performance Objectives, namely PARS (Preferred Aerodrome / Airspace & Route Specifications) and PASL (Preferred ATM Service Levels), which incorporate system expectations, general performance-oriented requirements, etc. Each performance objective is composed of a list of expectations of different aspects of aviation system. **Implementation** of the two performance objectives is targeted in two different phases, Phase I by 12 NOV 2015 and Phase II by 8 NOV 2018, subject to agreement of APAC member States.

Performance Objectives	Description	Expected to be implemented (See Paragraph 2.9 of the plan)
Preferred Aerodrome / Airspace & Route Specifications (PARS)	Expectations for airspace and ATS routes, including aircraft equipage	Phase I by 12 NOV 2015 (Paragraph 7.1 – 7.11 of the Plan)
		Phase II by 8 NOV 2018 (Paragraph 7.12 – 7.24 of the Plan)
Preferred ATM Service Levels (PASL)	Expectations for ANSP	Phase I by 12 NOV 2015 (Paragraph 7.25 – 7.44 of the Plan)
		Phase II by 8 NOV 2018 (Paragraph 7.45 – 7.57 of the Plan)

2.1.3.2 The meaning of the “implementation date” mentioned in the Plan need to be clear and unambiguous to ensure that the date is agreeable to APAC states. The “implementation date” should also be fully understood and agreeable by all ANSPs and stakeholders in the APAC regions in order to ensure the plan is visionary enough to push forward the goal of seamless ATM and yet achievable.

2.2 Navigation Performance Specification for different Airspace Categories

2.2.1 The Plan specified the PBN requirement for the operation of different airspace category as follows.

Category of Airspace	PARS Phase I (expected implementation by 12 November 2015)	PARS Phase II (expected implementation by 8 November 2018)
Category T	All international high density aerodrome should have RNAV1 or RNP 1 SID / STAR (PASIL - Minimum horizontal separation standard not greater than 5NM)	All international aerodrome should have RNAV1 or RNP 1 SID / STAR
Category S	RNAV 2 or RNP 2, (RNAV 5)	RNP 2
Category R	RNP 4, RNP 10 (RNAV 10), (or RNP 2 Oceanic)	RNP 2 Oceanic

2.2.2 The timeframe and roadmap of any PBN implementation initiatives should be consistent with those in the latest agreed version of APAC PBN Plan.

2.2.3 RNP 2 specifications has recently been published in the latest edition of PBN Manual (Doc 9613, 4th Edition - 2013); however, the essential components such as the respective flight procedure design criteria, separation standards and operational approval guidance document are yet to be developed. Taking into account the large amount of outstanding preparation work to be undertaken by operators and ANSPs alike, there is a need to urge ICAO to expedite the provision of appropriate guidance material. In this connection, reference can be made to relevant discussion in the Draft Report of ATM/SG/1, which stated “the request for expedition of RNP 2 material was already the subject of a PBN/TF Draft Conclusion. Moreover, the meeting noted that until the material was expected to be available at some stage during PARS Phase I, States could utilize RNAV 2 or RNAV 5, and plan for the early implementation of RNP 2.” The Plan also stated that RNP 2 is expected to be utilized before Phase 2, when the RNP 2 instrument procedure design and ATC separation standards are in place. (Note 1, Paragraph 7.9)

2.2.4 “RNP 2 **Oceanic**” is not incorporated in the latest edition of PBN Manual. There is a need to clarify the navigation specification before it is adopted in the Plan.

2.2.5 States should also discuss whether the suggested timeframe is visionary and yet achievable. It is important to note that some states have formulated their PBN implementation plan in accordance with the Asia/Pacific Regional PBN Implementation Plan, Version 3, 2011. Suitable integration of States’ PBN implementation plan with this Plan is necessary.

2.2.6 The Navigation Performance Specification adopted in Phase I will serve as the foundation of Phase II. The coherence of the specifications would ensure smooth transition of the two phases.

2.3 **Harmonization of Upper Airspace Classification**

2.3.1 The Plan specified the airspace classification of upper airspace in Phase I of PASL as follows:

Category of Airspace	ICAO Airspace Classification
Category T controlled airspace	N/A
Category S controlled airspace	Class A
	Class B or C, if there are high level general aviation or military VFR operations
Category R controlled airspace	Class A

(See paragraph 7.30 of the Plan)

2.3.2 Category of Airspace and Airspace Classification are two independent specifications. Correlating the two specifications may not be technically achievable in the some APAC States. For example, whether there is a need for Category R controlled airspace to be Class A is subject to debate and more realistically, subject to a sound cost-benefit analysis by individual member States.

2.4 **Implementation Strategy Guide**

2.4.1 An Implementation Strategy Guide, which listed the agreed actions of the Seamless ATM plan is expected to be adopted for by this Meeting for states to develop their own Seamless ATM Implementation Plan. States are expected to report their implementation progress to APANPIRG (See paragraph 9.6 of the Plan). The Guide would be a potent tool to guide member States to implement their individual Seamless ATM Plan. To ensure States fully understand the expectation of ICAO, the content of the Guide should be fully discussed and agreed by States such that the design objectives of the Guide could be fulfilled.

2.5 **Understanding and Acceptance of Individual Difference**

2.5.1 It should be clarified in the document that the Plan is not meant to be standards to be imposed on States as mandatory. It should also be noted that some States may require longer time to achieve the target implementation dates and those States should not be labeled as deficient for not meeting the target on time. Although States may be moving forward at different paces, we will achieve our goal, i.e., to create a seamless ATM environment for the whole APAC Regions.

3. **ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) note the information highlighted in this paper;
- b) duly consider comments given by member States and seek their full support to this important Seamless ATM Plan for the APAC Regions; and
- c) discuss any relevant matters as appropriate.

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