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COMMITTEE A

Agenda Item 3: Enhancing the global air navigation system

3.3: Air traffic flow management (ATFM)

CENTRALIZED FLIGHT PLAN PROCESSING PROJECT OF CAAC, CHINA

(Presented by China)

EXECUTIVE SUMMARY

This paper briefly introduces the background, purpose, operation concept and system efficiency of centralized flight plan project of the Civil Aviation Administration of China (CAAC). As technology evolves, we need to revisit the rules and procedures of air navigation services to meet the need for safer and more efficient operations.

1. INTRODUCTION

1.1 China is one of the largest international civil aviation transportation markets. Mainland China has over 230 civil transportation airports, 400 air traffic control sectors, 350 air traffic control units, around 7 000 air traffic controllers, and provides 15 000 flights daily and over 10 million taking off and landing flights annually with air traffic service.

1.2 Before we started the Centralized Flight Plan Project (CFPP) we have more than 230 airport report offices (ARO) and 500 staffs to deal with the flight plans. The flight plan processing systems and the ability of all the ARO persons have great difference; the quality of the flight plan data cannot support the air traffic control (ATC) operation safety and the traffic flow prediction.

1.3 In order to improve the efficiency and quality of flight plans processing, we started the CFPP project to improve the flight plan processing performance. Flight plan data is the most important basic data to support the safety operation of ATC and traffic flow prediction. We need to pay more attention to the basic performance improvement to satisfy the needs of advanced information application in ATM field.

¹ English and Chinese versions provided by China

2. DISCUSSION

The Problem of Flight Plan Management

2.1 According to the statistic of Beijing ATC area, from January 1 to December 31 2016, there are overall 2 732 foreign flights which land or fly over Beijing control region without flight plan (FPL) messages and there are as much as 14 552 foreign flights which land or fly over Beijing ATC area without departure (DEP) message.

2.2 The problem of flight plan management has made serious impact as follows:

- Increased the air traffic controller's extra workload;
- A large of staffs is needed to validate relevant information;
- The work of air traffic controller will be at great risk without necessary information; and
- Influence the prediction of air traffic flow and the flow managing capability which will lead to flights have to hold in the air.

The Operation Concept of Centralized Flight Plan Processing Project (CFPP)

2.3 Receive, process and distribute flight plans by one unit.

2.4 The logical concept of centralized flight plan processing system and relation to other systems.

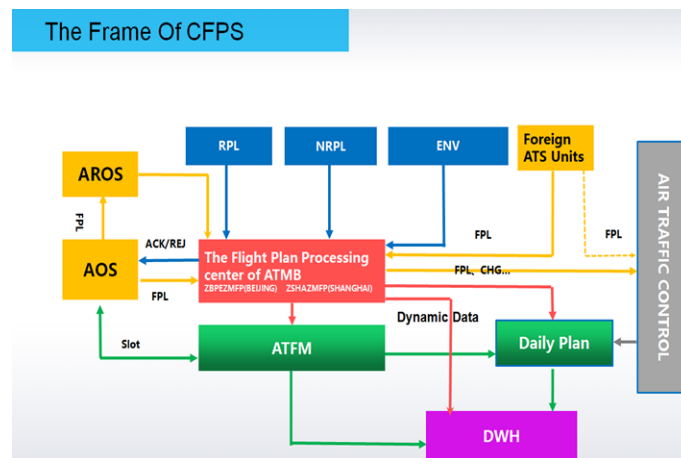


Figure 1. Centralized flight plan processing

Achievements and Benefits From the CFPP

2.5 The flight plan processing center of the Air Traffic Management Bureau (ATMB) has 56 staffs at present, and has been equipped with the most advanced flight plan processing systems which up to 97% of all the flight plans are able to process automatically.

2.6 The flight plan processing center of ATMB has already take over the responsibilities of flight plan processing in 239 civil transportation airports of China.

2.7 The CFPP Project saves a lot of human resources, decreases a large amount of duplication of works; enhance the efficiency of processing flight plan data and the quality of flight plan data. The system manual processing rate does not exceed 3%; the processing of messages from SITA route (for used by airline dispatch) exceeds 13 million, and the manual processing rate does not exceed 4.3%.

Project Progress of CFPP Project

2.8 The CFPP project will be implemented in three phases. The goal of the first phase is to achieve integrated flight plan processing of all commercial transportation flights; the second phase aims to complete the use of a unified platform to manage the flight plan of general aviation; the third phase completes the optimization of the entire system. The first phase is expected to be completed on December 6, 2018.

2.9 CAAC has completed the integrated flight plan processing for departing flights in mainland China by the end of 2017. It is expected that the integrated flight plan processing for of all inbound flight plans will be completed by the end of 2018.

3. CONCLUSION

3.1 The traditional flight plan management mode model is prone to various types of systems, low staff efficiency, repeated labor and uneven capabilities.

3.2 With the rapid development of computer technology, centralized flight plan processing can greatly reduce duplication of labor, improve processing efficiency, improve data quality and save human resources, which can better promote the safety of ATC operation and provide higher quality data for air traffic flow management.

3.3 We need to review ICAO's Standards and procedures to make technology work better for efficient operations.

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