



## ASSEMBLY — 35TH SESSION

### TECHNICAL COMMISSION

**Agenda Item 23: Consolidated statement of continuing ICAO policies and practices related to communications, navigation, and surveillance/air traffic management (CNS/ATM) systems**

#### **AN OVERVIEW OF THE PROJECT RELATING TO THE NORTHERN, EASTERN AND SOUTHERN AREA CONTROL CENTERS OF CAAC (NESACC)**

(Presented by China)

### INFORMATION PAPER

#### SUMMARY

This paper provides project information of NESACC which is under development by CAAC. It focuses on the general situation, the application of advanced technologies and the human resources training of NESACC project.

## 1. INTRODUCTION

1.1 At present, China's air traffic volume mainly concentrates in the eastern part of China, particularly in the greater delta region formed by Beijing, Shanghai and Guangzhou, which accounts for 60%-70% of the total national flight volume. In order to enable the air traffic control to meet the demand of rapid growth of flight volume, highly reliable air traffic control infrastructure should be set up to ease the limitation in increasing flight volume and flight delay caused by the restricted ability of air traffic control system.

1.2 To meet the above goal, CAAC has strengthened the construction of air traffic control infrastructure and decided to build modern air traffic control centers in Beijing, Shanghai and Guangzhou, that is NESACC. This is an important measure to increase air traffic volume, safeguard flight safety and to fundamentally alleviate the air traffic jam over Beijing, Shanghai and Guangzhou.

## 2. GENERAL SITUATION

2.1 NESACC automation system includes control centers of Beijing, Shanghai and Guangzhou: ATC automation hardware/software, voice-recording system, GPS clock system, simulator training system, monitoring/maintenance system, software support facility, voice and system record playback system, emergency display system, Synthetic Information Processing and Display system (SIPDS) and source code, etc. NESACC project also includes the construction of buildings, electricity, water and power supplies, fire prevention, building security monitoring and logistic systems.

2.2 The general goal of NESACC system is to set up three pillars to support the air traffic control system in eastern China through the establishment of three reliable and modern area traffic control centers with uniform standard and network design, and to raise the overall ability of China's air traffic control system through the establishment of three area control centers with uniform technical standard and identical system hardware and software.

2.3 After the NESACC system is put into use, the current 14 upper air controlled airspace in east part of China will be consolidated by phase into three new upper air control areas in Beijing, Shanghai and Guangzhou. NESACC system will provide a total of 132 control positions for the three control centers, including radar control position, procedural control position, military coordination position and emergency backup position. NESACC will consolidate local terminal systems and local control tower systems.

## 3. TECHNICAL APPLICATION

3.1 The software of NESACC's main automation system, EURACAT X, is developed on the basis of EURACAT2000 of THALESATM, upgraded from TAAAS of Australia and refined according to the needs of CAAC.

3.2 The main automation system of each center uses open architecture network design. Through the mutual backup between A and B network and the use of SERVICE LAN as a supporting network, a dual redundant data communication model is established. The seamless switch between dual redundant A and B network guarantees the continuous operation of the overall system. The connections between ACC and TMA, TMA and RTW are realized through CDP and the three centers are linked by means of AIDC.

3.3 The main automation system of NESACC has integrated radar data processing (multi-formats), flight data processing, STCA/MSAW, ADS/CPDLC, RVSM, automatic message transmitting and electronic strips, etc. The simulation system may work as backup system with some simple configuration when the main system is down.

#### 4. HUMAN RESOURCES DEVELOPMENT

4.1 Controller: 102 controllers from NESACC received 9-month factory training in 11 batches. Around 600 controllers were trained in China.

4.2 Technical and maintenance personnel: 150 technical engineers were trained abroad in 15 batches. Almost 300 technical engineers were trained in China.

4.3 Technology transfer personnel: CAAC sent 9 senior engineers to be trained in system software by MELBOURNE THALESATM for 12 months.

4.4 The personnel training of NESACC is a systematic program unparalleled in China's air traffic control history in terms of scale, duration, technical coverage, the complexity of the composition of people and elaborate organization.

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