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ASSEMBLY — 38TH SESSION

TECHNICAL COMMISSION

Agenda Item 36: Air Navigation — Emerging Issues

PROGRESS ON INCREASING CAPACITY IN CHINA

(Presented by China)

EXECUTIVE SUMMARY

This paper presents information relating to work undertaken by China to increase airspace capacity. It addresses areas such as increase of airspace capacity, flexible use of airspace, evaluation of airspace capacity and study on evaluation methods, application and promotion of new technologies.

Action: The Assembly is invited to note the information presented in this paper.

Strategic Objectives:	This working paper relates to the Safety and Environmental Protection and Sustainable Development of Air Transport Strategic Objectives.
Financial implications:	Not applicable.

1. INTRODUCTION

1.1 This paper presents the progress of work undertaken by China to increase airspace capacity and future steps.

2. STATUS OF WORK IN INCREASING CAPACITY

1.1 Increase of airspace capacity

1.1.1 From 2010 to 2012, the number of air routes in China increased by 120, with an increase of 17 935 kilometres in total mileage; the number of area and approach control sectors increased by 36, and it is anticipated that the number of control sectors will increase to 380 by 2015.

[1] Chinese version provided by the People's Republic of China

1.1.2 Terminal airspace in areas with busy flights are being optimized. Departure routes are being separated in airports with more than 200 landings per day in average.

1.1.3 Implementation efforts are being focused on routes between Beijing-Shanghai, Beijing-Guangzhou, Beijing-Kunming as well as between China and the Republic of Korea, in accordance with the near term planning programme on national trunk routes. At present, with the finalization of the preliminary programme on Beijing-Kunming route, airspace coordination is underway.

1.2 Flexible use of airspace

2.2.1 From 2010 to 2012, a total of 1.054 million flights used interim routes in China, resulting in a reduction of flight distance by 37.08 million kilometres, saving fuel consumption by 204 000 tons, and reducing CO_2 emission by 642 000 tons.

1.3 Evaluation of airspace capacity

2.3.1 As of 10 January 2013, there were a total of 219 area and approach control sectors in China, among which 83 busy control sectors have undergone capacity evaluations that have determined the capacity of each control sector for each hour and each 15 minutes. It is planned that evaluation will be carried out to another 109 control sectors by the end of 2013. The capacity baselines of control sectors are established as the basis for providing data for traffic flow management system.

1.4 Study on capacity evaluation method

1.4.1 A study on capacity evaluation of busy routes in complex operational environment is underway, aiming at an in-depth analysis of correlation between consolidation of airspace and traffic and route capacity, exploring modelling method for busy routes and traffic flow in complex operational environment, developing models for capacity evaluation of busy routes in complex operational environment, so as to conduct evaluation in an objective, scientific and accurate manner. It is expected that this will help to address key issues in airspace management and traffic flow management, thus enhancing the overall operational capability of busy routes in complex operational environment.

1.5 Application and promotion of new technologies

1.5.1 PBN trial operations have been carried out on 6 routes: A593, A461, A326, G212, R343 and B213, which have improved the overall operational efficiency and safety of the routes.

1.5.2 As of April 2013, the civil aviation community of China has completed PBN procedure design for 96 airports, 82 of which are going through PBN flight procedure design by flight procedure design institution in the air traffic control community. Notices of implementation have been issued for 33 airports, while design has been completed for 36 airports, and design has been initiated for 15 airports.

2. FUTURE WORK

2.1 China has been working towards overall increase of airspace capacity and improvement of efficiency in airspace utilization in the above areas. The future work will focus on further optimization of airspace structure in busy areas, and in particular an increase of capacity on trunk routes between Beijing-Shanghai, Beijing-Guangzhou and Beijing-Kunming; refinement of the mechanism for flexible use of airspace; determination of capacity baseline for busy control sectors and notification of capacity values of busy control sectors in accordance with the implementation plan for seamless air traffic control in Asia and Pacific; and speeding up the application of new technologies such as PBN.

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