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)

INITIATIVE ON ESTABLISHING A COLLABORATIVE OPERATIONAL MECHANISM FOR REGIONAL AIR TRAFFIC FLOW MANAGEMENT IN THE ASIA-PACIFIC REGION

(Presented by Cambodia, China, Hong Kong China, Singapore, Viet Nam and IATA)

SUMMARY

With projected tripling of air traffic volume in the Asia/Pacific Region over the next two decades, this paper proposes the establishment of a Collaborative Operational Mechanism for regional Air Traffic Flow Management (ATFM). Aligned with pertinent policies and principles promulgated by ICAO and operating within the *Asia/Pacific Regional Framework for Collaborative Air Traffic Flow Management*, this mechanism seeks to mitigate challenges including information latency and coordination deficiencies. Its implementation pursues four core objectives: ensuring aviation safety, enhancing operational efficiency, fostering multilateral collaboration, and promoting interoperability among Air Navigation Service Providers (ANSPs).

1. INTRODUCTION

1.1 Air traffic flow within the Asia/Pacific (APAC) Region continues to exhibit significant growth, with projections indicating a threefold increase in traffic volume over the next two decades. To accommodate this escalating demand, ensure operational safety, and enhance efficiency, ANSPs require strengthened collaboration and consultation. This imperative arises from the necessity to address persistent challenges, including delayed information transmission, insufficient coordination, and disruptions caused by extreme weather events. In accordance with the relevant policies and principles established by ICAO and under the auspices of the *Asia/Pacific Regional Framework for Collaborative Air Traffic Flow Management*, this document proposes the establishment of an operational coordination mechanism for APAC regional ATFM. The objective is to optimize regional air traffic flow through enhanced information sharing and tactical consultations, thereby leveraging and reinforcing existing Air Traffic Flow Management (ATFM) operational and technical cooperation mechanisms within the Region.

1.2 At the sideline of the Third Meeting of the Asia-Pacific Air Navigation Service Providers Committee (AAC/3), several ANSPs discussed a potential collaborative initiative to enhance regional operational coordination through regular Collaborative Decision Making (CDM) teleconferences. CDM teleconferences constitute an essential component enabling ANSPs to establish shared situational awareness regarding air traffic flows, airport and airspace constraints, and assessments necessary for implementing ATFM to balance demand and capacity.

1.3 The AAC/4 meeting further acknowledged the initiative undertaken by several AAC members to establish a Working Group on Next Generation ATFM. This group is developing principles and rules for future regional ATFM, serving as the long-term strategy to enhance cross-border ATFM within APAC. Discussion is also ongoing for collaborative research to evaluate potential benefits and support leadership in addressing the trade-offs between regional and national requirements, ultimately delivering advantages for the entire region and individual ANSPs.

1.4 The collaborative operational mechanism and development of the long-term strategy forms part of the Working Group's mandate for CDM, guided by documents such as ICAO Annex 11, PANS-ATM (Doc 4444), Manual of Collaborative ATFM (Doc 9971), and the *Asia/Pacific Seamless Air Navigation Services (ANS) Plan*.

2. DISCUSSION

Objectives and Principles

2.1 A fundamental component of the collaborative operational mechanism for APAC Regional ATFM is the establishment of operational objectives aimed at optimizing air traffic flow at the regional level. This optimization is designed to yield benefits for the entire region as well as for individual ANSPs. The specific objectives are enumerated below:

a) **Safety.** Based on the actual operational demands in APAC, promote the alignment and balance of air traffic flow with airspace capacity, ensuring the safety of civil aviation operations in the region;

b) **Efficiency.** Enhance operational efficiency in APAC and maximise the effectiveness and advantages of air traffic management in the region;

c) **Cooperation.** Enhance coordination and collaboration with affected stakeholders, share cross-border operational data, establish common situational awareness, and create a seamless air traffic management environment; and

d) **Interoperability.** Foster mutual understanding among ANSPs in APAC regarding technology applications, operational processes, information sharing, and standard harmonisation to accelerate regional integration and achieve shared developmental benefits.

2.2 To enhance the overall management of predictable air traffic flow and facilitate the sharing of a unified regional air traffic vision, agreed operational norms, processes, and information, the following principles are adopted:

a) **Problem-oriented.** To address the challenges of delayed information transmission and inadequate collaboration in regional traffic management across APAC, the plan aims to optimise our collaborative operations and enhance the efficiency of traffic management in the area;

b) **Equality and Mutual Benefit.** Participating ANSPs are encouraged to engage in operational coordination based on the principles of equal status and mutual benefit. This collaboration promotes the efficient flow of air traffic in the region, addresses various airspace user objectives, and offers optimal responsive plans in different scenarios;

c) **Fair and Transparent.** Balance the reasonable needs of all parties involved in the region and ensure fair treatment of all stakeholders. Adopting an open, transparent, timely, predictable, and flexible approach to promote collaboration among stakeholders within the system, with decision-making processes and outcomes fully transparent; and

d) **Stepwise and Sequential.** The implementation will be carried out in stages, with a focus on sharing meteorological service information and flow management data information in the initial stage. Subsequently, the form, content, and frequency of consultations will evolve and be adjusted according to operational needs.

Components of the Collaborative Operational Mechanism

2.3 To enhance cross-border demand-capacity balancing and improve operational coordination, a collaborative operational mechanism was established. The operational component would comprise regular ATFM web conference, providing a region-wide platform to share timely operational information, align ATFM measures and review outcomes in a structured manner.

2.4 **Forms of Collaborative Consultation**

a) **The Regular Web Conference:** Shall be convened weekly every Monday at 02:00 UTC with rotating chairmanship among participating ANSPs. The provisional commencement date is scheduled for 15 September 2025.

b) **Ad-hoc Web Conference:** Triggered by the real-time operation, the initiator should coordinate with the rotating host to initiate Ad-hoc conferences as needed.

c) **Web Conference platform:** The adoption of Microsoft Teams serves as the principal platform for conducting the weekly ATFM conferences. Consideration is being given to utilizing alternative platforms, such as Tencent Meeting, to provide backup capabilities.

2.5 **Content of Collaborative Consultation**

For a start, the ATFM web conference will comprise of the following four components:

a) **Meteorological Information Notification:** The relevant meteorological service agency provides weather forecast information for APAC for the upcoming week, focusing on key international air routes and large-scale weather systems potentially impacting operations. Alternatively, meeting participants may present generalized weather forecasts for designated key airports and FIRs. This information will be incorporated into pre-tactical planning to ensure potential weather impacts are factored into demand–capacity assessments.

b) **Operational Introduction:** Each participant shall introduce their operational status, including details regarding airports/airways experiencing demand-capacity imbalances, flight plans, peak traffic periods, projected sortie counts, as well as other pertinent information concerning trunk routes and major traffic flows. This will help to build a comprehensive regional demand-capacity picture and enable early identification of imbalances.

c) **Operational Consultation and Coordination:** Participants are entitled to propose coordination requirements and measures. The hosting party is responsible for organizing the consultation process, facilitating discussion, conducting conflict analysis, facilitating solution development, and collaborating on the formulation of effective measures that duly consider the requirements of individual ANSPs. This includes reviewing the ATFM Daily Plan (ADP) and traffic management initiatives in a regional context to harmonise planned measures where flows affect multiple FIRs and coordinating ATFM actions using agreed procedures to ensure consistency and clarity across all affected parties.

d) **Post Operations Analysis**: At the regional level, participants will conduct post-operations analysis to identify trends, cross-border challenges, and opportunities for improvement. Findings will be used to refine coordination processes and will feed into the broader research initiative.

2.6 As the mechanism matures, the conference calls may expand to facilitate more frequent post-operations analysis to identify cross-border challenges and opportunities for improvement and be a platform to discuss traffic management initiatives (TMIs) that are implemented with short to no lead time. One example could be the facilitation of immediate coordination with regards to traffic flows on ATS routes M771 and L642 prior to the implementation of flow regulation.

2.7 **Preparation for Collaborative Operational Mechanism through ATFM Coordination Calls**

a) On 3 July 2025, the ANSPs of China, Hong Kong China, and Singapore convened to delineate the objectives and expectations for participation in the collaborative ATFM coordination call. The ANSPs further deliberated on the consultation process, with the objective of achieving efficient information synchronization, joint situation assessment, and collaborative decision-making through the video conference platform, addressing the complex operational environment within APAC.

b) Information to be shared during ATFM coordination calls will encompass meteorological condition forecasts, projected traffic volumes, and operational constraints within respective ANSPs' areas of responsibility (such as Northeast Asia and the Sanya oceanic region). Participating ANSPs will also provide updates regarding forecasted operational capacity impacts attributable to meteorological conditions.

2.8 Following this preliminary deliberation, the ANSPs of China, Hong Kong China, and Singapore will continue to refine and enhance the efficacy of the ATFM coordination call. This ongoing effort aims to achieve operationalization by mid-September 2025 and foster broader adoption throughout APAC, thereby enhancing regional ATFM collaboration.

Research Initiative on Long-term Regional ATFM Needs

2.9 A research initiative will be undertaken to deep dive into long-term regional ATFM needs, review principles and rules, and surface potential pathways to realize Next Generation ATFM. The effort will leverage on collaboration between research institutes and possibly augmented by consultants who are subject matter experts in the required domains.

2.10 Some of the more immediate work should lead to a better understanding of the sustainability of the current ATFM mode of operation in APAC as well as stakeholder considerations on the trade-offs between supporting regional and national ATFM needs.

3. ACTION BY THE CONFERENCE

3.1 The meeting is invited to:

a) note the information contained in this paper;

b) note the benefits of establishing the collaborative operational mechanism for regional ATFM through regular and ad-hoc web conference ;

c) encourage members to participate in the web conference;

d) note the research initiative on long-term regional ATFM needs; and

e) discuss any relevant matters as appropriate.

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