International Civil Aviation Organization

Twelfth Meeting of the Air Traffic Management Sub-Group (ATM/SG/12) of APANPIRG

Bangkok, Thailand, 23 – 27 September 2024

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

SAIOSEACG MEETING OUTCOMES

(Presented by Secretariat)

SUMMARY

This paper presents the key outcomes of the Third Meeting of the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG/3).

1. INTRODUCTION

1.1 The SAIOSEACG was established in accordance with Decision APANPIRG/32/5 to create the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG). Its purpose is to identify, plan and implement Air Traffic Management improvements within the airspace that serves the South Asian, Indian Ocean and Southeast Asian regions.

1.2 The Third Meeting of the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG/3) was held in Bangkok Thailand, from 16 to 19 April 2024. The meeting was attended by 81 participants from States, administrations and international organizations. The relevant presentations and papers are available at icao.int/APAC/Meetings/pages/2024-saioseacg-3.aspx

1.3 The SAIOSEACG meeting is designed to be the first meeting in the ATM section and kick off the discussion on ATM-related topics for the year. The upcoming Fourth Meeting of the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG/4) will be held in Bangkok, Thailand, from 18 to 21 March 2025.

1.4 The South China Sea Traffic Flow Review Group (SCSTFRG) and the Bay of Bengal Traffic Flow Review Group (BOBTFRG) are the two ad hoc Small Working Groups (SWG) formed by APANPIRG, subordinated to the South Asia, Indian Ocean, and Southeast Asia ATM Coordination Group (SAIOSEACG). The key outcomes of the two SWGs are also reflected in this paper.

2. DISCUSSION

Key information update on ATM

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

a) Air Navigation Service Deficiencies List;

b) Airspace Safety Monitoring;

c) Air Navigation Service USOAP;

d) Application of ATC Separation Minima;

e) Missing Departure (DEP) Messages;

f) Regional Air Navigation Plan;

g) Seamless ANS Plan;

h) Air Traffic Flow Management;

i) AIS-AIM Implementation;

j) Regional ATM Contingency Planning; and

k) Asia/Pacific Search and Rescue.

Review of Current Operation and Problem Areas

2.2 Hong Kong China updated the progress on enhancing longitudinal spacing on ATS routes L642 and M771 to follow up on one of the action items agreed upon as Priority Area 2[1] for the SCSTFRG.

a) It was reported to the meeting that the tentative commencement date of the trial was 7 May 2024, as agreed by all concerned States/Administrations during the online meeting.

b) The trial will run from 0200 to 1200 UTC daily until further notice, with regular reviews when needed.

c) As L642/M771 are the trunk routes connecting East Asia and Southeast Asia, this separation reduction has been prioritised and discussed for a long time. The trial is of great importance in enhancing operational efficiency in the South China Sea region. This trial will be followed up at the upcoming SCSTFRG/12 (November 11-12, 2024, Bangkok, Thailand).

2.3 Hong Kong, China, and the Philippines jointly presented the progress made in enhancing the minimum longitudinal spacing on ATS routes A461, M501, and A583 between their FIRs.

a) The implementation of 30NM minimum longitudinal spacing on ATS routes A461 and M501 was successfully accomplished in Q1 2023. Further work is ongoing to explore the feasibility of applying 30NM minimum longitudinal spacing between aircraft without CPDLC equipage on the two routes.

b) Meanwhile, Hong Kong China continues to collaborate closely with the Philippines for the trial application of 30NM minimum longitudinal spacing on ATS route A583.

2.4 Singapore shared its progress on improving flight delays on the ground through the implementation of Air Traffic Management (ATM) initiatives. By leveraging technological advances to reduce longitudinal separation.

a) Singapore encourages states to accelerate the enhancement of airspace capacity to support the continuous recovery of air travel.

[1] Priority Areas for the SCSTFRG:
a) Priority Area 1: develop a parallel route to A1;
b) Priority Area 2: 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: enhance the longitudinal spacing on ATS routes A461, A583, L625, and N892 to at least 50 NM, with planning for 30 NM or less; and
d) Priority Area 4: Review of existing FLAS/FLOS operating within the South China Sea.

b) It was emphasised that the ANSPs should collaborate on new ATM initiatives to reduce separation on ATS routes and, ultimately, to enable departure aerodromes to reduce the required departure intervals to eliminate unnecessary ground delay.

c) On the other hand, the balance between the costs and benefits of implementing new ATM initiatives should also be considered to fully reap the advantages of evolving technology and enhancement to airspace capacity.

2.5 China elaborated on Sanya FIR's strategy to improve in-flight rerouting, AIDC, contingency response collaboration, and reducing longitudinal transfer separation, which were all aimed at strengthening the safety and efficiency of regional civil aviation.

a) It was proposed to establish a standardised regional mechanism for in-flight rerouting along feasible ATS routes. This mechanism involves pre-negotiating rerouting conditions and procedures with adjacent FIRs on commonly used diversion routes, transitioning from the conventional "apply before rerouting (ABR)" to the "rerouting before notifying (RBN)" approach.

b) For ATS Inter-Facility Data Communication (AIDC), China reported the meeting that on November 1, 2023, the AIDC was officially implemented between Hanoi and Sanya FIR, significantly enhancing operational efficiency and reducing communication workload. Besides, they were promoting the application of AIDC on routes L642/M771 between Ho Chi Minh and Sanya ACC.

c) China suggested maintaining lateral offset for aircraft on A1 routes as transitional measures, actively establishing lateral spacing, which might alleviate congestion and pressure to a certain extent. Lao PDR raised a query regarding the optimal offset starting point, which China suggested commencing from Thailand. Thailand expressed the need for further research on the use of offset proposed by China, considering its novelty. Hong Kong China echoed Thailand's viewpoint.

d) As developing a parallel route to A1 is Priority Area 1 of the SCSTFRG, ICAO believes that all stakeholders should focus on resolving division regarding the direction of routes and reach a consensus as soon as possible. ICAO will also promote discussions on this issue at the upcoming SCSTFRG/12 (November 11-12, 2024, Bangkok, Thailand).

<u>Implementation of CNS-ATM Systems</u>

2.6 Indonesia updated information on the current status of CRV implementation. In early 2022, Indonesia signed a service contract with PCCW Global for the CRV project. Since the first quarter of 2023, they have worked alongside neighbouring states to coordinate and establish connections for related applications. Indonesia also expected that additional voice and data connections with other adjacent FIRs could be established using CRV.

2.7 India introduced their trial operation of separation minima using Space-Based ADS-B and CPDLC in Mumbai FIR.

a) India informed the meeting that they had started the trial of 20NM longitudinal separation between eligible pairs of aircraft on routes L301 and L639 in Mumbai FIR from 15 January 2024 using Space-Based ADS-B and CPDLC after stakeholder consultation, safety assessment, and permission from the Regulator. It is stressed that this type of separation minima is being used for the first time outside Canada and Europe.

b) India mentioned that the trial operation would continue for three months or more. Depending on its success and the lessons learned, it can be extended to other routes and the oceanic airspace of Kolkata and Chennai FIR.

2.8 India upgraded its ATM automation systems in Chennai and Mumbai to implement PBCS-based separation minimums, enhancing communication and surveillance capabilities.

a) This upgrade allows for more efficient aircraft separation, reducing the minimum distance between planes and thus improving traffic flow and safety in India's oceanic airspace.

b) Malaysia asked about India's plan to include ATS route P628, to which India responded that the trial operations are planned initially for N571, and subsequently, the other routes will be added based on the assessment of the requirements.

c) While addressing a query from the ICAO Secretariat regarding the service agreement with CRA, India and Malaysia updated the meeting that a coordination meeting between India and Malaysia is planned shortly to discuss the issues related to implementing PBCS-based Separations in the Bay of Bengal. Malaysia also requested that IATA be part of the discussions between India and Malaysia.

d) IATA requested India reconsider widening the vertical band from FL340 to FL410, especially during the Westbound night peak traffic between South Asia and Europe, where the heavy B777s would need FL340. This would encourage airlines to take advantage of the reduced longitudinal separations using PBCS. India agreed to examine the proposal before finalising the trial operations.

e) Noted the latest agreements have been reached between Malaysia and India (Referring to *CNS SG/28 –IP/23*), including implementing 50 NM longitudinal separation, establishing preferred cruising levels, and enhancing PBCS longitudinal separation in the BOB area. ICAO encourages Malaysia and India to update the progress at the upcoming BOBTFRG/4 meeting (November 14-15, 2024, Bangkok, Thailand).

2.9 Review the existing Flight Level Allocation Scheme (FLAS) operating within the South China Sea and Bay of Bengal.

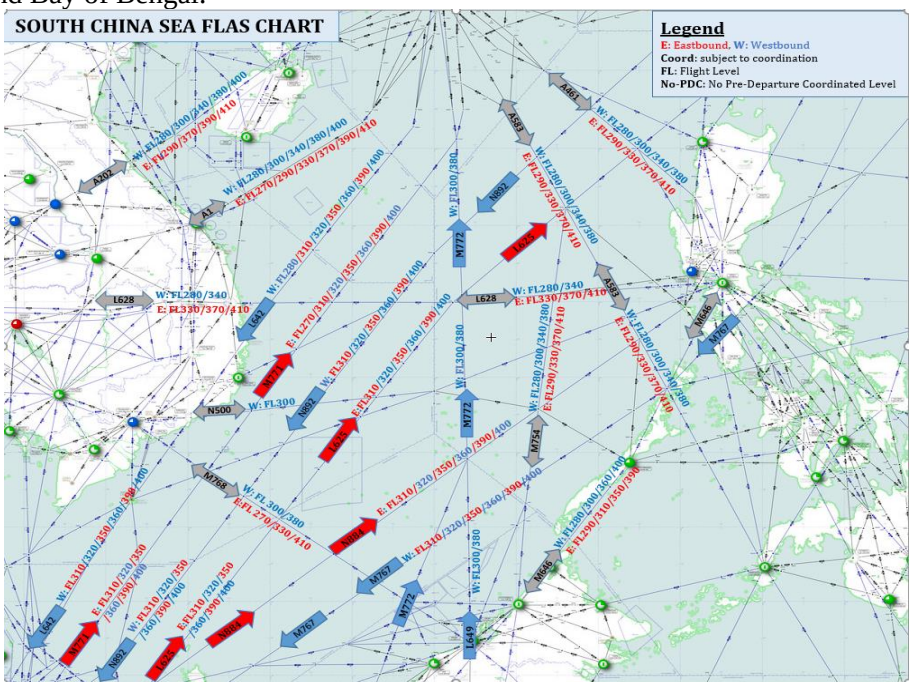

Figure 1: South China Sea FLAS Chart (updated July 2023)

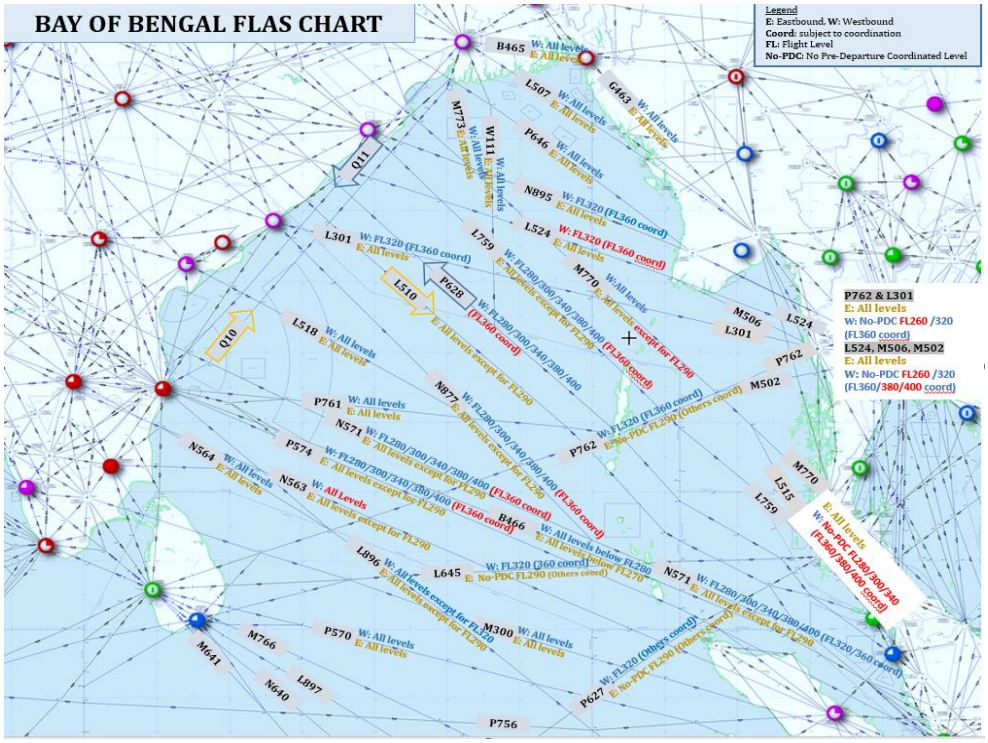

Figure 2: Bay of Bengal FLAS Chart (updated December 2023)

a) In connection with the abovementioned updates on the reduction in the longitudinal separation minima, the optimisation of FLAS cannot be considered an isolated project; it has significant interconnectivity between vertical efficiency and horizontal efficiency.

b) To cope with future traffic growth and airspace users' expectations, considering safety and airspace capacity, a systematic and holistic roadmap should be carried out by the two relevant SWGs (SCSTFRG and BOBTFRG) and supported by all stakeholders.

ATS Route Developments

2.10 The *Asia/Pacific Region ATS Route Catalogue* has been reviewed and updated as version 23.2. This topic will be further discussed in a separate WP.

ATM Contingency Plans and Search and Rescue

2.11 Indonesia revealed updates to its ATM Contingency Plan, which focuses on maintaining safe and orderly flight operations within the Indonesian FIR area.

a) It outlines the establishment of a Central Coordination Committee (CCC) and an ATM Operational Coordination Group (AOCG) for Jakarta and Ujung Pandang FIRs, which are activated as needed to manage air traffic services during disruptions. The Terms of Reference (TOR) document guides stakeholders in implementing these plans.

b) In cases of service disruption at Jakarta ACC or Ujung Pandang ACC, air traffic control is delegated to alternate units with adjusted jurisdictional altitudes. Additionally, the successful FIR realignment between Indonesia and Singapore, effective March 21, 2024, will be incorporated into the Level 1 ATM Contingency Plan to enhance response capabilities.

2.12 Pakistan outlined their efforts to align its ATM Contingency Plans with ICAO standards and to address deficiencies identified during the USOAP CMA Audit in 2021. The main issue was the lack of coordination with neighbouring states and airspace users. To rectify this, the Pakistan Civil Aviation Authority (PCAA) reviewed and revised the contingency plans for Lahore and Karachi FIRs, consulting adjacent states and airspace users for feedback.

a) These adjustments are now in the final stages of approval, expected by April 2024, and will be shared through electronic means and AIP publications. This effort aims to ensure compliance with ICAO Annex-11 and the Asia-Pacific seamless ANS plan, anticipating the resolution of the ICAO finding during the upcoming ICVM in June 2024.

ANSP Coordination and Civil/Military Cooperation

2.13 Indonesia and the United States successfully adopted User Preferred Routes (UPR) between Indonesia's Ujung Pandang FIR and the United States' Oakland Oceanic FIR.

a) A new agreement effective March 17, 2023, updated previous protocols, setting a standard longitudinal separation of fifteen minutes at TCPs, reducible to ten with specific speed adjustments. This advancement concludes the action item concerning the SCS bypass.

2.14 Indonesia presented the revalidation of coordinate data in Indonesia and shared information about the mechanism of coordinate data revalidation that has already been arranged in Indonesia's national regulation.

a) It is emphasised that the revalidation of coordinate data is to ensure the coordinates of surveyed and calculated points (calculation based on a surveyed point or points) are updated as necessary to ensure their accuracy and integrity are maintained when changes occur due to geophysical effects.

Workshop on PBN Implementation in En-Route Environment

2.15 The Workshop on PBN Implementation in the En-Route Environment was conducted in conjunction with the SAIOSEACG/3 meeting. The proposal to hold the Workshop was put forward by the SAIOSEACG member States, and it was well-aligned with SAIOSEACG objectives.

2.16 The workshop provided a comprehensive discussion on ICAO guidance and regional documents on PBN implementation, covering a range of aspects as follows:

a) ICAO documents and manuals supporting PBN implementation in the en-route environment;

b) APAC Regional documents associated with PBN implementation and the regional expectations for PBN application;

c) Analysis of the current status of PBN implementation in the en-route environment;

d) Approval of operation, performance requirements and conformance monitoring; and,

e) Implementation guidance for a PBN application in a particular airspace concept and establish the correct PBN specifications for ATS routes.

2.17 This workshop also invited Australia, China, Hong Kong China, Indonesia, Thailand, USA and IATA to share their best practices, lessons learned, challenges, approval process & methodology, and operational experience and benefits in developing PBN airspaces. Workshop materials can be found on the SAIOSEACG/3 meeting webpage at icao.int/APAC/Meetings/pages/2024-saioseacg-3.aspx

2.18 The positive discussions at the workshop also inspired all Stakeholders to explore more issues in depth for PBN implementation in the en-route environment, especially those not covered by the PBNICG[2], such as the following:

a) Evolution of operational approval process & methodology for a PBN airspace planning and design;

b) Safety and risk assessment considering the types of airspace users, density of traffic, meteorological conditions, topography and any other factors;

c) Cost of implementation versus benefits to all airspace users; and

f) Training for airspace designers and ATCOs for PBN operations.

2.19 ICAO will continue providing the platform for exploring and discussing the abovementioned issues.

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.

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[2] PBNICG: Performance-Based Navigation Implementation Coordination Group.