**ELEVENTH AIR NAVIGATION CONFERENCE**

**Montreal, 22 September to 3 October 2003**

**Agenda Item 1: Introduction and assessment of a global air traffic management (ATM) operational concept**
**1.1 The global ATM operational concept**
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# PAKISTAN'S ROLE IN THE GLOBAL ATM OPERATIONAL CONCEPT

(Presented by Pakistan)

**SUMMARY**

This paper provides an overview on Pakistan's strategic geographic location and its role in achieving the operational enhancements with reference to global ATM concept.

## 1. INTRODUCTION

1.1 The fuel shortages of the early 70's and the emergence of modern aviation technologies both for airborne machines and ground equipment in the 80's guided the world aviation community to new dimensions of air traffic management (ATM). These factors brought evolutionary changes in the existing communications, navigation and surveillance system. The Tenth Air Navigation Conference endorsed the future air navigation systems (FANS) concept, known as "communications, navigation and surveillance/air traffic management (CNS/ATM) systems". The continued progress and development in the technology and successful implementation of CNS/ATM systems has encouraged several States and ICAO to look for a comprehensive concept of an integrated and global ATM system for a period up to 2025 and beyond.

## 2. AIR TRAFFIC MANAGEMENT OPERATIONAL CONCEPT PANEL (ATMCP)

2.1 The Air Traffic Management Operational Concept Panel entrusted with the task to clearly establish operational requirements for an integrated harmonized and globally interoperable ATM system has defined air traffic management, as the dynamic, integrated management of air traffic and airspace safety, economically, and efficiently through the provision of facilities and seamless services in collaboration with all parties. The ATMCP has laid the foundation based on the seven core concept components, to achieve an interoperable global air traffic management system for all users during all phases of flight that meets agreed to levels of safety, provides for optimum economic operations, is environmentally sustainable, and meets national security requirements.

## 3. PAKISTAN'S ROLE IN THE GLOBAL ATM OPERATIONAL CONCEPT

### 3.1 Strategic geographic location

3.1.1 Pakistan is strategically located at a periphery of ICAO Asia-Pacific and Middle East Regions, providing vital links that interface the two ICAO Regions for ensuring the safe and efficient flow of air traffic, particularly from the Far East to Europe and vice versa. Pakistan's airspace is provided with radar coverage and very high frequency (VHF) controller-pilot communication through an integrated aeronautical communication and control (AC&C) system. The radar system consists of three collocated primary and secondary surveillance radars at Karachi, Lahore and Islamabad airports and three remote stand-alone secondary surveillance radars (SSRs) at Pasni, Lakpass and Rojhan (see the appendix).

### 3.2 Operational advantage and constraints

3.2.1 The realignment or establishment of air traffic services (ATS) route segments in the ATS route structure covering Europe to the Middle East and Asia initiated by the IATA Joint Route Development Group (JRDG) and subsequently improved by a core ICAO team have successfully implemented the Europe to Middle East and Asia revised route structure South of Himalayas (EMARSSH).

3.2.2 This has reduced the flying time with corresponding operational and financial benefits to airlines. The post EMARSSH review identified restrictions which presently do not allow the air traffic flows from the Far East, particularly departures from Singapore, Kuala Lumpur and Bangkok to destinations in Europe to operate in Afghanistan airspace at FL 280. This restriction has reduced the airspace capacity significantly for traffic operating through Afghanistan airspace Efforts are in hand through close coordination with ICAO Regional Offices for lowering the altitude restriction from FL 310 to FL 280 in Kabul flight information region (FIR).

### 3.3 Capacity enhancement

3.3.1 Reduced vertical separation minimum (RVSM) will be implemented in Karachi and Lahore FIRs on 27 November 2003 between FL 290 to FL 410 (both inclusive). The adjacent States Afghanistan,

Tajikistan and China will implement RVSM at a later date. Consequently, Pakistan, as a transition airspace, has to assume the responsibility of assigning the levels from RVSM to conventional vertical separation minimum (CVSM) and vice versa. The implementation of RVSM will significantly enhance the capacity and extend opportunity to avail the benefits of RVSM.

### 3.4 CNS/ATM implementation

3.4.1 Pakistan's continental airspace is covered by SSR and extended VHF. The upgrading of the present radar system is presently under evaluation which includes a satellite-based data link and dependent surveillance system. The development of global positioning system (GPS) non-precision approach procedures is in progress through the assistance of ICAO cooperative development of operational safety and continuing airworthiness programme — South Asia (COSCAP-SA) initially for airports at Quetta and Lahore, which will be further expanded to all airports.

## 4. Flexible use of airspace

4.1 The guiding principles and strategies to cater for the needs of the airspace users through efficient organization and management of airspace will be implemented in line with an integrated and global ATM system that will remove the existing limitation to the provision of air traffic services with due safeguard to sovereign interests of State.

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