International Civil Aviation Organization

Eleventh Meeting of the South China Sea Traffic Flow Review Group (SCSTFRG/11)

Bangkok Thailand, 04 – 06 July 2023

Agenda Item 3: Review of the Existing Traffic Flow Route Structures in SCS Airspace and Identifying Priorities

PROGRESS REVIEW OF SCSTFRG PRIORITY AREAS

(Presented by the Secretariat)

SUMMARY

This paper presents the progress review of SCSTFRG Priority Areas to obtain States'/Administration's progress and commitment to set the implementation timelines for each Priority Area.

1. INTRODUCTION

1.1 Currently, the SCSTFRG has agreed to four Priority Areas. Priority Areas 1, 2 and 3 that were agreed during the SCSTFRG/3 (Bangkok, Thailand, 25 – 27 February 2016) and Priority Area 4 was agreed during the SCSTFRG/7 (Manila, Philippines, 05 – 07 November 2019). Information about the SCSTFRG Priority Areas are as follows:

a) **Priority Area 1: A1/A202** to reduce longitudinal spacing to at least 20 NM and to develop a parallel route to A1.

b) **Priority Area 2: L642/M771** to reduce longitudinal spacing to at least 20 NM and to investigate the possibility of implementing parallel routes for L642 and M771.

c) **Priority Area 3: A461/A583/L625/N892** to reduce longitudinal spacing to at least 50 NM with planning for 30 NM or less.

d) **Priority Area 4: Review of existing Flight Level Allocation Scheme (FLAS)/ Flight Level Orientation Scheme (FLOS) operating within the South China Sea (SCS)**.

2. DISCUSSION

Priority Area 1: A1/A202

Enhancement of Longitudinal Spacing to at Least 20NM

2.1 20 NM longitudinal spacing has been implemented on ATS route A1 (at the Transfer of Control (TOC) points between Ho Chi Minh and Sanya FIRs; Sanya and Hong Kong FIRs; and Hong Kong and Taibei FIRs) and ATS route A202 (at the TOC points between Ha Noi and Sanya FIRs; Sanya and Guangzhou FIRs; and Sanya and Hong Kong FIRs), effective from 26 March 2020.

2.2 This action item is completed.

Parallel Route to ATS Route A1

2.3 The Eighth Meeting of the South China Sea Traffic Flow Review Group (SCSTFRG/8, Bangkok, Thailand, 03 – 05 September 2019) had agreed for ATS route A1 and the proposed parallel route to be designated as RNAV 2, which would involve modification on the existing ATS route A1 route alignment, subject to the concerned States agreement of the displacement of the entry and exit points at the FIR boundary.

2.4 **Figure 1** illustrates the position of the proposed parallel route to ATS route A1, and the traffic flow orientation preferred by Hong Kong China, Lao PDR and Thailand (at SCSTFRG/5 meeting, China commented that they could accept the parallel uni-directional route in any direction).

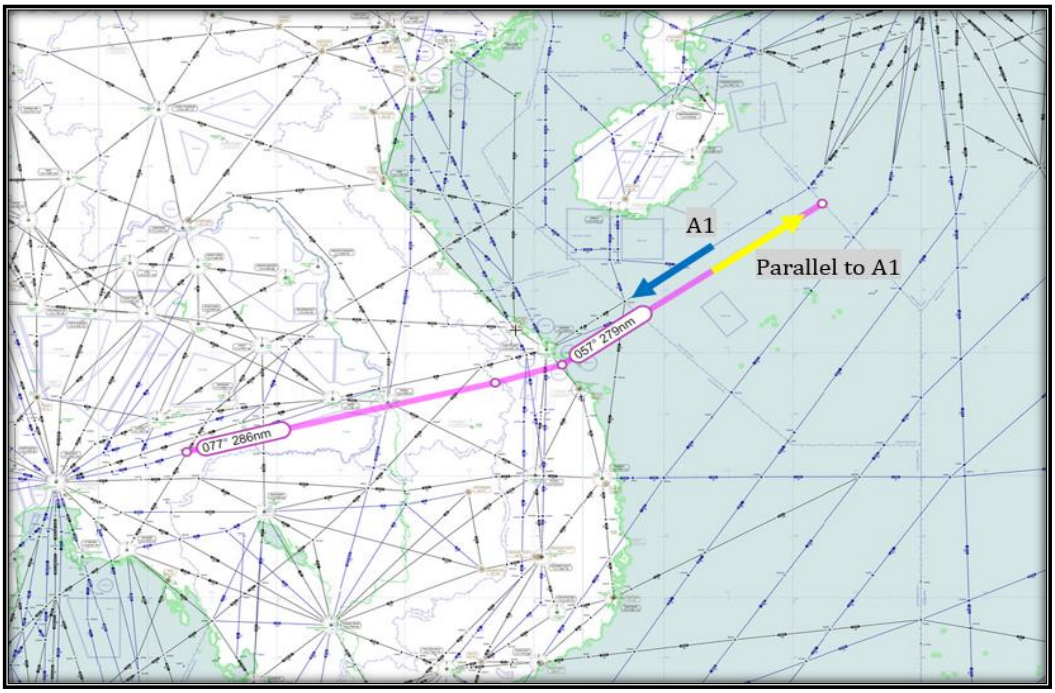

Figure 1: Uni-directional Parallel Route to ATS Route A1

2.5 SCSTFRG/8 was informed of Viet Nam's preference that was on the reverse orientation, which could be more suitable for Da Nang International Airport operations.

2.6 This matter was also discussed at the Eighth Mekong Air Traffic Management Coordination Group Meeting (MK-ATM/CG/8, Da Lat, Viet Nam, 11 – 13 December 2019). Viet Nam commented that the proposed traffic flow orientation (**Figure 1**) would increase flight distance, time and crossing points between arriving and departing traffic from Da Nang International Airport to the Southeast Asia/beyond and vice versa. According to Viet Nam, implementing the route as in **Figure 1** would increase Air Traffic Control (ATC) workload, and therefore requested the States concerned to re-consider the traffic flow orientation.

2.7 At the MK-ATM/CG/8, Thailand had suggested that to minimise the impact on the existing Standard Instrument Departure (SID) and Standard Instrument Arrival (STAR) procedures for Da Nang International Airport, Viet Nam could consider implementing the route segment between Da Nang VOR and BUNTA as bi-directional. A transition route would need to be implemented to support this proposal.

2.8 ICAO conducted preliminary assessment on Da Nang International Airport SID and STAR procedures for Runway 35, in early January 2020. According to the assessment, minimal changes are required to support the implementation of these parallel uni-directional routes (**Figure 2**). This assessment was shared through emails; however, no reply was received from Viet Nam.

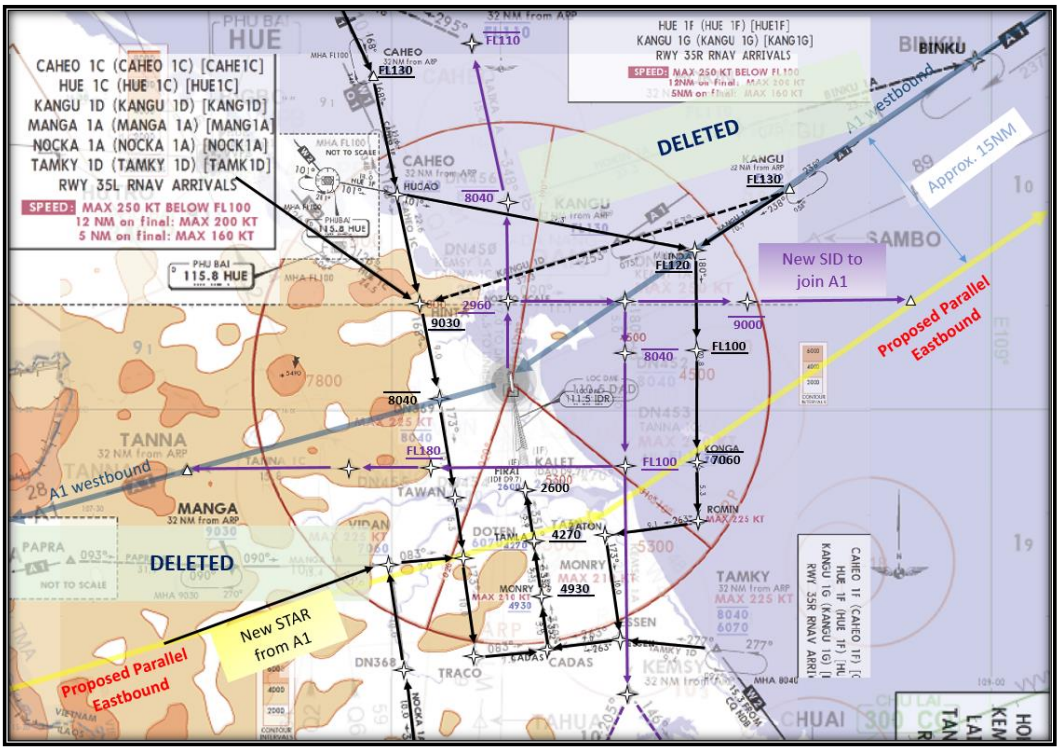

Figure 2: Preliminary Assessment

2.9 At the SCSTFRG/9, Viet Nam commented that they would conduct further assessment on the proposal suggested by Hong Kong China and Thailand.

2.10 Singapore, through the Air Traffic Management Research Institute (ATMRI), offered its assistance to conduct modelling and simulation to facilitate the determination of most suitable traffic flow orientation for these parallel uni-directional routes, if needed, provided the scope of this activities were well defined by the meeting.

2.11 Viet Nam was invited to provide feedback on the assessment on the proposed parallel uni-directional routes provided in **Figure 2** and the proposed offer by Singapore.

2.12 This topic will be further discussed within the WP10 *Feasibility Study on Re-designation of ATS Route A1 to Unidirectional Route* presented by China in Agenda Item 4 of this meeting.

Priority Area 2: L642/M771

Enhancement of Longitudinal Spacing to at Least 20NM

2.13 Hong Kong China provide information at the Eighth Meeting of the ATM Sub-Group of APANPIRG (ATM/SG/8, Video Teleconference, 23 – 27 November 2020), that the implementation of 20 NM longitudinal spacing at the TOC points between Hong Kong and Sanya FIRs, on ATS routes L642 and M771 was expected to be implemented in the second quarter of 2021. However, it has been confirmed it was not implemented until now.

2.14 China and Hong Kong China were invited to provide update on the implementation progress and date.

2.15 At the SCSTFRG/9 meeting, China and Viet Nam supported the implementation of 20 NM longitudinal spacing, based on ATS surveillance, at the Transfer of Control (TOC) points, and within their Flight Information Region (FIRs), and States/Administration concerned had agreed to work offline and exchange the Points of Contact (POC), and would provide update at the SCSTFRG/10 meeting at the SCSTFRG/10.

State/Administration	Name	Email
China	Mr. Fu Yongqiang	hnsfyq@gmail.com;
Hong Kong China	Ms. Alex	aktng@cad.gov.hk
Viet Nam	Mr. N.T Hung	hungand@caa.gov.vn hungand_caav@yahoo.com

Table 1: POC for Implementation of 20 NM longitudinal spacing on ATS Routes L642 and M771

2.16 China, Hong Kong China and Viet Nam were requested to provide the progress on the implementation of 20 NM longitudinal spacing at the TOC points between Hong Kong, Ho Chi Minh and Sanya FIRs.

2.17 At the SAIOSEACG/2 meeting (Bangkok Thailand, 20-24 March 2023), Hong Kong China reported to the meeting on their effort to optimize the airspace capacity of major trunk routes L642 and M771. The optimization plan was to reduce the minimum aircraft separation from 50 NM to 20 NM. Hong Kong China completed a comprehensive evaluation on reducing the 50 NM separation to 20 NM within the Hong Kong FIR in the second quarter of 2022. As a result, it was confirmed that the airspace capacity would be doubled. Environmental improvements and economic benefits were expected through reduced separation minima.

2.18 A side meeting between China, Hong Kong China, Singapore and Viet Nam was been conducted during the SAIOSEACG/2 session led by Hong Kong China. The four stakeholders' points of view have been fully exchanged as well as technical details have been discussed. A consensus was reached on supporting this proposal.

2.19 This topic will be further discussed with the WP04 *Progress Update on Capacity Optimisation on Air Routes L642 and M771* submitted by Hong Kong China in Agenda Item 2 of this meeting.

Parallel Route to ATS Routes L642 and M771

2.20 SCSTFRG/8 had agreed for the discussion on proposed implementation of parallel routes to L642 and M771 to be deferred, pending the results of the enhancement of longitudinal spacing in Hong Kong and Sanya FIRs, noting the Hong Kong China's assessment, that by enhancing the longitudinal spacing from 50 NM to 30 NM (or possible 20 NM) on the existing ATS route L642 and M771 would be sufficient to cater for current and future traffic demand.

2.21 Hong Kong China further also commented that they had no plan or intention to implement these parallel routes for the time being, and would only consider, if the traffic demand necessitates in the future.

Priority Area 3: A461/A583/L625/N892

2.22 With the successful implementation of 50 NM longitudinal spacing on ATS route A461 and A583 between Hong Kong ATCC and Manila ACC, effective 23 May and 15 August 2019

respectively, Hong Kong China and the Philippines had planned to further enhance the longitudinal spacing to 30 NM on ATS routes A461 and A583, and 50 NM on ATS routes L625 and N892 between Ho Chi Minh and Manila ACCs (**SCSTFRG/9 IP/02).**

2.23 At the First Meeting of the South Asia, India Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG/1, Video Teleconference, 28 March – 01 April 2022), Hong Kong China and Philippines provided information on the Phase 1 trial implementation of 30 NM longitudinal spacing on ATS routes A461 for RNP4 compliant landing aircraft, from 2 December to April 2022. The implementation of 30 NM longitudinal spacing was planned in the three-phase approach, starting with A461 (Phase 1 and 2) and extending to A583 (Phase 3, targeted in Q4 2023), between pair(s) of RNP 4 compliant aircraft within the Hong Kong and Manila FIRs.

2.24 Hong Kong China and the Philippines are invited to provide progress updates on a joint review of Phase 1 and the plan for Phase 2 trial operation.

2.25 Philippines informed the SCSTFRG/9 of its planned implementation of 50 NM longitudinal spacing on ATS routes L625 and N892 after Manila ACC West Sector operation and safety risk assessment expected in Q1 2021. The Philippines is invited to provide update.

2.26 At SAIOSEACG/2, the meeting was updated by the below progresses on this action item:

- A461: the enhancement of the RNP4 based 30 NM longitudinal spacing utilization on air routes A461 and M501 has been successfully accomplished within Manila FIR and Hong Kong FIR. Indonesia also expressed their willingness to cooperate with the Philippines on the optimisation of ATS route A461.

- A583: Hong Kong China would continue working closely with the Philippines to reduce the spacing on ATS route A583 to 30NM, which was targeted to be completed by Q4 2023 tentatively to prepare for the traffic resumption to pre-COVID level forecasted to take place in 2024. The Philippines confirmed that the optimization of the aforementioned routes has already been prioritized.

- N892 & L625: Philippines informed the meeting of the updated plan regarding the new Manila ATC sector to optimise these routes, which is the crucial element of this plan. Although delayed due to the constraints caused by the pandemic, it has been rescheduled to be completed in Q2 2023 with full implementation.

<u>Priority Area 4: Review of existing FLAS/FLOS operating within the South China Sea</u>

2.27 SCSTFRG/7 had agreed that the discussion on Priority Area 4 would take place after the completion of Priority Areas 1, 2 and 3.

2.28 As most of the action plans under Priority Areas 1, 2 and 3 are almost complete, SCSTGRG/9 also noted States/Administration should be prepared to discuss Priority Area 4 from the SCSTFRG/10, all States/Administrations concerned are urged to review the existing FLAS/FLOS operations with its all neighbouring FIRs with a view to enhancing airspace capacity, efficiency and safety.

2.29 The SCSTFRG/10 meeting was urged to review the current usage of FLAS/FLOS and any discrepancy in LOAs with the neighbouring ACCs, preferably in a periodical manner and whenever CNS/ATM improvement is made in an effort to sustain the performance-based provision of ATM service. To facilitate the discussion on the existing FLAS/FLOS to promote the long-term consideration on post-pandemic scenarios, the group agreed to the ***Decision SCSTFRG/10-1: Review of the existing***

South China Sea Flight Level Allocation Scheme (FLAS) and Flight Level Orientation Scheme (FLOS)

2.30 This topic will be further discussed with the WP09 *Review of the Existing Flas/Flos in South China Sea* submitted by ICAO in Agenda Item 4 of this meeting.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper;

b) provide feedback and status update for the relevant Priority Areas;

c) discuss the necessity to conduct modelling and simulation to facilitate the determination of most suitable traffic flow orientation for the proposed A1 parallel uni-directional routes.

d) discuss and provide the implementation timeline for relevant Priority Areas; and

e) discuss any relevant matters as appropriate.

…….