

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
:

VIEWS ON ICAO GLOBAL AIR TRAFFIC MANAGEMENT (ATM) OPERATIONAL CONCEPT

(Presented by China)

SUMMARY

The development of a global ATM in an integrated and coordinated manner is in line with the operational regularity of air traffic management and the long-term development needs of the aviation industry. This paper states that China supports ICAO's development and further perfecting of the global ATM operational concept, and is paying close attention to the development of the concept. It is hoped that ICAO will consider and handle the future global ATM issues with a positive yet steady and progressive approach. ICAO is invited to continue to enhance the ATM concept and consider providing support to developing countries in this regard.

Action by the conference is in paragraph 4.

¹ English version provided by China.

1. INTRODUCTION

1.1 The imbalance between aircraft movement and the demand in air traffic capacity has been aggravating over a long period of time in many regions of the world, making such regions unable to meet the fast-growing demand for air traffic development. It has become increasingly difficult for the current ATM practices to cope with the latest development in air transport. The air traffic management of China is also facing such difficulties and challenges in recent years.

1.2 China has been following with great interest in the ICAO global ATM operational concept and taking an active approach in the research activities conducted by ICAO's Air Traffic Management Operational Concept Panel (ATMCP). China supports the development and perfecting of the global ATM operational concept, and is of the view that introducing the global ATM operational concept and reforming the ATM system is an inexorable trend. The global ATM operational concept is an ideal vision for the development of global air traffic management for the next two decades. Once the concept is endorsed, it will certainly produce profound and far-reaching effects on the future development of air navigation system in the world.

2. IMPLEMENTATION OF AN INTEGRATED GLOBAL ATM — AN IMPORTANT AND ARDUOUS TASK

2.1 The global ATM operational concept mainly involves airspace organization and management, aerodrome operations, demand and capacity balancing, traffic synchronization and conflict management. The concept emphasizes flexible allocation of airspace, dynamic flight trajectories, monitoring of aerodrome surface operations, seamless cooperation between air traffic service providers and operators and the decision-making principles based on information networking, etc. All these factors form the foundations of the future integrated global ATM operation. The core concept is to establish, on the basis of resolving the technical problems, a flexible, globally coordinated ATM system, which will eventually and totally transform the current ATM model with airspace allocated according to individual Contracting States or regions. However, a new concept can never be realized through a single reform. It has to go through a long process of progressive evolution and will materialize when the conditions are ripe. Moreover, in introducing the new concept, due consideration has to be given to the potential burden on the global aviation industry such as the technical and economic commitment and any uncertainties which may adversely affect the development of the aviation industry.

2.2 Many specific technical problems related to the global ATM operational concept have to be resolved in the foreseeable future. The practical experience in the aviation industry over the years has shown that although protracted efforts have been made by ICAO, States and the aviation industry to implement the new CNS/ATM system, some technical problems remain unsolved. For instance, many countries have established the policy to implement communications, navigation, and surveillance/air traffic management (CNS/ATM) systems based on satellite navigation and data link communications, and have invested heavily in various pilot programmes. However, air traffic service providers, airlines and aviation safety management departments have not yet to identify the best solution to the array of problems arising from the various demands for airborne equipment and air traffic management procedures, in regard to regions with different topographies using different communications, navigation and surveillance systems.

2.3 The global ATM operational concept has to meet the specific operating environments and the different requirements of specific countries and regions. As economies, laws, politics, finance and systems vary from place to place, different solutions need to be worked out in these respects. It is believed that technical issues will be relatively easy to tackle but problems relating to the national systems, policies and laws of different countries will be very complicated and difficult to resolve. Thus, it can be foreseen that the implementation of an integrated global ATM will be a long and challenging process.

3. PROBLEMS REQUIRING ATTENTION IN THE PERFECTION OF GLOBAL ATM OPERATIONAL CONCEPT

3.1 It must be fully recognized that countries with less developed aviation or air traffic management systems will also play an important role in the development of an integrated global ATM system. ICAO should attach due importance to the development of air traffic management in such countries and provide the necessary technical support. The imbalanced economic development among various countries and regions must be taken into account in taking forward the integrated global ATM. Any difficulties and problems thus encountered should be fully analysed and assessed on the basis of thorough examination of the existing conditions of air traffic management (regulations, systems, facilities, technologies and personnel) in various countries and regions so as to avoid any significant errors, faults and waste in investment during the process of global implementation.

3.2 The strategic plan initiated by the global ATM concept covers three levels of planning: global planning, regional planning and national implementation planning. These levels are clear and reasonable, but the crucial problem is how to effectively integrate the plans of all countries. The aim should be to ensure to the greatest extent possible that such solutions are internationally harmonized and integrated without producing varieties and complexities in the airborne or ground systems of the ATM system. The global ATM operational concept must also be effectively incorporated into the global and regional plans. Moreover, it is necessary to formulate detailed and feasible global, regional and national implementation and transition plans to take forward the integrated global ATM step by step, stage by stage and region by region. In addition, any technologies and processes involved should be thoroughly assessed and verified.

4. ACTION BY THE CONFERENCE

4.1 ICAO is invited to continue to supplement and enhance the global ATM operational concept and give due consideration to the practical issues involved in the process such as resource commitment and acceptability of the aviation industry.

4.2 ICAO is advised to step up its efforts to boost the confidence of the aviation industry worldwide in realizing the concept of the integrated global ATM.

4.3 ICAO is advised to provide assistance to developing countries in the fields of technology, planning and personnel training.

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