



ICAO

International Civil Aviation Organization

The Eighth Meeting of the APANPIRG ATM Sub-Group

Video Teleconference, 23 – 27 November 2020

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

AIRSPACE CAPACITY OPTIMISATION INITIATIVES

(Presented by Hong Kong, China)

SUMMARY

This paper presents the airspace capacity enhancement initiatives in progress and recently accomplished in the Hong Kong FIR. These initiatives include enhancement of distance-based longitudinal spacing on major air routes, airspace restructure in the Hong Kong FIR and enhanced utilization of ATS Interfacility Data Communication (AIDC) operations.

1. INTRODUCTION

1.1 Despite the fact that international air traffic movements have significantly reduced after the outbreak of COVID-19 pandemic, Hong Kong, China considers it a good opportunity to get air traffic controllers familiar with and continue the ongoing evaluation and implementation of airspace capacity enhancement initiatives in order to better prepare ourselves for air traffic resurgence. These initiatives also aim to further improve safety and efficiency of ATC operation within the Hong Kong FIR. The initiatives include enhancement of distance-based longitudinal spacing on major air routes, airspace restructure in the Hong Kong FIR and enhanced utilization of AIDC as a means to facilitate transfer of surveillance target identification.

2. DISCUSSION

Enhancement of Distance-based Longitudinal Spacing

2.1 Hong Kong ATCC worked closely with Sanya ACC as well as Taipei ACC, and had successfully harmonized and enhanced the longitudinal spacing applied on A1 ELATO, A1/P901 IKELA, A202/R339 SIKOU, G86 KAPLI and M750 ENVAR from 30 NM to 20 NM since March 2020. The enhancement significantly increased the relevant air route capacities by approximately 50%, which in turn allows aircraft a better chance to be assigned optimum cruising flight level so as to improve fuel efficiency.

2.2 Hong Kong ATCC is also actively collaborating with Sanya ACC to enhance the longitudinal spacing applied on PBN routes L642 and M771 from 50 NM to 20 NM at transfer of control points EPKAL and DOSUT respectively. This initiative is expected to be implemented in Q2 2021 tentatively.

Airspace Restructure

2.3 Hong Kong, China has launched a series of airspace restructure projects in an attempt to enhance airspace capacity of the Hong Kong FIR to meet future air traffic demand.

2.4 The airspace restructure of the southern Hong Kong FIR was implemented successfully in June 2020. The project included reconfiguration of the concerned en-route sectors into optimised sizes, and introduction of two uni-directional parallel tracks 8 NM laterally apart connecting A1/P901 IKELA and KAPLI G86, through splitting up the original single bi-directional KAPLI/IKELA track (see ATM/SG/8-IP11). The airspace restructure has also rationalized the crossing points within the Hong Kong FIR and eased airspace congestion.

2.5 Currently the parallel routes are confined within the Hong Kong FIR. With a view to further enhancing the APAC regional airspace capacity, Hong Kong, China is in support of the future initiative on expanding the A1 parallel route structure in the Mekong Region.

Utilization of AIDC TOC/AOC function in Transfer of Radar Identification

2.6 Hong Kong, China has successfully implemented AIDC operations with all major neighboring ACCs. In August 2018, Hong Kong ATCC and Taipei ACC capitalized on AIDC and successfully adopted the use of Transfer of Control (TOC) and Assumption of Control (AOC) messages as a means to facilitate the transfer of radar identification between the two centres. ATC efficiency and handling capacity of surveillance operations have immensely improved henceforth. Hong Kong, China plans to further expand such AIDC “facilitated” radar transfer procedure at Transfer of Control points between Hong Kong ATCC and Sanya ACC. The target implementation is due in Q2 2021 tentatively.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information contained in this paper.

.....