International Civil Aviation Organization

The Ninth Meeting of the APANPIRG ATM Sub-Group (ATM/SG/9)

Video Teleconference, 01 – 05 November 2021

Agenda Item 6: ATM Coordination (Meetings, Route Development, Contingency Planning)

OPTIMISATION OF THE CAPACITY OF AIR ROUTES L642 AND M771

(Presented by Hong Kong China)

SUMMARY

This paper presents an initiative from Hong Kong China for relevant States/Administrations to optimise the route capacity of air routes L642 and M771 by means of enhancing the longitudinal spacing of the routes in better prepared for the anticipated strong traffic resurgence and future air traffic growth in the APAC region.

1. INTRODUCTION

1.1 Hong Kong China is always committed to the optimisation of the capacity of route segments within the Hong Kong Flight Information Region (FIR), including major trunk routes (MTR) L642 and M771 which are located at the southern part of the Hong Kong FIR, in meeting the air traffic demands from airline operators. The plan to enhance the longitudinal spacing between aircraft operating along L642 and M771 at the same flight level was conceived well before the outbreak of COVID-19 around the globe. Hong Kong China suggests that the region should capitalise on the air traffic movement downturn caused by COVID-19 and expedite the implementation of 20NM longitudinal spacing on L642 and M771 in order to gear up for the anticipated strong traffic resurgence and future air traffic growth in the APAC region once the pandemic situation subsides. However, it goes without saying that the ultimate success of the initiative will be dependent upon the early collaborative efforts made by the air traffic control (ATC) units involved.

2. DISCUSSION

2.1 Since Q3 2019, Hong Kong China has established an additional en-route ATC sector for MTR L642 and M771 and the associated airspace, i.e. the southern portion of the Hong Kong FIR, recently is ready to optimise the longitudinal spacing for these parallel air routes. Its establishment has further enhanced the ATC operational efficiency and flexibility of these two route segments. In addition, the surveillance coverage provided by the ground-based ADS-B is up to 80NM south of the concerned airspace (Figure 1). It is planned that the capacity of L642 and M771 would be enhanced by a large extent after the implementation of 20NM longitudinal spacing on the two air routes for commencement during the low traffic period.

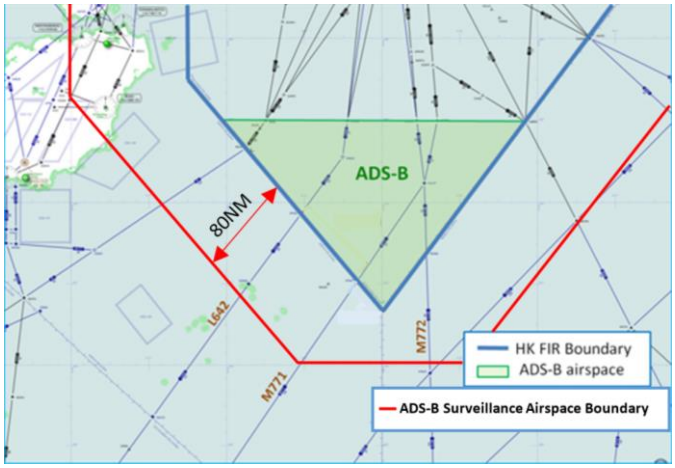

Figure 1 – Surveillance coverage of ATS routes L642 and M771

2.2 The enhancement of the longitudinal spacing between aircraft operating along L642 and M771 from 50NM to 20NM is expected to contribute to better flight level utilisation. It is envisaged that aircraft on L642 and M771 will have higher chance to operate at their optimum cruising levels which in turn will improve their fuel efficiency and reduce the overall carbon footprint.

2.3 The proposal is also in line with the guidance in Asia/Pacific Seamless ANS Plan V3.0 promulgated by the ICAO. The concerned airspace within the Hong Kong FIR is categorised as "Category S" airspace, i.e., serviced en-route airspace – by direct ATS communications and surveillance. The recommended longitudinal spacing at the transfer of control point in such operation environment is 5 NM to 20 NM instead of 50 NM.

2.4 Based on the experience gained by Hong Kong China from the enhancement of longitudinal spacing on ATS route A1/P901 from 30NM to 20NM back in early 2020, collaboration among ATC units was the key to ultimate success. Similarly, it is believed that the successful implementation of the proposal is contingent on the agreement and cooperation amongst the concerned ATC units along MTR L642 and M771.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper;

b) agree on the initiative of enhancing the longitudinal spacing of MTR L642 and M771 to 20NM in better prepared for the anticipated strong traffic resurgence and future air traffic growth in the APAC region.;

c) have air traffic control authorities concerned (i.e. Mainland China, Vietnam and Hong Kong China) to assign Points of Contact (POC) to proceed for further discussion on the proposal mentioned in b);

d) encourage States/Administrations to optimise capacity of other major air routes; and

e) discuss any relevant matters as appropriate.

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