

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

1.4 The role of airborne collision avoidance systems (ACAS) technologies
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CHINA'S POLICIES ON AND IMPLEMENTATION OF ACAS II

(Presented by China)

SUMMARY

This paper presents the policies of CAAC (General Administration of Civil Aviation of China) on the installation and use of ACAS II as well as the state of implementation.

1. INTRODUCTION

1.1 In order to enhance the safety assurance level of the international air navigation and to avoid the occurrence of tragic accidents of airborne collisions, ICAO has developed policies to promote the installation and use of airborne collision avoidance system (ACAS) II. It is clearly stipulated in Part I of Annex 6 — *Operation of Aircraft* to the Convention on International Civil Aviation that: "From 1 January 2003, all turbine-engined aero planes of a maximum certified take-off mass in excess of 15 000 kg or authorized to carry more than 30 passengers shall be equipped with an airborne collision avoidance system (ACAS II)".

2. CAAC'S POLICIES ON IMPLEMENTATION AND THE STATE OF APPLICATION

2.1 Based on the overall consideration of effectively preventing aircraft collision, increasing flight safety margin, fulfilling the duty as a Contracting State and further improving the air traffic control service quality of China's civil aviation, CAAC has already adopted active policies for mandatory installation and operation of ACAS II and its Aircraft Airworthiness Department has formulated regulations governing the

installation of ACAS II by the Chinese civil aircraft fleets. Starting from January 1, 2002, all turbine-engined aero planes of a maximum certified take-off mass in excess of 15 000 kg or authorized to carry more than 30 passengers shall be equipped with ACAS II. This implementation date is one year in advance of the date specified in Annex 6 to the Convention on International Civil Aviation.

2.2 To keep with the realities on China's airspace, traffic volumes at airports and the modification of China's aircraft fleets, CAAC established as of January 1, 2002 a transition period for civil aircraft operating in China's airspace with a maximum certified take-off mass in excess of 15 000 kg or authorized to carry more than 30 passengers but not yet equipped with ACAS II. During this transition period, exemption or limitation measures were applied. From July 12, 2002 to January 1, 2003, CAAC's air traffic control (ATC) imposed strict flight limitations on those civil aircraft not equipped with ACAS II that they were not permitted to make departures or landings at busy domestic civil airports and to operate on the major air routes. Starting from January 1, 2003, those civil aero planes not equipped with ACAS II are not allowed to operate in China's airspace.

2.3 In order to keep the ATC departments informed in a timely manner of the status of the ACAS II installation on the aero planes of various airlines, CAAC stipulated that, starting from the midnight of July 1, 2002, for those aero planes which are already equipped with ACAS II, airlines and their agents should put "ACAS" in RMK, item 18 of their flight plans to indicate that their aircraft are equipped with ACAS II. For those aircraft without indication of "ACAS" in the flight plans, the ATC departments will consider them as not equipped with ACAS II.

2.4 At the same time, in order to ensure the proper use of ACAS II, CAAC issued a circular to specify that once the air traffic controller receives a report from the pilot that he has the resolution advisor (RA) alert by ACAS II and has made avoidance man oeuvre, the controller will no longer be responsible for the separation between this aircraft and other aircraft or obstacles. During the flight, if the pilot finds that the control instructions given by the controller are not in consistent with the RA issued by the ACAS II, the pilot should act according to the instructions of ACAS II.

2.5 Since CAAC imposed the mandatory use of ACAS II on July 1, 2002, actual operational reports have shown that ACAS II systems were able to provide timely information of warning in all cases of airmiss.

3. FUTURE WORK

3.1 As for the installation and use of ACAS II for turbine-engined aero planes of a maximum certified take-off mass in excess of 5 700 kg or authorized to carry more than 19 passengers, CAAC has promulgated relevant airworthiness policies in accordance with Part II of Annex 6 to the Convention on International Civil Aviation, requiring these types of aero planes be equipped with ACAS II starting from January 1, 2004, which is one year ahead of the required timeframe set by ICAO. At present, the CAAC is urging the development of air traffic control measures as well as the implementation of other related work.

3.2 CAAC has always attached great importance to the installation and use of ACAS II and will continue to carry out the implementation of ACAS II in accordance with the relevant ICAO requirements. This will play an active role in enhancing the safety of civil aviation in China as well as the safety of

international air navigation. In the meantime, we hope to gain support from relevant parties of the international civil aviation community.

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