



ICAO

International Civil Aviation Organization

The Combined Tenth Meeting of the South Asia/Indian Ocean ATM Coordination Group (SAIOACG/10) and Twenty—Seventh Meeting of the South East Asia ATS Coordination Group (SEACG/27)

Bangkok, Thailand, 30 March – 03 April 2020

Agenda Item 2: Review Outcomes of Related Meetings

OUTCOMES FROM THE MEKONG ATM COORDINATION GROUP

(Presented by Cambodia, China, Hong Kong China Lao PDR, Myanmar, Thailand, Viet Nam and IATA)

SUMMARY

This paper presents outcomes of the Eighth Meeting of the Mekong ATM Coordination Group (MK-ATM/CG/8) held in Da Lat, Viet Nam on 11-13 December 2019.

1. INTRODUCTION

1.1 The Mekong ATM Coordination Group was established to discuss and collaborate on ATM coordination issues focusing on the region surrounding the Mekong River with agreed annual meetings. The latest meeting of the group was held in Da Lat, Viet Nam on 11-13 December 2019.

1.2 Delegates from Cambodia, China, Hong Kong (China), Lao PDR, Thailand and Viet Nam participated in the meeting. While invitations were also extended to Myanmar, they were regrettably unable to participate in the meeting plenary.

2. DISCUSSION

2.1 The MK-ATM/CG/8 meeting reviewed outcomes of related meetings while each Member State updated the group on traffic growth and their on-going projects as reflected in the meeting report in **Attachment A** (Participant List **Attachment B**). Documents related to the meeting can be downloaded from website at <<http://bit.ly/MK-ATM-CG8>>.

2.2 During the meeting, delegates worked together to further develop ATS route network across the Mekong sub-region as well as other ATM initiatives to collaboratively support ATM harmonization with the goal of achieving Seamless ATM Operations across the Mekong sub-region.

Route Structure and Airspace Review Process

2.3 The meeting discussed several route structure enhancements agreed to in previous Mekong ATM Coordination Group Meetings, while tasking members to provide update before next meeting planned in Thailand in Q4/2020. (More details from meeting report Action Items 8/1 - 8/4: **Attachment A**)

2.4 The meeting reviewed route proposals from ICAO APAC ATS Route Catalog and requested members to study the proposals as well as providing updates to the next Mekong meeting

(More details from meeting report Action Items 8/5 - 8/8: **Attachment A**)

2.5 Taking into consideration implement 20NM longitudinal spacing on ATS routes A1 and A202 depend on agreement from Member States, a side meeting discussed waiting for Chinese agreement on this matter. Through the result of a bi-lateral meeting between Viet Nam and China held on December 2019, the meeting tasked Viet Nam to provide the outcome of the discussion with China on the implementation of 20NM longitudinal spacing on ATS routes A1 and A202 to all the MK-ATM/CG/8 participants. (More details from meeting report Action Items 8/12: **Attachment A**)

2.6 Subsequent to MK-ATM/CG/8, 20NM longitudinal spacing on ATS routes A1 and A202 was implemented at FIR boundaries among Bangkok, Vientiane, Ha Noi, Sanya and Hong Kong FIRs on 26 March 2020.

ATFM Matters

2.7 Lao PDR presented the status and the plan of the AFTM implementation in Lao PDR and shared the information regarding implementation experience with adjacent FIRs. With the cooperation between LANS and AEROTHAI to implement the ATFM in Lao PDR, the meeting noted the cooperation in ATFM between Lao PDR and Thailand and proposed both sides to continue the progress to facilitate flight operations.

2.8 Hong Kong, China presented impacts of level blocking as an ATFM measures on the traffic flow in the Asia Pacific Region.

2.9 Thailand updated information regarding the APAC Multi-Nodal ATFM collaboration, focusing on key operational updates, key technical updates and cross-region operational updates.

2.10 Viet Nam presented the updated information on the analysis of the incidence of non-receipt of DEP messages and other problems with ATS messages and main reasons finding relating to the incidence. Lao PDR also shared information on the progress of correcting ATS message errors. The meeting agreed that Mekong Member States should also carry out corrective actions regarding missing DEP messages to comply with ICAO provisions. (More details from meeting report Action Items 8/9: **Attachment A**)

SWIM Implementation

2.11 Thailand presented information of SWIM in APAC region and also provided its observations and lessons learn from the project. The meeting proposed Thailand to provide more detailed materials regarding SWIM implementation in the region and to keep updating the implementation progress at the next Mekong meeting. (More details from meeting report Action Items 8/10: **Attachment A**)

ATM Contingency Planning

2.12 Following discussion on Cambodia – Viet Nam ATM Contingency Routes, the meeting tasked Cambodia, in coordination with Viet Nam to study ATM Contingency Plan Arrangement between Phnom Penh ACC and Ho Chi Minh ACC and provide updates to the next Mekong meeting. (More details from meeting report Action Items 8/11: **Attachment A**)

Any Other Businesses

2.13 The meeting agreed that the task list of MK-ATM/CG should be reviewed and updated at each meeting in the future. (More details from meeting report Conclusion 8/1: **Attachment A**)

Next Mekong ATM Coordination Group Meetings

2.14 As per agreement in previous Mekong ATM Coordination Group meetings, Cambodia will host the next Mekong meeting in 2020. However, due to their tight working schedule, Thailand agreed upon Cambodia request to host the MK-ATM/CG/9 in Q4/2020.

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.

.....

REPORT
OF
THE EIGHTH MEKONG AIR TRAFFIC MANAGEMENT
COORDINATION GROUP MEETING
(MK-ATM/CG/8)

Da Lat, Viet Nam, 11-13 December 2019

The views expressed in this Report should be taken as those of the Meeting and not the Organization.

Table of Content

History of the Meeting..... 3

Summary of Conclusions: 4

Summary of Action Items: 4

Agenda Item 1: Adoption of Agenda 6

Agenda Item 2: Review of Related Meetings..... 6

Agenda Item 3: Information sharing 6

 3.2. CNS/ATM system..... 7

Agenda Item 4: Air Traffic Management (ATM) Matters 7

 4.1. Airspace Management (ASM) 7

 4.2. Air Traffic Flow Management (ATFM)..... 9

 4.3. Air Traffic Service (ATS) Coordination 10

Agenda Item 5: CNS Matters 11

 5.1. ATS Inter-facility Data Communication (AIDC) 11

 5.2. ADS-B..... 11

 5.3. Surveillance Data Sharing..... 11

 5.4. AIS/AIM Automation 11

 5.5. SWIM in ASEAN Demonstration..... 11

Agenda Item 6: Meteorology..... 12

Agenda Item 7: Operational Contingency Plan..... 12

Agenda Item 8: Side Meetings 12

Agenda Item 9: Future Direction..... 13

Agenda Item 10: Any Other Businesses..... 13

Agenda Item 11: Date and Venue of the Next Meeting 13

History of the Meeting

1.1. Introduction

1.1.1. The Mekong ATM Coordination Group (MK-ATM/CG) was established to ensure inter-regional harmonization, accelerate cooperative initiatives among its membership in order to enhance flight efficiency while maintaining safe, expeditious flow of traffic with the goal of providing seamless and harmonized air traffic management service. The MK-ATM/CG Membership include Aviation Regulator and Air Navigation Service Providers (ANSPs) from Cambodia, Lao PDR, Myanmar, Thailand and Viet Nam, supported by partners including, but not limited to airlines and airspace users in States mentioned.

1.1.2. The MK-ATM/CG meeting was originally held as “ATS Coordination Meeting” among Cambodia, Lao PDR, Thailand and Viet Nam with previous meetings held in Cambodia (2006), Thailand (2008) and Lao PDR (2009) respectively. The previous meetings discussed ATM coordination issues focusing the region surrounding the Mekong River.

1.1.3. Previous Mekong ATM Coordination Group Meetings were held in Chonburi, Thailand (2011), Bangkok, Thailand (2013), Da Nang, Viet Nam (2014), Siem Reap, Cambodia (2015), Vientiane, Lao PDR (2016), Yangon, Myanmar (2017) and Chiang Mai, Thailand (2018).

1.1.4. The Eighth Mekong ATM Coordination Group Meeting (MK-ATM/CG/8) was held at Sai Gon – Da Lat Hotel, Da Lat, Viet Nam on 11 – 13 December 2019.

1.2. Officers, Secretariat and Participants

1.2.1. The meeting was chaired by Mr. Nguyen The Hung, Director of Air Navigation Department, CAAV and co-chaired by Mr. Chhun Sivorn – Director of Air Navigation Standards and Safety Department, SSCA, Mr. Bountheung Soumontha – General Director of LANS and Mr. Winyou Sriwong – Senior Director of Air Traffic Management Network Bureau, AEROTHAI. Mr. Trinh Ngoc Khanh – Deputy Manager of Division of Flight Procedure Design and Cartography, VNAIC, VATM served as Leader of Secretariat Team of the Meeting (Other team members are Ms. Dang Hong Ly, Ms. Vu Thi Cam Anh and Mr. Nguyen Hong Hiep – VATM).

1.2.2. Total of fifty (50) participants, from Cambodia (State Secretariat of Civil Aviation: SSCA, Cambodia Air Traffic Services Co., Ltd.: CATS), Lao PDR (Department of Civil Aviation of Lao PDR: DCAL and Lao Air Navigation Services: LANS), Thailand (Aeronautical Radio of Thailand: AEROTHAI), Viet Nam (Civil Aviation Authority of Viet Nam: CAAV, Viet Nam Air Traffic Management Corporation: VATM, Airport Corporation of Viet Nam: ACV, Air Force - Air Defense, Operations Department of General Staff, Vietnam Airlines), China (Air Traffic Management Bureau, Civil Aviation Administration of China: ATMB, CAAC, Hong Kong CAD), and ICAO attended the meeting. List of participants can be found in **Appendix A**.

1.3. Opening of the Meeting

1.3.1. Mr. Nguyen The Hung - Director of Air Navigation Department, CAAV welcomed all the participants to the Eighth Mekong ATM Coordination Group Meeting. He hoped that the meeting will be a platform for participants to exchange views and share experience in ATS coordination toward the improvement of air traffic management in the Mekong region.

1.4. Documentation and Working Language

1.4.1. The meeting was conducted in English. All meeting documentation was in English.

1.4.2. A set of presentation slides was prepared as to support deliberation of the meeting.

1.4.3. All related meeting documents can be downloaded from: <http://bit.ly/MK-ATM-CG8>.

Summary of Conclusions:

Conclusion 8/1: Review MK-ATM/CG Task List At Subsequent Mekong Meetings

The meeting agreed to review and update MK-ATM/CG Task List in its next meetings.

Summary of Action Items:

Action Item 8/1: Review ICAO ATS Route Catalogue

The meeting tasked all Mekong Member States to:

- 1) actively review ICAO Asia/Pacific Region ATS Route Catalogue which is published and maintained up-to-date by the ICAO Asia/Pacific Regional Sub-Office. The most recent version of the Catalogue is available at ICAO Asia/Pacific Regional Office e-Documents webpage; and*
- 2) report the review progress updates to the next Mekong meetings.*

Action Item 8/2: Follow-Up Implementation of NOHET – UDN Route

The meeting tasked Thailand, supported by Lao PDR to provide updates on implementation of NOHET-UDN route to the next Mekong meeting.

Action Item 8/3: Follow-Up Implementation of BIMT Route Structure Phase 2b

The meeting tasked Thailand, supported by Myanmar, to provide updates on implementation of BIMT Route Structure Phase 2b to next Mekong meeting.

Action Item 8/4: Follow-Up Implementation of Parallel Route Structure Supplementing G474 and R468

The meeting tasked Thailand and Cambodia to provide updates on the implementation of parallel route structure supplementing G474 and R468 to the next Mekong meeting.

Action Item 8/5: Study VPH-ROT-SRE Route Proposal

The meeting tasked Viet Nam, Thailand and Lao PDR to study VPH-ROT-SRE route proposal and provide updates to the next Mekong meeting.

Action Item 8/6: Study TUNPO-BASIT Route Proposal

The meeting tasked Viet Nam, Cambodia and Thailand to study TUNPO-BASIT route proposal and provide updates to the next Mekong meeting.

Action Item 8/7: Study HX-KATBO Route Proposal

The meeting tasked Viet Nam, in coordination with China, to study HX-KATBO route proposal and provide updates to the next Mekong meeting.

Action Item 8/8: Study Route Proposals from AKSAG to Myanmar

The meeting tasked Viet Nam and Myanmar to study route proposals from AKSAG to Myanmar and provide updates to the next Mekong meeting.

Action Item 8/9: Coordinate And Resolve Non-Receipt of DEP Message

The meeting tasked Mekong Member States to actively coordinate and carry out corrective actions to resolve non-receipt of DEP message and provide updates to the next Mekong meeting.

Action Item 8/10: Updates on SWIM Implementation Progress

The meeting tasked Thailand to provide updates on SWIM implementation progress to the next Mekong meeting.

Action Item 8/11: Study ATM Contingency Plan Arrangement between Phnom Penh ACC and Ho Chi Minh ACC

The meeting tasked Cambodia, in coordination with Viet Nam, to further study ATM Contingency Plan Arrangement between Phnom Penh ACC and Ho Chi Minh ACC and provide updates to the next Mekong meeting.

Action Item 8/12: Implementation of 20NM Longitudinal Spacing on ATS Routes A1 and A202

The meeting tasked Viet Nam to provide the outcome of the discussion with China on the implementation of 20NM longitudinal spacing on ATS routes A1 and A202 at their bi-lateral meeting in December 2019 in order to facilitate further work of concerned States.

Agenda Item 1: Adoption of Agenda

1.1. The meeting adopted the following agenda:

- Agenda Item 1:** Adoption of Agenda
- Agenda Item 2:** Review of Related Meetings
- Agenda Item 3:** Information Sharing
 - 3.1. Traffic growth updates
 - 3.2. CNS/ATM system
- Agenda Item 4:** Air Traffic Management (ATM) Matters
 - 4.1. Airspace Management (ASM)
 - 4.2. Air Traffic Flow Management (ATFM)
 - 4.3. ATS Coordination
- Agenda Item 5:** CNS Matters
 - 5.1. ATS Inter-Facility Data Communication (AIDC)
 - 5.2. ADS-B
 - 5.3. Surveillance Data Sharing
 - 5.4. AIS/AIM Automation
 - 5.5. SWIM in ASEAN Demonstration
- Agenda Item 6:** Meteorology
- Agenda Item 7:** Operational Contingency Plan
- Agenda Item 8:** Side Meetings
- Agenda Item 9:** Future Direction
- Agenda Item 10:** Any Other Businesses
- Agenda Item 11:** Date and Venue of the next meeting

Agenda Item 2: Review of Related Meetings

Secretariat team reviewed related meetings including outcomes from The Seventh Mekong ATM Coordination Group Meeting (MK-ATM/CG/7); The Special ATM Coordination Meeting between Cambodia, Lao PDR, Myanmar, Thailand, Viet Nam (March 2019); The Eighth Meeting of the South China Sea Traffic Flow Review Group (SCSTFRG/8) and The Thirtieth Meeting of The Asia/Pacific Air Navigation Planning Implementation Regional Group (APANPIRG/30).

Mr. Mior Adli Bin Mior Sallehuddin, Regional Officer, ATM (AOM-ASM), ICAO APAC Regional Sub-Office reminded the meeting of Conclusion 7/3 of MK-ATM/CG/7 that agreed to review ICAO Asia/Pacific Region ATS Route Catalogue as part of Airspace Management agenda item in the next meetings. ICAO also reminded States to provide their inputs or feedbacks on the Catalogue to ICAO two weeks prior to the combined meeting of SAIOACG/10 and SEACG/27, to be held from 30 March to 3 April 2020, at Bangkok, Thailand.

Chairman of the meeting recalled all Mekong Member States to review ICAO Asia/Pacific Region ATS Route Catalogue before related meetings to facilitate the progress of routes establishment.

Action Item 8/I: Review ICAO ATS Route Catalogue

The meeting tasked all Mekong Member States to:

1) actively review ICAO Asia/Pacific Region ATS Route Catalogue which is published and maintained up-to-date by the ICAO Asia/Pacific Regional Sub-Office. The most recent version of the Catalogue is available at ICAO Asia/Pacific Regional Office e-Documents webpage; and

2) report the review progress updates to the next Mekong meetings.

Agenda Item 3: Information sharing

3.1. Traffic growth updates

Viet Nam, Lao PDR, Cambodia and Thailand shared information on traffic growth updates in each country (IP01, IP02, PR01, PR02).

The meeting noted information shared by Mekong Member States.

3.2. CNS/ATM system

3.2.1. Thailand presented the Thailand Modernization CNS/ATM System (TMCS) project with a purpose to support all aspects of Airspace Management, Air Traffic Services and Air Traffic Flow Management operations for Thailand's airspace (PR03).

The meeting noted the information shared by Thailand.

Agenda Item 4: Air Traffic Management (ATM) Matters

4.1. Airspace Management (ASM)

4.1.1. Update on Thailand - Lao PDR - Myanmar Route Structure Development (PR04)

Thailand presented update on:

- M648 (NOHET-UDN) development and implementation plan (waiting for the transition of new ATM system at Bangkok ACC);

- Coordinating procedure for flight departing/arriving Vientiane airport with effective date from 7 November 2019; and

- BIMT route structure Phase 2b with new proposal (waiting for response from Myanmar).

Lao PDR informed the meeting that NOHET-UDN route structure is under approval by both sides. Lao PDR and Thailand will continue to discuss this matter in Q1/2020.

Action Item 8/2: Follow-Up Implementation of NOHET – UDN Route

The meeting tasked Thailand, supported by Lao PDR to provide updates on implementation of NOHET-UDN route to the next Mekong meeting.

Action Item 8/3: Follow-Up Implementation of BIMT Route Structure Phase 2b

The meeting tasked Thailand, supported by Myanmar, to provide updates on implementation of BIMT Route Structure Phase 2b to the next Mekong meeting.

4.1.2. Progress of Parallel Route Structure Implementation between Thailand and Cambodia (PR05)

Thailand presented information regarding the background, current status and implementation plan on the establishment of RNAV parallel route structure supplementing G474 and R468. In which, Thailand and Cambodia will implement 2 new sets of RNAV 2 parallel routes within Bangkok and Cambodia (Start/Finish within Phnom Penh FIR) with 8 NM route spacing. Uni-directional air traffic flow will be applied by using flight level in accordance with ICAO Annex 2 Tables Of Cruising Levels. Conventional routes G474 and R468 will be kept to serve Non-RNAV 2 traffic at or below FL250 in both directions. A340 will be accordingly removed. Proposal for Amendment (PfA) to the BANP is waiting to be approved by ICAO Council. The intended effective date of these new parallel routes is 13 August 2020. Thailand also informed the meeting that they are under transition progress to an electronic-based platform so that all changes in their ATS routes system will be proceeded after the transition is completed.

Cambodia acknowledged the difficulties of Thailand and will wait for their readiness.

Viet Nam mentioned SATMCM/3 meeting has agreed that these ATS parallel routes should be studied in accordance with ICAO regional plan and Viet Nam has given the first priority to A1, the second priority to R468 and the third priority to G474. Viet Nam also reminded the meeting that the air traffic volume on the North-South axis of Viet Nam is very high and the newly proposed parallel route to G474 will cross the Viet Nam airspace area where there are many climbing/descending aircraft. That makes difficult for the air traffic management in Viet Nam.

Cambodia informed the meeting that traffic movement is also increasing leading to traffic congestion in Cambodia airspace. Therefore, Cambodia wish to implement these parallel routes especially R468 and will wait for the readiness of Viet Nam to implement at the next phases.

Regarding RNAV parallel route to R468, Viet Nam informed the meeting about certain operational issues, such as increasing flight distance/timing for flight operation of both sides. On the other hand, there are still many ongoing big projects in Viet Nam related to Ho Chi Minh ACC airspace resectorization, the

establishment of new Long Thanh International Airport..etc. which requires a lot of work and time. Therefore, Viet Nam would consider these proposals as mid-term solutions in the future.

Action Item 8/4: Follow-Up Implementation of Parallel Route Structure Supplementing G474 and R468

The meeting tasked Thailand and Cambodia to provide updates on the implementation of parallel route structure supplementing G474 and R468 to the next Mekong meeting.

4.1.3. Route establishment proposals by Vietnam Airlines (PR06)

Vietnam Airlines presented route establishment proposals to reduce flight time and save fuel cost:

- VPH-ROT-SRE to be applied for flights from HAN (Noi Bai) to REP (Siem Reap) with frequency 42 flights/week.

- TUNPO-BASIT to be applied for flights from SGN (Tan Son Nhat) to HKT (Phuket) with frequency 6 flights/week.

- HX-KATBO to be applied for flights from Viet Nam to CTU (Chengdu), LHW (Lanzhou), Europe and vice versa.

- For flights from HAN (Noi Bai) to Myanmar, 2 options are provided: (1) AKSAG-LK NDB; or (2) Shortcut using intersection waypoint between B465 & V12.

Viet Nam wants to consider VPH-ROT-SRE as a conditional route with specifications including usage time, altitude limits due to it might cross many reservation airspace of Viet Nam. TUNPO-BASIT route needs comments from Cambodia, Thailand and HX-KATBO route needs comments from China. The proposals for flights to Myanmar should be discussed later due to the absence of Myanmar.

Lao PDR and Thailand supported VPH-ROT-SRE route as it could bring operational benefits. Thailand also advised there should be adjustment or tweak to the proposed route as it needs to avoid crossing some airspace or current ATS route structures.

Cambodia agreed in principle with TUNPO-BASIT route and will conduct further study. Thailand reminded the meeting of the process to propose new ATS routes that the proposals need to be submitted to ICAO for the registration into ATS Route Catalogue first.

The meeting agreed that concerned States should analyse in depth the possibility of Vietnam Airlines' route proposals.

Action Item 8/5: Study VPH-ROT-SRE Route Proposal

The meeting tasked Viet Nam, Thailand and Lao PDR to study VPH-ROT-SRE route proposal and provide updates to the next Mekong meeting.

Action Item 8/6: Study TUNPO-BASIT Route Proposal

The meeting tasked Viet Nam, Cambodia and Thailand to study TUNPO-BASIT route proposal and provide updates to the next Mekong meeting.

Action Item 8/7: Study HX-KATBO Route Proposal

The meeting tasked Viet Nam, in coordination with China, to study HX-KATBO route proposal and provide updates to the next Mekong meeting.

Action Item 8/8: Study Route Proposals from AKSAG to Myanmar

The meeting tasked Viet Nam and Myanmar to study route proposals from AKSAG to Myanmar and provide updates to the next Mekong meeting.

4.1.4. Implementation of unidirectional parallel routes to replace bidirectional A1/P901 IKELA – KAPLI route (WP06)

Hong Kong, China presented the plan to implement unidirectional parallel routes to replace existing bidirectional A1/P901 IKELA – KAPLI route in Q2/2020 and proposes same arrangement be extended into Sanya FIR. The proposed changes are aimed at enhancing ATC operation and meeting the air traffic growth in the region. In which, Hong Kong, China proposes to designate a new route through IKELA unidirectional for

eastbound traffic only and adjust A1 to route through a new way point established to the north of IKELA between Hong Kong and Sanya FIR for westbound traffic only. (Figure 1)

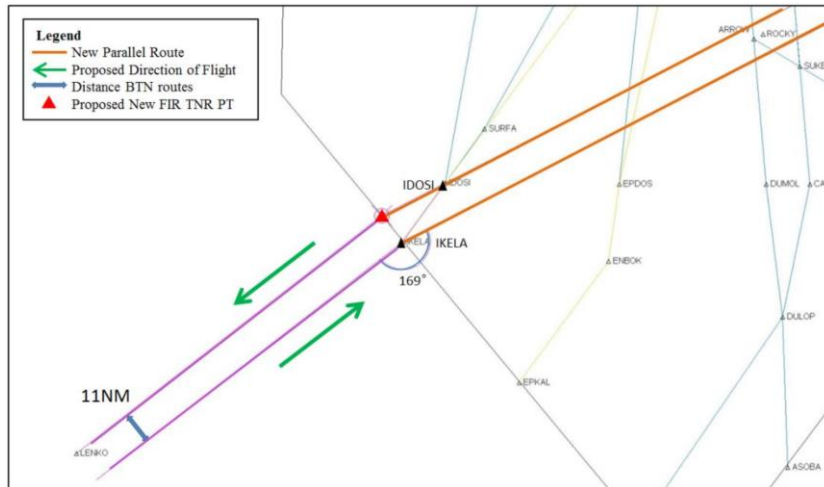


Figure 1

Viet Nam informed that due to ATS surveillance separation in the certain States is now 10 NM so that the route spacing should be strategically 20-30 NM.

Hong Kong, China understood the requirement of Viet Nam as the ATM systems of both sides are different. However, to serve its operational needs, Hong Kong, China still would like to implement this specification and concerned States together could adjust the route parameters at the FIR boundaries.

Thailand proposed Hong Kong, China to consider the aircraft fleet equipment capability. If the parallel routes are too close to each other, it would require a higher RNP specification. Therefore, Thailand proposed to put this route into the ICAO Asia/Pacific Region ATS Route Catalogue as this is also a high-demanded route.

ICAO reminded the meeting that this topic was also discussed at SCSTFRG/8 and it was agreed that RNAV 2 would be applied for these unidirectional routes. Referring to the PBN-In-A-Page guidance, the lateral spacing minima for RNAV 2 route is 8-9 NM. However, the traffic orientation on these parallel routes should be confirmed by Viet Nam first, then the route spacing could be considered afterward. ICAO informed the meeting that for the route to be registered into the ICAO Asia/Pacific Region ATS Route Catalogue, the orientation of the proposed parallel route would need to be determined beforehand.

Viet Nam asked Hong Kong, China whether Hong Kong, China have received feedback about this matter from Sanya ACC. Hong Kong, China informed that they are still waiting for Sanya ACC's response, however due to operational needs, they will implement the parallel route within Hong Kong FIR and would like to propose to extend the implementation of these parallel routes into Sanya FIR. Regarding the traffic orientation on the routes, Hong Kong, China informed that the reverse orientation against their proposal would make them more difficult to resolve the conflicting points in their airspace.

The meeting agreed to continue to further discuss this matter at the side meeting.

4.2. Air Traffic Flow Management (ATFM)

4.2.1. ATFM Implementation Plan in Lao PDR (IP03)

Lao PDR presents the status and the plan of the AFTM implementation in Lao PDR and shared the information regarding implementation experience with adjacent FIRs. With the cooperation between LANS and AEROTHAI to implement the ATFM in Lao PDR, LANS has established the ATFM team to work with AEROTHAI ATFM development team for using Air Traffic Flow Advisory System (ATFAS). Bangkok ATFMU has issued CTOT for the flight departing from VLVT and VLLB, which are heading to VTBD and VTBS every day, Primary CTOT information will send via AFTN or AMHS and email. Referring to the flow restriction in Kunming FIR (ZPKM) on the ATFM measure on the SAGAG point, LANS issues NOTAM for the aircraft is planning to enter Kunming FIR northbound via SAGAG point along the ATS route A581 shall submit FPL three hour before.

The meeting noted the cooperation in ATFM between Lao PDR and Thailand and proposed both sides to continue the progress to facilitate flight operations.

4.2.2. Level Blocking As An ATFM Measure (IP04)

Hong Kong, China presents the impacts of level blocking as an ATFM measures on the traffic flow in the Asia Pacific Region. In which, the automatic passing back of level restrictions received from a downstream ATC Unit is often seen to be the easiest way of compliance without incurring any additional ATC workload. However, it could be avoided if there is a better understanding of the actual impacts on operation and any genuine demand/capacity imbalance in intervening FIRs. Two scenarios were demonstrated to address some recent issues of Hong Kong, China.

The meeting noted the information shared by Hong Kong, China.

Post meeting noted Viet Nam clarified that there is no time and flight level restriction for traffic from Sanya FIR to Viet Nam's FIRs (in accordance with the current LOA, FL260 is just an optimum FL for transferring the aircraft to arrive at Da Nang Airport).

4.2.3. Asia-Pacific Multi-Nodal ATFM Collaboration Progress Update (PR07)

Thailand updated information regarding the APAC Multi-Nodal ATFM collaboration, focusing on key operational updates, key technical updates and cross-region operational updates.

The meeting noted information shared by Thailand.

4.2.4. Corrective Action for ATS Message Errors (PR08)

Viet Nam presents the updated information on the analysis of the incidence of non-receipt of DEP messages and other problems with ATS messages and main reasons finding relating to the incidence. Viet Nam has taken actions to ensure compliance with the provisions of the PANS-ATM for the distribution of DEP messages and continuously monitored the improvement progress. The results showed that from May 2019 there have been no missing DEP messages from Viet Nam.

Lao PDR also shared information on the progress of correcting ATS message errors.

The meeting agreed that Mekong Member States should also carry out corrective actions regarding missing DEP messages to comply with ICAO provisions.

Action Item 8/9: Coordinate And Resolve Non-Receipt of DEP Message

The meeting tasked Mekong Member States to actively coordinate and carry out corrective actions to resolve non-receipt of DEP message and provide updates to the next Mekong meeting.

4.3. Air Traffic Service (ATS) Coordination

4.3.1. Revision of ATS LOA between Ho Chi Minh ACC and Phnom Penh ACC

Viet Nam and Cambodia signed the Amendment No. 2 to the ATS operational LOA between Ho Chi Minh ACC and Phnom Penh ACC with effective date from 2nd January 2020 relating to the:

- a) modify No-PDC flight levels on ATS route M753 and M755;
- b) modify No-PDC flight levels for traffic departing/arriving Phu Quoc international airport, Viet Nam;
- c) add No-PDC flight levels for traffic departing/arriving Sihanouk International airport, Cambodia;
- d) modify Phnom Penh ACC designated persons for the coordination and management of this LOA;
- e) modify contact frequency of Sector 3 Ho Chi Minh ACC.

4.3.2. Revision of ATS LOA between Vientiane ACC and Phnom Penh ACC

Lao PDR and Cambodia signed the ATS LOA between Vientiane ACC and Phnom Penh ACC with effective date from 2nd January 2020 relating to the:

- a) modify AIDC Procedure;
- b) add Contingency Route and Procedure.

Agenda Item 5: CNS Matters

5.1. ATS Inter-facility Data Communication (AIDC)

5.1.1. AIDC and AMHS Implementation in Viet Nam (IP05)

Viet Nam presented information of AIDC and AMHS implementation in Viet Nam.

Based on the discussion, due to ATM/CNS workload in Q1/2020, Viet Nam and Cambodia agreed to conduct AIDC operational trial in May/June 2020. Besides, due to technical issues, Viet Nam and Lao PDR would exchange solutions to solve such issues, tentatively in Q1-Q2/2020 before proceeding the technical test again.

Viet Nam encouraged concerned States to coordinate with Viet Nam to carry out AIDC implementation and advised Hong Kong, China to facilitate the AMHS implementation progress with Viet Nam. Hong Kong, China acknowledged and would inform Viet Nam later regarding this matter.

(The AMHS test between Hong Kong and Viet Nam will be carried out between 19 December and 20 December 2019)

5.1.2. AIDC Implementation in Lao PDR (IP06)

Lao PDR shared information on the status and the plan of the AIDC implementation in Lao PDR and the information regarding implementation experience with adjacent ACCs. The AIDC testing has been conducted with adjacent ACCs since the year 2014. Up to current time, Vientiane ACC has conducted testing with Phnom Penh ACC, Bangkok ACC, Ha Noi ACC, Ho Chi Minh ACC, and Kunming ACC and not officially with Yangon ACC accordingly. Some failure issues have been solved. Others still have some remaining problems to be solved to support the operational needs.

The meeting noted the information shared by Lao PDR.

5.1.3. AIDC Implementation in Thailand (PR09)

Thailand presented AIDC Implementation Progress Update with 4 adjacent FIRs including Yangon ACC, Vientiane ACC, Phnom Penh ACC and Kuala Lumpur ATCC. The agreed message set are AOC, ABI (Notified), EST (Coordinated), ACP and TOC (Transfer of Control). In Q2/2020, it is expected that Thailand will complete the implementation of AIDC with all adjacent FIRs.

The meeting noted the information shared by Thailand.

5.2. ADS-B

There was no discussion on this agenda item.

5.3. Surveillance Data Sharing

There was no discussion on this agenda item.

5.4. AIS/AIM Automation

5.4.1. Update of AIS-AIM Transition in Cambodia (PR10)

Cambodia presented the update of AIS-AIM transition noting the delegation of AIS/AIM functions from SSCA to CATS and detailed specification of Cambodia AIM system.

The meeting noted the information shared by Cambodia.

5.5. SWIM in ASEAN Demonstration

5.5.1. SWIM Implementation in Viet Nam (IP07)

Viet Nam presented the information of SWIM implementation in Viet Nam. Recognized the important of implementing SWIM, Viet Nam has participated in SWIM ASEAN Demonstration at level 2 (producer and consumer). Viet Nam used the EMS from Harris to convert legacy information in to SWIM format and trial with other countries. Viet Nam also has established a SWIM task force to make a plan to deploy SWIM for VATM.

The meeting noted the information shared by Viet Nam.

5.5.2. SWIM in ASEAN Demonstration Report (PR11)

Thailand presented information on background, development, technical infrastructure and demonstration scenarios of SWIM in APAC region. Thailand also provided its observations and lessons learnt from the SWIM demonstration project and encouraged APAC States to move forward with SWIM.

The meeting noted the information shared by Thailand and proposed Thailand to provide more detailed materials regarding SWIM implementation in the region and to keep updating the implementation progress at the next meeting.

Action Item 8/10: Updates on SWIM Implementation Progress

The meeting tasked Thailand to provide updates on SWIM implementation progress to the next Mekong meeting.

Agenda Item 6: Meteorology

6.1. Viet Nam expressed its wish to facilitate the collaboration and coordination in SIGMET among Mekong Member States as the air traffic volume continues to grow rapidly and that requires more timely, accurate and harmonized meteorological information. There is a need for better coordination to deliver seamless services and products to users.

The meeting noted Viet Nam's suggestion and encouraged Mekong Member States to pay more attention to the SIGMET coordination in the region.

Agenda Item 7: Operational Contingency Plan

7.1. ATM Contingency Plan for Phnom Penh Flight Information Region (PR12)

Cambodia presented its ATM contingency plan arrangement to ensure the continued safety of air navigation in the event of partial or total disruption of air traffic services and provide the ATS procedures and contingency route structure using published ATS routes that will allow aircraft operators to transit Phnom Penh FIR during periods of limited or no ATS.

Cambodia informed the meeting that related LOA between Phnom Penh ACC and Bangkok ACC was signed and implemented. LOA between Phnom Penh ACC and Vientiane ACC would be finalized and signed during MK-ATM/CG/8. For LOA between Phnom Penh ACC and Ho Chi Minh ACC, Cambodia would like to further discuss on routes and FL.

Viet Nam requested neighboring States to consider sending the official letters to the Aviation Authority of Viet Nam in case of wishing to delegate contingency route(s). After that, Viet Nam could further study on its capability for the consideration of neighboring States' proposed contingency plan. Viet Nam will closely coordinate as well as do the best to support Cambodia in this matter.

ICAO emphasized that it is necessary to assess the capability of ANSPs including aspects of communication, surveillance and equipment to see whether they can support the contingency plans. Then, the decision of which ANSP is able to support which adjacent States' airspace portion can be made.

Both Vietnam and Cambodia agreed that this matter should be discussed and coordinated thoroughly.

Action Item 8/11: Study ATM Contingency Plan Arrangement between Phnom Penh ACC and Ho Chi Minh ACC

The meeting tasked Cambodia, in coordination with Viet Nam, to further study ATM Contingency Plan Arrangement between Phnom Penh ACC and Ho Chi Minh ACC and provide updates to the next Mekong meeting.

Agenda Item 8: Side Meetings

8.1. Side meeting on the development of parallel route to A1

Viet Nam reiterated that this proposed uni-directional routes would enhance a safety of overflight traffic between Bangkok and Hong Kong/beyond, but would strongly affect to ATM and flight procedures in Da Nang TMA. Viet Nam provided its reservation on the reverse traffic flow orientation was to suit the flow of increasingly traffic operating from/to Da Nang International Airport. The proposed traffic flow orientation as discussed at SCSTFRG/8 would increase flight distance/time and crossing points between arriving and

departing traffic from Da Nang to the Southeast Asia/beyond and vice versa. This also would increase ATC workload, and Viet Nam requested the States concerned to re-consider the orientation.

Hong Kong commented that A1 and the new parallel route are serving as the highways to facilitate the overall traffic flow of the States concerned. Hong Kong suggested that the alignment of A1 and the new parallel route can be adjusted in order to harmonize with the local air traffic operation.

Thailand suggested in order to facilitate the existing SIDs and STARs (with minimum changes) for Da Nang International Airport, Viet Nam to consider implementing the route segment between Da Nang VOR and BUNTA as bi-directional. A transition route should also be implemented to support this proposal.

As the meeting was not able to agree on the orientation of the parallel routes, discussion on the development of uni-directional parallel route to A1 would be deferred. ICAO suggested the meeting to consider having a side meeting during the upcoming combined SAIAOCG/10 and SEACG/27, to be held from 30 March to 3 April 2020.

8.2. Side meeting on the enhancement of longitudinal spacing on ATS routes A1 and A202

Hong Kong China, Lao PDR, Thailand and Viet Nam agreed to implement 20NM longitudinal spacing on ATS routes A1 and A202. However, the implementation of 20NM longitudinal spacing on these routes were pending agreement from China.

The meeting was informed that China and Viet Nam would be conducting their bi-lateral meeting in the following week of December 2019. This matter would be discussed at that meeting, and Viet Nam would provide the outcome of the discussion to all the MK-ATM/CG/8 participants.

If the 20NM longitudinal spacing was accepted by China, the States concerned would need to work together to agree to a harmonised implementation timeline. This could be done through offline discussion or if needed, a side meeting could be conducted during the combined SAIAOCG/10 and SEACG/27, to be held from 30 March to 3 April 2020.

Action Item 8/12: Implementation of 20NM Longitudinal Spacing on ATS Routes A1 and A202

The meeting tasked Viet Nam to provide the outcome of the discussion with China on the implementation of 20NM longitudinal spacing on ATS routes A1 and A202 at their bi-lateral meeting in December 2019 in order to facilitate further work of concerned States.

8.3. A side meeting on ATS route R575 among Cambodia, Lao PDR and Thailand regarding No-PDC FL370 was concluded that the proposed FL still require pre-coordination due to traffic constraints on A1.

Agenda Item 9: Future Direction

There was no discussion on this agenda item.

Agenda Item 10: Any Other Businesses

Mekong Member States agreed that the task list of MK-ATM/CG should be reviewed and updated at each meeting in the future.

Conclusion 8/1: Review MK-ATM/CG Task List At Subsequent Mekong Meetings

The meeting agreed to review and update MK-ATM/CG Task List in its next meetings.

Agenda Item 11: Date and Venue of the Next Meeting

Following agreement from MK-ATM/CG/3 & MK-ATM/CG/7 meetings that the hosted countries for Mekong ATM Coordination Group Meeting shall be rotated among the members in alphabetical order, the following schedule of Mekong ATM Coordination Group Meetings for 2020 – 2023 is shown below:

- 2020: Cambodia
- 2021: Lao PDR
- 2022: Myanmar
- 2023: Thailand

During the MK-ATM/CG/8 meeting, Mekong Member States agreed in principle to organize the next Mekong ATM Coordination Group Meetings (MK-ATM/CG). Cambodia reported the meeting that due to its

tight working schedule, Cambodia requested and Thailand agreed to host the MK-ATM/CG/9 in Q4/2020. Cambodia will host the MK-ATM/CG meeting in 2023.

Location and timing of the next meeting will be informed to Mekong Member States and concerned organization in due course.

Closing of the Meeting

In closing the meeting, Mr. Nguyen The Hung, Director of Navigation Department, CAAV on behalf of the chairman of the meeting thanked all the delegates for attendance and active participation in the meeting's discussions.

LIST OF PARTICIPANTS

THE EIGHTH MEKONG ATM COORDINATION GROUP MEETING (MK-ATM/CG/8)

Da Lat, Viet Nam 09-13 December 2019

No.	Full Name	Title/Organization	Email/Note
I.	ICAO (1)		
1	Mr. MIOR ADLI BIN MIOR SALLEHUDDIN	Regional officer, ATM (AOM-ASM)	msallehhuddin@icao.int
II.	CHINA (4)		
2	Mr. DING LEI	Air Traffic Control Management of ATMB/CAAC	dinglei@atmb.net.cn ; dinglei_06@sina.com
3	Mr. TAN XIANLONG	Air Traffic Control Division of Southwest Regional ATMB, ATMB/CAAC	caactxl@sina.com
4	Mr. XU WEIDONG	Air Traffic Control Division of Southwest Regional ATMB, ATMB/CAAC	xwdwy@163.com
5	DONG PEIJI	Avisor of ATMB/CAAC	dongpi@atcc.com.cn
III.	HONGKONG/CHINA (3)		
6	WONG SHAN NGAR SARAH	Senior safety & Quality officer, Civil Aviation Department– Hong kong (HKCAD)	ssnwong@cad.gov.hk
7	MAK YUET YAN ANNIE	Evaluation Officer, Civil Aviation Department– Hong Kong (HKCAD)	ayymak@cad.gov.hk
8	MA FUNG PUN	Air Traffic Control Officer, Civil Aviation Department– Hong Kong (HKCAD)	cfpma@cad.gov.hk
IV.	CAMBODIA (9)		
9	Dr. MAO HAVANNALL	Minister in charge of SSCA, Head of Delegation;	

10	Mr. SARIN KUNAKOR	Deputy Director General for Technical/ NCMC	sarinkunakor@yahoo.com ,
11	Mr. VANN CHANTY	Assistant to SSCA and Director of Air Transport Department, SSCA	chanty@ssca-gov.net
12	Mr. LONG HAY KAMPOUL	Director of International Relations and Legal Affairs Department, SSCA	kampoulphnom@yahoo.com
13	Mr. CHHUN SIVORN	Director of Air Navigation Standards and Safety Department, SSCA	ans.scca@gmail.com
14	THITH PHOUMITH	Deputy Director of ANS, SSCA	tphoumith9999@gmail.com
15	Mr. SAICHON PINGSAKUL	Senio Director, Cambodia Air Traffic Services (CATS)	saichonp@cats.com.kh
16	Mr. KHORN VANNAK	Manager, Cambodia Air Traffic Services (CATS)	yannakk@cats.com.kh
17	Mr. SIVARAK CHUTIPONG	Director, Cambodia Air Traffic Services	sivarakc@cats.com.kh
V.	LAO PDR (10)		
18	Mr. KHINE SIMVONGSA	Deputy Director General, DCAL	
19	Mr. BOUNTHEUNG SOUMONTHA	General Director, LANS	
20	Mr. KHAMSAVAN SYSOMBOUN	Deputy General Director of Airport of Lao PDR	
21	Mr. SOHNSACKSIT KHAMKEO	Director of Air Navigation Standard Division, DCAL	sohnsacksit@dcal.gov.la
22	Mr. MANASAVANH KOUNLATH	Director of Aeronautical information services division, LANS	manasavanh@gmail.com
23	Mr. AMDOUNLA SALINTHONE	Director of Air Traffic Services Division,LANS	asalinthone@gmail.com
24	Mr. PHETSADACHAN CHOUNLAMOUNTY	Director of Finance Division, AOL	
25	Mr. XAYSAVANH KITTANOUVONG	Acting Director Air Traffic Technical Service Center, LANS	

26	XAYGNASITH XOUYMANIVONG	ACC Supervisor, LANS	moukth@msn.com
27	Mr. MOUKPHAMAY THAMMAVONGSA	CNS Engineer, LANS	
VI.	THAILAND (4)		
28	MR. WINYOU SRIWONG	Senior Director, Air Traffic Management Network Bureau, AEROTHAI	winyou.sr@aerothai.co.th
29	MISS CHANANYA PINKAEWPRASERT	Air Traffic Management Network Manager, AEROTHAI	chananya.pi@aerothai.co.th
30	MR. ARAM LERTLUM	Air Traffic Control Manager (Bangkok Area Control Center), AEROTHAI	aram.le@aerothai.co.th
31	MR. NATTAPOL SRINORASRET	Air Traffic Systems Engineer, AEROTHAI	nattapol.sr@aerothai.co.th
VII.	VIET NAM (19)		
32	Mr. NGUYEN THE HUNG	Director, Air Navigation Department, CAAV	hungand@caa.gov.vn
33	Mr. TRAN QUANG TRINH	Colonel, Operations Department of General Staff	tranquangtrinhc51@gmail.com
34	Mr. NGUYEN ANH MINH	Colonel, Air Force – Air Defense	minhna1966@gmail.com
35	Mr. NGUYEN DINH CONG	Deputy Director General-VATM	ndcong1963@yahoo.com
36	Mr. NGUYEN DINH DUONG	Deputy Director General, Airports Corporation of Viet Nam (ACV)	ndduong@vietnamaiport.vn ; nguyenduongacv@gmail.com
37	Mr. NGUYEN CONG HOAN	Director, Airport Operation Department, ACV	hoanacv1972@gmail.com
38	Mr. NGUYEN MANH QUANG	Director, ATFCM, VATM	nguyenmqatm@gmail.com

39	Mr. TRUONG HAI NAM	OCC Deputy Director, Vietnam Airlines	namtruonghai@vietnamairlines.com
40	Mr. BUI THANH HA	Director, ATS Department, VATM	habt@vatm.vn
41	Mr. NINH THI UYEN	D/Director, ATS Department, VATM	ninhuyen@vatm.vn
42	Mr. PHAM HUNG SON	D/Director, CNS Department, VATM	phson_vatm@yahoo.com
43	Mr. TRAN XUAN SON	D/Director, NORATS, VATM	transon.ats@vatm.vn
44	Mr. NGUYEN QUY DON	D/Director, SORATS, VATM	quydon2906@yahoo.com
45	Mr. TRINH NGOC KHANH	D/Manager, Division of Flight Design & Cartography, VNAIC, VATM	ori.amie@gmail.com
46	Mr. NGUYEN HONG HIEP	Group Leader, IT Group, CNS Department, VATM	nguyenhonghiepbk@vatm.vn
47	Mr. LE XUAN THANG	Deputy Chef of Division – OCC, Vietnam Airlines	thanglx@vietnamairlines.com
48	Ms. PHAN THI DOAN TRANG	ATC Deputy Chief, Da Nang APP/TWR, MIRATS, VATM	atctrangphan@gmail.com
49	Ms. DANG HONG LY	Official, Corporation Office, ATM	danghongly1985@gmail.com
50	Ms. VU THI CAM ANH	Official, ATS Department, VATM	camanh.vth@gmail.com