



International Civil Aviation Organization

ICAO

**Tenth Meeting of the Air Traffic Management Sub-Group
(ATM/SG/10) of APANPIRG**

Video Teleconference, 17 – 21 October 2022

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

SAIOSEACG MEETING OUTCOMES

(Presented by the Secretariat)

SUMMARY

This paper presents the key outcomes of the First Meeting of the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG/1, Video Teleconference, 29 March – 01 April 2022).

1. INTRODUCTION

1.1 The first Meeting of the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG/1) was held as a Video Teleconference (VTC), from 29 March to 01 April 2022, as adopted by the Thirty-Second Meeting of the Asia Pacific Air Navigation Planning and Implementation Regional Group (Decision APANPIRG/32/5) to consolidate the South Asia/Indian Ocean ATM Coordination Group (SAIOACG) and the South-East Asia ATS Coordination Group (SEACG) meetings (**Attachment A**). The meeting was attended by 135 participants from Australia., Bangladesh, Cambodia, China, Hong Kong China, India, Indonesia, Malaysia, Maldives, Nepal, Pakistan, Philippines, Republic of Korea, Singapore, Sri Lanka, Thailand, United States of America, Viet Nam, CANSO, IATA, IFALPA, IFATCA and ICAO.

1.2 There were 20 Working Papers (WP), 9 Information Papers (IP) and 1 Flimsy were considered by the meeting. The full report of SAIOSEACG/1 meeting is available at <https://www.icao.int/APAC/Meetings/Pages/2022-SAIOSEACG-1.aspx>.

2. DISCUSSION

Relevant Meeting Outcomes

2.1 ICAO presented information relevant to the SAIOSEACG/1 meeting from recent ICAO meetings (not including safety matters under the Regional Airspace Safety Monitoring Advisory Group – RASMAG), including the:

- Ninth Meeting of the APANPIRG Air Traffic Management Sub-Group (ATM/SG/9, held via video teleconference, from 1 to 5 November 2021); and
- Twenty Fifth Meeting of the Communications, Navigation and Surveillance Sub-group of APANPIRG (CNS SG/25, held via video teleconference, from 18 to 22 October 2021).

BOBTFRG and SCSTFRG Meetings Outcomes

2.2 The meeting was presented the outcomes from the Third Meeting of the Bay of Bengal Traffic Flow Review Group (BOBTFRG/3, VTC, 14 -15 December 2021) and the Ninth Meeting of the South China Sea Traffic Flow Review Group (SCSTFRG/9, VTC, 1 – 3 June 2021)), which both report to the SAIOSEACG. The reports is accessible at <https://www.icao.int/APAC/Meetings/Pages/2021-BOBTFRG-3.aspx> and <https://www.icao.int/APAC/Meetings/Pages/2021-SCSTFRG9.aspx>

BOBTFRG/3 Meeting Update

2.3 The meeting noted the updates on ADS-B/CPDLC and PBCS implementation over Bay of Bengal airspace:

- The CAA Bangladesh CNS/ATM upgrade project to be completed in 2024 to provide the full communication and surveillance coverage in Dhaka FIR
- India's PBCS implementation in Chennai FIR oceanic airspace including the enhanced Chennai Oceanic Control Center (OCC) ATM automation system to ensure the PBCS compliance with ICAO requirements and performance-based separations application
- Indonesia's communication and surveillance facilities at Banda Aceh had the coverage in the area of Large Height Deviation (LHD) Hot Spot A2 (Chennai – Kuala Lumpur interface), which supported the decrease of LHD reports at this interface.

2.4 Regarding the timeline for ADS-C/CPDLC mandate, BOBTFRG/3 had extensive discussion on how to better move forward. Thereafter considering all changing factors by the COVID-19 pandemic and the possible changes in aircraft capability over the Bay of Bengal, and to facilitate progress of BOBTFRG in a realistic timeline, the BOBTFRG/3 had agreed with the following expected actions:

- BOBTFRG States should work with local airlines to conduct the analysis on the fleet equipage in ADS-C/CPDLC, RNP 10, RNP 4 and RNP 2;
- States requiring PBCS support to implement performance-based separations should develop its PBCS implementation plan, including the expected timeline; and
- IATA to support States and work with its member airlines to conduct the analysis of fleet equipage.

2.5 India reiterated the importance of firming up on issuing ADS-C/CPDLC mandate to facilitate PBCS implementation planning for both States and airlines, stating it had been delayed since 2016. In response, ICAO urged States to present the proposed PBCS implementation plan timeline and their analysis on local fleet equipage capability status to start meaningful discussion.

SCSTFRG/9 Meeting Update

2.6 SAIOSEACG/1 noted the updated information on the SCSTFRG Priority Areas, that most of the action items under Priority Areas 1, 2 and 3 were in progress, SCSTFRG/9 agreed to be prepared to discuss Priority Area 4 – *Review of Existing FLAS/FLOS Operation within the South China Sea*, at the SCSTFRG/10 meeting with a view to enhancing efficiency and safety to reflect the current traffic flows, CNS/ATM capabilities and airspace users' expectations.

2.7 The current FLAS/FLOS operation with non-standard FLOS over South China Sea airspace was first established in 2002 and once revised in 2007. Transition from non-standard FLOS flight levels to standard FLOS flight levels has been creating major safety concerns and ATC/fight crew workload increase at Transfer of Control (TOC) points, which is particularly relevant to Manila FIR and Fukuoka/Taipei FIRs that has been listed as LHD Hot Spot D with contributory factor Category E

(*Coordination errors in the ATC-to-ATC transfer of control responsibility as a result of human factors issues*).

2.8 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 including implementation timeline, as discussed at the SAIOACG/10 and SEACG/27 (VTC, 29 March – 02 April 2021).

2.9 Both Terms of Reference of BOBTFRG (**Attachment B**) and SCSTFRG (**Attachment C**) were revised by SAIOSEACG/1 as per Decision SAIOSEACG/1-1 and Decision SAIOSEACG/1-2 by the SAIOSEACG/1 to reflect the Decision APANPIRG/32/5 and remaining of the *Asia/Pacific Seamless ANS Plan* in 2019.

Key information Update on ATM

2.10 ICAO presented key updated ATM information relevant to the SAIOSEACG meeting on:

- Air Navigation Service Deficiencies List;
- Airspace Safety Monitoring;
- Air Navigation Service USOAP;
- Application of ATC Separation Minimums;
- Missing Departure (DEP) Messages;
- Regional Air Navigation Plan;
- Seamless ANS Plan;
- Air Traffic Flow Management;
- AIS-AIM Implementation;
- Regional ATM Contingency Planning; and
- Asia/Pacific Search and Rescue.

2.11 Indonesia presented information on its implementation of 10NM surveillance spacing between Jakarta ACC and Ujung Pandang ACC to enhance ATC separation standard in accordance with the Asia/Pacific Seamless ANS Plan.

2.12 Malaysia provided the background information on the revised ATM contingency plan (level 2) in Malaysia as well as details on the routes and flight levels available during the period when ATS services were limited or not available in the Kuala Lumpur FIR.

2.13 Malaysia's revised ATM contingency plan level 2 was sent out to the neighbouring States for their review in November 2021. Agreements with neighbour FIRs such as Chennai and Bangkok had been already completed leaving 2 FIRs (Singapore, Jakarta) on-going and 1 FIR (Ho Chi Minh) pending feedback.

2.14 ICAO urged the adjacent States to actively engage in discussion to conclude the necessary work to ensure safe and orderly flow of international air traffic in case of limited or no ATS services and the harmonised regional ATM Contingency Plan in the APAC region.

ATS Route Development

2.15 The Philippines and Singapore provided an update on the implementation of RNP 4 navigation specification for ATS routes M767 and N884 with an expectation of 60% of capacity increase. Upon completion of operational trial in April, a joint Proposal for Amendment (PfA) to ICAO Regional Supplementary Procedures (Doc 7030) was expected to be submitted in Q2 2022.

2.16 Hong Kong China and Philippines provided updated information on their three-phased implementation plan to enhance the longitudinal spacing to 30 NM on ATS routes A461 and A583. Currently in Phase 1, trial operation had been effective 2 December 2021 until April 2022 tentatively.

2.17 ICAO presented Draft Version 20.1 of the Asia/Pacific Region ATS Route Catalogue for SAIOSEACG/1 to review and provide status update on relevant route proposals.

ANSP Coordination and Civil/Military Cooperation

2.18 India provided information on benefits of provision of direct routing in Kolkata FIR in terms of fuel, money and carbon reduction, which could be of importance in revival of aviation sector from the pandemic.

2.19 The meeting noted India had taken initiative to establish many conditional routes under FUA along with fully surveilled airspace and VHF coverage within Kolkata FIR in dynamic coordination with concerned civil and military units considering the traffic conflict, which led to reduction of operational costs for air operators including total fuel reduced, money consumed and carbon emission.

2.20 China shared analysis results on its huge impact by the pandemic in air traffic services in Sanya FIR over the past two years. In view of the recovery of traffic demand in 2022, Sanya ACC had developed a post-pandemic work plan in order to provide better air traffic services for stakeholders. All States were also encouraged to join efforts on cross-border ATM collaborations to help airlines and stakeholders recover from the pandemic.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) discuss any relevant matters as appropriate.

.....

TERMS OF REFERENCE

South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG)

- 1) The objective of the SAIOSEACG is to identify the need for, plan and implement Air Traffic Management (ATM) improvements in the Indian Ocean, South Asia and Southeast Asia areas.
- 2) To meet this objective, the Group shall:
 - a. promote and facilitate implementation of the provisions of ICAO Doc 7030 – *Regional Supplementary Procedures* and the *Asia/Pacific Regional Air Navigation Plan*, and the performance expectations of the *Asia/Pacific Seamless ANS Plan*, by:
 - i. reviewing and recommending improvements to airspace and Air Traffic Services (ATS) route structures, in order to optimise safety and efficiency;
 - ii. review and recommend improvements to ATS facilities such as communication and surveillance capability in support of flight operations; and
 - iii. research and plan airspace and facility requirements based on future technologies, Performance-based Navigation (PBN) and other advanced capabilities;
 - b. assist SAIOSEACG Administrations in the development of action plans to rectify APANPIRG Air Navigation Service (ANS) Deficiencies.
 - c. coordinate and collaborate with other APANPIRG groups and relevant technical groups from other ICAO regions as required; and
 - d. form Small Working Groups as required to conduct specific ATM-related projects.
- 3) The SAIOSEACG reports to the Air Traffic Management Subgroup of APANPIRG (ATMSG).

SAIOSEACG comprises representatives from the following, but not limited to Afghanistan, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Hong Kong China, Macao China, India, Indonesia, Lao PDR, Malaysia, Maldives, Myanmar, Nepal, Pakistan, Papua New Guinea, Philippines, Singapore, Sri Lanka, Thailand, Timor-Leste, Viet Nam, CANSO, IATA, IFALPA and IFATCA.

.....

SAIOSEACG — TASK LIST

(Last updated at the SAIOSEACG/1)

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
3 (SEACG)	Radar data sharing	SEACG/28 SAIOSEACG/2	Lao PDR, Thailand	Open	<p>Raised at SEACG/16.</p> <p>Lao PDR and Thailand agreed to share the radar data. Lao PDR and Thailand will further coordinate. To discuss at the Mekong meeting, and report to SEACG24.</p> <p>Task updated at SEACG/26. No report received.</p> <p>MEKONG to discuss and report to SEACG/27.</p> <p>Task updated at SAIOACG/10 and SEACG/27. No report received.</p> <p>Updated at SAIOSEACG/1: Thailand may need to reconsider cost and benefit of the project before going to the next step due to COVID-19 impacts.</p>
2/10 (SAIOACG)	<p>Investigate capability and timeline to implement 30NM longitudinal and 23NM performance-based lateral separation minima</p> <p>BOB States to present the analysis outcomes of local fleet equipage and the expected PBCS implementation date for RNP4 with 30NM longitudinal and 23NM lateral performance-based separation minima. IATA to survey member airlines on their RNP and PBCS readiness for possible non-exclusive mandate of January 2024.</p>	BOBTFRG/3 BOBTFRG/4	BOB States, IATA	Open	<p>India has implemented 30/30NM on four ATS routes in the near term. Adjacent States should consider a coordinated implementation of similar performance-based separations, taking into account PBCS requirements. This task is also part of the BOBTFRG.</p> <p><u>BOBTFRG/2 developed and agreed the implementation timeline for 30NM longitudinal spacing over BOB airspace, expected by 2024, which also require the mandating of ADS-C/CPDLC by 1 January 2023.</u> Due to the COVID-19 impact on airline operators, IATA requested for the discussion on the mandate proposal to be deferred until Q2-Q4 2021.</p> <p>Discussed at BOBTFRG/3 on a non-exclusive mandate of implementation timelines for the BOBTFRG Priority Areas. (Refer to Appendix E to the Report of BOBTFRG/3)</p> <p>Updated on 17 Mar 2022 by IATA – survey for analysis is on-going, showing majority of its member airlines are mostly PBCS capable and approved.</p> <p>Updated at SAIOSEACG/1 WP04</p>

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
4/4 (SAIOACG)	India to present paper on the follow up actions of tasks identified in SAIOACG/4 SEACG/21 Appendix E (2014)	BOBTFRG/3 BOBTFRG/4	India	Open Closed	No progress or update since 2014
17 (SEACG)	L642/M771 to reduce longitudinal spacing 50NM to 20NM	SCSTFRG/9 SCSTFRG/10	China, Hong Kong China, Singapore, Viet Nam	Open	SEACG/21 - Reduce longitudinal separation from 50NM to surveillance-based separation on L642/M771. Hong Kong agreed to in 2016, subject to a moratorium period of six months after the NATS review 2018. Updated at SEACG/26. Discussion between Hong Kong and Sanya ACCs for implementation of 20NM longitudinal spacing in progress. SCSTFRG/9 Report re: WP/02. Updated on 14 Feb 2022 by HK China – Discussion on-going with positive progress btw Sanya and HK China, and Singapore is ready, pending Viet Nam's active engagement. Updated on 16 Feb 2022 by Viet Nam – already agreed to 20NM implementation on 23 Nov 2021
8/1 (SAIOACG) 27/1 (SEACG)	Resolve FIR and SRR boundary data. Report status to Regional Office	October 2022	Bangladesh, Cambodia, China, Hong Kong China, India, Japan, Myanmar, Pakistan, Thailand, Viet Nam	Open	SAIOACG/8 and SEACG/25 Report re: WP07. Regional Office to Report to ATM/SG/6. SAIOACG/10 and SEACG/27 Report re: WP12. SAIOSEACG/1 Report re: WP11
8/5 (SAIOACG)	Revise PfAs for Arabian Sea ATS Routes, and coordinate with ESAF Region	SAIOACG/11 SAIOSEACG/2	India, Secretariat	Open	SAIOACG/8 and SEACG/25 Report re: WP29.

ATM/SG/10 – WP/27
Attachment A

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
8/8 (SAIOACG)	Present final planning assurances (bypass plans) and update Contingency Coordination Team information for Afghanistan Contingency Plan	SAIOACG/11 SAIOSEACG/2	India, Pakistan	Open	SAIOACG/8 and SEACG/25 Report re: WP19. Updated by email on 21 Apr. 2022 Pakistan has established Contingency ATS route (L506) for circumnavigation of Kabul FIR as mentioned in SAIOACG/8 and SEACG/25 (WP/19) attachment C, Scenario C : AKRAL (proposed TCP Pakistan & Iran) – LAKAT-IDEBA – NH. Further connectivity NH(B210) - KE - RAMSA (R462)/TASOP (A325) (TCPs Pakistan & India) is already available between India & Pakistan in permanent ATS route structure.
8/9 (SAIOACG)	Bay of Bengal Danger Areas – tactical coordination, reduced vertical limits, correction of AIP and NOTAM promulgation to align with Annex 15	ATM/SG/9 ATM/SG/10	Bangladesh, India, ICAO	Open	SAIOACG/8 and SEACG/25 Report re: WP28. SAIOACG/10 and SEACG/27 Report re: WP23.
25/11 (SEACG)	Phnom Penh ATS Contingency Routes and FLAS	SEACG/28 SCSTFRG/10	Cambodia, Lao PDR, Thailand, Viet Nam	Open	SAIOACG/8 and SEACG/25 Report re: WP32. Updated SEACG/26. Task updated at SAIOACG/10 and SEACG/27. Updated at SAIOSEACG/1 – Thailand provide feedback that Cambodia, Lao PDR, Malaysia and Myanmar signed on ATS LOA for ATM Contingency Routes and FLAS, and new version published in the AIP-Thailand. Cambodia – drafted ATM Contingency Plan (effective date 1 Apr 2022) with plan for LOA coordination with Thailand, Lao PDR for revision and Viet Nam for new.
26/2 (SEACG)	Philippines to report on activity to rectify HF voice communications reliability/availability problems	SEACG/28	Philippines	Open Completed	SEACG/26 Report IP03. Post- SAIOACG/10 and SEACG/27 Meeting Update 12 April 2021: Philippines advised Manila Sector 9 has been implemented. Airspace users indicate CPDLC communications satisfactory in Manila FIR, but long-term unreliability/unavailability of HF voice communications persists. (refer to SCSTFRG/9 FL01)
26/7 (SEACG)	Finalize ANP PfA for SCS bypass route north from Biak	ATM/SG/9 ATM/SG/10	Indonesia, USA, Secretariat	Open	SEACG/26 Report WP26. Task updated at SAIOACG/10 and SEACG/27. Task updated at SAIOSEACG/1

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
26/8 (SEACG)	Coordinate implementation plan RNP 2 nav spec on ATS routes L642, M771, N892	SCSTFRG/9 SCSTFRG/10	China, Hong Kong, China, Philippines, Singapore, Viet Nam, IATA	Open	SEACG/26 Report WP27. SAIOACG/10 and SEACG/27 Report re: WP16 No update at SCSTFRG/9 Update by Singapore (14 Feb 2022) – ready to implement Update by Viet Nam (16 Feb 2022) – fully support, or alternatively RNP4 if not air operators equipage issue Updated at SAIOSEACG/1 - HK China wishes to go for RNP 2 after 20NM longitudinal separation
10/1 (SAIOACG)	Engage in three party discussion between India, Indonesia and Malaysia to support the mitigating of LHDs at Chennai – Kuala Lumpur interface (Hot Spot A2).	BOBTFRG/3 BOBTGRT/4	India, Indonesia, Malaysia	Open Completed	SAIOACG/10 and SEACG/27 Report re: WP04. BOBTFRG/3 Report re: WP/02. BOBTFRG/3 – Indonesia, India and Malaysia agreed to make offline discussion and would report update at SAIOSEACG/1. Updated on 8 Mar 2022 by India: LHD issue had reduced to near Zero after AIDC implementation and SB ADS-B coverage. Updated at SAIOSEACG/1 – This task to be completed with LOA amendment between States concerned regarding the coordination procedures as required. Update by Malaysia: LOA between KL and Chennai had been amended to reflect the changed coordination procedures with AIDC implementation.
10/2 (SAIOACG)	Conduct a review of Myanmar Level 2 Contingency Plan, which include an additional contingency ATS route and flight levels.	SAIOACG/11 BOBTFRG/4	Bangladesh, China India, Lao PDR, Myanmar, IATA	Open	SAIOACG/10 and SEACG/27 Report re: WP18. Updated at SAIOSEACG/1 - India's discussion with Myanmar is on going
10/3 (SAIOACG) 27/3 (SEACG)	Develop a consolidated Term of Reference for ATM/SG consideration.	ATM/SG/9	ICAO RSO	Open Completed	SAIOACG/10 and SEACG/27 Report re: WP26. Endorsed by APANPIRG/32
1/1 (SAIOSEACG)	Provide updates on BOB FLAS Chart, and review LOAs with adjacent FIRs if there is discrepancy in flight levels for allocation.	30 April 2022	BOB States	Open	SAIOSEACG/1 WP04

TERMS OF REFERENCE

BAY OF BENGAL TRAFFIC FLOW REVIEW GROUP (BOBTFRG)

1. Objective

1.1. The objectives of the BOBTFRG are to:

- a) identify requirements and improvements for optimising airspace capacity and maintaining an efficient route network across the Bay of Bengal airspace and routes leading towards Afghanistan's airspace;
- b) monitor the status of implementation of the agreed ATS routes and airspace improvement projects; and
- c) report outcomes of the review and recommendations to the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG).

2. Tasks

2.1. To meet this objectives, with reference to the *Asia/Pacific Region Seamless ANS Plan* and expected traffic growth, the BOBTFRG shall:

- a) Review the existing route structures and airspace improvement projects in the concerned airspaces (Bangkok, Chennai, Colombo, Dhaka, Jakarta, Kabul, Karachi, Kuala Lumpur, Kolkata, Lahore and Yangon Flight Information Regions);
- b) Identify current CNS/ATM capabilities and determine the CNS/ATM requirements which would be needed in order to optimise the airspace to support the implementation of more efficient route network that accommodated enroute traffic (and also departures from India and Pakistan that would join this traffic flow);
- c) Identify the most efficient horizontal separations 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 Flight Level Allocation Scheme (FLAS) operating within the Bay of Bengal airspace with a view to enhancing efficiencies;
- e) Establish appropriate timelines/milestones/dependencies for activities planned under this Group;
- f) Make recommendations to SAIOSEACG on implementation plans for route structures, airspace, FLAS and separation solutions to meet the expectations of the *Asia/Pacific Seamless ANS Plan*; and
- g) Make recommendations to SAIOSEACG on the future status of the Bay of Bengal Cooperative ATFM System (BOBCAT) tool.

3. Participation

- 3.1. Participation of the BOBTFRG includes Afghanistan, Bangladesh, India, Indonesia, Malaysia, Myanmar, Pakistan, Singapore, Sri Lanka, Thailand and IATA, and any other body that the BOBTFRG deems appropriate.

Approved by SAIOSEACG/1, (29 April 2022)

.....

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, ATS routes and the suitability of the 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 the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG).

1.2 Tasks

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

- a) Review the existing route structures in the South China Sea airspace to establish priorities;
- b) Identify current and planned CNS/ATM capabilities and implementation timelines of States concerned;
- c) Identify 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 South China Sea with a view to enhancing efficiencies;
- e) Establish appropriate timelines/milestones/dependencies for activities planned under this Group; and
- f) Make recommendations to SAIOSEACG on implementation plans for route structures, airspace, FLOS and separation solutions to meet the expectations of the *Asia/Pacific Seamless ANS Plan*.

.....