International Civil Aviation Organization

Thirteenth Meeting of the Air Traffic Management Sub-Group (ATM/SG/13) of APANPIRG

Singapore, 25 – 29 August 2025

Agenda Item 5: ATM Systems (Modernization, Seamless ATM, CNS, ATFM)

AIR TRAFFIC FLOW MANAGEMENT STEERING GROUP MEETING OUTCOMES

(Presented by Secretariat / Chair of ATFM/SG)

SUMMARY

This paper presents the outcomes of the Fifteenth Meeting of the Air Traffic Flow Management Steering Group (ATFM/SG/15) and sub-regional cross border ATFM programs.

1. INTRODUCTION

1.1 The Meteorology/Air Traffic Management (MET/ATM) Seminar and Fifteenth Meeting of Air Traffic Flow Management Steering Group (ATFM/SG/15) were held in Bangkok, Thailand, from 28 April to 2 May 2025. The meeting included a joint plenary session with the Fourteenth Meeting of Meteorological Requirements Working Group (MET/R WG/14).

1.2 There were 27 working papers, seven information papers, and three flimsies considered by the meeting. The meeting papers, presentation and report are available on the ATFM/SG/15 meeting webpage: https://www2023.icao.int/APAC/Meetings/Pages/2025-ATFM-SG-15.aspx.

1.3 The meeting agreed to the following Draft Conclusions:

a) ***Draft Conclusion ATFM/SG/15-1: Addition Appendix to the Asia/Pacific Regional Framework for Collaborative ATFM***

The Operational Capacity Guidelines from Republic of Korea to be added as an appendix to the next update Asia/Pacific Regional Framework for Collaborative ATFM.

b) ***Draft Conclusion ATFM/SG/15-2: Adoption of AFTN/AMHS-based Interface Control Document (ICD) to the Asia/Pacific Regional Framework for Collaborative ATFM***

That, the revised AFTN/AMHS-based Interface Control Document at Appendix D to the Meeting Report be uploaded to the Asia/Pacific Regional Office website, to replace the existing version, for use by Asia/Pacific States/Administrations in implementing cross-border ATFM communications in accordance with the provision of the Regional Framework for Collaborative ATFM.

c) ***Draft Conclusion ATFM/SG/15-3: Change Process of the FIXM Version Used for Asia/Pacific Cross-Border Operational ATFM System-to-System Information Exchange in SWIM***

That, the change process for the Cross-Border FIXM Operating Version be

a) Submit the proposed change to the FIXM version, in the form of Working Paper, to ATFM SG for review and assessment of its operational impacts and suitability in supporting regional operational requirements;

b) Upon adoption by ATFM SG, submit the proposal to SWIM TF for review and assessment of its technical implications; and

c) Following agreement by SWIM TF, submit a summary of the change proposal to ATM SG for approval, and subsequently to APANPIRG for endorsement.

and content of change proposal be

a) Name of State(s) or collaboration group, including the specific names of organizations, proposing the change;

b) Proposed FIXM version;

c) Reason(s) for the proposed change(s);

d) Testing result of the proposed version; and

e) Proposed timeframe for the change to take effect (a minimum lead time of 2 years is required).

To be adopted as a regional process for revision of FIXM version for cross-border ATFM information exchange.

d) ***Draft Conclusion ATFM/SG/15-4: The Use of Digital Form to Collect Annual Regional ATFM plan Monitoring and Reporting Form and Regional A-CDM Monitoring and Reporting Scheme***

Adopt the use of digital form (Microsoft Forms) as the primary means to collect annual Regional ATFM Monitoring and Reporting Form and Regional A-CDM Monitoring and Reporting Scheme.

1.4 The meeting agreed to the following Draft Decision:

Draft Decision ATFM/SG/15-5: Normalisation of Asia/Pacific Regional A-CDM Monitoring and Reporting Scheme

The trial Asia/Pacific Regional A-CDM Monitoring and Reporting Scheme to be normalized as part of the annual reporting framework.

1.5 The meeting agreed to the following Decision:

Decision ATFM/SG/15-6: Establishment of Asia/Pacific ATFM Concept Design Ad-Hoc Group

That, ATFM/SG establishes the Asia/Pacific ATFM Concept Design Ad-Hoc Group to review and redesign the regional ATFM concept of operations, considering the challenges of the current operations and the advent of new capabilities and concepts including but not limited to SWIM, FF-ICE, TBO. Key deliverable of the Ad-Hoc Group will be the new version of Asia/Pacific Regional ATFM Concept of Operations, guided by the group's Terms of Reference (TOR) as Appendix E to the Meeting Report.

2. DISCUSSION

MET/ATM Seminar

2.1 A recap of the MET/ATM Seminar conducted on 30 April 2025 was presented and the summary of the seminar was filed as ATFM/SG/15 Flimsy 01. A total of ten papers were presented during the seminar.

Presentation on ATFM Global Development

2.2 Mr. Elie El Khoury, Regional Coordinator from Air Navigation Bureau, ICAO HQ presented on the topic of "ATFM Global Development" to provide details on upcoming ATFM provisions and ICAO provisions in global manner.

2.3 The meeting was informed on the proposed amendments to ICAO Annex 11 *Air Traffic Services* regarding the new provisions for States to establish and provide ATFM service for all controlled airspace and designated aerodromes, including the establishment of ATFM units, coordination between them, and the designation of Flow Management Positions (FMPs).

2.4 Furthermore, the presentation detailed the evolution of ATFM services through strategic planning, pre-tactical, tactical, and post-operations phases, along with the types of information to be provided and exchanged between ATFM units, Air Traffic Services (ATS) units, FF-ICE service units, operators, and aerodromes. It mentioned the inclusion of ATFM messages in ICAO Doc 9971 *Manual on Collaborative Air Traffic Flow Management (ATFM)* and the updates to ATFM guidance, emphasizing the requirements for ATFM Civil Aviation Regulations and the elements of an ATFM Implementation Plan.

2.5 Chair of ATFM/SG thanked Mr. Elie Khoury on his presentation and informed the meeting that the present *Regional ATFM Monitoring and Reporting Form* would be reviewed in 2026 to include the new ATFM provisions in the reporting form.

Regional ATFM Implementation Status

2.6 ICAO provided a summary of the ATFM implementation status of APAC Administrations, reported against the performance objectives of the Regional Framework for Collaborative ATFM. Annual implementation status reports for 2025 were received from 23 Asia/Pacific Administrations:

Bangladesh, Bhutan, Cambodia, China, Hong Kong China, Macao China, Fiji, India, Indonesia, Japan, Malaysia, Nepal, New Zealand, Pakistan, Philippines, Republic of Korea, Singapore, Sri Lanka, Thailand, United States and Viet Nam

2.7 Australia and Mongolia submitted their implementation status after the preparation of the corresponding working paper for the ATFM/SG/15, and their implementation status were included in this report.

2.8 Australia informed the ATFM/SG Secretariat that due to the flight time considerations between Australia and other international ports, Australia would no longer implement cross-border ATFM measures and thus changing the status from Tier A to Tier B.

2.9 Based on reports received States were assessed as having Robust (90-100%), Marginal (70-89%) or Incomplete (0-69%) implementation.

2.10 Australia, Cambodia, China, Hong Kong China, Japan, Republic of Korea, Singapore, Thailand and USA were assessed as having "Robust" implementation.

2.11 The following APAC States had never provided an implementation status report:

Afghanistan, Brunei Darussalam, Cook Islands, DPR Korea, Kiribati, Lao PDR, Marshall Islands, Micronesia, Nauru, Palau, Samoa, Solomon Islands, Timor Leste, Tonga, Tuvalu and Vanuatu.

2.12 **Table 1** below summarizes current implementation status.

Table 1: ATFM Implementation Status

Administration (Tier)	% age of Implementation				Implementation Status
	2022	2023	2024	2025	
Afghanistan (B)	*no report*	*no report*	*no report*	*no report*	Did Not Report
Australia (B)	*no report*	*no report*	*98*	*95*	Robust
Bangladesh (B)	13	*no report*	*6*	15	Incomplete
Bhutan (B)	*no report*	21	21	21	Incomplete
Brunei Darussalam (B)	*no report*	*no report*	*no report*	*no report*	Did Not Report
Cambodia (A)	82	95	89	91	Robust
China (A)	*no report*	97	99	94	Robust
Hong Kong, China (A)	89	95	95	95	Robust
Macao, China (B)	*no report*	39	47	47	Incomplete
Cook Islands (B)	*no report*	*no report*	*no report*	*no report*	Did Not Report
DPR Korea (B)	*no report*	*no report*	*no report*	*no report*	Did Not Report
Fiji (B)	*no report*	0	16	24	Incomplete
France (French Polynesia) (B)	*no report*	40	40	*no report*	Incomplete
India (A)	84	85	88	88	Marginal
Indonesia (A)	63	54	57	57	Incomplete
Japan (A)	*no report*	91	93	93	Robust
Kiribati (B)	*no report*	*no report*	*no report*	*no report*	Did Not Report
Lao PDR (A)	*no report*	*no report*	*no report*	*no report*	Did Not Report
Malaysia (A)	*no report*	36	37	84	Marginal
Maldives (B)	*no report*	*no report*	*20*	*no report*	Incomplete
Marshall Islands (B)	*no report*	*no report*	*no report*	*no report*	Did Not Report
Micronesia (B)	*no report*	*no report*	*no report*	*no report*	Did Not Report
Mongolia (A)	40	28	28	31	Incomplete
Myanmar (B)	*no report*	*no report*	*30*	*no report*	Incomplete
Nauru (B)	*no report*	*no report*	*no report*	*no report*	Did Not Report
Nepal (B)	*no report*	*no report*	*39*	39	Incomplete
New Caledonia (B)	*no report*	*no report*	*43*	*no report*	Incomplete

Administration (Tier)	% age of Implementation				Implementation Status
	2022	2023	2024	2025	
New Zealand (A)	67	78	78	73	Marginal
Pakistan (B)	80	59	65	65	Incomplete
Palau (B)	*no report*	*no report*	*no report*	*no report*	Did Not Report
Papua New Guinea (A)	*no report*	*no report*	*21*	*no report*	Incomplete
Philippines (A)	*no report*	59	64	65	Incomplete
Republic of Korea (A)	87	93	97	97	Robust
Samoa (B)	*no report*	*no report*	*no report*	*no report*	Did Not Report
Singapore (A)	97	99	99	100	Robust
Solomon Islands (B)	*no report*	*no report*	*no report*	*no report*	Did Not Report
Sri Lanka (B)	*no report*	*no report*	*25*	25	Incomplete
Timor Leste (B)	*no report*	*no report*	*no report*	*no report*	Did Not Report
Tonga (B)	*no report*	*no report*	*no report*	*no report*	Did Not Report
Thailand (A)	90	91	91	93	Robust
Tuvalu (B)	*no report*	*no report*	*no report*	*no report*	Did Not Report
United States (A)	*no report*	96	96	96	Robust
Vanuatu (B)	*no report*	*no report*	*no report*	*no report*	Did Not Report
Viet Nam (A)	34	71	71	85	Marginal

2.13 The *Regional ATFM Monitoring and Reporting Form* was available on the ICAO Asia/Pacific Regional Office eDocuments webpage at: https://www.icao.int/APAC/apac-electronic-documents#tabs-2

Progress Update from Asia/Pacific Cross-Border Multi-Nodal ATFM Collaboration (AMNAC)

2.14 The meeting was provided with the progress update of the Asia-Pacific Cross-Border Multi-Nodal ATFM Collaboration (AMNAC), a collaborative effort by Air Navigation Service Providers (ANSPs) from States/Administrations in the Asia/Pacific Region to implement cross-border ATFM.

2.15 The meeting was updated on Viet Nam's progression to as a Level-3 ATFM Node from October 2024 and established procedures for AMNAC members to progress to Level-3 ATFM node.

2.16 The AMNAC Core Team reviewed the existing ATFM Daily Plan (ADP) template, harmonized the data elements and incorporated the revised template into AMNAC COP. The new template would form the basis for efforts to develop an information exchange model to support SWIM-based digital ADP exchange. AMNAC remarked the new template was slightly different from the *ICAO Asia/Pacific ATFM Daily Plan (ADP) Exchange Procedure (Working Draft)* developed in May 2020.

2.17 AMNAC introduced the web-based dashboard for network post-operations analysis, which has been updated on a quarterly basis based on data submitted by Level-3 members. Based on the data submitted between April 2024 and March 2025, AMNAC Core Team shared the impact assessment of Ground Delay Programs (GDPs) implemented, the Calculated Take-Off Time (CTOT) compliance performance and the investigation towards the CTOT compliance problems. From April 2025 onward, the process for Level-3 member to submit data was revised to enable the dashboard to be updated monthly, giving a timelier view of the network performance. The dashboard could be accessed at https://bit.ly/amnac-poa.

2.18 The meeting was informed on the operational trial on the One CTOT Solution (OCS) Concept to address the issue of conflicting ATFM measures. Under the OCS concept, China acted as the ATFM Harmony Unit (AHU) between Hong Kong China and Republic of Korea to consolidate all ATFM measures along the same flow of traffic into a single CTOT. Lack of transparency in identifying the sources of ATFM delays was identified as one of the issues, resulting in confusion of the facilitating ATFM Nodes and airspace users.

2.19 AMNAC recognised the issues associated with the perceived high cost required for ATFM implementation hindering the implementation progress, as well as issues associated with the Distributed Multi-Nodal (DMN) ATFM Network Concept being focused on local optimisation of air traffic flow rather than cross-border reconciliation/optimisation. The AMNAC Core Team acknowledged the gaps in current ATFM/DMN concept and recognised the need to rethink of the future ATFM concept aimed at optimising traffic at the regional level and to better integrate with the future implementation of FF-ICE and Trajectory-Based Operations (TBO).

2.20 AMNAC reported that an FF-ICE workshop was conducted for the AMNAC members during AMNAC/22, where members were introduced to the concept of FF-ICE and key enablers such as SWIM, Collaborative Decision Making (CDM), Globally Unique Flight Identifier (GUFI) and Flight Information Exchange Model (FIXM) required for the implementation of FF-ICE. AMNAC members were apprised of how FF-ICE was intended to replace the current ICAO FPL2012 and were provided with an overview of the six FF-ICE/Release 1 (FF-ICE/R1) services, which focused on pre-departure negotiation of flight trajectory between ATM Service Providers (ASP) and Airspace Users (AU).

2.21 The meeting was informed of the works from AMNAC Technical Subgroup (TSG) to establish a change process for the revision of the agreed FIXM version to support cross-border ATFM-to-ATFM system in APAC. The TSG was also working on mapping of required data fields to FIXM version 4.3, including creation of APAC extension as necessary, for cross-border ATFM operations. While these works are still in development phase, CTOT information is still primarily distributed via AFTN/AMHS using Slot Allocation Message (SAM), Slot Revision Message (SRM), and Slot Cancellation Message (SLC) messages.

2.22 Thailand advised the Meeting that AMNAC would discuss and coordinate with ICAO and ATFM/SG Chair for the suitable timing during the reviewing cycle to update the ICAO ADP template to harmonise the regional ADP template.

2.23 The ATFM/SG Chair queried on the actions that AMNAC would work on for the cases of low CTOT compliance. It was suggested to look for potential gaps in CTOT facilitation procedures or other relevant procedures. Thailand advised that AMNAC would be in contact with all Level-3 ATFM nodes to review the procedure and share best practice. In addition, Singapore shared the feedback from some AMNAC members in accessing CTOTs from the ATFM web portal and the plans on SAM trials for more timely and automated CTOT dissemination.

NARAHG Update

2.24 The paper presented by China, Japan, and Republic of Korea, provided updates regarding the collaboration process of North Asia Regional ATFM Harmonization Group (NARAHG).

2.25 The meeting was informed about key outcomes achieved from the tenth NARAHG meeting in June 2024 in Qingdao, China which include ATFM Data Exchange and Post-Operational Analysis (POA) to enhance cross-border efficiency. NARAHG endorsed the joint optimization of the Typhoon Detour Procedure (TDP) to mitigate impacts on regular flights, following China's trial that demonstrated reduced delays through pre-tactical coordination.

2.26 China and Japan agreed to form an expert group for trials on Calculated Time Over (CTO) to address delays at Shanghai Pudong Airport (ZSPD), and there were discussions on CRV-Based Data Integration between Fukuoka and Shanghai FIRs, with a proposal to expand to Republic of Korea.

2.27 The meeting was briefed on the TDP operation notice, detailing the mechanism to regulate typhoon detoured flight via the application of Chinese overflight permit to minimise the impact though cross-border coordination.

2.28 Next steps of NARAHG outlined in the document include finalizing CTO/CTOT implementation plans, with China and Republic of Korea set to implement CTO-based ATFM trials by June 2025, and developing a Common Operating Procedure (COP) for cross-border ATFM, aligned with ICAO Doc 9971 guidelines.

2.29 The NARAHG group informed that they would be sharing the ICD for ATFM communications between the NARAHG group members and the COP documents with the AMNAC group for harmonization of Regional ATFM procedures and the NARAHG was suggested to provide a WP in the next ATFM/SG meeting to report on the result of the CTO trial and COP.

Reactivation of the BOBCAT ATFM Procedure and Kabul Contingency Arrangement

2.30 The meeting was informed on the side meeting during the SAIOSEACG/4 meeting in March 2025 convened Pakistan, Thailand, IATA and ICAO to discuss the reactivation of the Bay of Bengal Cooperative Air Traffic Flow Management System (BOBCAT) to address traffic congestion issues arising from Kabul FIR contingency.

2.31 The primary objectives of the side meeting were to discuss necessary steps to:

a) open up access to lower flight levels on ATS routes N644, L750, P628, and UL333; and

b) reduce the longitudinal spacing from 15 minutes to 10 minutes for RNP 2 and RNP 4 compliant aircraft entering the volume at same flight level.

2.32 The meeting was informed of the series of outcomes and way forward subsequent to the side meeting including the scheduled CCT meeting on 23 April 2025, commencement of reactivation of BOBCAT and communication between all the related parties and stakeholders.

Challenges in Management of Air Traffic Flow in Delhi FIR due to Restrictions in Kabul FIR

2.33 India presented to the Meeting on the difficulties in managing air traffic flow in the Delhi FIR including level restrictions and longitudinal separation requirements, have led to increased complexities, delays, and fuel consumption for both ANSPs and airlines due to restriction in Kabul FIR.

2.34 The meeting was informed on India's proposals to alleviate the situation and to improve the efficiency of flight operations. India suggested aligning Delhi FIR exit points with Kabul FIR entry points to reduce conflicts, complexity, coordination but enhances predictability and situation awareness among stakeholders.

2.35 Other suggestions such as reactivation of BOBCAT service, availability of extra flight level on specific route and possibility of reducing longitudinal separation were discussed.

2.36 IATA requested India to share a copy of the route proposal for member airlines consultation. India expressed the willingness to share with the note for Pakistan to confirm for any operational constraints inside Lahore FIR.

Preparation for BOBCAT ATFM Service Resumption

2.37 Thailand provided a flimsy presentation on the potential resumption of BOBCAT service, focusing on the configurations, challenges, and steps involved in the reactivation process.

2.38 The meeting was made aware of the conclusion from the Kabul CCT meeting on 23 April 2025 on the aspect of contingency routes, flight level availability and the required spacing. In response to the conclusion, Thailand proposed the new BOBCAT Spacing Parameter of 15 mins + 0 mins buffer for the BOBCAT slot allocation algorithm, commensurate with the required spacing as per the Afghanistan ATM Contingency Plan.

2.39 Thailand also informed the Meeting on the timeline and steps that were required to reactivate BOBCAT service which included system configuration update, operational personnel preparation, review of safety assessment hazard log and the requirement for concerned States/Administrations to revise their corresponding AIP.

2.40 Thailand proposed a timeline for BOBCAT service reactivation, indicating key milestones from May to September 2025, with the service potentially commencing on AIRAC date 4 September 2025.

2.41 The meeting was informed of the sideline meeting schedule on the third day of the ATFM/SG/15 meeting to focus on the timeline of BOBCAT service reactivation and other related process. The Chair invited all the interested States/Administrations and stakeholders to participate the sideline meeting.

2.42 The sideline meeting was conducted on 1 May 2025 to plan reactivation of the BOBCAT ATFM procedure with target date of AIRAC 4 September 2025. The sideline meeting summary of discussion is provided as Appendix C to the ATFM/SG/15 Report.

Case Studies on Applying Flow Rate to ATFM Measures Incorporating the Use of Flow Rate into the Asia-Pacific ATFM Framework

2.43 Republic of Korea shared their experiences in application of flow rate restrictions as an interim ATFM measures when demand exceeded capacity such as in the case of snow fall in Incheon Airport. The flow rate restriction was applied to flights from neighbouring States (China and Japan) by specifying number of aircraft per unit time to contain the workload while maintaining a certain level of flexibility.

2.44 China presented on the flow rate restriction application acting as a bridge between Miles-in-Trail/Minutes-in-Trail (MIT) and GDP. The Meeting was informed that flow rate balances simplicity and adaptability, application of flow rate restriction helped in reducing the ATC workload and reducing air traffic congestion. China acknowledged one of the key benefits of flow rate application was its cost-effectiveness, offering a pragmatic approach to enhance traffic flow efficiency without significant technological investment.

2.45 The meeting deliberated on the two working papers. It was opined that specifying flow rate was a way of expressing airspace capacity. Meanwhile, ATFM measures normally had control mechanism to manage traffic demand in accordance with available capacity. For example, GDP's control mechanism was through issuing CTOT. Based on information presented in ATFM/SG/15 WP/11 and WP/12, application of flow rate also uses CTOT as control mechanism. The meeting also noted that the ICAO Doc 9971 and Regional ATFM Framework documents contained references towards capacity determination and Demand Capacity Balancing (DCB). It was recommended that the concept be explored further before proposing for integration into in the Regional ATFM Framework.

Harmonization of Air Traffic Services Procedures with the Provisions of ATFM to Enhance Efficiency and Effectiveness of Air Traffic Management

2.46 The meeting was informed on the efforts by India to harmonise ATS procedures with ATFM provisions. Such harmonisation aimed to enhance efficiency and effectiveness of ATM.

2.47 The meeting was made aware that ICAO PANS-ATM stipulated that Start-up time procedures should be implemented when warranted by ATFM regulations and when an aircraft was subject to ATFM regulations, it should be advised to start up in accordance with its allocated slot time. However, ICAO PANS-ATM did not outline the phraseology to be used for communication between the Air Traffic Control (ATC) unit and pilots on ATFM operations, but those were contained in ICAO Doc 9971.

2.48 Other harmonisation was expected improve situation awareness with the intention to mandate the inclusion of ATFM measures on the controllers' flight progress strips to ensure CTOT compliance.

2.49 India recommended the inclusion of phraseology contained in ICAO Doc 9971 regarding ATFM communication at suitable place in ICAO PANS-ATM.

2.50 The ATFM/SG Chair advised the Meeting that the proposal could be addressed to the ICAO ATM Operations Panel (ATMOPSP), which would convene its next meeting in October 2025, which India had a nominated member. The proposal is expected to involve both ATMOPSP ATFM Working Group and Phraseology Working Group. The ATFM/SG Chair also advised that the process of revising ICAO PANS-ATM could be extensive given the necessity to consider applicability across all regions.

2.51 The Secretariat concurred that proper strip markings of ATFM measures be a crucial indication of proper communication between ATFMU and ATS unit which should be captured as part of the implementation compliance.

Benefit of Measuring Reduced Air Delays, Fuel Savings and Reduction in CO_2 Emissions due to Implementation of ATFM

2.52 The meeting was introduced with the methodology that India adopts to calculate the reduction in air delays, fuel savings and reduction in CO2 emissions resulting from the implementation of flow measures.

2.53 Through the evaluated assumptions and algorithm India proclaimed that in 2024, ATFM measures in India achieved more than 30,000 tons of fuel save and approximately 103,000 tons of CO_2 emissions. Such calculations provided a good, visualised indicator to recognise the overall benefits of implantation of flow measures and upkeep the incentive to participate in collaborative decision-making process leading to enhanced operational efficiency.

2.54 The ATFM/SG Chair appreciated India for the good example of effective post-operations analysis providing solid evidence of the benefits of adequate ATFM measures.

2.55 CANSO queried if the scope of the analysis be extended to cover international or regional flights. India clarified that international flights were not subjected to ATFM measures but would explore the situation on a regional manner.

2.56 IATA invited India to share the data and methodology with IATA for comparison with the industry data and concurred with Airport Authority of India (AAI)'s effort to meet and review with the stakeholders in regular basis. India intimated that such information was being shared with stakeholders and also available on AAI website.

2.57 USA commented that the Data Analytics Ad-hoc Group (DAG) under the ATM/SG possessed similar key performance indicators (KPIs) for analysis for operational effectiveness and efficiency. USA suggested India to share the data with DAG possibly in the next DAG meeting. Thailand also invited India to share the methodology and data as an example for other relevant parties' references. India proposed to share the information and process in detail to all interested stakeholders.

Operational Capacity Guidelines Linked to Weather

2.58 Republic of Korea presented the operational capacity guidelines for proactive ATFM at Incheon International Airport during snowfall was presented during the MET/ATM Seminar session.

2.59 The meeting was informed on the necessity of ATFM measures during snowfall and Republic of Korea's stage approach in setting up different level of operation capacity according to the severity of snow weather.

2.60 The meeting acknowledged the CDM meetings to engage different stakeholders when operational constraints were anticipated to cultivate proactive responses.

2.61 The meeting appreciated the efforts of Republic of Korea, and a draft conclusion was proposed that the WP be added as an appendix to the Regional ATFM Framework. Secretariat would include the same during the next update of the Asia/Pacific Regional Framework for Collaborative ATFM in 2027.

2.62 ATM/SG is invited to consider the following Conclusion:

Conclusion ATM/SG/13-X: Addition of Appendix to the Asia/Pacific Regional Framework for Collaborative ATFM

That, the Operational Capacity Guidelines from Republic of Korea to be added as an appendix to the next update Asia/Pacific Regional Framework for Collaborative ATFM.

Progress Update on Regional A-CDM Implementation Monitoring Scheme

2.63 The meeting was informed on the result of the trial Asia/Pacific Regional A-CDM Monitoring and Reporting Scheme.

2.64 Trial reporting using an online form was conducted and completed in Q1 2025, with replies received from 11 Asia/Pacific Administrations, covering A-CDM implementation in 68 airports. Initial findings indicate that most reported aerodromes are international, with over 80% in the Operation and Monitoring Phase.

2.65 The trial was considered successful in capturing the progress and status of A-CDM implementation and operation within the region.

2.66 It was agreed to normalise and integrate the Asia/Pacific Regional A-CDM Monitoring and Reporting Scheme into the annual reporting framework, alongside with the Regional ATFM Plan Implementation report.

2.67 ATM/SG is invited to consider the following Decision:

Decision ATM/SG/13-X: Normalization of Asia/Pacific Regional A-CDM Monitoring and Reporting Scheme

That, the trial Asia/Pacific Regional A-CDM Monitoring and Reporting Scheme to be normalized as part of the annual reporting framework.

Amendments to Asia/Pacific Region AFTN/AMHS-Based Interface Control Document for ATFM, Version 2.0

2.68 The meeting was presented with the proposed amendment to the Asia/Pacific Regional AFTN/AMHS-based Interface Control Document (ICD) for ATFM Version 2.0. aimed at harmonising the use of fields for indicating the designation and the reason for the ATFM measure, in support of enhanced post-operations analysis.

2.69 The meeting agreed on AMNAC Core team's proposal to harmonise the use of REGUL field in para 3.2.1.13 of the ICD Version 2.

2.70 The meeting agreed on AMNAC Core team's proposal to harmonize the use of REGCAUSE field in para 3.2.1.15 of the ICD Version 2 by adapting the full REGCAUSE codes from the EURCONTROL's ATFCM Users' Manual.

2.71 ICAO Secretariat will submit the draft conclusion to Aeronautical Communication Services Implementation Coordination Group (ACSICG) in 2026, for consideration and subsequent approval by CNS/SG.

2.72 ATM/SG is invited to note the following Draft Conclusion:

Draft Conclusion ATFM/SG/15-2: Adoption of AFTN/AMHS-based Interface Control Document (ICD) to the Asia/Pacific Regional Framework for Collaborative ATFM

That, the revised AFTN/AMHS-based Interface Control Document at at Appendix D to the Meeting Report be uploaded to the ICAO Asia/Pacific Regional Office website, to replace the existing version, for use by Asia/Pacific States/Administrations in implementing cross-border ATFM communications in accordance with the provision of the Regional Framework for Collaborative ATFM.

Update on FIXM V4.3 Extension Development for Asia/Pacific Region

2.73 The meeting was briefed on the update on FIXM version 4.3 Extension development to support cross-border ATFM operation, A-CDM, ATFM/A-CDM integration, and traffic synchronization in the Asia/Pacific region. This effort aimed to ensure the readiness of FIXM Extension in alignment with Conclusion APANPIRG/35/4 which agreed on the adoption of FIXM version 4.3 as the standard format for the region from Q3/2026.

2.74 The AMNAC TSG, together with members of SWIM TF, examined the feasibility of using FIXM version 4.3 Core to support cross-border ATFM operation, A-CDM, ATFM/A-CDM integration, and traffic synchronization. It was found that FIXM version 4.3 Core could support the exchange of certain data attributes originally included in the Asia/Pacific FIXM version 4.1 Extension. Specifically, it was considered that FIXM version 4.3 Core could be used for exchange of CTOT, CTO, and Calculated Landing Time (CLDT).

2.75 It was concluded that trajectory and aircraft track data attributes included in the Asia/Pacific FIXM version 4.2 Extension would be removed from the subsequent version of the Extension due to availability of alternative data formats.

2.76 To facilitate a smooth transition from the use of ADEXP SAM, SRM and SLC over AFTN/AMHS to ATFM information exchange over SWIM, mandatory data fields and some optional fields currently in use in SAM/SRM/SLC were identified for inclusion in the FIXM version 4.3 Extension. The Meeting agreed upon the list of data attributes in Appendix A of WP/07 to be included in the regional FIXM version 4.3 Extension.

2.77 The meeting acknowledged that upon successful validation, the Regional FIXM version 4.3 Extension would be proposed for adoption by SWIM TF.

Establishment of a Change Process of Flight Information Exchange Model (FIXM) Version for Asia/Pacific Cross-Border Operational ATFM System-To-System Information Exchange in System Wide Information Management (SWIM)

2.78 The meeting was informed on the recommendations for the change process of the FIXM version used for cross-border ATFM information exchange in a SWIM environment as assigned by ATFM/SG/14 to the AMNAC TSG.

2.79 Noting the potential necessity to revise the Cross-Border FIXM Operating version, the Meeting agreed on the following change process as proposed by AMNAC TSG:

a) submit the proposed change to the FIXM version, in the form of Working Paper, to ATFM SG for review and assessment of its operational impacts and suitability in supporting regional operational requirements;

b) upon adoption by ATFM SG, submit the proposal to SWIM TF for review and assessment of its technical implications; and

c) following agreement by SWIM TF, submit a summary of the change proposal to ATM SG for approval, and subsequently to APANPIRG for endorsement.

2.80 The meeting also agreed to the content of change proposal as recommended by AMNAC TSG as below:

a) name of State(s) or collaboration group, including the specific names of organizations, proposing the change;

b) proposed FIXM version;

c) reason(s) for the proposed change(s);

d) testing result of the proposed version; and

e) proposed timeframe for the change to take effect (a minimum lead time of 2 years is required)

2.81 The ATFM/SG/15 meeting endorsed the proposed change process of the FIXM version, and subsequently the SWIM TF/10 Meeting in May 2025 shared its agreement to the drafted change management process and endorsed the ATFM SG/15 draft conclusion.

2.82 ATM/SG is invited to consider the following Conclusion:

Conclusion ATM/SG/13-X: Change Process of the FIXM Version Used for Asia/Pacific Cross-Border Operational ATFM System-to-System Information Exchange in SWIM

That, the change process for the Cross-Border FIXM Operating Version be:

a) submit the proposed change to the FIXM version, in the form of Working Paper, to ATFM/SG for review and assessment of its operational impacts and suitability in supporting regional operational requirements;

b) upon adoption by ATFM SG, submit the proposal to SWIM TF for review and assessment of its technical implications; and

c) following agreement by SWIM TF, submit a summary of the change proposal to ATM SG for approval, and subsequently to APANPIRG for endorsement;

and the content of change proposal be:

a) name of State(s) or collaboration group, including the specific names of organizations, proposing the change;

b) proposed FIXM version;

c) reason(s) for the proposed change(s);

d) testing result of the proposed version; and

e) proposed timeframe for the change to take effect (a minimum lead time of 2 years is required

to be adopted as a regional process for revision of FIXM version for cross-border ATFM information exchange.

<u>Outcomes from the Special Topic Meeting on the Future of Asia-Pacific ATFM</u>

2.83 The meeting was informed of the Special Topic Meeting (STM) on the Future of Asia-Pacific ATFM, held in Bangkok, Thailand, from 13 to 14 March 2025, participated by ATFM subject matter expects from Hong Kong China, Singapore, Thailand and CANSO. The STM aimed to explore improvements and integration of new ATM concepts and capabilities into the existing regional ATFM concept and procedures. Outcomes from the STM were intended to provide a basis for reviewing the regional ATFM concept of operations (CONOPS).

2.84 The STM reviewed the current ATFM operations in the Asia/Pacific Region, identified the most important challenges that should be addressed, and proposed a set of key vision statements and guiding principles that could form the basis for the new CONOPS.

2.85 Noting the need to continue the discussion in support of the new CONOPS development, the STM proposed an establishment of an ad-hoc group under the ATFM/SG to continue the work. This proposal was discussed further as part of ATFM/SG/15 WP/14.

2.86 ICAO acknowledged the effort to develop the next generation of ATFM and advised the discussion to be kept at high level suitable for regional application and to be future proof as much as possible.

2.87 CANSO commented on their commitment to evolve ATFM concept to next level and advised the ATFM/SG to be mindful that the concept developed might be adopted in other regions and the necessity to include industry in the discussion to ensure the alignment between evolution of the CONOPS and advancements in technological enablers.

Proposal for a Collaborative Asia-Pacific ATFM Cloud Network (ACN)

2.88 The meeting was presented with the idea of collaborative ATFM Cloud Network (ACN) aiming to enhance regional collaboration, streamline ATFM, and optimise operational efficiency in the face of growing traffic demand.

2.89 China emphasised on the need for a unified, technology-driven platform to handle the increasingly complex environment within the region. The application of ACN envisioned as a cloud-enabled platform accessible to all Asia/Pacific Administrations, providing a shared infrastructure for seamless integration and real-time data exchange. It would offer comprehensive functionality, including strategic planning, pre-tactical preparation, real-time situational awareness, and post-operation analysis, in addition to core capabilities like CTOT calculation at a minimal affordable investment.

2.90 CANSO appreciated China for sharing the cloud-based approach for ATFM. CANSO supported the use of cloud network but commented the provision of ACN remained on concept level. It was suggested that China to share more on the details of working prototype of ACN.

2.91 The ATFM/SG Chair also requested further elaboration on the concept of operation and details of work procedure on how ACN could handle the ATFM scenarios. China was invited to present a working paper to detail the practical case study on how the ACN perform the ATFM measures tasks at the next ATFM/SG meeting.

2.92 ICAO also invited China to share the use of ACN on the technical side of cloud network usage in the CNS SG meeting following presentation of the additional details in the next ATFM/SG meeting.

Industry's Contributions to Regional ATFM

2.93 The meeting was informed on the current pain points in ATFM within the Asia/Pacific Region and proposed ATM technology companies to collaborate with ANSPs to develop next-generation ATFM solutions.

2.94 CANSO identified several issues, including the lack of ATFM equipment among many participants, which limits their ability to calculate ATFM solutions and leads to a focus on local rather than regional optimisation.

2.95 Industry partners have had proposed various solutions, including cloud-based services that allow for cost reduction and sharing. Considering these issues and developments, CANSO advocated for trials of new technologies, such as the one planned by Thales and Aireon, to evaluate the latest technical advances and foster a partnership between service providers and industry in developing next-generation ATFM practices.

2.96 The meeting requested CANSO to share details of the planned trials when available.

Establishment of ATFM Concept Design Ad-Hoc Group

2.97 This working paper echoed the recommendation from the STM as presented in ATFM/SG/15 WP/16 to propose the establishment of an ad-hoc group under the ATFM/SG to review and redesign the *Asia/Pacific Regional ATFM Concept of Operations*.

2.98 The ad-hoc group would be responsible for developing a new *Regional ATFM Concept of Operations*, considering the challenges of current operations and the advent of new capabilities and concepts in the coming years.

2.99 The new *Regional ATFM Concept of Operations* would be the primary deliverable of this proposed ad-hoc group, along with recommendations on guiding principles for amendments to related regional documents, including the *Regional Framework for Collaborative ATFM*.

2.100 The proposed ad-hoc group would be composed of subject matter experts (SMEs) nominated by Asia/Pacific States/Administrations and International Organizations. These experts should possess knowledge and experience in key areas such as ATFM, SWIM, FF-ICE/TBO, and possessed a strong familiarity with ATFM operations in the region. The group was also expected to coordinate closely with other relevant ICAO regional groups and efforts to ensure alignment. This ad-hoc group would have a tenure of two years for a start to be further reviewed.

2.101 The meeting expressed concern regarding possible duplication of effort and resources utilisation in establishing additional working group, given the availability of ATFM/IR/SWG and the potential working group under Asia/Pacific ANSP Committee (AAC).

2.102 In response to a query about the inclusion of the task to develop any necessary Proposals for Amendment (PfAs) to the *Regional ATFM Concept of Operations* within the ATFM/IR/SWG Terms of Reference (TOR), the meeting was informed that, due to the significant workload associated with reviewing and updating the *Regional ATFM Concept of Operations*, and in view of the limited time before the next scheduled update of the *Asia/Pacific Regional Framework for Collaborative ATFM* in 2027, it would be more efficient to form a dedicated group for this specific and critical task. It was further clarified that upon completion, the output of the ad-hoc group would be submitted to the ATFM/SG for consideration as the basis for the ATFM/IR/SWG to update the regional framework. Accordingly, the Meeting agreed that the ATFM/IR/SWG would delegate the development of the new Regional ATFM Concept of Operations to this ad-hoc group. To ensure broad and effective stakeholder participation, it was proposed that the ad-hoc group operates under the ICAO umbrella.

2.103 Regarding the duplication of work between the ad-hoc group and the working group under AAC, it was expressed that a clear delineation of tasks and roles between two groups could be ensured through the group's TOR. The ATFM/SG/15 Chair requested the co-authors of the ATFM/SG/15 WP/14 and other interested participants to prepare a TOR for the ad-hoc group for presenting to the Meeting before making decision.

2.104 CANSO expressed the concern on the progress to explore new *Regional ATFM Concept of Operations* and urged the ATFM community to kickstart the work as soon as possible.

2.105 The ATFM/SG/15 meeting adopted the following Decision:

Decision ATFM/SG/15-6: Establishment of Asia/Pacific ATFM Concept Design Ad-Hoc Group

That, ATFM/SG establishes the Asia/Pacific ATFM Concept Design Ad-Hoc Group to review and redesign the regional ATFM concept of operations, considering the challenges of the current operations and the advent of new capabilities and concepts including but not limited to SWIM, FF-ICE, TBO. Key deliverable of the Ad-Hoc Group will be the new version of Asia/Pacific Regional ATFM Concept of Operations, guided by the group's Terms of Reference (TOR) as Appendix E to the Meeting Report.

Finalization of APAC Common SWIM Information Services

2.106 The meeting was presented on the matter to confirm the business functionality of APAC Common SWIM information Services proposed by SWIM TF.

2.107 The meeting was to provide comment and input to the portion of APAC Common SWIM Flight Information Services, specifically the "ATFM/A-CDM integrated service" and "Traffic flow status service".

2.108 The Meeting reviewed the document and advised that further verification of the terminology used in the "Proposed business functionality of APAC Common SWIM Information Services" compared to the draft PfA of future ICAO PANS-ATM. The meeting would revert to the SWIM TF with the confirmation before the next SWIM TF meeting.

2.109 Subsequently, ICAO shared the feedback received from States to the SWIM TF/10 meeting in May 2025.

Subsequent Developments Since ATFM/SG/15

2.110 The Meeting is invited to note that, since the ATFM/SG/15, Model AIP content, Bay of Bengal and South Asia ATFM Handbook and ANSP Training Guidelines were updated and shared with States/Administrations and aircraft operators concerned. Concerned States/Administrations agreed to publish/update AIP content to align with the Model AIP. Meanwhile, introduction training sessions were conducted on 29 July 2025 (recording available at http://youtu.be/ximwgB9B7yg) and practical hands-on training was completed on 5 – 6 August 2025. BOBCAT system live "Dry Run" training was scheduled between 18 August – 1 September 2025 ahead of service resumption on AIRAC 4 September 2025.

2.111 With respect to the ATFM Concept Ad-hoc Group, the group was established with membership nominated from eleven (11) States/Administration, CANSO and IATA. The Ad-hoc Group held their first teleconference on 10 June 2025 and elected members from China and Thailand as co-rapporteurs. The Ad-hoc group expects to deliver a draft revised Regional ATFM Concept of Operations for adoption by ICAO ATFM/SG/17 in 2027.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper; and

b) note the progress of:

i) AMNAC;

ii) NARAHG; and

iii) BOBCAT.

c) note the continued slow regional progress in implementation of the performance expectations of the *Regional Framework for Collaborative ATFM*;

d) note that the ***Draft Conclusion ATFM/SG/15-2*** will be submitted to ACSICG in 2026, for endorsement;

e) discuss and agree to **Conclusion ATM/SG/13-X: Addition Appendix to the Asia/Pacific Regional Framework for Collaborative ATFM** ;

f) discuss and agree to **Conclusion ATM/SG/13-X: Change Process of the FIXM Version Used for Asia/Pacific Cross-Border Operational ATFM System-to-System Information Exchange in SWIM**;

g) discuss and agree to **Decision ATM/SG/13-X: Adoption of Asia/Pacific Regional A-CDM Monitoring and Reporting Scheme**; and

h) discuss any relevant matters as appropriate.

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<table>
<tr><td colspan="3">Conclusion ATM/SG/13-X: Addition Appendix to the Asia/Pacific Regional Framework for Collaborative ATFM</td></tr>
<tr><td colspan="2">What: That, the Operational Capacity Guidelines from Republic of Korea to be added as an appendix to the next update Asia/Pacific Regional Framework for Collaborative ATFM.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: To provide sample guidance for regional States/Administration to develop tailored guidance materials in response to specific MET event resulting in capacity disruption.</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
<tr><td>When: 29-Aug-25</td><td colspan="2">Status: Draft to be adopted by Subgroup</td></tr>
<tr><td colspan="3">Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other: XXXX</td></tr>
</table>

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Why: To ensure effective communication, interoperability, reduced risk of incompatibility among ATFM systems within the Asia/Pacific region, as well as aligned implementations of all stakeholders.	Follow-up: ☐Required from States
When: 29-Aug-25	Status: Draft to be adopted by Subgroup
Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other: XXXX	

Decision ATM/SG/13-X: Adoption of Asia/Pacific Regional A-CDM Monitoring and Reporting Scheme	
What: That, the trial Asia/Pacific Regional A-CDM Monitoring and Reporting Scheme to be normalized and adopted as part of the annual reporting framework.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To gather A-CDM implementation and operational status within the Asia/Pacific region for enhancement of common understanding of operational capability and enhancement to ATFM measures.	Follow-up: ☒Required from States
When: 29-Aug-25	Status: Draft to be adopted by Subgroup
Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other: XXXX	

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