International Civil Aviation Organization

The First Meeting of the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG/1)

Video Teleconference, 28 March – 01 April 2022

Agenda Item 3: Review of Outcomes of Related Meetings

SCSTFRG MEETING OUTCOMES

(Presented by the Secretariat)

SUMMARY

This paper presents outcomes from the Ninth Meeting of the South China Sea Traffic Flow Review Group (SCSTFRG/9) for the review and action by SAIOSEACG.

1. INTRODUCTION

1.1 The South China Sea Traffic Flow Review Group (SCSTFRG) was established by SEACG to analyse the traffic flow in the overall South China Sea airspace, ATS routes and the suitability of the flight level allocation scheme (FLAS) and flight level orientation scheme (FLOS) to optimize airspace capacity and enhance flight safety in the long term.

1.2 The Ninth Meeting of the South China Sea Traffic Flow Review Group (SCSTFRG/9) was held as a Video Teleconference (VTC), from 01 to 03 June 2021. The meeting was attended by 87 participants, from China, Hong Kong China, India, Indonesia, Malaysia, Philippines, Singapore, Thailand, United States, Viet Nam, IATA, IFALPA and ICAO. The relevant presentations and papers are available at https://www.icao.int/APAC/Meetings/Pages/2021-SCSTFRG9.aspx.

2. DISCUSSION

SCSTFRG Priority Areas

2.1 ICAO presented the SCSTFRG Priority Areas to seek progress, commitments and agreement to an implementation timeline for each Priority Area.

Priority Area 1: A1/A202

2.2 Action items under this Priority Area 1 were to enhance the longitudinal spacing on ATS routes A1 and A202 to 20 NM, and develop a parallel route to A1.

2.3 The meeting was informed that 20 NM longitudinal spacing had been implemented on ATS route A1 (between Ho Chi Minh and Sanya ACCs; and Hong Kong ATCC and Sanya ACC), and ATS route A202 (between Ha Noi and Sanya ACCs; and Hong Kong ATCC and Sanya ACC), effective from 26 March 2020.

2.4 Regarding the proposed implementation of parallel uni-directional route to A1, as 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 reiterated their concerns that the proposed traffic flow orientation would adversely affect the ATM and flight procedures in Da Nang

Terminal Control Area (TMA), longer flight distance, time and crossing points between arriving and departing traffic from/to Da Nang International Airport, as well as increase in ATC workload, and therefore requested the States/Administration concerned to re-consider the traffic flow orientation.

2.5 Thailand suggested that to minimise the impact on the existing Standard Instrument Departure (SID) and Standard Instrument Arrival (STAR) procedures for Da Nang International Airport, and concern related to additional flight distance, 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. Hong Kong China supported the suggestion from Thailand, and further suggested that Viet Nam would consider keeping the lower portion of ATS route A1 as bi-directional route and restructuring the upper portion of ATS route A1 as uni-directional parallel routes.

2.6 Viet Nam commented that they would conduct further assessment on the proposal suggested by Hong Kong China and Thailand. 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.

Priority Area 2: L642/M771

2.7 Action items under this Priority Area 2 were to enhance the longitudinal spacing on ATS routes L642 and M771 to 20 NM, and investigate the possibility of implementing parallel routes to L642 and M771.

2.8 Hong Kong China presented its plan to reduce 50NM longitudinal spacing to 20NM on ATS routes L642 and M771. 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).

2.9 The States/Administration concerned had agreed to work offline by providing the Points of Contact (POC), and would present update at the SCSTFRG/10 meeting.

2.10 Regarding the possibility of parallel routes to L642 and M771, the meeting was recalled Hong Kong China's comments at the SCSTGRG/8 (Bangkok, Thailand, 03 – 05 September 2019), where Hong Kong China viewed that the enhancement of longitudinal spacing to 20 NM would be sufficient to cater for current and future traffic, and would consider this proposal subject to the results of the enhancement of longitudinal spacing in Hong Kong and Sanya FIRs.

2.11 ICAO clarified that surveillance-monitored longitudinal spacing might be implemented within Category S airspace without changing the designation of the ATS routes. Thus, within Category S airspace, the main reason for a Performance-based Navigation (PBN) route specification was for obstacle appraisal and navigation, not for Air Traffic Control (ATC) separation as surveillance-based separation should be applied.

Priority Area 3: A461/A583/L625/N892

2.12 Priority Area 3 was to enhance the longitudinal spacing on ATS routes A461, A583, L625, and N892 to at least 50 NM, with planning for 30 NM or less.

2.13 With the successful implementation of 50NM 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.

2.14 Philippines provided information about the Manila FIR airspace capacity enhancement initiatives, including on-going initiatives that would further enhance airspace capacity and ATM efficiency in Manila FIR:

- 30 NM longitudinal spacing implementation plan for aircraft at or above FL290, on ATS routes A461 and A583 between Hong Kong ATCC and Manila ACC, which would be conducted in three phases;
- RNP 4 route specification and 30NM longitudinal spacing implementation plan on ATS routes M767 and N884 between Manila and Singapore ACCs (Q1 2022);
- trial implementation of 30 NM longitudinal spacing on ATS route M646 between Manila and Taibei ACCs, with at least one of the aircraft destined to land in airports within Taibei FIR or Manila FIR (Q1 2022); and
- 50 NM longitudinal spacing implementation plan on ATS routes L625 and N892 (Q4 2021), subject to further offline coordination and agreement with Ho Chi Minh and Taibei ACCs.

2.15 ICAO reminded the meeting that the implementation of performance-based separation minima on RNAV 10/RNP 10, RNP 4 and/or RNP 2 and the supporting Performance-Based Communication and Surveillance (PBCS) specified in Doc 4444 – *Procedures for Air Navigation Services – Air Traffic Services* (PANS-ATM) in airspace over the high seas requires supporting of Regional Supplementary Procedures.

2.16 In addition, States should conduct aircraft equipage analysis and consultations with airspace users before implementing a PBN specification for the ATS routes concerned.

Priority Area 4: Review of Existing FLAS/FLOS Operating within the South China Sea

2.17 ICAO commented that as most of the action items under Priority Areas 1, 2 and 3 were almost completed, States/Administration should be prepared to discuss Priority Area 4, at the next SCSTFRG meeting.

Enhancing Air Traffic Management through Designation of PBN Route Specification

2.18 Singapore presented the follow up on the proposed implementation of RNAV 2 route specification for ATS routes L642, M771 and N892, and RNP 10 route specification for ATS route M768, as discussed at the SAIOACG/10 and SEACG/27 (VTC, 29 March – 02 April 2021).

Implementation of RNAV 2 Route Specification for ATS Routes L642, M771 and N892

2.19 Singapore commented that the filed flight plan data, for the period of October to December 2019, indicated that more than 97% of aircraft operating on these routes, within the Singapore FIR, were RNAV 2 equipped. Hence, the transition from existing RNP 10 to RNAV 2 operation was expected to be seamless.

2.20 The timeline for implementation of RNAV 2 route specification for ATS routes L642, M771 and N892 was proposed for consideration by the States/Administration concerned. Viet Nam supported to implement RNAV 2 or RNP 2 on ATS routes L642, M771 and N892, for aircraft at or above FL290. Non-RNAV 2 or non-RNP 2 aircraft should operate below FL290.

2.21 China and Hong Kong China commented that they would conduct evaluation on this proposal after the implementation of 20 NM longitudinal spacing on ATS routes L642 and M771.

2.22 Philippines commented that the segment of ATS route N892 was within the Category R

airspace of Manila FIR. Philippines would evaluate this proposal, and probably propose an alternate navigation specification for this route.

Implementation of RNP 10 Route Specification for ATS Routes M768

2.23 The meeting was reminded that Indonesia, Malaysia, Singapore and Viet Nam, at the SCSTFRG/8, had agreed to the implementation of RNP 10 operations with 50 NM longitudinal spacing on ATS route M768, which is to enhance capacity allowing additional traffic and chances for optimum flight levels.

2.24 ICAO also recalled that the application of RNP 10-based separation minimums was determined only by the Required Navigation Performance (RNP) capability of the aircraft, together with the requirement for either Direct Controller-Pilot Communications (DCPC) with position reports (Doc 4444, paragraph 5.4.2.6.3), or RCP240 and RSP180 (Doc 4444, paragraph 5.4.2.9.2). The application of RNP-based separations was applied on the basis of aircraft and ATS capability, not ATS route definition.

Proposal to Review Existing Flight Planning Restrictions on ATS Route L644

2.25 Singapore presented the proposal to review the existing city pair restriction on ATS route L644 to allow airliners to optimise flight routing, maximise route capacity and contribute towards reducing fuel burn. Currently, ATS route L644 was only available for flight Plan filed traffic departing from Hong Kong China or north of Hong Kong China to Jakarta, Indonesia.

2.26 According to the data provided by Singapore, the daily average number of flights operating on ATS Routh L644 ranged between two to five, which indicated the potential to serve more flights from other destinations, to maximise route capacity providing a more efficient and direct routing for upstream flights arriving into Jakarta, Indonesia. (**Figure 1**)

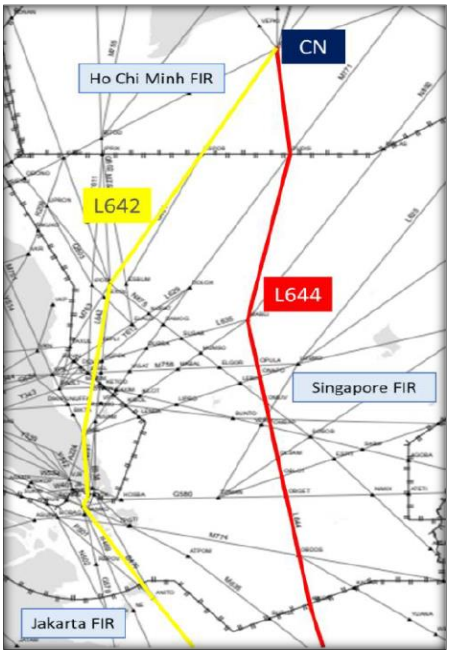

Figure 1: ATS Route L644 vs. ATS Route L642

2.27 China and Hong Kong China commented they had no objection to the proposal. Indonesia and Viet Nam expressed their concerns in relation to this proposal, especially on the potential traffic complexity, and commented that they would require more time to evaluate this proposal.

Update on Proposed Uni-Directional Parallel Route for R208

2.28 Malaysia provided an update on the outcome from the meeting between the Civil Aviation Authority of Malaysia and Royal Malaysian Air Force, held in 2019, regarding the proposed implementation of uni-directional parallel route to R208 to improve safety and efficiency and savings to the airspace users. (**Figure 2**)

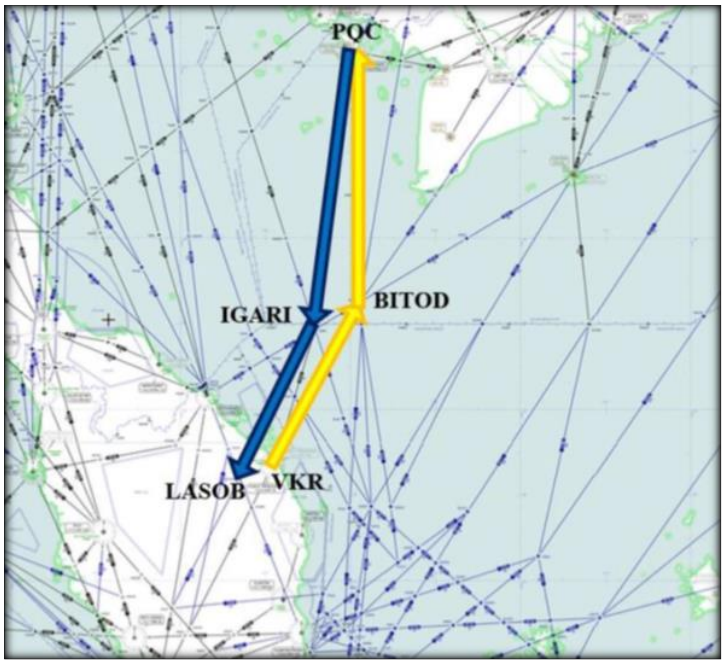

Figure 2: Proposed Parallel Uni-directional Routes

2.29 With support and agreement by Singapore and Viet Nam, Malaysia agreed to host a virtual meeting in Q4 2021 or Q1 2022 to further discuss the development, ATC coordination procedures and other ATM matters related to the implementation of this parallel uni-directional routes proposal.

High Frequency (HF) Radio Communications in Manila FIR

2.30 Philippines provided an update on the HF radio communications in Manila FIR after the successful transition of Manila ACC to the Philippines Air Traffic Management Center (ATMC), in 2018. Manila ACC had significantly reduced its dependency on HF radio operators for obtaining aircraft position reports in the oceanic airspace with the new Philippine ATMC, after extensive upgrade of systems such as enhanced ATS surveillance and VHF radio coverages, the provision of Automatic ADS-C and CPDLC services in Manila FIR. In addition, the steady increase in the number of aircraft utilising ADS-C/CPDLC had made the HF radio communications almost as a backup source for obtaining position reports from aircraft.

Enhance Air Traffic Operations on ATS Routes N875, M772 and P648

3.1 Indonesia presented its proposals to enhance the longitudinal spacing on ATS routes M772, N875 and P648 to 50 NM, and normalisation of Flight Level Orientation Scheme (FLOS) and removal of Flight Level Allocation Scheme (FLAS) restrictions on these routes.

3.2 Singapore supported the implementation of 50 NM longitudinal spacing between pair(s) of suitably equipped aircraft, for eastbound traffic on ATS route N875. As the westbound traffic operating on this route runs through M904 (Bangkok FIR) or N891 (Bangkok and Ho Chi Minh FIRs), feedback from Thailand and Viet Nam were required as the minimum longitudinal separation at the TOC points were 10 minutes with Mach number technique. In response, Thailand provided its support

on the implementation of 50 NM longitudinal spacing on these affected routes.

3.3 Regarding the implementation of 50 NM longitudinal spacing on ATS route M772:

- Hong Kong China commented that they had no objection, subject to readiness of other concerned ACCs;
- Philippines commented that this proposal was not included in their current priority list, and would consider this proposal at a later stage; and
- Singapore supported the implementation of 50 NM longitudinal spacing between pair(s) of suitably equipped aircraft.

3.4 Malaysia supported the implementation of 50 NM longitudinal spacing on ATS route P648, and had no objection for the removal of FLAS on this route, subject to agreement from other concerned ACCs. Indonesia agreed to be the lead coordinator for these initiatives, and to provide update at the SCSTFRG/10 meeting.

3.5 ICAO reminded the meeting that since portions of these routes were within Category S airspace, Air Navigation Service Providers (ANSPs) concerned should be able to provide surveillance-based separations, without FLAS restrictions for procedural flight level separation anymore, according to the standard FLOS (Annex 2, Appendix 3a).

SCSTFRG Terms of Reference

3.6 Noting the ***Decision APANPIRG/32-5: Combining SAIOACG and SEACG Groups to form the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG)*** and the renaming of the *Asia/Pacific Seamless ANS Plan* (formerly the Asia/Pacific Seamless ATS Plan) in 2019, the SCSTFRG Terms of Reference is appended as **Attachment A** to this paper, for the meeting to update and reflect the changes to the Terms of Reference, as appropriate.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper and take any necessary follow-up actions;

b) review and agree with updates on the SCSTFRG Terms of Reference; and

<table>
<tr><td colspan="3">Decision SAIOSEACG/1-2: Revised SCSTFRG Terms of Reference</td></tr>
<tr><td colspan="2">What: that:
noting the SAIOACG and SEACG groups to be combined under the Decision APANPIRG/32-5 to form the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group, the updated SCSTFRG Terms of Reference at Attachment A to this paper to be adopted.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: To reflect the changes</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
<tr><td>When: 28-Mar-22</td><td colspan="2">Status: Draft to be adopted by Subgroup</td></tr>
<tr><td colspan="3">Who: ☒Sub groups ☐APAC States ☐ICAO APAC RO ☐ICAO HQ ☐Other: XXXX</td></tr>
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c) discuss any relevant matters as appropriate.

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TERMS OF REFERENCE

SOUTH CHINA SEA TRAFFIC FLOW REVIEW GROUP (SCSTFRG)

1.1 Objective

The objective of the SCSTFRG is:

a) to analyse the traffic flows in the overall South China Sea airspace, ~~air~~ ATS routes and the suitability of the ~~FLOS~~ Flight Level Allocation Scheme (FLAS) and Flight Level Orientation Scheme (FLOS) to optimise airspace capacity and enhance flight safety in the long term; and

b) to report outcomes of the review and recommendations to ~~SEACG~~ the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG).

1.2 Tasks

To meet this objective, ~~the Review Group,~~ with reference to the *Asia/Pacific Region Seamless ~~ATM~~ ANS Plan* and expected traffic growth, the SCSTFRG shall:

a) Review the existing ~~TF~~ route structures in the ~~SCS Airspace~~ South China Sea airspace to establish priorities;

b) Identify current and planned CNS/ATM capabilities and implementation timelines of States concerned;

c) Identify ~~reduced~~ the most efficient horizontal separation to be utilised, based on the current and planned CNS/ATM capabilities, taking into account aircraft approval status of the traffic operating on the relevant routes as well as the new CNS capabilities available;

d) Review the existing FLAS/FLOS operating within the ~~SCS~~ South China Sea with a view to enhancing efficiencies;

e) Establish appropriate timelines/milestones/dependencies for activities planned under this ~~Review~~ Group; and

f) Make recommendations to ~~SEACG~~ SAIOSEACG on implementation plans for route structures, airspace, FLOS and separation solutions to meet the expectations of the *Asia/Pacific Seamless ~~ATM~~ ANS Plan*.