



International Civil Aviation Organization
ICAO **The Second Meeting of the South Asia, Indian Ocean and
Southeast Asia ATM Coordination Group (SAIOSEACG/2)**

Bangkok, Thailand, 20 – 24 March 2023

Agenda Item 2: Review Outcomes of Related Meetings

SCSTFRG MEETING OUTCOMES

(Presented by the Secretariat)

SUMMARY

This paper presents outcomes from the Tenth Meeting of the South China Sea Traffic Flow Review Group (SCSTFRG/10) for 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 Tenth Meeting of the South China Sea Traffic Flow Review Group (SCSTFRG/10) was held via Video Teleconference from 31 May to 02 June 2022. The meeting was attended by 82 participants from China, Hong Kong China, Indonesia, Malaysia, Nepal, Philippines, Singapore, Thailand, the United States, Viet Nam, CANSO, IATA, IFATCA and ICAO. The relevant presentations and papers are available at <https://www.icao.int/APAC/Meetings/Pages/2022-SCSTFRG-10.aspx>

2. DISCUSSION

SCSTFRG Priority Areas

2.1 ICAO present the progress review on SCSTFRG Priority Areas with the intention to seek progress, commitments and agreement to an implementation timeline for each of the Priority Area.

Priority Area 1: A1/A202

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

- 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.
- Regarding the proposed implementation of the parallel uni-directional route to A1, 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 these activities was well defined by the meeting.

Priority Area 2: L642/M771

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

- Although 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, it had not been implemented until now pending discussion and confirmation of the proposed changes amongst concerned States and Administrations along the routes.
- With regard to the side meeting at SCSTFRG/10 arranged to further discuss the issue, Vietnam responded that resources were currently engaged in pandemic recovery, and they required more time for internal discussion, so the proposed side meeting was cancelled.
- Regarding the possibility of implementing parallel routes to L642 and M771, the Secretariat recalled the discussions from the Eighth Meeting of the South China Sea Traffic Flow Review Group (SCSTFRG/8, Bangkok, Thailand, 03 – 05 September 2019). Hong Kong China commented that the enhancement of longitudinal spacing to 20 NM would be sufficient to cater for current and future traffic. SCSTFRG/8 had agreed to the discussion on the 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.
- This topic will be further discussed with the *WP11 Progress Update on Capacity Optimisation of Air Routes L642 And M771* submitted by Hong Kong in Agenda Item 3 of this meeting.

Priority Area 3: A461/A583/L625/N892

2.4 The action item 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.

- A461 & A583: 50NM longitudinal spacing has been successfully implemented between Hong Kong ATCC and Manila ACC, effective 23 May and 15 August 2019 respectively. The phased trial implementation of 30 NM longitudinal spacing was ongoing and targeted to be completed in Q4 2023.
- 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.
- This topic will be further discussed with the *WP12 Optimisation of Air Routes A461, M501 And A583* submitted by Hong Kong China in Agenda Item 3 of this meeting.

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

2.5 As the SCSTFRG/7 had agreed that the discussion on Priority Area 4 would take place after the completion of Priority Areas 1, 2 and 3, and most of the action plans under Priority Areas 1, 2 and 3 are almost complete, ICAO presented the considerations that should be taken into account when reviewing the existing FLAS/FLOS operation and No-PDC FL in various FIRs of the South China Sea (SCS) area.

2.6 The meeting was recalled since the inception of the SCS FLAS/FLOS operation in 2002 and revision in 2007, the circumstances in air traffic flow have been a lot changed over time, ranging from traffic flow demand increase in the secondary crossing routes to the improved CSN/ATM capabilities and advanced fleet equipage. The expectation of airspace users for the higher capacity and efficiency in airspace management had been getting higher as well. Therefore ICAO requested all States/Administrations to take appropriate actions to review the existing FLAS/FLOS in SCS airspace as agreed at the SCSTFRG/7 meeting.

2.7 The meeting noted some aspects when optimising SCS FLAS/FLOS such as:

- normalization of the SCS modified Single Alternative FLOS to the ICAO Standard Single Alternative FLOS as per Annex 2 Appendix 3a;
- service performance level commensurate with the CNS/ATM system capabilities in accordance with the expectations of the Asia/Pacific Seamless ANS Plan;
- harmonized and consistent service provision of separation and procedures across the SCS area to reduce human errors;
- removal of FLAS to allow more opportunities for better flight level allocation according to fleet capability;
- Recognition of the gap between current practice and best practice by senior management and its strong willingness and commitment to cooperate with States and ANSPs concerned; and
- airspace users' expectations and needs for improved capacity, efficiency and safety including economic and environmental considerations.

2.8 Mindful of the above aspects, the phased approach was restated, which was presented by IFATCA at the SCSTFRG/7 as one of the possible approaches for the meeting to consider:

- Phase 1: Revision of FLAS on selected ATS routes
- Phase 2: Revision of FLOS on selected ATS routes
- Phase 3: Normalised SCS modified single alternate FLOS to standard FLOS (Annex 2, Appendix 3a) on all ATS routes

2.9 After extensive discussion, the meeting agreed with the following Decision:

Decision SCSTFRG/10-1: Review of the existing South China Sea Flight Level Allocation Scheme (FLAS) and Flight Level Orientation Scheme (FLOS).

That, recognizing the the need for high capacity traffic flow routes, and the effect of the existing modified single alternative Flight Level Orientation Scheme (FLOS) and the complimentary Flight Level Allocation Scheme (FLAS) that causes safety issues in conflicts at the transition points at the boundaries of SCS FLOS airspace, ATC human errors and workload in South China Sea airspace, all SCSTFRG States:

- a) study and review the current SCS FLAS/FLOS operation with all neighboring FIRs with a view to enhancing efficiencies;*
- b) provide the current FLAS/FLOS and no-PDC Flight Level data in SCS FLAS/FLOS Chart to the ICAO APAC Regional Sub-office (APAC-RSO@icao.int); and*
- c) report the review result including the possible improvement proposals to the SCSTFRG/11 meeting.*

2.10 This topic will be further discussed with the *WP10 Concept Review of South China Sea Airspace Structure* submitted by IFATCA in Agenda Item 3 of this meeting.

Review of the Current and planned CNS/ATM Capabilities and Identifying Associated Reduced Horizontal Separation

2.11 ICAO presented ATM-related regional requirements based on *ICAO APAC e-ANP and Seamless ANS Plan (Version 3.0, November 2019)* to encourage SCSTFRG Member States to review the data affecting their administration and provide feedback to ICAO on data's accuracy.

2.12 Indonesia presented its initiative to support seamless Air Navigation Services within the South China Sea (SCS) Region by optimizing infrastructure in Ujung Pandang FIR and Jakarta FIR. The meeting was informed of the following updates:

- Ujung Pandang ACC and Jakarta ACC have successfully reduced longitudinal spacing from 15/10 minutes to Surveillance-based 10 NM within their boundaries since 30 March 2021.
- Indonesia does not restrict traffic entering Indonesia at fixed points or using fixed routes anymore very since early 2021 when the trial on UPR (User Preferred Routes) was started.
- Indonesia proposed to implement 30 NM spacing (or closer to 5 NM-based Surveillance spacing) at the common boundaries with Australia, the Philippines, Malaysia, and Singapore. And the proposed timeline has also been introduced.
- A side meeting was held as a follow-up on Indonesia's proposal, which was attended by representatives from Indonesia, Malaysia, the Philippines and Singapore. all States involved in the meeting were supportive of the initiatives, and the relevant matter regarding the optimization of ATS Routes M772, M768, B472, A461 and G578 have been discussed.
- This topic will be updated by Indonesia in a separate IP of this meeting.

2.13 Philipines provided a progress update on its airspace capacity enhancement in Manila FIR that included the implemented activities and those planned in the future. The meeting was informed

that 30 NM longitudinal spacing would be implemented on the route segment of M646 between Manila and Taipei FIR in Q4 of 2022.

2.14 Malaysia presented an update on the training for New KL FIR airspace and immigration to Kuala Lumpur's new CNS-ATM Complex (KLATCC) that was done on 17th June 2021 and 31 August 2021 respectively. The corresponding theoretical and simulation training to ensure controllers' competency to cater to the post-pandemic operational requirements was also elaborated in detail.

Review of the Existing Traffic Flow Route Structures in SCS Airspace

2.15 Indonesia provided its consideration and analysis that were conducted for the proposal to optimize flight routing and air traffic operation on L644.

- At the SCSTFRG/9 in 2021, Singapore proposed 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.
- As the results of Indonesia's assessment, they had no objection to Singapore's proposal to rerouting flights from Viet Nam and beyond via L642 into L644 in this global pandemic period to support airspace users in operational efficiency and its sustainable environmental aspect. Meanwhile, the coordination and cooperation between ANSPs should be improved to provide for safe and seamless operation. As a result, it would contribute to the improvement of Air Traffic Services provision where L644 is optimised and the traffic density L642 (connected to B470) effectively distributed.
- Singapore as the proposer of this initiative, volunteered to work with the States concerned to formulate a tentative timeline for implementation. Singapore would also engage Indonesia to enhance the longitudinal spacing and level assignment for traffic on ATS route M635 and would provide an update at the next meeting. In response, Indonesia confirmed its readiness.
- With no objection by States concerned and acceptance by Indonesia on the proposal on L644, to remove the current flight planning restriction for ATS route L644, Singapore confirmed that it would require the amendment of AIP, which however would also require the agreement of all affected States to materialize this initiative.

Discussion on PBN Routes Development and FLAS/FLOS Optimization

2.16 ICAO presented the considerations that should be taken into account when reviewing the existing FLAS/FLOS operation and No-PDC FL in various FIRs of the South China Sea (SCS) area. Details were reflected in the aforementioned **Priority Area 4**.

2.17 Indonesia analysed the flight level usage on ATS route M772 to identify the issues and considerations in the current optimal cruising flight levels for overflights in this area in its continuous efforts and initiatives to improve ATS provision and airspace efficiency.

- Based on the analysis of the usage of M772 routes in Jakarta FIR, currently, the flight level allocated to route M772 were FL300 and FL380, which are not optimal cruising levels to meet the transfer requirement of downstream FIR. It was suggested that the flight level needs to be harmonized and the route structure needs to be optimized.

- IFATCA stressed that FLAS operation would significantly decrease the utilization of the airspace. Moreover, limited flight levels in use could cause huge inefficiency of fuel economy and increase carbon emissions on M772.
- ICAO reminded the meeting of the non-standard FLAS levels set in M772 when it should be odd flight levels for eastbound traffic in accordance with ICAO Standard Single Alternative FLOS in Annex 2, Appendix 3a with very limited and inefficient flight level options (FL300, FL380) for airspace users. ICAO reiterated that standard FLOS operation should be applied on M772.

2.18 IATA presented a proposal to amend or remove unnecessary FLAS restrictions from flight planning westbound flights on P629 in Bangkok FIR (VTBB).

- The meeting noted that there were current FLAS restrictions westbound on P629 within Bangkok FIR, according to feedback from airlines, only FL300 and FL380 were available, which unnecessarily limited a flight's options for flight levels that provide fuel and environmental efficiencies, and did not appear to align with the restrictions (or absence of restrictions) in neighbouring FIRs.
- In response, Thailand explained the confusion regarding the Thailand AIP ENR 1.8, which was published for reference on FLAS according to the regional supplement procedure, not to intend to impose restrictions. In the AIP ENR 1.9, there were no requirements for westbound traffic on P629. On IATA's suggestion to have a bilateral discussion with Thailand on this matter, Thailand agreed and expressed its full support to removing FLAS/FLOS with its neighbouring FIRs.

2.19 Malaysia provided its review on FLAS/FLOS operation surrounding Malaysian airspace based on FLAS/FLOS agreement/arrangement between Malaysian and its neighbouring FIRs.

- This paper provided a review from Malaysia's perspective of the current FLAS/FLOS operation over SCS airspace as Malaysia was facing with multiple FIRs such as Kuala Lumpur with Bangkok, Chennai, Ho Chi Minh, Jakarta and Singapore FIRs, and Kota Kinabalu FIR with Jakarta, Manila, Singapore and Ujung Pandang FIRs for enhancement of airspace efficiency and safety.
- Malaysia seconded ICAO's initiative to review the FLAS in the SCS area, adding that Malaysian airspace in relation to the SCS area was fully surveillance covered. Malaysia supported the reduction of longitudinal separation and revision of FLAS in the SCS area subject to the affected States involved.
- The 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.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) note the *Decision SCSTFRG/10-1: Review of the existing South China Sea Flight Level Allocation Scheme (FLAS) and Flight Level Orientation Scheme (FLOS)*
- c) discuss any relevant matters as appropriate.

Decision SCSTFRG/10-1: Review of the existing South China Sea Flight Level Allocation Scheme (FLAS) and Flight Level Orientation Scheme (FLOS)	
<p>What: That, recognizing: the need for high capacity traffic flow routes, and the effect of the existing modified single alternative Flight Level Orientation Scheme (FLOS) and the complimentary Flight Level Allocation Scheme (FLAS) that causes safety issues in conflicts at the transition points at the boundaries of SCS FLOS airspace, ATC human errors and workload in South China Sea airspace, all SCSTFRG States:</p> <p>d) study and review the current SCS FLAS/FLOS operation with all neighboring FIRs with a view to enhancing efficiencies;</p> <p>e) provide the current FLAS/FLOS and no-PDC Flight Level data in SCS FLAS/FLOS Chart (Appendix C to the Report) to the ICAO APAC Regional Sub-office (APAC-RSO@icao.int); and</p> <p>f) report the review result including the possible improvement proposals to the SCSTFRG/11 meeting.</p>	<p>Expected impact:</p> <p><input type="checkbox"/> Political / Global</p> <p><input checked="" type="checkbox"/> Inter-regional</p> <p><input checked="" type="checkbox"/> Economic</p> <p><input checked="" type="checkbox"/> Environmental</p> <p><input checked="" type="checkbox"/> Ops/Technical</p>
<p>Why: To enhance SCS airspace capacity, efficiency and safety in accordance with ICAO APAC Seamless ANS Plan and SCS Operational Concept</p>	<p>Follow-up: <input checked="" type="checkbox"/> Required from States</p>
<p>When: 31-May-22</p>	<p>Status: Draft to be adopted by Subgroup</p>
<p>Who: <input checked="" type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: RSO</p>	