



*International Civil Aviation Organization*

**The Third Meeting of the APANPIRG ATM Sub-Group  
(ATM /SG/3)**

Bangkok, Thailand, 03-07 August 2015

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**Agenda Item 4: ATM Systems (Modernisation, Seamless ATM, CNS, ATFM)**

**INDIA'S C-ATFM PROJECT IMPLEMENTATION PROGRESS**

(Presented by India)

**SUMMARY**

This paper presents a brief overview of the progress of the implementation of Central Air Traffic Flow Management (C-ATFM) System in India. The C-ATFM system will facilitate strategic air traffic flow management to effectively balance demand and capacity in the tactical time frame. It will also enable the ANSP to respond to contingencies caused by severe weather in a systematic manner. India is implementing a comprehensive ATFM system in phases which will provide a platform to participate in the regional ATFM effort.

**1. INTRODUCTION**

1.1. India has witnessed a sustained growth of air traffic during the last decade and this trend is likely to continue in the coming fifteen years. Continued aggressive demand for access to major airports is expected to continue in the near future. This increase in demand requires a corresponding effort to augment and utilize system capacity efficiently.

1.2. The augmentation of capacity both at airports and in airspace will require long term investments and efforts. Therefore optimum and efficient utilization of available capacity should be the top priority of ANS providers. A network wide view provided by effective Air Traffic Flow Management (ATFM) capabilities for Demand and Capacity Balancing (DCB) across the national airspace system is the preferred mechanism for efficient ATM services. The ATFM tools will enable improved management of demand and capacity, and will help system stakeholders to deal with the increased complexity of the nation's air routes.

1.3. India has accordingly decided to implement Central ATFM (C-ATFM) system covering entire Indian airspace which will integrate various subsystems for collaborative decision making and to ensure regulated flow of traffic to minimize delays and congestion.

1.4. While ATFM is proven to enhance safety and provide measurable efficiency gains, it is also viewed as a transformational concept that introduces new levels of collaborative decision making and offers potential for harmonizing seamless airspace operations.

1.5. Effective implementation of ATFM requires the active participation of all affected stakeholders. ATFM should be performed as a collaborative decision making process, where airports, ANSPs and airspace users work together to improve the performance of the network.

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## 2. DISCUSSION

### Indian C-ATFM (Central –ATFM) Concept

2.1 The C-ATFM System would provide ANSP and Aircraft Operators with a decision support capability to safely, efficiently, and predictably manage demand when it exceeds capacity at constrained resources such as airports, airspace sectors etc., within the Indian airspace. Capacity/Demand imbalances can be identified and addressed in the Strategic, Pre-Tactical, and Tactical phases of ATFM. The C-ATFM system will be progressively implemented in three stages:

- **Phase 1:** The C-ATFM baseline system would be in place by end of 2015. This would provide AAI and Aircraft Operator users with significant capabilities to perform strategic, pre-tactical, and tactical ATFM and CDM. The C-ATFM system will consist of a Central Command and Control Center (CCC) at Delhi networked with Traffic Management Units (TMU) at six major airports. The six airports are Delhi, Mumbai, Bangalore, Chennai, Kolkata and Hyderabad. The CCC will be the nodal center for ATFM implementation in India and will be provided with strategic and tactical flight plan data, weather data, airport and airspace capacity data and other relevant environmental data necessary for monitoring demand and capacity across Indian airspace. The CCC will in turn communicate with TMU for ATFM measures implementation as and when necessary.
- **Phase 2:** Nationwide ATFM system covering all major airports throughout India will be made gradually operational by end of 2016. The future functionality of the ATFM system would depend on needs of Indian airspace users and advances in ATFM technology and system. The evolution of the system will complement the basic ATFM system from Phase 1.
- **Phase 3:** The Indian C-ATFM system will have capabilities for interfaces for seamless data exchange with other ATFM systems in the sub-region and region, thus supporting evolution of an international ATFM system. The specific functionality will be developed in collaboration with the States/ANSPs coming together for international ATFM integration.

### Progress of C-ATFM Project Implementation

2.2 The C-ATFM System project began in July 2014. The system provider and AAI collaborated to develop the system design to be implemented in phases.

2.3 AAI has also undertaken Safety Assessment process simultaneously to assess the Safety impact of the ATFM implementation. The Safety Management process will be followed throughout the implementation process and operational procedures will be refined to minimise the impact on safety.

2.4 AAI has conducted a series of interactive meetings, seminars and briefing sessions with stakeholders across the country to familiarize the participants of the concept of C-ATFM.

2.5 The C-ATFM System installation is in progress at Delhi Command and Control Centre (CCC). Installation of TMU at Delhi ACC, Mumbai ACC, Bengaluru ACC, Chennai ACC, Hyderabad ACC and Kolkata ACC is also progressing simultaneously. All the installation will be completed in July 2015

2.6 Arrangements are being made to connect the ATS Automation systems Data to CCC from Mumbai, Chennai, Nagpur, Ahmedabad, Delhi and Kolkata ATS Automation systems.

2.7 Training of AAI officers, who will operate as ATFM Managers, will be conducted in phases from July 2015.

2.8 The system will be tested for technical and operational readiness in the months of August and September 2015.

2.9 Representatives from Airlines, Airport Operators, and Military will also be trained in the use of ATFM Platform during October 2015.

2.10 The Operational Trails for Phase I of the C-ATFM system are expected to begin in December 2015

**3. ACTION BY THE MEETING**

3.1. The meeting is invited to note the information contained in this paper.

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