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Singapore, 2 – 6 October 2023

Agenda Item 5:   ATM Systems (Modernization, Seamless ATM, CNS, ATFM)

A PROPOSAL ON THE NEW CONOPS RESEARCH WORKING GROUP

(Presented by China)

SUMMARY

This paper presents the data exchange and achievement through cooperation. A working group is proposed by China to focus on new CONOPS in APAC based on data exchange.

1.   INTRODUCTION

1.1   With the development of cross-border operation cooperation in Northeast Asia, NARAHG have reached a consensus on the situational awareness and integrated coordination capabilities that seamless ANS can bring, and submitted the NARAHG CONOPS to the Asia Pacific Office in 2020.

1.2   In 2018, NARAHG realized the Internet-based interaction of cross-border traffic management operation scenarios by deploying the CRACP (Cross-Border ATFM Collaborative Platform). The platform can realize the exchange of ADP (ATFM daily plan) among the member states, and has test functions relating to flight planning and electronic coordination.

1.3   In 2021, a data exchange test based on the CRV network was conducted between China and Japan. In the test, China and Japan carry out real-time data exchange of the ATFM operation system based on the NARAHG CONOPS. The information of cross-border flights, the ETO time of the handover waypoint, and the flight position message (FPM) with time stamps have been successfully tested for data interaction. The update frequency of the FPM is 60 seconds.

1.4   In 2022, China, Japan, and ROK imposed individual restrictions on typhoon diversion flights through information sharing, so as to avoid flights restricted due to capacity reduction. This action precisely narrows the scope of restrictions on cross-border ATFM measures. The result is produced by timely operational data sharing, and reflects the significance of New CONOPS for improving operational quality.

1.5   NARAHG is planning to transition from the Internet to the CRV network for cross-border operation data sharing. (China and ROK will use the upgraded CRACP system, while Japan will directly use the ATFM system). This will be the first case of real-time data exchange for air traffic control operation system among different states in the Asia-Pacific region.

2.   DISCUSSION

Advantages of data exchange

2.1   Through the CRACP and CRV network, China-Japan and China-ROK have realized real-time data exchange. This kind of data exchange realizes network operation through a unified interface protocol, and does not rely on a single system to achieve. This can realize centralized system functions through data exchange between different systems, and independent operation in the respective airspace.

2.2   The data from the upstream to the downstream units improves the accuracy of prediction time and the data availability, and thus operational safety and efficiency can be enhanced by downstream units.

New CONOPS derived from data exchange

2.3   For regions that have achieved data exchange, the originally isolated ATFM system will be able to use more accurate cross-border inbound flight data when implementing national GDP or AFP measures, and even through a slight CTO adjustment, to Avoid issuing wider cross-border ATFM measures.

2.4   According to the NARAHG CONOPS, China, Japan, and ROK will jointly provide the Flight Position Message (FPM) of inbound flights to neighboring states and automatically update them at a frequency of 60 seconds (Figure 1). The development of new CONOPS will help to improve operational safety and efficiency, and it will result in new technological applications in future.

Figure 1. Real-time display of FPM on the radar map

3.   ACTION BY THE MEETING

3.1   The meeting is invited to:

a)   note the information mentioned above;

b)   Set up a working group to focus on new CONOPS in APAC based on data exchange.

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