INTERNATIONAL CIVIL AVIATION ORGANIZATION

REPORT OF THE METEOROLOGY/AIR TRAFFIC MANAGEMENT (MET/ATM) SEMINAR AND FOURTEENTH MEETING OF THE ASIA/PACIFIC AIR TRAFFIC FLOW MANAGEMENT STEERING GROUP (ATFM/SG/14)

Bangkok, Thailand, 22 – 26 April 2024

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

Approved by the Meeting
and published by the ICAO Asia and Pacific Office, Bangkok

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APPENDIXES

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INTRODUCTION

Meeting

1.1 The Meteorology/Air Traffic Management (MET/ATM) Seminar and Fourteenth Meeting of Air Traffic Flow Management Steering Group (ATFM/SG/14) were held in Bangkok, Thailand from 22 to 26 April 2024. The meeting included a joint plenary session with the 13th Meeting of Meteorological Requirements Working Group (MET R/WG/13).

Attendance

2.1 The ATFM/SG/14 meeting was attended by 115 participants from 21 Administrations, and four International Organizations including Australia, Brunei Darussalam, Cambodia, China, Hong Kong China, Fiji, India, Indonesia, Japan, Lao PDR, Malaysia, Maldives, Mongolia, Nepal, Pakistan, Philippines, Republic of Korea, Singapore, Thailand, USA, Viet Nam, CANSO, IATA, ICCAIA, IFATCA and ICAO. A list of registered participants is at **Appendix A** to this report.

2.2 The MET/ATM Seminar were attended by 166 in-person participants and 38 online participants from 25 Administrations and four International Organizations, including Australia, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Hong Kong China, Fiji, India, Indonesia, Japan, Lao PDR, Malaysia, Maldives, Mongolia, Nepal, New Zealand, Pakistan, Papua New Guinea, Philippines, Republic of Korea, Singapore, Thailand, USA, Viet Nam, CANSO, IATA, ICCAIA, IFATCA and ICAO.

Officers and Regional Office

3.1 Mr. Piyawut Tantimekabut, Air Traffic Management Network Manager, AEROTHAI, Thailand, chaired the ATFM/SG/14 meeting.

3.2 Mr. Piyawut Tantimekabut and Mr. Ashwin Naidu, Aviation Customer Lead, Australian Bureau of Meteorology, co-Chaired the joint plenary session of ATFM/SG/14 & MET R/WG/13. Mr. Peter Dunda, Regional Officer Aviation Meteorology, ICAO Asia and Pacific Regional Office, and Mr. Manjunath Krishna Nelli, Regional Officer ATM, ICAO Asia and Pacific Regional Sub-Office, were Secretaries of the joint plenary session.

3.3 Mr. Manjunath Krishna Nelli, Regional Officer ATM was Secretary for the ATFM/SG/14 meeting. He was assisted by, Mr. Hiroyuki Takata, Regional Officer, ATM, Mr. Ying Weng Kit, ATM Officer, Mr Tak Chuen Chui, AIM/ATM Officer and Dr. Prakayphet Chalayonnawin, Programme Analysis Associate (ATM), ICAO Asia and Pacific Regional Office.

Opening of the Meeting

4.1 On behalf of Mr. Tao Ma, Regional Director of the ICAO Asia and Pacific Regions, Mr. Manjunath Krishna Nelli welcomed all the participants to the meeting.

4.2 Mr. Piyawut Tantimekabut welcomed participants to the meeting.

Documentation and Working Language

5.1 The working language of the meeting and all documentation was English. There were 18 working papers, six information papers, and one flimsy considered by the meeting. A list of papers is included at **Appendix B** to this report.

Draft Conclusions, Conclusions, Draft Decisions and Decisions of ATFM/SG – Definition

6.1 ATFM/SG recorded its actions in the form of Draft Conclusions, Draft Decisions and Decisions within the following definitions:

Draft Conclusions dealt with matters that, according to APANPIRG terms of reference, require the attention of States, or action by the ICAO in accordance with established procedures;

Conclusions dealt with matters of a technical nature relating to regional guidance material for publication on the ICAO Asia/Pacific Regional Office website;

Draft Decisions dealt with the matters of concern only to APANPIRG and its contributory bodies; and

Decisions of ATFM/SG that related solely to matters dealing with the internal working arrangements of ATFM/SG.

List of Conclusions, Draft Conclusions, Decisions and Draft Decisions

7.1 List of Conclusions

NIL

7.2 List of Draft Conclusions

<table>
<tr><td colspan="3">Draft Conclusion ATFM/SG/14-1: Asia/Pacific Regional FIXM 4.3</td></tr>
<tr><td colspan="2">What: The FIXM Core 4.3.0 released by FIXM CCB be adopted as an agreed-upon version (referred to as “FIXM 4.3” in Asia/Pacific region) from Q3 2026 to support information exchange between cross-border operational ATFM systems in SWIM environment</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: To provide the information exchange model necessary to support crossborder ATFM and ATFM/A-CDM integration in the Asia/Pacific Region, in order to support the implementation of performance objectives of the Asia/Pacific Regional Framework for Collaborative ATFM</td><td colspan="2">Follow-up: ☐Required from States</td></tr>
<tr><td>When: 27-Sep-24</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: ATFM/SG and SWIM TF</td></tr>
</table>

7.3 List of Draft Decisions

NIL

7.4 List of Decisions

NIL

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REPORT ON AGENDA ITEMS

Agenda Item 1: Adoption of Agenda

1.1 The provisional agenda (WP/01) was adopted by the meeting.

Agenda Item 2: Review Outcomes of Related Meetings

Outcome of the Plenary Session with MET/R WG/13

2.1 A joint plenary session was conducted in conjunction with MET/R WG/13 on 24 April 2024. Inter-related topics were presented in the session.

MET/ATM Seminar (SP/11)

2.2 A recap of the MET/ATM Seminar conducted on 22 April 2024 was presented and the summary of the seminar was filed as Flimsy 01 for ATFM/SG/14.

MET/R WG/13 WP/05 – Survey of State Meteorological Information Supporting Air Traffic Management (Ad-hoc Group)

2.3 The meeting reviewed progress on the designated ad-hoc group's report of the 2021 survey of current and future MET information services provided by States to support ATM and ATFM.

2.4 The ad-hoc group recommended that the survey report should be finalised and published (along with the survey data) to share the outcomes with Member States and in relevant ATM and Airspace Forums.

2.5 Based on the ad-hoc group's recommendation, the meeting agreed that subject to final editorial and formatting improvements by the Secretariat, the survey report can be published on the ICAO APAC website and made available for States and stakeholders.

2.6 The meeting agreed to continue the work of the Ad-hoc group with the survey repeated every three years at the beginning of ASBU Blocks. The next expected survey is planned in 2025. The survey result will be cross-referenced with annual ATFM Implementation Status Report States/Administration were expected to submit by February 2025. The cross-referencing should assist in identifying gaps between the need and development of MET services supporting ATM operations, more specifically ATFM operations.

MET/R WG/13 WP/07 and SP/17 – APAC Use Cases and User Requirements for SWIM-Based MET Information Services Supporting ATFM (Ad-hoc Group)

2.7 The meeting reviewed progress on the designated ad-hoc group's draft reference document of use cases and user requirements for SWIM-based MET information services supporting ATM (in particular ATFM) in the APAC region.

2.8 After reviews of the draft reference document by MET SG/27 and ATM/SG/11, the ad-hoc group proposed an additional "USE CASE 5: Use of Quantitative Volcanic Ash Concentration Information in Trajectory-based Operation" to be included in the document, along with editorial changes.

2.9 The ad-hoc group recommended the document be a living reference under regular review by the ad-hoc group, and the collection of use cases could be expanded and improved based on known events. The reference document is expected to assist in developing appropriate MET information services and the associated SWIM-enabled MET applications to meet the operational needs of ATFM in the APAC Region.

2.10 The meeting requested the ad-hoc group to present a paper to the upcoming MET/SG and ATM/SG meetings with proposals to publish the draft reference document on the ICAO website and include a procedure for updating the document as a living document.

MET/R WG/13 WP/06 – MET Information Needed to Support the Elements of the APAC Seamless ANS Plan (Ad-hoc Group)

2.11 The meeting reviewed progress on the designated ad-hoc group's identification of the MET requirements to support the elements of the APAC Seamless ANS Plan, including the ad-hoc group's mapping document, which maps APAC Seamless ANS Plan Priority 1 Elements to the GANP's ASBU AMET elements.

2.12 The ad-hoc group proposed integrating its mapping document (mentioned above) into appropriate existing regional guidance material and conducting a similar activity to map the APAC Seamless ANS Plan Priority 2 Elements to the GANP's ASBU AMET elements.

2.13 The meeting considered the above mapping document's value as a companion to the Seamless ANS Plan, as an appendix, and requested the Secretariat to publish the document accordingly.

2.14 The meeting noted that, under the MET/R WG work plan, the ad-hoc group would continue to review and propose future updates to the mapping document based on future updates of the Seamless ANS Plan and to map the APAC Seamless ANS Plan Priority 2 Elements to the GANP's ASBU AMET elements.

MET/R WG/13 IP/05 – ATM-Tailored MET Information and Services of Japan and Singapore (Japan and Singapore)

2.15 The meeting noted information presented by Japan and Singapore concerning practices and challenges associated with providing and using MET information and services to support ATM operations.

Agenda Item 3: ATFM Global Update

Presentation on ATFM Global Development (SP/01)

3.1 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.

3.2 The ICAO Long Term Global Aspirational Goal (LTAG) for international aviation steered the ICAO provisions including the ATFM provisions for more efficient conduct of air traffic to meet the goal of NET-ZERO 2050.

3.3 The meeting was updated with the new ATFM provisions made upon the new standards proposed in Annex 11 including the determination and declaration ATC capacity in the form of Strategic Capacity and Operational Capacity as well as Coordination and communication between ATFM units.

The new recommendation in Annex 11 regarding ATFM should be implemented on the basis of multilateral agreements and where possible as a centralized ATFM organization was presented.

3.4 Consequent to the amendments to Annex 11, ATFM related procedures in PANS-ATM (Doc 4444) would be amended. The Manual on Collaborative ATFM (Doc 9971) would also be reviewed, including a potential addition of Part 4: Operational Handbook. These revisions were being developed by the ICAO ATM Operations Panel (ATMOPSP).

3.5 The presentation was concluded with the emphasis on objectives to achieve ATFM network for global collaboration and urged the meeting to collaborate more with MID or even EUR region for the development of inter-regional ATFM. It was highlighted that ATFM should be implemented to support the orderly flow of traffic, ensuring efficiency. Hence, ATFM measures should be imposed as a last resort to regulate traffic.

Agenda Item 4: Review of Current ATFM Operations and Problem Areas

Regional ATFM Implementation Status (WP/02)

4.1 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 2024 were received from 27 APAC Administrations:

Australia, Bangladesh, Bhutan, Cambodia, China, Hong Kong China, Macao China, Fiji, France - French Polynesia, India, Indonesia, Japan, Malaysia, Maldives, Mongolia, Myanmar, Nepal, New Caledonia, New Zealand, Pakistan, Philippines, Republic of Korea, Singapore, Sri Lanka, Thailand, United States and Viet Nam.

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

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

4.4 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, Papua New Guinea, Samoa, Solomon Islands, Timor Leste, Tonga, Tuvalu and Vanuatu.

4.5 **Table 1** summarized current implementation status.

Table 1 - Updated Asia/Pacific Region ATFM Implementation Status

Administration (Tier)	**% of Implementation**			**Implementation Status**
	2022	**2023**	**2024**	
Afghanistan (B)	*no report*	*no report*	*no report*	Did Not Report
Australia (A)	*no report*	*no report*	98	Robust
Bangladesh (B)	13	*no report*	6	Incomplete

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

Administration (Tier)	% of Implementation			Implementation Status
	2022	2023	2024	
Nepal (B)	*no report*	*no report*	39	Incomplete
New Caledonia (B)	*no report*	*no report*	43	Incomplete
New Zealand (A)	67	78	78	Marginal
Pakistan (B)	80	59	65	Incomplete
Palau (B)	*no report*	*no report*	*no report*	Did Not Report
Papua New Guinea (A)	*no report*	*no report*	*no report*	Did Not Report
Philippines (A)	*no report*	59	64	Incomplete
Republic of Korea (A)	87	93	97	Robust
Samoa (B)	*no report*	*no report*	*no report*	Did Not Report
Singapore (A)	97	99	99	Robust
Solomon Islands (B)	*no report*	*no report*	*no report*	Did Not Report
Sri Lanka (B)	*no report*	*no report*	25	Incomplete
Timor Leste (B)	*no report*	*no report*	*no report*	Did Not Report
Tonga (B)	*no report*	*no report*	*no report*	Did Not Report
Thailand (A)	90	91	91	Robust
Tuvalu (B)	*no report*	*no report*	*no report*	Did Not Report
United States (A)	*no report*	96	96	Robust
Vanuatu (B)	*no report*	*no report*	*no report*	Did Not Report
Viet Nam (A)	34	71	71	Marginal

4.6 The chair suggested to segregate the Phase III reporting into Phase IIIA and IIIB for more granularity which was accepted by the Secretariat. The meeting also noted of the currently ongoing update of APAC Seamless ANS Plan and subsequent update to Regional ATFM Framework document.

4.7 The *Regional ATFM Monitoring and Reporting Form* was available on the ICAO Asia/Pacific Regional Office eDocuments (ATM) webpage at:

https://www.icao.int/APAC/Pages/eDocs.aspx

4.8 Administrations that had not yet submitted reports were requested to submit their ATFM implementation status using the Regional ATFM Monitoring and Reporting Form, to the ICAO APAC office for inclusion in the final report of the meeting.

Procedures for EOBT Update and CTOT Management (WP/03, SP/02)

4.9 The meeting was provided with procedures for EOBT Update and CTOT Management for Republic of Korea's (ROK) ATFMU.

4.10 The meeting was presented with the "Procedure for Re-allocating Backward":

a) The ROK ATFMU issues initial CTOT no later than 120 minutes before the EOBT or as soon as possible if the regulation occurs after the (EOBT – 120 minutes).

b) The ROK ATFMU would not re-allocate a backward departure slot within CTOT – 90 minutes unless the regulation increases and the CTOT has to be changed to a later time, but the departure sequence would be maintained.

c) In case of incompliance of CTOT, the Aircraft Operator, after sending the EOBT DLA/ CHG messages, would call the ROK ATFMU to request a New CTOT. The ROK ATFMU would allocate a backward slot and issue a New CTOT to the empty slot closest to the new EOBT or slot after other aircrafts that have arrived within (CTOT – 90 minutes) of current time.

4.11 ROK informed the meeting that, discussion between ROK ATFMU, ATC units and Aircraft Operators was in progress to allow better slot re-allocation when empty slot occurs, or regulations are reduced. A pilot program was planned after a coordinated procedure is established.

4.12 The meeting was presented with different scenarios on how the EOBT be managed in response to CTOT issuance and how the changes would affect the demand prediction and slot re-allocation.

4.13 ROK invited the meeting to conduct a joint study to establish a common EOBT update rule for the CTOT-issued aircraft in the Asia-Pacific region as ROK considered EOBT the most important information for demand prediction for all FIRs in all phases of flight and should be updated with high accuracy.

4.14 ROK also invited the meeting to consider in the long-term future for the APAC region to adopt FPL updates procedure as suggested by the EUROCONTROL that ATFMU to send DLA messages based on TOBT values from A-CDM and new CTOT procedures based on Readiness status such as SIP Wanted Messages (SWM) and RFI.

4.15 The meeting discussed on the issue of revising EOBT in reaction to CTOT slot allocation for various operational reasons. The meeting agreed that extreme caution was to be paid as the revision in EOBT might affect the ATFM system in terms of demand projection. In addition, it would be difficult for the ATFM unit to determine if the revision of EOBT was in response to the allocated CTOT or was due to other operational reason that would necessitate a CTOT revision. In addition, it was stressed that EOBT should be interpreted as aircraft operator indication of readiness to operate. As such, EOBT should not be amended to align with CTOT, which facilitates management of constraints beyond aircraft operator control.

4.16 The meeting agreed that the guidance on whether to revise EOBT in reaction to CTOT allocation should be discussed thoroughly in AMNAC or NARAHG group and tasked ATFM/IR/SWG to consider in providing consolidated guidance material in updating the Regional ATFM Framework.

Optimising Air Traffic Flow over the Bay of Bengal (WP/04)

4.17 The meeting was provided with route capacity constraints in Bay of Bengal towards Europe and the proposal to collaborate on developing ATFM solutions to improve predictability as well as optimize traffic regulation in the region.

4.18 The meeting was presented with the knock-on effect on the for ANSPs to apply extended spacing on routes through the Bay of Bengal area due to the constraint in overflying Kabul FIR and Ukraine resulting in severe reduction in capacity. (**Figure 1**)

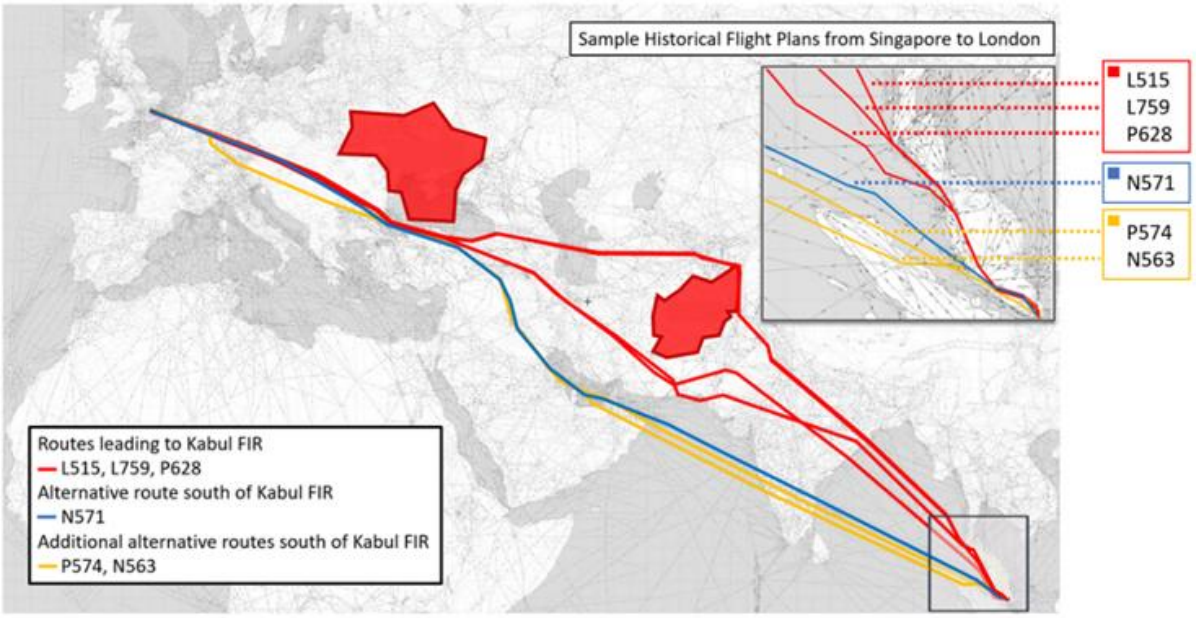

Figure 1: ATS Routes Utilization to avoid Kabul FIR and Ukraine

4.19 Despite the availability of alternate routes such as P574 and N563 majority of operators opted for delays on ground for N571 due to cost consideration of longer flying time and extra fuel burn. The meeting was informed that Singapore had been monitoring the westbound European departures by monthly delay statistics and the percentage of delay attributed to en-route separation. (**Figure 2**)

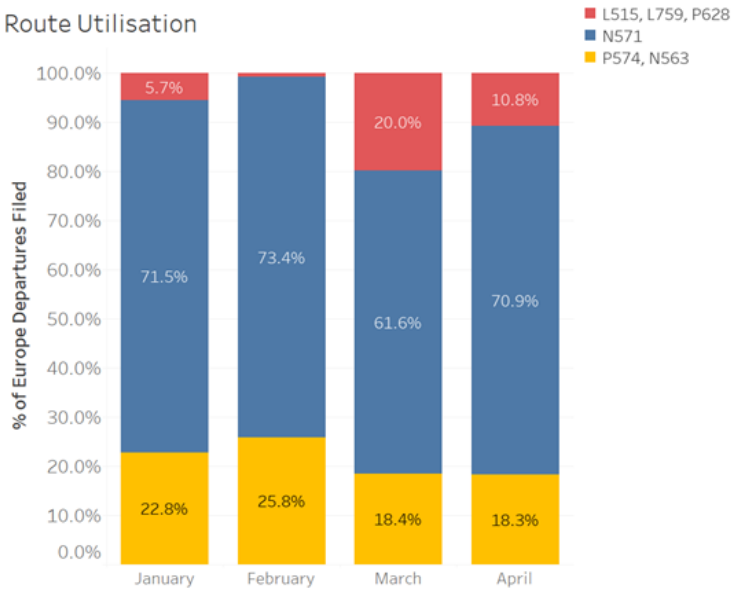

Figure 2: Chart illustrating high utilization of ATS route N571

4.20 Efforts have been made to enhance capacity on ATS routes over the Bay of Bengal, including new designs for directional routes and the implementation of 50NM separation for suitably equipped aircraft with RNP10 approval under the series of steps within the ICAO Bay of Bengal Traffic Flow Review Group. However, airlines are still reporting the need for increased capacity and reduced waiting times. Despite these efforts and plans to further reduce the longitudinal separation minima to 30NM between PBCS capable aircraft, the burgeoning traffic growth may outpace capacity enhancements, necessitating ATFM collaboration in unexpected capacity reduction situations.

4.21 The successful implementation of BOBCAT since 2007 validated the proof-of-concept for the monitoring and management of regional load through allocation of entry slots into FIRs of limited capacity. With the cross-border ATFM processes established by AMNAC, States are advised to apply efficient separation standards according to their CNS/ATM infrastructure and aircraft capabilities together with collaborative ATFM processes to manage traffic flow into constrained or congested airspace.

4.22 IATA informed the meeting about the progress made on this matter in the recently concluded SAIOSEACG/3 meeting and shared a tentative timeline of activities to be carried out by concerned States. The chair reminded the meeting that the first principle of meeting the demand is to optimize and increase airspace capacity.

4.23 IATA informed the meeting on efforts towards reducing horizontal separation and PBCS trials in Bay of Bengal. Malaysia shared the information about the immediate steps such as update of LOA between Malaysia and India, application of (50NM and 30 NM) horizontal separation without CPDLC and PBCS trials. India provided supplemental information on the same. Chair proposed that the States' concerned and IATA work together to submit a working paper on the subject in the ATM/SG/12 meeting in September mentioning the extent of possible ATFM delay due to non-application of reduced horizontal separation. ICAO also reminded the meeting about the coming amendment in PANS-ATM regarding global mandate campaign for 30/10 NM separation standards. expected to be launched during ICAO Air Navigation Conference (AN-Conf/14) with expectations for States/Administration to implement 10NM spacing or closer at FIR boundaries with full ATS surveillance and VHF communications, and 30NM spacing or closer at FIR boundaries without VHF communications.

4.24 The meeting was encouraged to consider incorporating the scope of work of this paper into its work programme for relevant States/ Administrations and stakeholders to develop a viable collaborative solution for the Bay of Bengal.

Ground Delay Program Trial at Kuala Lumpur International Airport (WP/05)

4.25 The meeting was provided with the experience for Ground Delay Programme (GDP) trial at Kuala Lumpur International Airport (KLIA) during Merdeka Fly-Past Airspace Closure in August 2023.

4.26 During the constraint period, due to the closure of airspace, the AAR and ADR for KLIA was reduced to zero. GDP with different levels of ATFM measures were introduced before and after the closure period.

4.27 Malaysia presented the Post Operation Analysis (POA) to the meeting and concluded the low CTOT compliance rate of 63.6% for the measure prior to the airspace closure was primarily attributed to delayed communication between the departure aerodrome and the ATFM unit requesting a new slot time. With improved communication and coordination, the CTOT compliance rate during the post airspace closure period enhanced to 87.1%.

4.28 In sight of late submissions of flight plan by the airline operators resulting in late issuance of CTOT, Civil Aviation Authority of Malaysia (CAAM) amended the AIP to require the airline operator to provide a flight plan at least 180 minutes prior to the EOBT.

4.29 The meeting was informed that CAAM ATFM Unit is in progress of enhancing the ATFM system to meet the demands and capacities of Kuala Lumpur FIR. CAAM would continue the GDP operational trials within domestic airports and indicated the plan to elevate to become an AMNAC level three member.

4.30 The Chair remind the meeting that ADP should be distributed ahead of the planned or expected activation of GDP. In addition, States should review flight plan filing regulation/procedures to facilitate aircraft operator filing Flight Plan well ahead of EOBT.

Air Traffic Flow Management in the United States of America (WP/06, SP/03)

4.31 This working paper presented by FAA, discussed Air Traffic Flow Management (ATFM) processes, personnel, tools and Collaborative Decision-Making (CDM) used by the Federal Aviation Administration in the US.

4.32 The FAA informed the meeting that as Air Navigation Service Provider (ANSP), the FAA's Air Traffic Organization (ATO) was responsible for safe, orderly, and expeditious flow of air traffic in the National Airspace System (NAS). ATO applied the minimum delay needed by using hierarchical approach to ATFM – National level (Through Air Traffic Control System Command Center- ATCSCC), Regional level (through Traffic Management Units (TMUs) at ACCs) and local level (TMUs at Terminal Radar Approach Control (TRACON) facilities).

4.33 The meeting was informed that FAA used three key automation platforms to conduct Time Based Management (TBM). Collectively referred to as the 3Ts, they included Traffic Flow Management System (TFMS), Time Based Flow Management (TBFM), and Terminal Flight Data Manager (TFDM).

4.34 TMUs made use of the following TBFM tools when managing ATFM within ACCs or across ACC boundaries:

a) Departure Scheduling

b) Arrival Metering

c) Extended Metering

d) Terminal Sequencing and Spacing (to be deployed at a future date)

4.35 The integration of the 3Ts (TFMS, TBFM and TFDM) enabled data-sharing across systems and stakeholders increases situational awareness and improves predictability of operations.

4.36 Collaborative Decision Making (CDM) was integral and a necessary process to establish and maintain common awareness of demand and operating conditions. The paper described the evolution of the CDM process from voice-based tele conferences to webinars where the stakeholders could see the same graphical depictions of weather (actual and forecasted), demand, capacity and other relevant information.

4.37 The paper provided information on publicly available OIS that integrates information about operating conditions in the NAS, route availability and equipment status, and on CANSO ATFM Data Exchange Network of the Americas (CADENA)—a web-based, regional OIS and FAA contribution to the same.

4.38 The paper also noted the FAA initiatives for cross-border ATFM by sharing data through dedicated networks and SWIM.

4.39 The meeting discussed on the different levels of ATFM measures that could be adopted in different hierarchy leading to potential conflict of measures and how such were to be tackled. It was revealed that in case of conflicting measures across different levels, the Command Center would have the final decision on the ATFM measures to be enforced.

4.40 The paper called for expanding regional collaboration on cross-border ATFM in Asia-Pacific, and for establishing a process and a platform for integrated Operational Information System to support regional CDM on a daily basis.

4.41 The meeting appreciated the comprehensive information provided in the paper. More details on cross-border collaboration for traffic flow management were provided to the meeting. More explanation was given on equivalence of commonly used terms such as AMAN (Arrival Manager) and DMAN (Departure Manager) in the US scenario i.e., arrival metering and departure sequencing. The different perspectives of air traffic outlook available to National Traffic Manager vis-à-vis the more focused regional traffic flow management using time-based traffic flow management (TBFM) was also highlighted.

BOBCAT Operational Updates (WP/07, SP/04)

4.42 The meeting was provided with an operational update on the Bay of Bengal Cooperative ATFM (BOBCAT) system, normally used for night-time westbound flights through the Kabul FIR.

4.43 The BOBCAT ATFM service remained suspended. The system continued to be maintained by Thailand, and the service could be resumed when traffic demand over the Kabul FIR once again exceeded the airspace's capacity.

4.44 In order to resume the service, several important preparatory actions including pre-activation maintenance of the BOBCAT system, training or re-training for related personnel, adjustment to the ATFM Unit's manpower and the publication of AIP/AIP Supplement would be needed. The lead time for the resumption of BOBCAT service was estimated to be three to four months to complete all the preparatory actions required.

4.45 Subsequent to the follow up discussion at the ATFM/SG/13, Thailand informed the meeting that the development for BOBCAT system to issue CTOTs via AFTN/AMHS using Slot Allocation Messages (SAM)/ Slot Revision Messages (SRM) and Slot Cancellation Messages (SLC) under specific criteria has been completed.

4.46 Thailand affirmed the meeting the added capability of the system will enable States/ Administrations to better facilitate compliance to BOBCAT CTOTs when the service is resumed.

4.47 The current Afghanistan situation, including information on CCT meetings and bilateral meetings with Afghanistan, was shared with the meeting.

Progress Update from Asia/Pacific Cross-Border Multi-Nodal ATFM Collaboration (AMNAC) (WP/08, SP/05)

4.48 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.

4.49 The AMNAC expanded the network to welcome Republic of Korea (ROK) as a Level-3 Member starting 1 January 2024 and to include India in the ATFM Daily Plan (ADP) Exchange to chart the path toward the implementation of cross-border ATFM capability in India.

4.50 Core Team had developed a network post-operations analysis portal to track the impact of and compliance with Ground Delay Programmes (GDPs) activated over time as part of the AMNAC initiative. The aim of the portal was to identify problem areas to be addressed quantitatively. Based on the data up to December 2023, the following key observations were captured:

a) From 2019 onward, a majority (> 90%) of flights with assigned Calculated Take Off Times (CTOTs) departed from aerodromes under the jurisdiction of Level-2 and Level-3 ATFM nodes, signifying that CTOT compliance facilitation should be provided for most flights.

b) Following a quiet period during the COVID-19 pandemic, 2023 saw a return of air traffic demand and with it the necessity for ATFM measures. GDPs were initiated throughout the year to cope with traffic congestion, special events such as military exercises and airshows, unforeseen disruptions to ATM resources, and inclement weather.

c) Overall, between 2019 and 2023, 72% and 52% of impacted flights departing from Level-3 ATFM nodes and Level-2 ATFM nodes were compliant with their assigned CTOTs respectively. Diving deeper into State-specific statistics shows varying levels of CTOT compliance performance across the region ranging from below 30% to almost 90%, signifying an area that can be improved.

4.51 The meeting noted the large amount of ATFM delay in accumulative manner of 5 years and suggested that such data to be presented in yearly format in future report for more detailed comparison. Chair suggested that, while GDP should be implemented in order to ensure orderly management of disruptions reducing capacity below demand, Post-Operations Analysis should be conducted to explore reasons behind implementation of GDP with the goal to reduce ATFM delay impact over time.

4.52 The meeting was informed of analysis from the AMNAC/20 and AMNAC/21 meetings regarding the possible causes for CTOT non-compliance, including Out-of-Date Points of Contact information, late delivery of CTOTs, late flight plan submission/ distribution and lack of awareness or

local procedure to facilitate compliance. The corresponding rectifications were presented.

4.53 The meeting was informed of the progress of the development of Common Operating Procedure (COP) within AMNAC of which COP v5.4 has been distributed to all AMNAC members to develop and align local ATFM procedures and to enable airspace users to operate smoothly from one ATFM Node to another.

4.54 The meeting was informed of the current APAC Bi-Weekly ATFM Web Conference procedure, which requires States to submit ATM/ATFM Status Update through a Google Form prior to each round of the web conference conducted every alternate Thursday at 0800 UTC.

4.55 The meeting was also informed of the plan to trial a new consolidated platform for ATM/ATFM Status Update submission and APAC Bi-Weekly ATFM Web Conference, in order to address challenges faced by several States with respect to the use of Google Forms. The detail about this trial was discussed in WP/11.

4.56 The AMNAC Core Team expressed gratitude to CANSO in providing access to the CADENCE OIS and acknowledged the potential of the OIS. However, the AMNAC recognised under current state the OIS might not align with the operational concept and context in the region perfectly.

4.57 The AMNAC Team identified three (3) strategies to address the issue of conflicting CTOTs including:

a) *Prevention* – The first strategy aims to prevent the occurrences of multiple ATFM measures by increasing capacity and enhancing coordination among different stakeholders.

b) *Identifying Hotspots* – The second strategy involved identifying hotspots in the region, such as specific routes and waypoints, that are frequently subjected to multiple ATFM requirements or constraints. ANSPs/ATFM units involved in the hotspots could use the information to collaboratively improve the management of traffic in the area and reduce the need for multiple ATFM measures.

c) *One CTOT Solution* – The third strategy proposes to *consolidate* all ATFM measures along the same flow into a single CTOT by the most upstream ATFMU, which would help to reduce the risk of a flight being subjected to multiple CTOTs but would require very effective CDM among ATFMUs involved in the traffic flow.

4.58 The meeting was informed of the operational trial between China, Hong Kong China and the Republic of Korea would be conducted based on the One CTOT Solution to tackle the issue of conflicting ATFM measures along the Southeast Asia - Northeast Asia traffic flow.

4.59 The meeting was also informed of the progress from the Technical Sub-Group of the AMNAC Core Team in developing and testing information exchange models, in collaboration with the Asia/Pacific SWIM Task Force (SWIM TF), to enable "ATFM-on-SWIM" operations in the region. An ATFM information exchange trial via SWIM technical infrastructure over the Asia-Pacific Common aeRonautical VPN (CRV) was conducted to illustrate how existing ATFM slot messages sent over AFTN could be done over SWIM converted into FIXM format in late 2023. The successful conduct of trial highlighted some issues relating to the formalization of FIXM version to be used in the region. Moreover, the meeting was informed of the Technical Sub-Group has begun to explore the evolution of ATFM in an FF-ICE/TBO environment, considering the impending implementation of FF-ICE/R1 and experiences of AMNAC members that were involved with demonstration projects such as the *Multi-Regional TBO Demonstration.*

4.60 The meeting discussed the issue of CTOT compliance requirement by the ATFM unit vis-à-vis the OTP requirement of airlines. It was suggested that the topic may be discussed further in the next update of regional ATFM framework document. The regional cross-border ATFM update was appreciated by USA which offered support for further collaboration on the issue.

The Operation Concept of National Traffic Flow Management System (WP/09, SP/06)

4.61 The meeting was provided information on the evolution of the National Traffic Flow Management system (NTFM) built in China.

4.62 The ATFM system, which supports decision-making for ATFM personnel, was closely tied to the local ATFM culture. This culture was a consensus reached by various stakeholders based on their understanding and contributed to the construction of traffic management networks, including operating procedures, personnel capabilities, and supporting tools. The concept of an elastic network was introduced, where all users are nodes in this network. The network was designed to be elastic and could adjust in real-time to ensure optimal performance.

4.63 The need for elasticity in the ATFM network arose from the inherent uncertainties in air traffic management. For instance, if a flight does not take off at the assigned CTOT, the system could automatically adjust other flights to compensate. This principle of complementarity ensured when a problem occurs at one point, resources from the entire network were available. The results of such adjustments were communicated in real-time to various ATFM participants and reflected in the system's post-operation analysis module.

4.64 China's ATFM system had evolved from a first-generation system developed in 2013 to a unified second-generation system launched in 2020, which integrated ATFM concepts, methods, and procedures nationwide. Continuous efforts were made to reduce system differences and increase consistency, promoting interconnection, interoperability, and efficient decision-making across systems.

4.65 The concept of Internet of Everything (IoE) had been introduced to ATFM system tools, such as NTFM, to improve predictability and accuracy, achieving information, system, and operation interconnection, and forming a national ATFM information interaction network in China.

4.66 The One CTOT Solution (OCS) concept, which allowed multiple ATFM measures to be satisfied simultaneously, was crucial for handling complex scenarios in the Asia-Pacific region. China's current NTFM system could ensure every CTOT be a near-optimal solution, balancing various ATFM indicators such as average delay and CTOT variability.

4.67 The relationship between ATFM and ATC in China had strengthen over the years with regard to the NTFM system considering the habits and rules of air traffic controllers. Modern technology supported the development of China's second-generation ATFM system, NTFM, enabled it to combine algorithms, computing power, and data, thereby improving work efficiency and better ATFM solutions.

4.68 Deep data mining in the NTFM system enhanced its capabilities by utilizing pool of data to provide dynamic capacity suggestions, predict accurate 4D trajectories, optimize and improve ATFM operations, leading to gradual improvement in the quality of ATFM work.

4.69 ATFM in the Asia-Pacific region progressed with interconnection between ATFM systems, with all subsystems forming a complete Asia-Pacific ATFM network. The NTFM, as part of this network, would open to interconnection with various States/Administrations in the region for continuous improvement and expansion, keeping pace with the progress of industrial demand.

4.70 China invited the meeting to conduct research jointly and improve the operation concept of ATFM system tools in Asia-Pacific region and welcome stakeholders to carry out interconnection tests with NTFM.

4.71 The meeting appreciated the presentation of NTFM concept in China. The requirement of developing guidance for ATFM tools and systems were discussed. The meeting agreed that many factors need to be considered in this aspect and the necessity to develop regional guidance required further discussion to seek common ground.

Enhancing ATFM by Addressing Challenges and Exploring Solutions (WP/10, SP/07)

4.72 The meeting was provided with the analysis of current operational challenges in ATFM within APAC region and advocated for the development of ATFM guidelines tailored for the APAC region to enhance individual ATFM systems. And the meeting was presented with multiple current ATFM operational challenges in China.

4.73 China invited the meeting to consider develop a set of operational guidelines for ATFM in the Asia-Pacific region from an operational perspective, providing a template for States/Administrations to construct and refine their ATFM systems according to the guidance roadmap and their specific circumstances.

4.74 The meeting noted the information provided in the paper. The meeting also noted Doc 9971 is being updated with an additional part providing "Operational Guideline" for ATFM implementation in Global level. However, the requirement to develop such guideline in APAC regional scale required further discussion to seek common ground.

4.75 ICAO reminded the meeting about the plans to update the APAC Seamless ANS Plan and consequential update of APAC Regional Collaborative ATFM Framework document in 2025. It was recommended to the ATFM/IR/SWG to consider the development of additional guidance material as part of the next update of the Regional Framework document.

Common CDM Platform to Facilitate APAC Bi-Weekly ATFM Web Conference and ATFM Operations (WP/11)

4.76 The meeting was provided with the information regarding the APAC Bi-Weekly ATFM Web Conference which served as a platform to enable regular updates by ANSPs on ATM resource status, traffic demand and expected ATFM measures.

4.77 The AMNAC Core Team shared the difficulties and limitation encountered under current environment and decided to move forward to establish an integrated collaboration platform which enable the conduct of harmonized web conference, provide a common information repository, scalable capacity and functionalities, and provide a common CDM Platform.

4.78 Microsoft Teams has been chosen by the AMNAC Core Team as a trial platform to improve the APAC Bi-Weekly ATFM Web Conference process, and the MS Teams platform would be used for the regular web conferences on a trial basis for 2 months starting 23 May 2024. Upon completion of trial, AMNAC Core Team would review the feasibility and explore other potential use-cases.

4.79 Discussion was raised, with a common platform being available, would the Bi-Weekly Conference consider extending the invitation to airlines interested to participate the conference. However, the floor did not arrive with a consensus on this matter and would require further discussion between AMNAC Core Team and IATA.

4.80 The AMNAC encouraged the meeting to participate in APAC Bi-Weekly ATFM Web Conference on Thursdays every 2 weeks at 0800UTC regardless the status of membership in AMNAC.

4.81 The meeting noted the changes in the platform to support APAC Bi-Weekly ATFM Web Conference process and collaboration among AMNAC members. The meeting discussed on participation of airspace user in the trials and possibility of exploring other platforms such as CADENCE OIS for information repository. Necessity of common rules of engagement and clearly defined roles of stakeholders during collaboration process was highlighted.

NARAHG Update (WP/16)

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

4.83 The meeting was informed about the data connection trails between China and Japan and shared the plans to shift the trials on CRV platform. It was noted that all cross-border traffic management data from China and Japan will be transmitted through the CRV network by June 2024. NARAHG will start CTO based ATFM measure trials after successful completion of data sharing. The paper also informed that from April 8th to 29th 2024, a new CDN trial will be started between Shanghai ATCC and Daegu ATCC for functional verification of CRACP new version.

4.84 The meeting noted the developments being made by the NARAHG members in real time collaboration. It was suggested to provide more visibility to the causes of ATFM measures for the benefit of airspace users.

4.85 The paper discussed the challenges of using CTO in cross border ATFM and considerations of compliance window. NARAHG will continue to optimize the CTO based ATFM procedure through trial operations and invited ICAO ATFM/SG meeting, Asia-Pacific States and Administrations to provide opinions and suggestions.

Progress of the CTO Trials within Fukuoka FIR (IP/02)

4.86 Japan provided information on the progress of CTO trial within Fukuoka FIR since March 2023. International flights requiring ATFM measures were issued with a CTO en-route to Tokyo International Airport.

4.87 While meeting the trial criteria, affected international flights would be instructed to reduce speed by Mach 0.01 when CTO delay for more than 1 minute was expected.

4.88 Japan advised the meeting the CTO trial would continue to gather more data for improvement.

4.89 The meeting appreciated the effort made from Japan and deliberated on the lead time of CTO issuance and means of conveying such information to airspace users.

Collaborative Decision Making between Australian Bureau of Meteorology, Airservices Australia and Other ATM Stakeholders (IP/05)

4.90 Australia provided information on Meteorological Collaborative Decision Making (MET CDM), used in Australia, to formulate aircraft arrival rates for ATFM and technology developments to enhance network management decisions.

4.91 The meeting was presented with the MET products and systems that Australia use to aid pre-tactical planning including MET CDM products and services.

4.92 The details of the MET CDM and its benefits to the decision-making process was noted by the meeting. The meeting was also informed for the network management enhancement including the implementation of A-CDM and the development of "Digital Twin".

4.93 The future concept of Collaborative Convective Forecast-CDM was introduced which aimed to improve readiness for disruptive events in a manner that all stakeholders understand.

Agenda Item 5: A-CDM Operations and A-CDM/ATFM Integration

A-CDM Operations and A-CDM/ATFM Integration (IP/03)

5.1 Malaysia shared information on the progress of A-CDM implementation at Kuala Lumpur International Airport (KLIA). The project planned to conduct full operational trials from 22 January to 21 July 2024.

5.2 A-CDM/ATFM Integration was planned for Q3 2024.

A-CDM Implementation in Vietnam (SP/08)

5.3 Viet Nam shared information on the progress of A-CDM live operations at Noi Bai and Tan Son Nhat International Airport since 1 February 2024 and will equip the 2 airports for full A-CDM integrated ATFM.

5.4 Viet Nam is scheduled to implement A-CDM in Long Thanh International Airport in 2026.

Agenda Item 6: Regional ATFM Framework, A-CDM Plan and related Guidance Material

Common Flight Information Exchange Model (FIXM) Version for Asia/Pacific Cross-Border Operational ATFM System-to-System Data Exchange in System Wide Information Management (SWIM) (WP/12)

6.1 This paper presented by Hong Kong China, Singapore and Thailand, highlighted the necessity to agree on the FIXM version for the implementation of operational ATFM system in Asia/Pacific region.

6.2 Asia/Pacific Regional Framework for Collaborative ATFM was based on a network of ATFM Nodes responsible for demand-capacity balancing within their area of responsibility while being connected to the network's information exchange infrastructure. The ATFM operations in each node would be based on regionally agreed principles and high-level operating procedures, with local adaptations as necessary.

6.3 The meeting was informed that the Aeronautical Fixed Telecommunication Network (AFTN) was primarily used for AMNAC cross-border ATFM system-to-system information exchanges such as Slot Allocation Message (SAM), Slot Revision Message (SRM) & Slot Cancellation Message (SLC).

6.4 The meeting was also informed that the AMNAC technical sub-group was supporting the work of ICAO Asia/Pacific SWIM Task Force (SWIM TF) to drive the development of SWIM-based communication infrastructure which would enable "ATFM-on-SWIM" operations in the region. An ATFM information exchange trial via SWIM technical infrastructure over the Asia-Pacific Common

aeRonautical VPN (CRV) was done during Q4/2023 to illustrate how existing ATFM related information that were sent via AFTN could be converted into FIXM format and exchanged via SWIM established on CRV.

6.5 It was informed the meeting that current ATFM-on-SWIM trial in APAC region was using the FIXM version v4.1 with APAC extension whereas the FIXM version v4.2 with APAC extension had been adopted by APANPIRG/34 in December 2023 as the recommended version. Globally, the FIXM Core v4.3.0 has been released by the FIXM Change Control Board to support the FF-ICE/R1 requirements. There would be a need to establish a common FIXM version for cross-border information exchange between operational ATFM systems in the Asia/Pacific region.

6.6 The paper recommended formalizing the FIXM v4.3 to be an agreed version for Cross-Border ATFM operations in Asia/Pacific from Q3/2026 Moreover, based on the initial assessment with operational users, this version is considered sufficient to support the operational needs in at least a mid-term timeframe.

6.7 The paper recommended the FIXM v4.1 with APAC Extension to be the version and used for the ATFM-on-SWIM trial until Q2/2025. It recommended revising the version used for the ATFM-on-SWIM trial from the FIXM v4.1 to the FIXM v4.3 from Q2/2025 and onward. The meeting agreed with the recommendation for the proposed version be used in cross-border ATFM-related information exchange which will also facilitate FF-ICE implementation and adopted the following conclusion.

The FIXM Core 4.3.0 released by FIXM CCB be adopted as an agreed-upon version (referred to as "FIXM 4.3" in Asia/Pacific region) from Q3 2026 to support information exchange between cross-border operational ATFM systems in SWIM environment

6.8 The paper informed that there was a need for a change process for the revision of the common FIXM version to support the information exchange among operational ATFM systems and the ATFM-on-SWIM trial. AMNAC Technical Sub-Group would be taking on developing this process by submitting a working paper for ATFM/SG's consideration.

Capacity Assessment Method Based on Similar Characteristics (WP/13, SP/09)

6.9 The meeting was provided with introduction of capacity assessment method based on similar characteristics applied in the NTFM system in China on providing a common capacity assessment service for all system users and lay foundation for analysing airspace bottlenecks.

6.10 Conventional mainstream capacity assessment method using reference value through historical data and model analysis was proved to be great for post-event evaluation. However, the data-driven process rather than purpose-driven nature lacked capacity prediction capability resulting in a relatively narrow field of application.

6.11 China introduced the process to carry out capacity assessment method based on historic similar characteristics which aimed for capacity prediction value of specific scenarios that require strong real time performance.

6.12 Upon developing a set of indicators with similar characteristics, historic operation data can be assessed and analysed to form a set of matrices for multiple assessment purposes. Clustering Algorithm would be injected to classify the historical data samples to generate similar capacity period of the evaluation object.

6.13 After generating the homogeneous and normalised sample data set for the operational scenario, the capacity reference value could be determined by adjusting the capacity set and density clustering characteristics.

6.14 China invited the meeting to jointly enhance the methods and capabilities in the field of assessment in the Asia-Pacific Region.

6.15 The meeting complimented the effort China made in providing alternative approach in conducting capacity assessment and the Chair reminded upon the update of Doc 9971, a more explanatory material for capacity assessment would be contained. In addition, the Chair reminded the meeting of the ongoing update of Doc 9971 being undertaken by ATM Operations Panel, which China also is member of. China is invited to contribute the material to the effort to update Doc 9971 related to capacity assessment.

6.16 The meeting noted that ATFM/SG/13 had a task 13/3 regarding Capacity Assessment workshop. ICAO planned to hold such workshop in Q4 of 2024 and invited States to participate in the workshop.

Progress Update on Development of the Regional Monitoring and Reporting Scheme for A-CDM Implementation in the Asia Pacific Region (IP/06, SP/10)

6.17 The meeting was provided with progress update on the development of the Regional Monitoring and Reporting Scheme for A-CDM Implementation in the Asia Pacific Region by ATFM/IR/SWG under the conclusion agreed in ATFM/SG/13.

6.18 Hong Kong China as the rapporteur of ATFM/IR/SWG drafted the Monitoring and Reporting Scheme with the group members and hosted an online meeting in March to kick-off the development work. The tentative roll out date was targeted in Q1 2025.

6.19 The meeting was informed about the progress of the task of developing APAC regional A-CDM implementation reporting mechanism. The meeting asked the ATFM/IR/SWG to consider completing the task and submit to ATM/SG/12 in Q3 of 2024.

Agenda Item 7: Any Other Business

Asia Pacific Seamless ANS Plan Update (WP/14)

7.1 ICAO presented the progress of update of the Asia/Pacific Seamless ANS Plan for review by ATM/SG/12.

7.2 The secretariat presented the guiding principles adopted and the process agreed by APINPIRG/33 for updating the Plan. The draft version of the Plan required further consultation both with APAC States/ Administrations and APANPIRG Sub-Groups before being endorsed by APANPIRG.

7.3 ICAO expressed priority to be applied by the Regions to fully developing ANP Vol. III, the update of the Seamless ANS Plan and its migration into ANP Vol. III would be conducted simultaneously.

7.4 The meeting was invited to review and provide feedback to the Secretariat on the proposed revision of the Seamless ANS Plan through their respective POCs. Chair reminded the States to participate in the update process and provide feedback to ICAO APAC office within the timelines.

7.5 Noting the major changes for Seamless ANS Plan V4.0 being the addition of items to V3.0, the ICAO APAC Seamless ANS Reporting Portal was prepared. To facilitate States using the Portal, a workshop with demonstrations and interactive session was held in April 2024.

7.6 The meeting was also invited to provide status of Seamless ANS Plan implementation through the Seamless ANS Plan reporting tool through their respective POCs.

ICAO APAC/MID ATM Contingency Planning Workshop (WP/15)

7.7 ICAO presented the brief information about the ICAP APAC/MID contingency Planning Workshop to be held from 25-27 June 2024 in Bangkok, Thailand followed by ICAO APAC ATM Contingency Tabletop exercise on 28 June 2024. The objective and draft agenda of the workshop was shared.

7.8 The workshop would provide great opportunity for States/ Administration to better manage regional and intra-region contingencies through collaborative decision making (CDM) practices and sub-regional cross-border ATFM initiatives.

7.9 The meeting was invited to provide recommendations and share experiences to improve The APAC and MID Regional ATM contingency planning, response and management.

ATFM Points of Contact (WP/17)

7.10 In accordance with usual practice at meetings of ICAO APAC technical groups in the ATM, AIM and Search and Rescue (SAR) fields, including ATFM, A-CDM and CCT, the consolidated ATM Points of Contact List was provided for any update by ATFM/SG participants. Any changes could be provided to the ICAO APAC Regional Office by email.

Planning for the Expected and Unexpected: New Guidance Material from CANSO (IP/04)

7.11 The information paper presented by CANSO brought to the notice of the Plenary session about a new reference, "***Planning for the Expected and Unexpected***: a Special Event and Disruption Planning Reference for ANSPs".

7.12 The publication contained 10 case studies. Each discussed the context for the event/disruption, the multi-stakeholder coordination workflow and associated ATM/ATFM solutions. The publication is accessible via CANSO website.

Agenda Item 8: Review of Task List

Terms of Reference and Task List (WP/18)

8.1 The meeting reviewed the Terms of Reference (TOR) of the ATFM/SG which was provided in **Appendix C to the Report**.

8.2 The ATFM/SG Task List, as reviewed and updated by the meeting, was provided in **Appendix D to the Report**.

Agenda Item 9: Date and Venue of the Next Meeting

9.1 The next meeting of ATFM/SG was tentatively planned to be held in April or May 2025 in conjunction with MET/R WG to organize a joint plenary session and MET/ATM seminar. Other related meetings' schedules, such as SWIM/TF, needed to be taken into account to fix the date. Any

Administration considering hosting ATFM/SG/15 or later meetings was invited to contact ICAO.

Closing of the Meeting

10.1 The Chair thanked all participants for their contributions to the ATFM/SG/14 meeting.

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List of Participants

	STATE/NAME		TITLE/ORGANIZATION
1.	**AUSTRALIA (2)**		
	1.	Mr. Ashwin Naidu	Aviation Customer Lead Australia Bureau of Meteorology **AUSTRALIA**
	2.	Mr. Simon Godsmark	Network Operations Manager Airservices Australia **AUSTRALIA**
2.	**BRUNEI DARUSSALAM (2)**		
	3.	Mr. Rosli Rabbani	Air Traffic Control Officer II Department of Civil Aviation, Brunei **BRUNEI DARUSSALAM**
	4.	Mr. Haji Saruji Haji Azol Bin	Chief Aerotelecommunications Officer Department of Civil Aviation, Brunei **BRUNEI DARUSSALAM**
3.	**CAMBODIA (4)**		
	5.	Mr. Chhun Sivorn	Director of Air Navigation Standard and Safety Department State Secretariat of Civil Aviation **CAMBODIA**

	STATE/NAME		TITLE/ORGANIZATION
	6.	Mr. Oun Makara	Chief of Air Traffic Services Air Navigation Standard and Safety Department State Secretariat of Civil Aviation **CAMBODIA**
	7.	Mr. Khorn Vannak	Senior ATM Development Manager Cambodia Air Traffic Services **CAMBODIA**
	8.	Mr. Buntong Vichcheka	ATM Supervisor Cambodia Air Traffic Services **CAMBODIA**
4.	**CHINA (5)**		
	9.	Mr. Yongqiang Fu	Deputy Director of Sanya Area Control Center Air Traffic Management Bureau Civil Aviation Administration of China **CHINA**
	10.	Mr. Liu Hong	Senior Engineer Operation Supervisory Center Civil Aviation Administration of China **CHINA**

	STATE/NAME		TITLE/ORGANIZATION
	11.	Mr. Xiaoyu Yan	Engineer Air Traffic Management Bureau Civil Aviation Administration of China **CHINA**
	12.	Mr. Yan Tang	Air Traffic Controller East China Regional Air Traffic Management Bureau of China **CHINA**
	13.	Mr. Zhang Zhiyuan	Assistant of ATC Division Air Traffic Management Bureau Civil Aviation Administration of China **CHINA**
5.	**HONG KONG, CHINA (4)**		
	14.	Mr. Anfernee POON	Senior Operations Officer (Strategic Planning) Hong Kong Civil Aviation Department **HONG KONG, CHINA**
	15.	Mr. Alex Lok Man LEUNG	Conversion Training Officer Hong Kong Civil Aviation Department **HONG KONG, CHINA**
	16.	Mr. Gene KWOK	Electronics Engineer Hong Kong Civil Aviation Department **HONG KONG, CHINA**

	STATE/NAME		TITLE/ORGANIZATION
	17.	Mr. Wallace Ng	Assistant Electronics Engineer Hong Kong Civil Aviation Department **HONG KONG, CHINA**
6.	**FIJI (1)**		
	18.	Mr. Makiti Raratabu	Air Navigation Services Inspector - ATM/MET CAA Fiji **FIJI**
7.	**INDIA (4)**		
	19.	Mr. Shibu Robert	GM-ATFM Airports Authority of India **INDIA**
	20.	Mr. Anup Kumar	Jt.GM (ATM-ATFM) Airports Authority of India **INDIA**
	21.	Mr. Arjan Mukherjee	Manager (ATM-ATFM) Airports Authority of India **INDIA**
	22.	Mr. Premjit	Jt.GM (CNS) Airports Authority of India **INDIA**

	STATE/NAME		TITLE/ORGANIZATION
8.	**INDONESIA (5)**		
	23.	Ms. Dina Yunita	Head of Operation Air Navigation Division DGCA Indonesia **INDONESIA**
	24.	Mr. Iqbal Maududi	Air Navigation Inspector DGCA Indonesia **INDONESIA**
	25.	Mr. Riyan Budhi Arga	Operation Development Senior Officer Angkasa Pura II **INDONESIA**
	26.	Ms. Zakiah Agus	ATFM Junior Manager AirNav Indonesia **INDONESIA**
	27.	Mr. Faisal Riza	Air Traffic Flow Management and ATS System Junior Manager Airnav Indonesia **INDONESIA**
9.	**JAPAN (2)**		
	28.	Mr. Toshihiro YONE	Special Assistant to the Director Japan Civil Aviation Bureau (JCAB) **JAPAN**

	STATE/NAME		TITLE/ORGANIZATION
	29.	Mr. Kenichi Yamakawa	Senior Air Traffic Management Officer Air Traffic Management Center Japan Civil Aviation Bureau (JCAB) **JAPAN**
10.	**LAO PDR (3)**		
	30.	Mr. Vixay Vorlachit	Air Navigation Standards Division Officer Department of Civil Aviation of Lao PDR **LAO PDR**
	31.	Ms. Phuvong Sengvongdeuan	Deputy Chief of Vientiane ACC, Lao Air Navigation Services (LANS) **LAO PDR**
	32.	Mr. Khamsing Boualaphanh	Air Traffic Controller Lao Air Traffic Services (LANS) **LAO PDR**
11.	**MALAYSIA (7)**		
	33.	Mr. Raja Amsyar Hillman Raja Badrul Hisham	Deputy Director of Air Traffic Management Civil Aviation Authority of Malaysia **MALAYSIA**
	34.	Mr. Muhammad Firdaus Ismail	Air Traffic Management Unit Air Navigation Service Technical Division Civil Aviation Authority of Malaysia **MALAYSIA**

	STATE/NAME		TITLE/ORGANIZATION
	35.	Mr. Mohd Norhidayat Bin Mohamad Khalid	Assistant Director, Air Navigation Services Operations Division Civil Aviation Authority of Malaysia **MALAYSIA**
	36.	Mr. Abd Hasman Abd Muhimim	General Manager Malaysia Airports Holdings Berhad **MALAYSIA**
	37.	Ms. Ruzliana Fazila Kamarudin	Senior Manager Malaysia Airports Holding Berhad **MALAYSIA**
	38.	Mr. Mohd Razlie Che Arshad	Airport Operations Duty Manager Malaysia Airports Holding Berhad **MALAYSIA**
	39.	Ms. Siti Fariza Mat Tahir	Forecaster Malaysian Meteorological Department **MALAYSIA**
12.	**MALDIVES (2)**		
	40.	Mr. Moosa Shahid Hussain	Head of ATS Maldives National Air Traffic Service **MALDIVES**

	STATE/NAME		TITLE/ORGANIZATION
	41.	Mr. Ismail Rameez	Manager ATC Center Maldives National Air Traffic Services **MALDIVES**
13.	**MONGOLIA (1)**		
	42.	Ms. Mandkhai Batjil	Air Navigation Policy Officer Civil Aviation Authority of Mongolia **MONGOLIA**
14.	**NEPAL (3)**		
	43.	Mr. Sudhir Kumar Shrestha	Deputy Director Civil Aviation Authority of Nepal **NEPAL**
	44.	Mr. Babu Raja Nakarmi	Deputy Director Civil Aviation Authority of Nepal (CAAN) **NEPAL**
	45.	Mr. Mahesh Shrestha	Deputy Director Civil Aviation Authority of Nepal (CAAN) **NEPAL**
15.		**PAKISTAN (2)**	
	46.	Mr. Akhtar Niqab	Sr. Joint Director ATS/ COO IIAP Pakistan Civil Aviation Authority **PAKISTAN**

	STATE/NAME		TITLE/ORGANIZATION
	47.	Mr. Muhammad Asif	Joint Director (ATM) AANS-DAAR Pakistan Civil Aviation Authority **PAKISTAN**
16.	**PHILIPPINES (1)**		
	48.	Mr. Robin F. Alzona	Division Chief III, Aerodrome Division, Air Traffic Service **PHILIPPINES**
17.	**REPUBLIC OF KOREA (3)**		
	49.	Mr. Yeewon Kang	Deputy Director Ministry of Land, Infrastructure and Transport Air Traffic Management Office **REPUBLIC OF KOREA**
	50.	Mr. Woo Jin Kim	ATFM Ministry of Land, transport and Maritime Affairs, Republic of Korea (MOLIT) **REPUBLIC OF KOREA**
	51.	Ms. Doyeon Kim	Manager Incheon International Airport Corporation (IIAC) **REPUBLIC OF KOREA**

	STATE/NAME		TITLE/ORGANIZATION
18.	**SINGAPORE (8)**		
	52.	Ms. Jialing He	Head ATC Specialist (ATFM) Civil Aviation Authority of Singapore **SINGAPORE**
	53.	Mr. Huanbin Zhang	Head (ATM – Development) Civil Aviation Authority of Singapore **SINGAPORE**
	54.	Mr. Clement Heng	Senior Air Traffic Control Manager (ATM – Development) Civil Aviation Authority of Singapore **SINGAPORE**
	55.	Mr. Jack Toh	Principal Engineer (Air Traffic Management Support Systems) Civil Aviation Authority of Singapore **SINGAPORE**
	56.	Mr. Jason Sim	Engineer Civil Aviation Authority of Singapore **SINGAPORE**
	57.	Ms. Pei Li Lee	Principal Manager (Air Traffic Services Regulation) Civil Aviation Authority of Singapore **SINGAPORE**

	STATE/NAME		TITLE/ORGANIZATION
	58.	Mr. You Sheng Kong	Senior ATC Manager (Operations Technology Planning) Civil Aviation Authority of Singapore **SINGAPORE**
	59.	Mr. Jeffrey Loke	Head (ATS Regulation) & Head (CNS/MET Regulation) Civil Aviation Authority of Singapore **SINGAPORE**
19.	**THAILAND (26)**		
	60.	Mr. Buntoeng Megchai	Air Navigation Operations Management Manager The Civil Aviation Authority of Thailand **THAILAND**
	61.	Mr. Napatra Chuepan	Air Navigation Operations Planning Officer The Civil Aviation Authority of Thailand **THAILAND**
	62.	Mr. Sikarate Tarasak	Air Navigation Operations Planning Officer The Civil Aviation Authority of Thailand **THAILAND**
	63.	Mr. Jirakrit Thamnarak	Air Traffic Standards Officer The Civil Aviation Authority of Thailand **THAILAND**

	STATE/NAME		TITLE/ORGANIZATION
	64.	Ms. Achiraya Dechanuntasin	Air Traffic Standards Officer The Civil Aviation Authority of Thailand **THAILAND**
	65.	Mr. Thanakrit Lertpiya	Air Traffic Standards Officer The Civil Aviation Authority of Thailand **THAILAND**
	66.	Ms. Wilasinee Phanngam	Transport Technical Officer Department of Airports **THAILAND**
	67.	Mr. Piyawut Tantimekabut	Air Traffic Management Network Manager Aeronautical Radio of Thailand Ltd. **THAILAND**
	68.	Mrs. Sarinna Suwanrak	Air Traffic Engineer Manager Aeronautical Radio of Thailand Ltd. **THAILAND**
	69.	Mr. Chairat Panpattarakul	Air Traffic Controller 2 (Bangkok Approach Control) Aeronautical Radio of Thailand Ltd. **THAILAND**
	70.	Mr. Sakon Sinlapakun	Senior Air Traffic Systems Engineer Aeronautical Radio of Thailand Ltd. **THAILAND**

	STATE/NAME		TITLE/ORGANIZATION
	71.	Ms. Chamaiporn Sangphet	Air Traffic Systems Engineer Aeronautical Radio of Thailand Ltd. **THAILAND**
	72.	Mr. Sugoon Fucharoen	Executive Air Traffic Management Network Officer Aeronautical Radio of Thailand Ltd. **THAILAND**
	73.	Mr. Dudsadee Sungthong	Executive Air Traffic Management Network Officer Aeronautical Radio of Thailand Ltd. **THAILAND**
	74.	Mr. Chayanin Phoosangthong	Administration Officer of Airside Services Airports of Thailand Public Company Limited **THAILAND**
	75.	Mr. Amnat Jenpanitsap	Administration Officer Airports of Thailand Public Company Limited **THAILAND**
	76.	Ms. Saowakhon Tetiya	Aerodrome Safety Specialist Airports of Thailand Public Company Limited **THAILAND**

	STATE/NAME		TITLE/ORGANIZATION
	77.	Ms. Suvachira Teeraphathananon	Senior Engineer of Airport Operations System Airports of Thailand Public Company Limited **THAILAND**
	78.	SGT. Peerapat Chancharoen	Senior Airport Operations Officer of Airside Services Airports of Thailand Public Company Limited **THAILAND**
	79.	Ms. Rassamee Damrongkietwattana	Director of Aeronautical Weather Monitoring Meteorological Department of Thailand **THAILAND**
	80.	Mr. Putchaphan Sirisap	Director of Aeronautical Weather Forecast Meteorological Department of Thailand **THAILAND**
	81.	Mr. Rittikrit Garin	Senior Meteorologist Meteorological Department of Thailand **THAILAND**
	82.	Mr. Warapong Noothong	Meteorologist, Professional Level Meteorological Department of Thailand **THAILAND**
	83.	Mr. Pongkhun Maneesri	Meteorologist, Professional Level Meteorological Department of Thailand **THAILAND**

	STATE/NAME		TITLE/ORGANIZATION
	84.	Mr. Kittisak Sudtachart	Director of Operations Control Center Bangkok Airways Public Co, Ltd. **THAILAND**
	85.	Mr. Pakdee Dangkasan	Manager of Flight Dispatch Bangkok Airways Public Co, Ltd. **THAILAND**
20.	**UNITED STATES (3)**		
	86.	Ms. Almira Ramadani	Senior Air Traffic Representative, Asia Pacific Federal Aviation Administration Air Traffic Organization, Mission Support **SINGAPORE**
	87.	Mr. Scott Farrow	Staff Support Specialist Federal Aviation Administration CDM and International Operations ATO System Operations **UNITED STATES**
	88.	Ms. Midori Tanino	Global ATM Program Manager Federal Aviation Administration ATO International, Mission Support Services **UNITED STATES**

	STATE/NAME		TITLE/ORGANIZATION
21.	**VIET NAM (10)**		
	89.	Ms. Tran Thi Ngoc Anh	Officer - Air Navigation Department Civil Aviation Authority of Vietnam (CAAV) **VIET NAM**
	90.	Mr. Nguyen Van Hieu	Deputy Director - Air Traffic Flow Management Center Vietnam Air Traffic Management Corporation **VIET NAM**
	91.	Mr. Pham Xuan Thanh	Manger - Division of ATFM Operations, Air Traffic Flow Management Center Vietnam Air Traffic Management Corporation **VIET NAM**
	92.	Ms. Nguyen Thi An Thuy	Deputy Manager - Ha Noi Area Control Center, Northern Region Air Traffic Services Company Vietnam Air Traffic Management Corporation **VIET NAM**
	93.	Mr. Nguyen Van Duong	Deputy Manager - Tan Son Nhat Approach & Aerodrome Control Center, Southern Region Air Traffic Services Company Vietnam Air Traffic Management Corporation **VIET NAM**

	STATE/NAME		TITLE/ORGANIZATION
	94.	Mr. Pham Van Manh	Chief of ATFM Group - Department of ATS Vietnam Air Traffic Management Corporation **VIET NAM**
	95.	Mr. Dinh Dang Dinh	Manager of Airport Operation Center – Noi Bai International Airport Airports Corporation of Vietnam **VIET NAM**
	96.	Mr. Nguyen Van Son	Deputy Manager of Airport Operation Center – Tan Son Nhat International Airport Airports Corporation of Vietnam **VIET NAM**
	97.	Mr. Nguyen Vinh Tra	Executive of Airport Operation Center – Noi Bai International Airport Airports Corporation of Vietnam **VIET NAM**
	98.	Ms. Do Dieu Huyen	Specialist of Airport Operation Airports Corporation of Vietnam Department of ACV **VIET NAM**
22.	**CANSO (1)**		
	99.	Mr. Poh Theen Soh	Director, Asia Pacific Affairs CANSO **SINGAPORE**

	STATE/NAME		TITLE/ORGANIZATION
23.	**IATA (3)**		
	100.	Mr. John Moore	Assistant Director, Safety and Flight Operations, ASPAC IATA **SINGAPORE**
	101.	Mr. George Chan	Regulatory Affairs Manager – Operations and Industry IATA **HONG KONG, CHINA**
	102.	Ms. Megan Yin	Senior Manager – Air Traffic System Asia Pacific IATA/United Airlines
24.	**ICCAIA (1)**		
	103.	Mr. Warren Beeston	R1/R2 Operational Advisor, Airspace Mobility Solutions ICCAIA - Thales Australia **AUSTRALIA**
25.	**IFATCA (3)**		
	104.	Mr. John Wagstaff	Representative IFATCA – Asia and Pacific **CANADA**

	STATE/NAME		TITLE/ORGANIZATION
	105.	Mr. Kenrick Taylor	Technical Officer International Federation of Air Traffic Controllers' Associations (IFATCA) **AUSTRALIA**
	106.	Mr. Naoto Ishii	ATCO IFATCA – Asia and Pacific **JAPAN**
26.	**ICAO (9)**		
	107.	Mr. Manjunath K Nelli	Regional Officer, Air Traffic Management ICAO Asia and Pacific Regional Sub-Office **CHINA**
	108.	Mr. Hiroyuki Takata	Regional Officer, Air Traffic Management ICAO Asia and Pacific Regional Office **THAILAND**
	109.	Mr. Peter Dunda	Regional Officer, Aeronautical Meteorology/Environment ICAO Asia and Pacific Regional Office **THAILAND**
	110.	Ms. Soniya Nibhani	Regional Officer, Air Navigation Systems (CNS) Implementation ICAO Asia and Pacific Regional Office **THAILAND**

	STATE/NAME		TITLE/ORGANIZATION
	111.	Mr. Ying Weng Kit	Air Traffic Management Officer ICAO Asia and Pacific Regional Office **THAILAND**
	112.	Mr. Erdenebaatar Davaasuren	AIM Consultant ICAO Asia and Pacific Regional Office **THAILAND**
	113.	Mr. Tak Chuen Chui	Aeronautical Information Management/ Air Traffic Management Officer ICAO Asia and Pacific Regional Office **THAILAND**
	114.	Dr. Prakayphet Chalayonnawin	Programme Analysis Associate, Air Traffic Management ICAO Asia and Pacific Regional Office **THAILAND**
	115.	Ms. Varapan Meefuengsart	Programme Assistant, CNS/MET ICAO Asia and Pacific Regional Office **THAILAND**

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LIST OF WORKING AND INFORMATION PAPERS

WORKING PAPERS

NO	AGENDA	TITLE	PRESENTED BY
WP/01	1	Provisional agenda	Secretariat
WP/02	4	Regional ATFM Implementation Status	Secretariat
WP/03	4	Procedures for EOBT Update and CTOT Management (SP/02)	Republic of Korea
WP/04	4	Optimising air traffic flow over the Bay of Bengal	Singapore, Thailand and IATA
WP/05	4	Ground Delay Program Trial at Kuala Lumpur International Airport (WMKK)	Malaysia
WP/06	4	Air Traffic Flow Management in the United States of America (SP/03)	USA
WP/07	4	BOBCAT Operational Updates (SP/04)	Thailand
WP/08	4	Progress Updates from Asia-Pacific Cross-Border Multi-Nodal ATFM Collaboration (AMNAC) (SP/05)	China, Hong Kong China, Singapore, Thailand, CANSO, and IATA
WP/09	4	The Operation Concept of National Traffic Flow Management System (SP/06)	China
WP/10	4	Enhancing ATFM by Addressing Challenges and Exploring Solutions (SP/07)	China
WP/11	4	Common CDM Platform to facilitate APAC Bi-Weekly ATFM Web Conference and ATFM Operations	China, Hong Kong China, Singapore, Thailand, and IATA
WP/12	6	Common Flight Information Exchange Model (FIXM) Version for Asia-Pacific Cross-Border Operational ATFM System-to-System Data Exchange in System Wide Information Management (SWIM)	Hong Kong China, Singapore and Thailand
WP/13	6	Capacity Assessment Method based on Similar Characteristics (SP/09)	China
WP/14	7	Asia Pacific Seamless ANS Plan Update	Secretariat
WP/15	7	ICAO APAC/MID ATM Contingency Planning Workshop	Secretariat
WP/16	4	NARAHG Update	China, Japan, and Republic of Korea
WP/17	7	ATFM Points of Contact List	Secretariat
WP/18	8	Terms of Reference and Task List	Secretariat

INFORMATION PAPERS

NO	AGENDA	TITLE	PRESENTED BY
IP/01	-	List of working and information papers	Secretariat
IP/02	4	Progress of the CTO Trial within Fukuoka FIR	Japan
IP/03	5	A-CDM Operations and A-CDM-ATFM Integration	Malaysia
IP/04	7	Planning for the Expected and Unexpected - New Guidance Material from CANSO	CANSO
IP/05	4	Collaborative Decision Making between Australian Bureau of Meteorology, Airservices Australia and other ATM Stakeholders	Australia
IP/06	6	Progress update on development of the Regional Monitoring and Reporting Scheme for A-CDM Implementation in the Asia Pacific Region (SP/10)	ATFM/IR/SWG

FLIMSIES

NO	AGENDA	TITLE	PRESENTED BY
Flimsy 01	7	MET/ATM Seminar Report (SP/11)	Secretariat

PRESENTATIONS

NO	AGENDA	TITLE	PRESENTED BY
SP/01	3	ATFM Global Developments	ICAO HQ
SP/02	4	Procedures for EOBT Update and CTOT Management (WP/03)	Republic of Korea
SP/03	4	Air Traffic Flow Management in the United States of America (WP/06)	USA
SP/04	4	BOBCAT Operational Updates (WP/07)	Thailand
SP/05	4	Progress Updates from Asia-Pacific Cross-Border Multi-Nodal ATFM Collaboration (AMNAC) (WP/08)	China, Hong Kong China, Singapore, Thailand, CANSO, and IATA
SP/06	4	The Operation Concept of National Traffic Flow Management System (WP/09)	China

NO	AGENDA	TITLE	PRESENTED BY
SP/07	4	Enhancing ATFM by Addressing Challenges and Exploring Solutions (WP/10)	China
SP/08	5	A-CDM Implementation in Viet Nam	Viet Nam
SP/09	6	Capacity Assessment Method based on Similar Characteristics (WP/13)	China
SP/10	6	Progress update on development of the Regional Monitoring and Reporting Scheme for A-CDM Implementation in the Asia Pacific Region (IP/06)	ATFM/IR/SWG
SP/11	7	MET/ATM Seminar Report (Flimsy 01)	Secretariat

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Terms of Reference

AIR TRAFFIC FLOW MANAGEMENT STEERING GROUP (ATFM/SG)

1. Having considered relevant documents such as the *Manual on Collaborative Air Traffic Flow Management* (Doc 9971), regional air traffic data and the Asia/Pacific Region city pairs and associated airspace and ATS routes and aerodromes experiencing the most significant traffic demand, and noting the Asia/Pacific Seamless ATM Plan provisions for structural airspace capacity increasing measures, develop an Asia/Pacific Regional ATFM Framework which addresses ATFM implementation and ATFM operational issues in the Asia/Pacific Region;

2. Identify, research and recommend appropriate guidance regarding:

   a. capacity assessment and adjustment mechanisms;

   b. regular review for all aerodromes and ATC sectors where traffic demand is expected to reach capacity, or is resulting in traffic congestion;

   c. mechanisms for ATFM and A-CDM data gathering, collation and sharing between States, International Organizations and ICAO, which may include;

      i. capacity assessments, including factors affecting capacity such as special use airspace status, runway closures and weather information;

      ii. traffic demand information which may include flight schedules, flight plan data, repetitive flight plan data as well as associated surveillance updates of flight status; and

      iii. ATFM Daily Plan;

   d. compliance by airspace and aerodrome users with ATFM and A-CDM measures; and

   e. any other guidance relevant to the Regional ATFM Framework and Asia/Pacific A-CDM Implementation Plan.

3. Maintain an overview of CDM/ATFM and A-CDM programs being conducted within the Region, with a view to facilitating their coordination and alignment, and to promote;

   a. harmonized procedures;

   b. Implementation of the performance expectations of the Regional ATFM Framework and Asia/Pacific A-CDM Implementation Plan;

   c. Interoperability of A-CDM with ATFM

4. Review the effectiveness of existing and planned ATFM and A-CDM programs in the Asia and Pacific Region, and make specific recommendations, including any adjacent airspace affecting the Asia and Pacific Regions, and research and recommend appropriate mechanisms for the on-going review of such programs.

5. The Group coordinates closely with other relevant bodies such as Airport Operations and Planning Sub-Group, the Meteorological Requirements Working Group (MET/R WG) and System-Wide Information Management Task Force (SWIM TF).

6. The Group reports to the ATM Sub-Group.

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Air Traffic Flow Management Steering Group

Task List

(last updated ATFM/SG/14, 26 April 2024)

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
~~**9/5**~~	Missing DEP messages follow-up multi-State analysis	~~24 July 2020~~ ~~ATM/SG/9~~ ~~30 September 2022 (POC)~~ ~~October (data gathering)~~ ~~APANPIRG/33 (by 31 Oct)~~ ATM/SG/11	Australia, China, India, Japan, Mongolia, Singapore, Thailand, Indonesia, Viet Nam, Cambodia	Open Closed	To be coordinated/confirmed, depending on level of traffic recovery post-COVID-19 pandemic POC confirmation ATFM/SG/12 report para. 4.39 and 4.43 2023 data collection will be tentatively in June 2023
9/9	Analysis of MET requirements to support Non-ASBU elements of Seamless ANS Plan	~~ATFM/SG/12~~ ~~ATFM/SG/13~~ ATFM/SG/15	Secretariat/MET R WG Chair	Open	Updated ATFM/SG/11 To be discussed by ~~MET/R WG/9~~ MET/R WG/~~11~~ 13– to consider in context of 202~~2~~3 update of Seamless ANS Plan
11/1	*APA-CDM/TF Action Item 5/2 - included in ATFM/SG Task List pending APANPIRG decision on re-assignment of responsibility for A-CDM.* Develop joint operational procedure guidance for the integration of ATFM and A-CDM operations, focusing the integration between A-CDM and "cross-	~~ATFM/SG/12~~ ~~ATFM/SG/13~~ ~~ATM/SG/10~~ ~~(CANSO)~~ ATFM/SG/14	(APA-CDM/TF/6) ATFM/IR/SWG ~~to lead~~ ~~China, Hong Kong China, India, Pakistan, Republic of Korea, Thailand, Group of Experts, CANSO~~	In progress	Included at ATFM/SG/11 APA-CDM/TF/6 WP/03 Task to be carried out by the APANPIRG technical body assigned ongoing responsibility for oversight of A-CDM.

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
	border" ATFM in collaboration with Experts from ATFM/SG and SWIM TF				~~CANSO provides a paper ATM/SG/10~~
12/3	Register the Asia/Pacific Bi-Weekly Web Conference (AMNAC) to share the ATFM-related information through the MS Teams	Ongoing	Administrations willing to join	Open	ATFM/SG/12 report para. 4.29 invitation extended to some States outside of AMNAC ATFM/SG/13 report para. 4.13 ATFM/SG/14 report para 4.80
12/4	CTO compliance window follow-up (lessons learned from other Regions)	~~ATFM/SG/13~~ Ongoing	Secretariat	Open	ATFM/SG/12 report para. 4.73
12/6	Explore what seasonal meteorological conditions information (airport and airspace) are required during ATFM strategic phase in coordination with AUs	~~MET/R WG/12 (22-26 May 2023)~~ MET/R WG/13	ATFM/IR/SWG	~~Open~~ Closed	ATFM/SG/12 report para. 5.3 Hong Kong China provides a presentation to MET/ATM seminar in May 2023
~~**12/10**~~	Provide a FAQ to assist States in reviewing their ATFM implementation	ATFM/SG/13	New Zealand, Hong Kong China, Thailand and Singapore	~~Open~~ Closed	ATFM/SG/12 report para. 4.16
13/1	Report on the progress of CTO trials	~~ATFM/SG/14~~ Ongoing	Japan	Open	ATFM/SG/13 report para. 4.53 ATFM/SG/14 report para 4.89
13/2	Report on the progress of multi constraints resolution	~~ATFM/SG/14~~ Ongoing	China , Hong Kong China, Republic of Korea, Singapore, Thailand	Open	ATFM/SG/13 report para. 4.71
13/3	Support the workshop on capacity assessment, and consider to include ATFM-related USOAP PQs	Nov ~~2023~~ 2024 (tentative)	Secretariat, China, Thailand, Singapore, Japan, Hong Kong China, ROK, Pakistan, USA, India, Malaysia, Philippines, IATA and CANSO	Open	ATFM/SG/13 report para. 7.5
13/5	Draft Regional A-CDM Implementation monitoring and reporting scheme	~~ATFM/SG/14~~ ATM/SG/12	ATFM/IR/SWG	Open	ATFM/SG/13 report para. 6.6

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
					ATFM/SG/14 report para 6.19
13/7	Update MET/R WG ad-hoc group member list (ATFM experts)	MET/R WG/12	MET/R WG ad-hoc group member	Open	ATFM/SG/13 report para. 2.4
13/8	Provide feedback and additional use cases for *APAC User Requirements for SWIM-based MET Information Services Supporting ATFM* to MET R/WG ad-hoc group	MET/R WG/13	Secretariat, All administrations	Open	ATFM/SG/13 report para. 2.4
14/1	APAC Region ATFM Implementation Status report analysis – Show Phase IIIA and IIIB elements status separately	ATM/SG/12 ATFM/SG/15	Secretariat, All Administrations	Open	ATFM/SG/14 report para 4.6
14/2	Air Traffic Flow over Bay of Bengal – Status Update	ATM/SG/12	Singapore, Malaysia, India, IATA	Open	ATFM/SG/14 report para 4.23
14/3	Provide recommendations and share experiences on ATM contingency	ICAO APAC/MID ATM Contingency Planning Workshop	All Administrations	Open	ATFM/SG/14 report para 7.9