



International Civil Aviation Organization

**The Sixth Meeting of the APANPIRG ATM Sub-Group
(ATM/SG/6)**

Hong Kong, China, 30 July – 03 August 2018

Agenda Item 5: ATM Coordination (Meetings, Route Development, Contingency Planning)

SAIOACG AND SEACG OUTCOMES

(Presented by the Secretariat)

SUMMARY

This paper presents an overview of the outcomes of the Eighth Meeting of the South Asia/Indian Ocean ATM Coordination Group (SAIOACG/8) and the Twenty-Fifth Meeting of the South-East Asia ATS Coordination Group (SEACG/25).

1. INTRODUCTION

1.1 The Combined Eighth Meeting of the South Asia/Indian Ocean ATM Coordination Group (SAIOACG/8) and Twenty-Fifth Meeting of the South East Asia ATS Coordination Group (SAIOACG/8 and SEACG/25) was held in Siem Reap, Cambodia, from 26 to 30 March 2018. The meeting was attended by 85 Participants from Bangladesh, Bhutan, Cambodia, China, Hong Kong, India, Indonesia, Lao PDR, Malaysia, Maldives, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, United States, Viet Nam, IATA, IFALPA, IFATCA and ICAO.

1.2 Mr. Ibrahim Thoha, General Manager Air Traffic Management, Maldives Airports Company Ltd, and Mr. Chhun Sivorn, Director of Air Navigation Standard and Safety Department of the State Secretariat of Civil Aviation of Cambodia, jointly presided over the meeting throughout its duration as respective Chairs of SAIOACG and SEACG. The meeting considered 36 Working Papers (WP), 15 Information Papers (IP) and 1 Flimsy.

2. DISCUSSION

Mekong ATM Coordination Group Outcomes

2.1 The Mekong ATM Coordination Group, comprised of Cambodia, Lao PDR, Myanmar, Thailand, Viet Nam and IATA, presented the outcomes of the Sixth Meeting of the Mekong ATM Coordination Group (MK-ATM/CG/6) held in Yangon, Myanmar from 22 to 24 August 2017.

2.2 The MK-ATM/CG/6 meeting report and participant list were provided to SAIOACG/8 and SEACG/25. Outcomes included a review of ATS route proposals in the ICAO APAC ATS Route Catalogue, Performance-Based Communication and Surveillance (PBCS), protection of GNSS signal against jamming, ATFM, and ATM Contingency Planning.

2.3 ICAO noted the maturing of the MEKONG Group and the strengthening of its contribution to regional progress.

South China Sea Traffic Flow Review Group Outcomes

2.4 The Secretariat presented outcomes from the Fifth and Sixth Meetings of the South China Sea Traffic Flow Review Group (SCSTFRG/5 and 6) for review and action by SEACG. SCSTFRG had identified three priority areas, with action plans for each:

- Priority Area 1: A1/A202;
- Priority Area 2: L642/M771; and
- Priority Area 3: A461/A583/L625/N892.

2.5 China, Thailand and Viet Nam had agreed in principle to a three-stage approach for Priority Area 1 (ATS routes A1 and A202) including progressive reduction of longitudinal spacing to 20NM, changes to the Flight Level Allocation Scheme (FLAS) and discussion on the establishment of a route parallel to A1.

2.6 With regard to Priority Area 3 (ATS routes A461, A583, L625 and N892), Philippines had informed SCSTFRG/5 of the intention to reduce longitudinal separation for all en-route traffic from 80NM to 50NM, and to progressively upgrade ATS routes to RNP10, then RNP4 (overflight traffic) and RNP2 (domestic traffic) in the fourth quarter 2019.

2.7 Due to the absence of Hong Kong, China from the SCSTFRG/6 meeting a side-meeting was held during the SAIOACG/8 and SEACG/25 meeting to discuss and agree the way forward to achieve the goals/action plan of Priority Area 1 and 2. A summary of the discussions at the side-meeting is provided in **Attachment A**.

Establishment of Bay of Bengal Traffic Flow Review Group

2.8 The meeting was reminded of the Terms of Reference of the Bay of Bengal Traffic Flow Review Group (BOBTFRG), established by SAIOACG, and the tasks transferred from the SAIOACG Task List to BOBTFRG. A side-meeting was held to discuss planning for the First Meeting of the BOBTFRG, tentatively planned for June or July 2018. A summary of the discussions at the side meeting is provided in **Attachment B**.

Flight Information and Search and Rescue Regions

2.9 Cambodia proposed draft coordinates defining the Phnom Penh FIR and Search and Rescue Region (SRR) for discussion with neighbouring States, noting that the current data included overlap of some FIR definitions. The proposed draft coordinates were provided. Cambodia emphasized that the proposed coordinates were a technical matter, and were not related to territorial integrity or political considerations. Viet Nam indicated that they would closely coordinate with Cambodia on the FIR/SRR coordinates.

2.10 The Secretariat also stressed that FIR and SRR boundaries were determined by operational service provision requirement only, and had no bearing on, and were not determined by, consideration of national sovereignty.

ATS Route M771 ATFM Operational Trial Update

2.11 Indonesia, Malaysia and Singapore provided an update on the on-going ATM initiative to mitigate impact of flow restrictions from downstream Area Control Centres (ACCs) on ATS route M771. It highlighted the importance of cooperation from stakeholders to ensure smoother air traffic flow and efficiency. In addition, the success of this initiative would also bring about predictability for stakeholders to enable better resource allocation to manage affected flights.

2.12 Flow control restrictions imposed on ATS route M771 and arising from downstream demand-capacity imbalance were typically carried out on an impromptu basis with little reaction time available for stakeholders to adjust traffic flow. The restrictions typically entailed 25 to 240-minute spacing of flights, regardless of flight level.

2.13 An interim solution was developed for flights departing Indonesia, Malaysia and Singapore, leveraging on the ATFM concepts of the Distributed Multi-Nodal ATFM Network and Collaborative Miles-in-Trail Conversion Program (CMCP). The initiative was structured in three phases, the first commencing in July 2017.

Management of ICAO Aircraft Address

2.14 Information reviewing the ICAO provisions for management of the ICAO Aircraft Address (also known informally as the 24-bit code, Mode S Code or Mode S Address) was provided, including the importance of correct assignment of the aircraft address and correct configuration of aircraft equipment that transmits the aircraft address. Annex 10 – Aeronautical Telecommunications Vol III Chapter 9 and its Appendix contained the ICAO provisions and procedures for assignment of the aircraft address, including a worldwide scheme for the allocation, assignment and application of aircraft addresses.

2.15 Lack of robust aircraft address allocation procedures could have a negative impact on aviation safety including disruption to the correct operation of Mode S SSR surveillance, Automatic Dependent Surveillance – Broadcast (ADS-B) surveillance and Airborne Collision Avoidance Systems (ACAS).

SID-STAR Phraseology Implementation

2.16 IATA discussed the non-harmonized implementation of the new Standard Instrument Departure (SID) and Standard Arrival Route (STAR) phraseologies contained in Amendment 7 to ICAO Doc 4444 – Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM), and proposed the development of a regional transition strategy with a harmonized implementation date for APAC States that had not yet implemented the new phraseologies.

2.17 Hong Kong, China informed the meeting of their concerns over implementation, having recently completed a safety assessment. The change was more than just a change in phrases but also entailed management of ATM system issues related to safety net alerts. An Aeronautical Information Publication Supplement (AIP SUPP) had been issued to inform airspace users that the date of implementation had been deferred. Amendment 7A would be adopted when the safety issues were addressed.

2.18 The meeting was informed that a number of working papers on the subject had been submitted to the ATM Operations Panel Working Group 6 meeting (ATMOPSP WG/6) which would be held in April 2018, and that ICAO Headquarters was developing global guidance.

2.19 Noting that the current non-harmonized implementation of Amendment 7 to PANS-ATM for new SID/STAR phraseologies gives rise to potential safety concerns in terms of confusion

and misinterpretation of instructions, the meeting agreed to the following Draft Conclusion:

Draft Conclusion SAIOACG/8 and SEAC/25-1: New SID/STAR Phraseology Implementation

That, development of a regional transition strategy with a harmonized implementation date is agreed for APAC States that intend to, but have yet to implement, the new SID/STAR phraseologies contained in PANS-ATM (Doc 4444) which became effective in November 2016.

2.20 SID/STAR phraseology implementation, and this Draft Conclusion, are further discussed under ATM/SG/6 WP21.

Flight Planning for Super (J) Wake Turbulence Category

2.21 Singapore presented the recommendations previously delivered by ICAO on the wake turbulence category for A380-800 aircraft in ICAO State Letter T 3/4.4 – AP 080/08 (DRD). Singapore had adopted the three recommendations listed in the State Letter (use of the wake turbulence indicator ‘J’ in the flight plan, use of the word ‘SUPER’ in the call sign of the aircraft, and application of the larger wake turbulence separation minimum behind such aircraft).

2.22 IATA advised the meeting that some useful information for Regulators and ANSPs on developments in wake turbulence separation was available in Europe, and especially the work done by NATS UK.

2.23 The meeting was informed that a survey of APAC States had been conducted by the ICAO APAC Regional Office in late 2017, but few States responded. Among the responses was some variation, from some ANSPs that had implemented all three of the recommendations, to others that had not implemented the use of the indicator ‘J’ as it was not supported in PANS-ATM. The meeting was also informed that the Wake Turbulence Working Group (WTWG) had reached agreement on a way forward and was working towards a PANS-ATM amendment proposal for consideration by the ANC in early – mid 2019, with a view to applicability November 2020.

ATC Separation Standards Survey

2.24 The secretariat presented initial information on the survey conducted to determine which ATC separation minima were being applied in the APAC Region, in an endeavour to track the implementation of tactical separation under the performance expectations of the Seamless ATM Plan sections 7.35 and 7.44. The survey requested respondents to advise the minimum horizontal separation standards authorized for use by controllers within Category R (remote) and S (surveilled by radar, ADS-B or Multilateration - MLAT). The overall response to the survey was poor.

Draft Conclusion SAIOACG/8 and SEACG/25-2: ATC Separation Standards Survey

That, States are urged to study and respond to the ATC Separation Standards Survey, to be circulated by the ICAO APAC Regional Office by State Letter.

2.25 The application of ATC Separation Standards, and this Draft Conclusion, were further discussed under a separate WP to ATM/SG/6.

2.26 The meeting was also provided with an example of a poor response to a radar outage in the Samarkand (Uzbekistan) FIR, in which a 10-minute longitudinal separation minimum was imposed. There appeared to be no impediment for ATC to apply 20 nautical mile (NM) minimum separation in accordance with PANS-ATM 5.4.2.3.3.1, assuming ATC to be appropriately trained.

2.27 Pakistan noted that some alternative separations such as the one proposed required frequent distance reports, which could result in significant workload increase, depending on traffic volumes in the airspace concerned.

Updates on ATM Activities in Viet Nam and Outstanding Operation Issues

2.28 Viet Nam provided a brief update on ATM activities for 2017 – 2018, and addressed issues in ATM coordination and flight operations in the area which needed resolution as soon as possible. Information provided included ANS services provided, traffic growth, Regulatory programmes, airspace organization and management activities, ATS activities and CNS/ATM projects.

2.29 The information provided also highlighted air traffic flow restrictions for northeast-bound traffic causing increases of aircraft spacing above the agreed spacing minima, non-availability of certain flight levels, delay and/or holding along ATS routes, and increases in ATC workload and complexity. Viet Nam also highlighted the need to further reduce ATS surveillance-based spacing minima from 30NM to 20NM, and the need for additional routes, to increase airspace capacity.

Missing Flight Plan and Departure Message Analysis

2.30 The Secretariat presented the results of an analysis of missing flight plan (FPL) and Departure (DEP) messages, requiring corrective action to be taken by States and/or airspace users.

2.31 Under ***Conclusion APANPIRG/27/12: Origination and Distribution of Departure Messages ICAO***, which had been drafted by the Air Traffic Flow Management Steering Group (ATFM/SG/), ICAO had been requested to conduct an analysis of the non-receipt of DEP, which were required by PANS-ATM section 11.4.2.2. The ATFM/SG/7 meeting (Fukuoka, Japan, 15 to 19 May 2017) agreed to a course of action to address missing DEP messages identified in the analysis. However, at the ATM/SG/5 meeting it was reported by China that a significant number of FPL messages were also not being received. ATM/SG/5 agreed that the ATFM/SG work to analyse missing DEP messages should be expanded to address the issue of missing FPL messages.

2.32 The meeting examined the data gathered by over a 24-hour period, and determined a number of actions to be taken. The matter is discussed further in a separate WP to ATM/SG/6.

Implementation of AIDC in Cambodia

2.33 Cambodia informed the meeting of the intention to implement AIDC with neighbouring FIRs, and discussed a proposed implementation date. Cambodia had been conducting AIDC tests with Lao PDR, Thailand and Viet Nam.

2.34 In response to Cambodia's request that neighboring States update the implementation plan, the following responses were provided:

Lao PDR had been conducting tests with Cambodia, Thailand and Viet Nam. A problem had been detected which required a system software upgrade. Testing would resume after the system upgrade;

Thailand, while was conducting some interoperability testing with Cambodia, Lao PDR and Malaysia, was unable to commit to operational commissioning of AIDC until after the ATM automation system was upgraded, under a current project; and

Viet Nam would review, together with Cambodia, preparation for further testing.

Maldives Status Update on Safety, Capacity and Efficiency

2.35 Maldives presented an update on the efforts to enhance the provision of ATS within the Male Flight Information Region. The meeting was informed of the completion of a new runway at Male by the end of 2018, ADS-B implementation, AIDC trials, User Preferred Routes (UPR) and plans for the implementation of 50NM longitudinal separation.

2.36 In response to a query Maldives advised that a mandate for ADS-B equipage was planned to Upper Airspace Harmonization – Delhi.

Upper Airspace Harmonization - Delhi

2.37 India presented the plans to enhance airspace safety and capacity in Delhi FIR through the Upper Area Harmonization (UAH) project. Traffic in India was forecast to double by 2022, and the route between Delhi and Mumbai was the third busiest in the world. Delhi airport handled about 1400 movements per day. The key enablers of the project were restructuring of airspace, integration of multiple surveillance sensors, IP-based VHF coupled with extended VHF and dynamic sectorization based on traffic density and sector capacities.

CNS and ATM System Development in Cambodia

2.38 Cambodia informed the meeting of the latest developments in the CNS/ ATM system of Cambodia. Information included the installation of MLAT, the Phnom Penh airspace sectorization, the distributed Multi-Nodal ATFM Trial at Phnom Penh, the improvement of flight progressive strip presentation at the Phnom Penh ACC and updates on AIS-AIM status.

ATM Enhancement in the Ujung Pandang FIR

2.39 Indonesia provided information on the challenges faced by Ujung Pandang ACC and planning to handle the expected increase in traffic, particularly on Australia – East Asia and Australia – Southeast Asia routes. Traffic in the Ujung Pandang FIR had increased by about 14% from 2016 to 2017. Information was provided on AIDC trials and voiceless coordination, re-sectorization planning, ATS route development and realignment, and a proposed new ATS route (further discussed under IP14). Indonesia also proposed to reduce separation on ATS route M768 to 50 NM based on RNP10 between Ujung Pandang and Kinabalu ACCs for southeast and northwest-bound traffic.

Asia/Pacific Region ATS Route Catalogue

2.40 The *Asia/Pacific Region ATS Route Catalogue* was presented for review and update. The Route Catalogue contained proposals for route changes that had not yet been agreed and implemented.

2.41 The meeting was informed that IATA had formed an ATS route focus group to conduct a comprehensive review of user-proposed routes. There was a possibility the outcomes of the review may be made available for ATM/SG/6, but certainly they would be available by 2019.

2.42 The meeting agreed to amend the ATS Route Catalogue to include routes proposed by Malaysia. Kota Kinabalu – Hong Kong, Kota Bharu – Kota Kinabalu and Kota Bharu – Kuching.

2.43 The Asia/Pacific Region ATS Route Catalogue as updated by the meeting is provided for review by ATM/SG/6 in a separate WP.

Update on Proposal for Establishing New ATS RNAV2 Route

2.44 Viet Nam updated the meeting on a proposal for establishing a new ATS route with the aim to reduce flight distance/time as well as facilitate traffic between Cat Bi/Van Don International Airport and northeast Asia.

Proposal for Coordinating Amendment to BANP ATS Routes Table

2.45 Viet Nam provided a brief on the ATS route system in the Ha Noi and Ho Chi Minh FIRs, and proposed the parties concerned coordinate an amendment to the Asia/Pacific ANP ATS routes table. Viet Nam had noted that some implemented ATS routes were not yet included in the ANP. The Secretariat informed the meeting that a PfA to the ANP could be submitted jointly by a group of States, or by one State on behalf of a group of States provided that agreement had been reached between the States. The newly updated template for PfAs to the ANP, available on the ICAO APAC Regional Office website, included specific guidance for the submission of PfAs related to ATS routes. Regional Office would assist States in the preparation and submission of PfAs.

ATS Route Changes in the Arabian Sea Region

2.46 India presented information on initiatives undertaken to enhance airspace capacity in the Arabian Sea area in collaboration with adjoining States. A number of new ATS routes over the Arabian Sea had been proposed at the Fifth ATS Coordination Meeting of Bay of Bengal, Arabian Sea and Indian Ocean Region (BOBASIO/5) in 2015. India had submitted PfAs to the APAC ANP, but subsequent meetings of other groups, and bilateral meetings between States, in 2016 and 2017 had noted alignment issues that needed resolution.

2.47 The meeting agreed that the proposals should be pursued. The Secretariat noted that the previous combined PfA, which would now need to be updated, included ATS routes that effectively ended at a point in space (in terms of the Regional Network of ATS routes) as they joined non-regional routes in the Mogadishu FIR. Further coordination by ICAO APAC Regional Office with ICAO Eastern and Southern Africa (ESAF) Regional Office would be necessary. It was proposed that revised PfA/s be submitted for coordination through the ICAO Asia/Pacific Regional Office.

Follow Up of ATS Route Development

2.48 Cambodia presented their intention to follow up on the development of RNAV2 route N639 overlaying the current non-RNAV route B329, and parallel route structures supplementing current routes R468 and G474.

2.49 Cambodia sought further discussion with Lao PDR and Viet Nam for finalization of the implementation of N639 and the consequential amendment to B329. A summary of the outcomes from a side-meeting between the three States conducted during SAIOACG/8 and SEACG/25 is provided in **Attachment C**

2.50 An illustration of the conceptual design for an RNAV2 parallel route structure supplementing R468 and G474 is provided in **Figure 1**.

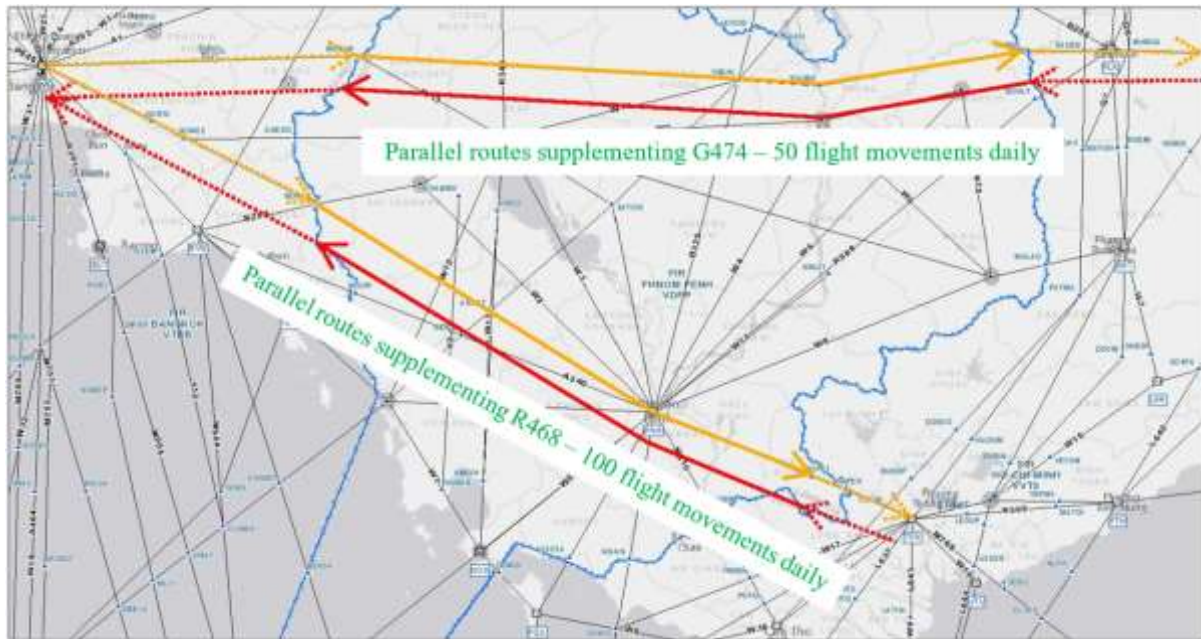


Figure 1: Conceptual Design of Parallel Route Structure

2.51 Thailand and Viet Nam both indicated that they would need to conduct further study on the proposal.

Alternative Route Proposal from Ujung Pandang FIR to South Pacific and East Asia FIRs

2.52 Indonesia and USA presented an alternative ATS route proposal to provide a means of avoiding extreme delays incurred by flights from Australia to east Asian destinations, often requiring extensive en-route holding. **Figure 2** illustrates the proposed alternative route.

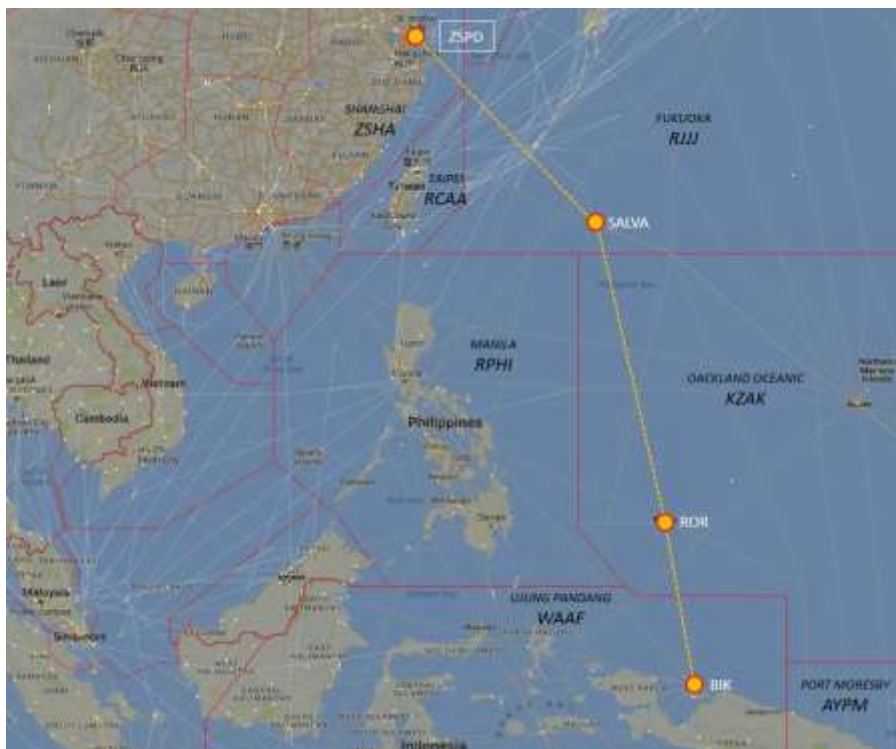


Figure 2: Alternative Route Proposal Ujung Pandang FIR to East Asia.

2.53 The meeting was informed that while the proposed route did add significant track miles, it would result in less actual flying time during periods when extensive delays were imposed on northbound traffic by downstream FIRS in East Asia. IATA supported the route as a contingency to avoid the significant problems of operating on the usual routes. It was recommended that the proposed route be realigned via SALVA – APITO to avoid crossing the northern extremity of the Taipei FIR.

2.54 Trials of the route had been conducted with limited success.

2.55 ICAO informed the meeting that the first step towards implementation would be to seek the agreement of all States involved to submit a joint PfA to the Regional ANP. ICAO would assist with the preparation of the PfA after agreement had been reached.

Proposed Upgrading of ATS Route B329 to RNAV2 Route N639

2.56 Lao PDR presented information on the proposed overlay of conventional ATS route B329 with RNAV route N639. Cambodia, Lao PDR, and Viet Nam had agreed in 2015 to establish the route which connects Ha Noi and Phnom Penh via Pakse. This route proposal was also discussed under a separate WP to the SAIOACG/8 and SEACG/25 meeting, and was a topic discussed at a side-meeting.

Activities Update Related to Search and Rescue in Cambodia

2.57 Cambodia provided information on activities related to Search and Rescue (SAR), including Cambodia's role as a SAR Point of Contact (SPOC) for COSPA-SARSAT. A Letter of Agreement (LOA) with Lao PDR and Thailand for technical consideration and revised agreement had been drafted. An agreement had been made between Cambodia and China on the establishment of a SAR hotline, Airport Emergency Plan exercises and a planned SAREX in 2018-2019.

Contingency Plan for Phnom Penh FIR

2.58 Cambodia presented a draft contingency route proposal for the ATS Contingency Plan Level 2 (bi-lateral or multi-lateral contingency arrangements) for discussion with neighbouring Administrations. A contingency route structure and FLAS (**Figure 3**) was proposed for discussion.

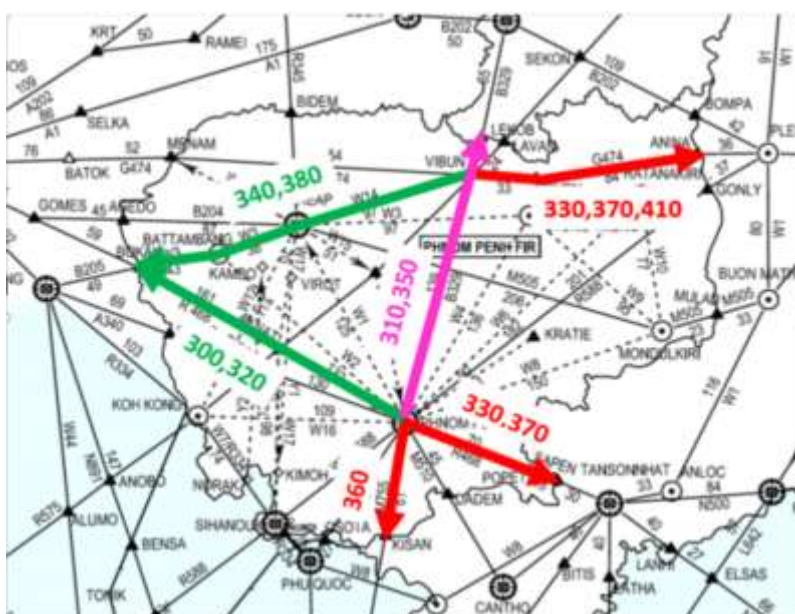


Figure 3: Cambodia Proposed Contingency ATS Route Structure and FLAS

2.59 Several States commented on the difficulty in coming to agreement on contingency route and FLAS structures with neighbouring States, noting that there may be differences between current or proposed implementations and the route structure in Appendix F to the Regional ATM Contingency Plan. ICAO noted that the ATS Contingency Routes were subject to change, and should be used for general information and guidance only.

2.60 The meeting discussed delegation of Air Traffic Services (ATS), and was informed that delegation of provision of services to another State was often not practicable due to legal constraints in both the delegating and delegated States. However, agreed contingency routes and FLAS permitted neighbouring States to arrange traffic in a manner that would assure safety when transiting airspace where there was no ATS, regardless of any delegation agreement.

2.61 Cambodia engaged in side-meeting discussions on this matter with Lao PDR, Thailand and Viet Nam. Further offline coordination would be undertaken, and it would be further discussed at relevant coordination meetings.

APAC Volcanic Ash Exercise Steering Group

2.62 The Secretariat presented information on the establishment, work programme and outcomes of the ICAO Volcanic Ash Exercises Steering Group (VOLCEX/SG) and volcanic exercises in the Asia/pacific Region. VOLCEX/SG was established by APANPIRG in 2017 to coordinate all aspects of the organization and conduct of ICAO volcanic ash exercises in the APAC Region. The chief objective of volcanic ash exercises was to practice and develop inter-agency response to volcanic activity, in order to maintain safety, regularity and efficiency of aviation in the event of volcanic eruption.

2.63 VOLCEX/SG had conducted four meetings since in 2015 – 2017, and coordinated four volcanic ash exercises: VOLPHIN15/01 (Philippines, August 2015), VOLPHIN16/01 (Indonesia, February 2016), VOLPHIN16/02 (Philippines, August 2016) and VOLPHIN17/01 (Indonesia, February 2017).

2.64 Two of the four volcanic ash exercises had included FIRs which do not have any active volcanoes. This illustrated the reality experienced in a number of major volcanic events, where many States that do not have active volcanoes were severely affected by volcanic ash clouds. All States should include provisions for volcanic ash cloud events in their ATM contingency plans and conduct exercises in accordance with the provisions of the Asia/Pacific Regional ATM Contingency Plan.

2.65 IATA noted the importance of developing capability in response to volcanic ash clouds in the APAC Region, and noted that the benefits of conducting and learning from volcanic ash cloud exercises were demonstrated by the recent eruption of Mount Agung volcano in Indonesia (Bali), which was dealt with relatively smoothly. The Secretariat congratulated Indonesia on their efforts in this area, noting the significant improvement in the response to a major volcanic ash cloud event.

Civil/Military Cooperation

2.66 ICAO provided a paper on regional civil/military cooperation. The meeting recalled that civil/military cooperation remained one of the highest priority items in the Asia/Pacific Region, as evidenced by the eleven Seamless ATM elements on this subject.

2.67 The meeting noted an example of a ballistic launch from Pakistan which was not consulted and promulgated in accordance with the regional policy contained within the Seamless ATM Plan.

2.68 Moreover, an example of an implementation of an Air Defence Identification Zone (ADIZ) by Bangladesh was also highlighted as a ‘lesson learnt’ in terms of the need for more effective civil/military cooperation. Issues highlighted were the lack of consultation, safety and efficiency consequences, the imposition of ADIZ in the FIR administered by another State, inappropriate imposition of conditions on flights in airspace over the high seas, non-compliance with Annex 1 requirements and unclear, confusing procedures.

2.69 The meeting noted that while matters of sovereignty were addressed in Articles 1, 2 and 3 *bis* of the Convention on International Civil Aviation, it did not make any reference to ADIZ. ADIZ were referenced in Annex 4 *Aeronautical Charts* and Annex 15 *Aeronautical Information Services* solely to ensure that, where established, any necessary information is included in the State AIP and aeronautical charts. While ICAO Annex 2 *Rules of the Air* provides standards and recommended practices (SARPS) relating to the interception of aircraft, there are no ICAO SARPS or procedures for the establishment and operation of ADIZ.

2.70 Regarding ADCs, ICAO’s view was that these should be unnecessary when data was readily available to military authorities from flight plans. Asia/Pacific States that currently required an ADC were therefore urged to discuss the establishment of appropriate data sharing with their military authorities in accordance with the expectations of the Asia/Pacific Seamless ATM Plan, so that the need for an ADC can be superseded by more efficient arrangements.

2.71 The meeting was also provided with information on APANPIRG and Sub-Group discussion on problems related to China’s airspace, the upgrade of ICAO Circular 330 *Civil/Military Cooperation in Air Traffic Management* to a new ICAO Document (10088), the disestablishment of the Conflict Zone Information Repository (CZIR), and the lack of resources to run civil/military cooperation seminars/workshops.

Danger Areas in the Bay of Bengal

2.72 The meeting was provided with a detailed report on the danger area activities in the oceanic airspace of the Bay of Bengal. The danger areas were outside the territorial waters of India and Bangladesh, and largely within the Kolkata (India) FIR (**Figure 4**).

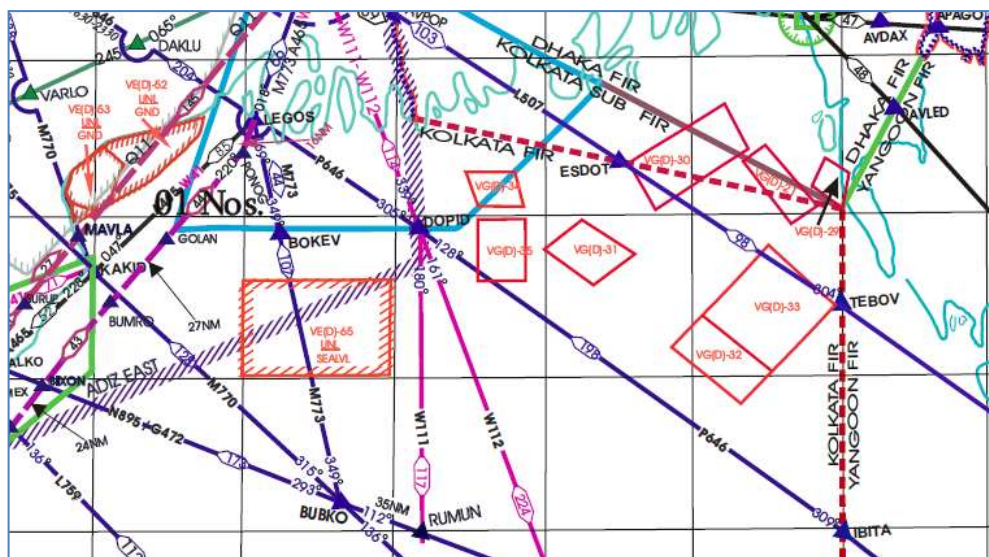


Figure 4: Danger Areas in the Bay of Bengal

2.73 The danger areas VGD 31/32/34 were active for extended periods in each day (0000 to 1700 UTC and 2200 to 2359 UTC), and the status of activities was not always available to the Area Control Centres concerned, as they were activated by NOTAM and there was no process for tactical coordination. The danger areas were often active up to FL400.

2.74 Aircraft requiring weather deviations from ATS routes were affected as, due to the uncertainty about activity in the danger areas and insufficient information held by Dhaka and Kolkata ATC, Kolkata was unable to authorize weather deviations towards the danger areas.

2.75 India had requested that operating procedures be developed, and that a review of the vertical limit of the danger areas be conducted. India suggested that Bangladesh may also sensitize their military authorities to consider segregation of airspace based on actual needs.

2.76 It was noted by the meeting that the details of the danger areas were not published in AIP India, and the NOTAMs were issued by Bangladesh. Airspace users that planned to operate only in the Kolkata FIR may not be aware of the danger areas or their activity.

2.77 The Secretariat pointed out that it was not appropriate to publish information in a State AIP or NOTAM that pertained to the airspace assigned to a different State. Coordination between the States should ensure the information was published in the AIP and NOTAMs of all affected States.

2.78 Bangladesh and India agreed to coordinate further on this issue, which is further discussed in a separate WP to the ATM/SG/6 meeting.

Imposition of Military Requirements and Restrictions on International Civil Aviation

2.79 IATA presented discussion of the issues faced by airlines and international civil aviation, with regard to the recent promulgation of requirements and restrictions placed on airspaces by military authorities in the APAC Region. A very recent example of the imposition of an Air Defence Identification Zone (ADIZ) provided some lessons learned from an airline point of view.

2.80 Details of the ADIZ imposition were provided, including the short notice, lack of consultation with airspace users and neighbouring States, complex and confusing requirements for an Air Defence Clearance (ADC) and confusing contact details. The ADIZ concerned was partly established in the FIRs of two neighbouring States, without consultation. The information provided also included details of the actual implementation, with difficulties in communication and conflicting instructions.

2.81 Problems with obtaining ADC were persisting, including the reported case of one airline showing that 65% of their flights required multiple attempts, through various media, to obtain an ADC. The meeting was informed that other States that have established ADIZ or other non-ICAO military airspace did not require pre-authorization for every affected civil flight. Examples best-practice were provided.

2.82 The meeting agreed to **Draft Conclusion SAIOACG/8 and SEACG/25-3: Minimizing the Impact of Non-ICAO Procedures and Requirements for Military Activities Affecting Civil Aviation**. Civil/Military cooperation matters, including the aforementioned Danger Areas in the Bay of Bengal, poorly promulgated ADIZ, and the Draft Conclusion, are discussed in ATM/SG/6 WP26 *Civil/Military Cooperation Update*.

Efforts to Reduce Safety Risk in BOBASIO Airspace (IP10)

2.83 India informed the meeting of efforts to reduce the safety risk in the Bay of Bengal Arabian Sea Indian Ocean (BOBASIO) airspace. India had engaged in a number of coordination meetings with relevant states where the safety risks and agreements to mitigate them were discussed. New ATS coordination agreements between India and Indonesia had been finalized and signed. A draft agreement with Malaysia had been developed, and India and Oman had agreed to initiate various steps to reduce the occurrence of LHDs due to coordination error.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) note the information provided in this paper on issues discussed under separate WPs:
 - i) SID/STAR phraseology implementation;
 - ii) Missing FPL and DEP Message Analysis;
 - iii) Asia/Pacific ATS Route Catalogue; and
 - iv) Civil/Military cooperation;
- c) note the outcomes of the MK-ATM/CG/6, SCSTFRG and BOBTFRG,
- d) note the expected outcomes of the WTWG;
- e) provide any update on the preparation of Proposals for Amendment to the APAC ANP for ATS route development proposals:
 - i) Cat Bi/Van Don – Northeast Asia (paragraph 2.46);
 - ii) Ha Noi and Ho Chi Minh FIRs (paragraph 2.45);
 - iii) Arabian Sea (paragraph 2.46);
 - iv) N639 and routes parallel to R468 and G474 (paragraph 2.48); and
 - v) Ujung Pandang FIR to South Pacific and East Asia FIRs (paragraph 2.52);
- f) Note the issues raised relating to civil/military cooperation; and
- g) discuss any relevant matters as appropriate.

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**REPORT OF THE SIDE-MEETING BETWEEN
CAMBODIA, CHINA, HONG KONG CHINA, THAILAND, AND VIET NAM**

1. The meeting was conducted between 1600pm and 1730pm at the Sokhalay Angkor Resort & Spa, Siem Reap, Cambodia.
2. The intention of this side-meeting was to get the relevant States to discussed the way forward and setting up an agreed timeline in order to achieve the goals/action plan of Priority Area 1 and 2 of the South China Sea Traffic Flow Review Group that are:
 - a) Priority Area 1: A1/A202
Action plan involving the reduction of longitudinal spacing to at least 20NM and to develop a parallel route to A1.
 - b) Priority Area 2: L642/M771
Action plan involving the reduction of longitudinal spacing to at least 20NM and to investigate the possibility of implementing parallel routes for L642 and M771.
3. During SCSTFRG/6 meeting, China, Thailand and Viet Nam in principle have agreed for a 3-stage approach for Priority Area 1.
 - a) Stage 1 – Implementation of reduce longitudinal spacing from 30NM to 20NM on ATS route A202;
 - b) Stage 2 – Implementation of reduce longitudinal spacing from 30NM to 20NM on ATS route A1. FL390 that is currently a FLAS for ATS route A1 to be assigned to ATS route Q1 and Q2. This should take place simultaneously with the reduction of longitudinal spacing on ATS route A1 from 30NM to 20NM; and
 - c) Stage 3 – Discussion on the establishment of parallel route for A1.
4. Based on the discussions, China mentioned that Sanya ACC would be able to accept the reduction of longitudinal spacing from 30NM to 20NM on ATS route A202 provided that:
 - a) Traffic overflying Hong Kong FIR to Da Nang International Airport should be transferred from Hong Kong ACC to Sanya ACC at FL320 or below at position IKELA (ATS route A1); and
 - b) Sanya ACC to transfer to ~~Ho Chi Minh Hanoi~~ ACC traffic descending into Da Nang International Airport at Pre-Coordinated Level (PCL) FL280 at position BUNTA; and
 - c) The above conditions to be reflected in the Letter of Agreements between the affected ACCs.

Note: China also informed that if the above conditions were acceptable by the adjacent ACCs, they would be able to reduce the longitudinal spacing to 20NM by end of 2018.

5. In response to the above, Viet Nam mentioned their willingness to consider the above requirements and will deliberate further during the bi-lateral meeting between China and Viet Nam planned in June 2018. Viet Nam also mentioned their readiness to apply 20NM longitudinal spacing with Sanya ACC and highlighted the meeting that the Mekong States had already implemented 20NM longitudinal spacing between the respective ACCs.

Decision 1: China and Viet Nam agreed to provide a joint working paper of the progress during the next SCSTFRG meeting planned in September or October 2018.

6. Hong Kong China informed the meeting that the airspace review conducted with NATS UK mainly to simplify and reorganized the ACC en-route sectors and ATS routes within Hong Kong FIR had completed. NATS UK currently in the process of producing the final report and expected to be available by July 2018.

7. Due to this reason, Hong Kong China was not able to provide any concrete comments on the requirements from China (Sanya ACC) during this meeting. Upon query from Thailand, Hong Kong China mentioned that the reduction of longitudinal spacing to 20NM was not part of the scope of the airspace review conducted with NATS UK. They would require conducting safety assessment on the impact of the reduction of longitudinal spacing to 20NM after the report from NATS UK is made available to them. However, Hong Kong China did indicate that second quarter of 2019 was an acceptable target date but it would be subject to the result of the safety assessment to be carried out.

Decision 2: Hong Kong China agreed to share results of the airspace review and development of the safety assessment related to reduction of longitudinal spacing to 20NM during the next SCSTFRG meeting planned in September or October 2018.

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**REPORT OF THE PREPARATORY MEETING OF THE FIRST MEETING OF THE
BAY OF BENGAL TRAFFIC FLOW REVIEW GROUP (BOBTFRG/1)**

1. The meeting was conducted between 1600pm and 1630pm at the Sokhalay Angkor Resort & Spa, Siem Reap, Cambodia.
2. The meeting was attended by Bangladesh, India, Indonesia, Malaysia, Singapore, Sri Lanka, Thailand, IATA and ICAO.
3. The intention of this meeting was to notify BOBTFRG Member States regarding the planning of The First Meeting of the Bay of Bengal Traffic Flow Review Group (BOBTFRG/1) tentatively planned for June or July 2018. The venue was yet to be decided and will be announced in due course through ICAO State Letter.
4. BOBTFRG/1 draft meeting agenda as follow:
 - a. Agenda Item 1 : Adoption of Agenda
 - b. Agenda Item 2 : Election of BOBTFRG Chairperson
 - c. Agenda Item 3 : Review of BOBTFRG Terms of Reference
 - d. Agenda Item 4 : Review of the Current and Planned CNS/ATM Capabilities and Identifying Associated Reduced Horizontal Separation
 - e. Agenda Item 5 : Review of the Existing TF Route Structures in BOB Airspace and Identifying Priorities
 - f. Agenda Item 6 : Discussion on PBN Routes Development and FLAS/FLOS Optimization
 - g. Agenda Item 7 : Review and Update of the Task List of BOBTFRG
 - h. Agenda Item 8 : Decisions/Recommendations to SAIOACG
 - i. Agenda Item 9 : Any Other Business

SIDE MEETING AMONG CAMBODIA, LAO PDR AND VIETNAM ON N639 AND B329

The Side Meeting among Cambodia, Lao PDR and Vietnam on establishment of RNAV 2 route N639 and amendment of B329 discussed three options as follows:

- a. N639 will overlay B329 and B329 will still exist but with maximum limitation FL290, as agreed in the MK-ATM-CG/6;
- b. N639 will be established with the same route structure and level limitation as B329 and then B329 will be deleted; and
- c. Continued from the established portion in Hanoi FIR, N639 will also be established within Phnom Penh and Vientiane FIRs. On the other hand, B329 will still exist only in Phnom Penh and Vientiane FIRs.

As reported by Vietnam, N639 has already been established and B329 has already been deleted in Hanoi FIR.

Cambodia and Lao PDR agreed in principle to choose option c. and take back this issue for further internal study and will bilaterally coordinate for the implementation. Vietnam supported the progress made on N639 and B329 between Cambodia and Lao PDR.

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