



ICAO

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Ninth Meeting of the South China Sea Traffic Flow Review Group (SCSTFRG/9)

Video Teleconference, 01 – 03 June 2021

Agenda Item 2: Review of the Current and Planned CNS/ATM Capabilities and Identifying Associated Reduced Horizontal Separation

OPTIMISATION OF THE CAPACITY OF ATS ROUTES L642 AND M771

(Presented by Hong Kong China)

SUMMARY

This paper presents the proposal for States/Administrations to optimise the route capacity of ATS routes L642 and M771 by means of enhancing the longitudinal spacing requirement of the routes.

1. INTRODUCTION

1.1 The northern portion of ATS routes L642 and M771 are located within the Hong Kong FIR. The Hong Kong Civil Aviation Department has set the goal of optimising the capacity of the route segments. In this regard, a new En-route sector was established in the corresponding airspace in 2019. In addition, space-based ADS-B will be deployed in the En-route sector to further enhance the surveillance of the concerned airspace. Hong Kong China is ready for reducing the longitudinal spacing of the two routes to 20NM. However, the implementation is subject to the agreement with the neighbouring ACCs concerned.

2. DISCUSSION

Route Capacity and Pre-COVID Air Traffic Demand on ATS Routes L642 and M771 in the Hong Kong FIR

2.1 According to the Letter of Agreement (LOA) between Hong Kong ATCC and Sanya ACC, the minimum longitudinal spacing for RNP10 compliant aircraft at the same level on ATS routes L642 and M771 is 50NM although the segments of the two routes within the Hong Kong FIR are RNP 4 routes. There are six levels including FL310, FL320, FL350, FL360, FL390¹ and FL400 available in the Flight Level Assignment Scheme (FLAS) of the routes. With reference to air traffic statistics of five typical days before the outbreak of COVID-19 pandemic, the maximum hourly movements on ATS routes L642 and M771 were 14 and 12 respectively, which were less than 25% of the hourly route capacity under the current longitudinal spacing requirement. (See Figure 1.) In addition, the majority of aircraft on ATS routes L642 and M771 were assigned FL350 or above. (See Figure 2.)

¹ FL390 is available between 2301 and 1600UTC.

ATS Route	L642	M771
Route Hourly Capacity (2301 - 1600UTC)	57	
Route Hourly Capacity (1601 – 2300 UTC)	48	
Maximum hourly movement	14 *	12 **
Percentage of route capacity occupied	24.6%	21.1%
Average Daily Movement	153	128

Figure 1 – Traffic Statistics between 4 November and 8 November 2019

(Note: *Recorded at 0800-0859UTC on 4 NOV; **Recorded at 1200-1259UTC on 7 NOV)

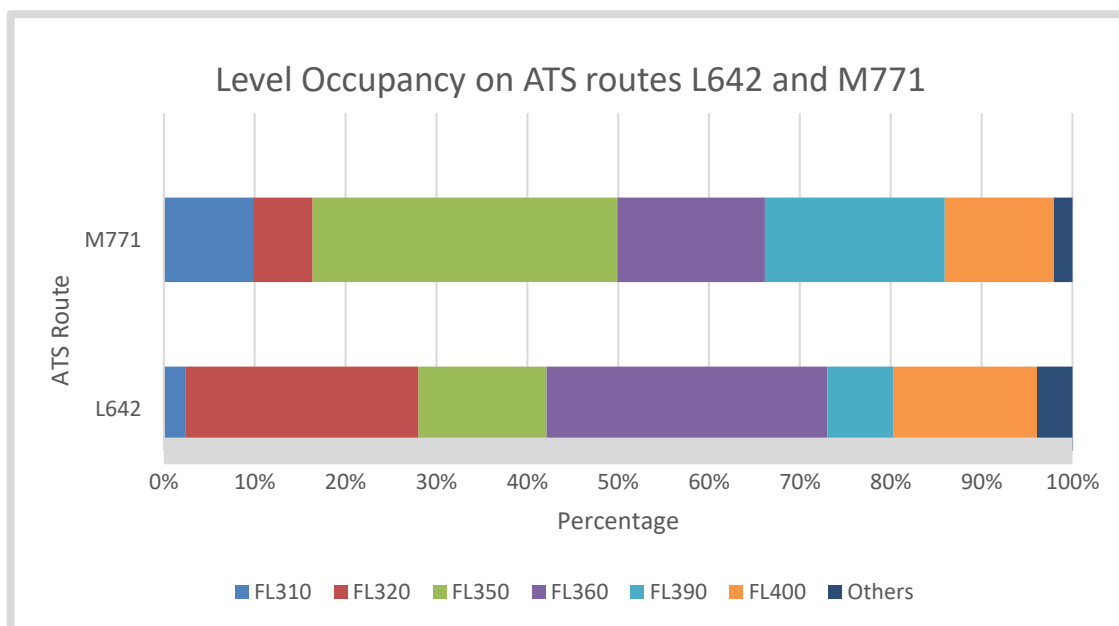


Figure 2 – Level Occupancy on ATS routes L642 and M771

Proposal to Enhance the Capacity on ATS Routes L642 and M771

2.2 Hong Kong China is ready for enhancing the capacity of ATS routes L642 and M771. As surveillance separation has been adopted in the concerned airspace (Figure 3), application of 20NM longitudinal spacing is practicable on the routes.

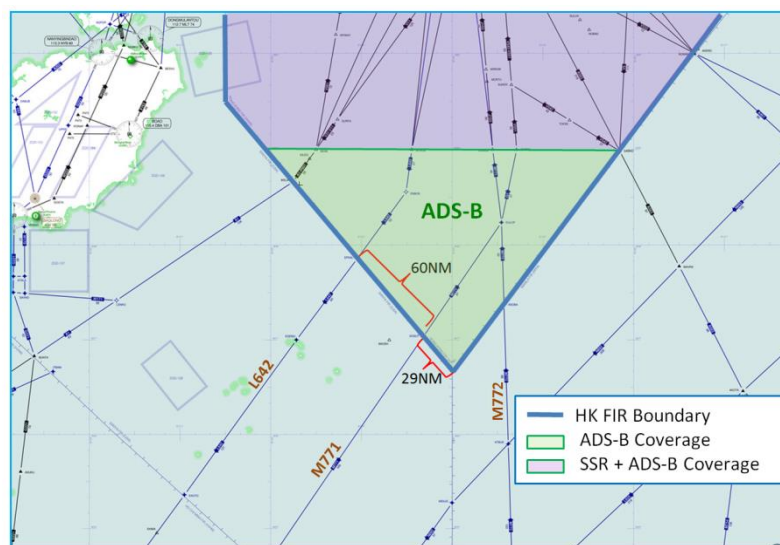


Figure 3 – Surveillance Coverage of ATS Route L642 and M771 in the Hong Kong FIR

2.3 In order to better prepare ourselves for the air traffic resurgence, Hong Kong China proposes to enhance the minimum longitudinal spacing between aircraft operating along the routes from 50NM to 20NM even though the pre-COVID air traffic demand on ATS routes L642 and M771 has not reached the full capacity of the routes. With such enhancement, it is expected that the capacity of the two routes would be at least doubled. However, the successful implementation of the proposal hinges on the agreement and cooperation with the concerned ACCs providing ATC services along ATS routes L642 and M771.

2.4 Learning from the experience of enhancing the longitudinal spacing on ATS route A1/P901 from 30NM to 20NM in early 2020, collaboration among ACCs is essential for achieving the goal of route capacity enhancement.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) agree on the proposal of enhancing the longitudinal spacing of ATS routes L642 and M771 to 20NM; and
- c) discuss among the concerned ACCs for any relevant matters as appropriate.

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