



International Civil Aviation Organization

**Third Meeting of the ICAO Asia/Pacific Seamless ATM Planning Group
(APSAPG/3)**

Chennai, India, 21-25 January 2013

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

SEAMLESS ATM DRAFT PLAN – INDIA’S VIEWS

(Presented by India)

SUMMARY

This paper presents India’s views on the Seamless ATM Draft plan presented by the Secretariat and recommends a proactive and collaborative approach in adopting incremental ATM solutions in a time bound manner by the States to fulfill the objectives of the plan.

This paper relates to –

Strategic Objectives:

- A: *Safety – Enhance global civil aviation safety*
- 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-1 Flexible use of airspace
- GPI-2 Reduced vertical separation minima
- GPI-3 Harmonization of level systems
- GPI-4 Alignment of upper airspace classifications
- GPI-5 RNAV and RNP (Performance-based navigation)
- GPI-6 Air traffic flow management
- GPI-7 Dynamic and flexible ATS route management
- GPI-8 Collaborative airspace design and management
- GPI-9 Situational awareness
- GPI-10 Terminal area design and management
- GPI-11 RNP and RNAV SIDs and STARs
- GPI-12 Functional integration of ground systems with airborne systems
- GPI-13 Aerodrome design and management
- GPI-14 Runway operations
- GPI-15 Match IMC and VMC operating capacity
- GPI-16 Decision support systems and alerting systems
- GPI-17 Data link applications
- GPI-18 Aeronautical information
- GPI-19 Meteorological Systems
- GPI-20 WGS-84
- GPI-21 Navigation systems
- GPI-22 Communication infrastructure
- GPI-23 Aeronautical radio spectrum

1. INTRODUCTION

1.1 WP 10 presented by the Secretariat discusses the Seamless ATM Draft Plan. The objective of the paper is to apprise the conference of the structure and directions of the plan .

1.2 India, in general, supports the structure and the intended directions of the plan. The stated goals of the plan is to facilitate seamless ATM operations in the Asia Pacific region by appropriately recognizing and deploying optimum ATM solutions to meet the objectives of safety and efficiency of air traffic operations. Taking into account the complexity and diversity of vast Asia Pacific airspace, the draft Plan admirably addresses the many issues of all stakeholders.

1.3 At the global level, ICAO has undertaken a radically new approach to address the needs of aviation community with the ASBU approach, which was endorsed by the 12th Air Navigation Conference in November 2012. The Seamless ATM draft plan has adequately captured the elements of modules which need to be critically considered by all the States in the immediate time frame.

2. DISCUSSION

2.1 India offers the following comments and suggestions/recommendations to the Seamless ATM elements of the draft plan.

ASBU modules Implementation

2.2 India fully supports the ASBU prioritization in respect of critical ASBU module implementations vide para 3.6 to 3.12.

2.3 India also recommends that B0 101 and B0 102 should be included in the priority/critical list for implementation as they enhance safety of operations.

Airport Operations

2.4 India fully supports the need for Aerodrome Capacity analysis and declarations. India has declared aerodrome handling capacity (peak) for the following airports as below.

S.No.	AIRPORT	MAX CAPACITY	REMARKS
1	DELHI (2/3 PARALLEL RWYS)	75	MAX DEP 45 MAX ARR 37
2	MUMBAI (2 CROSS RWYS)	38 (16A+22D)	MAX DEP 30 MAX ARR 24
3	CHENNAI (2 CROSS RWYS)	29	MAX DEP 25 MAX ARR 20
4	KOLKATA (1/2 PARALLEL RWYS)	30	MAX DEP 20 MAX ARR 20
5	HYDERABAD	28	MAX DEP 20 MAX ARR 20
6	BENGALURU	28	MAX DEP 19 MAX ARR 17

S.N	AIRPORT	ANNUAL MOVEMENTS	LICENSING STATUS	ASMGCS	RNP0.3	RNAV1 SID/STAR	LNAV/VNAV
1	DELHI	270,000	LICENSED	YES	NO	YES	PLANNED (Q3 2013)
2	MUMBAI	240,000	LICENSED	YES	NO	YES	-
3	CHENNAI	115,800	LICENSED	YES	NO	YES	-
4	KOLKATA	96,000	LICENSED	YES	NO	YES	PLANNED (Q3 2013)
5	HYDERABAD	96,000	LICENSED	YES	NO	YES	PLANNED (Q3 2013)
6	BENGALURU	108,000	LICENSED	YES	NO	YES	PLANNED (Q3 2013)

India's Updates on busiest airport in India

Airspace

2.5 Although the concept of BEBS recognizes the growing capability of airborne equipage for increasing compliance of more exacting ATM standards, it should be noted that the differing operating models of airspace users and their needs for supporting economic and equitable access to airspace and ATM services will continue to be addressed in this transition period. Hence India advocates a collaborative and practical approach to adopting BEBS and mandatory equipage requirements.

Preferred Air Space and Route specifications (PARS)

2.6 ATC Separation – India has adopted progressive separation standards based on availability of redundant surveillance infrastructure and proper safety assessment resulting in increased capacity. The progressive implementation of ADS-B across the continental airspace along with increasing number of aircraft equipped with requisite avionics will help in aligning the separation standards to the standards as stated in the plan. The existing separation standards in the terminal airspace around the six busy airports are shown below.

S.No.	AIRPORT	SEPARATION STDS BASED ON SURVEILLANCE IN TERMINAL OPS. (ALL BELOW FL 140)
1	DELHI	3NM(WITHIN 30 NM) & 5 NM BETWEEN 30-60NM
2	MUMBAI	3NM(WITHIN 40 NM) & 5 NM BETWEEN 40-60NM
3	KOLKATA	5NM WITHIN 60 NM (3 NM within 30 NM in 2014)
4	CHENNAI	5NM WITHIN 60 NM(3 NM within 30 NM in 2014)
5	HYDERABAD	3NM(WITHIN 30 NM) & 5 NM BETWEEN 30-60NM
6	BENGALURU	3NM(WITHIN 40 NM) & 5 NM BETWEEN 40-60NM

Preferred ATM Service Levels (PASL)

2.7 In order to balance demand and capacity at high traffic density airports and TMAs, it will be necessary to equip ATS automation with decision support tools such as AMAN and DMAN.

2.8 The effectiveness of such tools will be enhanced with the evolution and deployment of an Integrated ATFM including airspace management, user driven prioritization and collaborative ATFM solutions encompassing all stakeholders.

2.9 Implementation of PBN based SIDs and STARs in high and medium density airports will be a necessity to introduce the concepts of CCO and CDO. At all Indian Airports all RNAV 1 SIDs are CCO compliant and all RNAV 1 STARs are CDO compliant. ATC sensitization training and flight crew awareness at all centers has been planned throughout 2013 for awareness of CCO and CDO concepts.

2.10 It should be recognized that CCO and CDO are based on proper evolution of procedures, recognition of opportunities and training of flight crew and controllers. It should also be recognized that medium and low density airports should be targeted / encouraged to implement CCO and CDO on a regular basis to increase the potential benefits of such operations.

Future concepts

2.11 The development of pan-national, sub-regional ATFM systems eventually collaborating with each other and emerging of a regional ATFM system will greatly enhance the seamless ATM services across the region. This will also facilitate addressing cross-regional traffic imbalances and as such India advocates that the issue should be considered in the immediate time horizon rather than leaving it to a future date.

2.12 India fully supports the goal of development of Sub-Regional or Regional ATM Improvement Research and Development (AIRD) Institutes, which could to be formed from ANSPs in collaboration with International Organizations and specialist agencies that can provide technical support. India has entered into a MOU with MITRE of USA to establish a technical R &D center in India focusing on ANS technical issues and procedures.

Recommendations

2.13 India supports recommendations of the working paper 10 from S No 1 to 6 and 8 to 11.

2.14 India recognizes the spirit behind recommendation 7 and agrees to engage the Sultanate of Oman and Yemen in a dialogue to explore means of harmonizing the flow of traffic in this sector. India will also explore the possibility of including the issue for discussions in the informal group forums such as BOBASIO and ASIIOCG.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) Agree to the following recommendations:
 - i. Inclusion of modules BO 101 and BO 102 in the critical modules list
 - ii. Implementation of ATFM in high density airspaces among cross-border areas at the earliest;
 - iii. States may be encouraged to develop and deploy CCO and CDO in medium density, low density airports so as to increase awareness of potential benefits to the aviation community; AND
- c) discuss any relevant matters as appropriate.

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