



ICAO

International Civil Aviation Organization

**Fifteenth Meeting of the Asia/Pacific Air Traffic Flow  
Management Steering Group (ATFM/SG/15)**

Bangkok, Thailand 28 April – 2 May 2025

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

### **ESTABLISHMENT OF A CHANGE PROCESS OF FLIGHT INFORMATION EXCHANGE MODEL (FIXM) VERSION FOR ASIA/PACIFIC CROSS-BORDER OPERATIONAL ATFM SYSTEM-TO-SYSTEM INFORMATION EXCHANGE IN SYSTEM WIDE INFORMATION MANAGEMENT (SWIM)**

(Presented by Hong Kong China, Singapore, and Thailand)

#### **SUMMARY**

This paper presents recommendations for the change process of the FIXM version used for cross-border ATFM information exchange in a SWIM environment, in response to task assigned by ATFM SG/14 to the Technical Sub-Group of the Asia-Pacific Cross-Border Multi-Nodal ATFM Collaboration.

## **1. INTRODUCTION**

1.1 Since 2015, the Asia-Pacific Cross-Border Multi-Nodal ATFM Collaboration (AMNAC) has played a leading role in establishing the foundation for cross-border ATFM in the region. In alignment with the Asia/Pacific Regional ATFM Concept of Operations, the ATFM network operating within AMNAC comprises multiple ATFM Nodes, each of which responsible for demand-capacity balancing within its own jurisdiction while connecting to each other through the network's information exchange infrastructure. The collaboration is based on regionally-agreed principles and high-level operating procedures, with local adaptations as necessary.

1.2 Ground Delay Program (GDP) has been the primary ATFM measure implemented within AMNAC. Key ATFM information has been exchanged among ATFM nodes via Aeronautical Fixed Telecommunication Network (AFTN)/ATS Message Handling System (AMHS), using ADEXP Slot Allocation Message (SAM), Slot Revision Message (SRM), and Slot Cancellation Message (SLC). As technology evolves, AMNAC has been advancing towards the implementation of "ATFM-on-SWIM", leveraging a System Wide Information Management (SWIM)-based communication framework to enable more efficient and effective exchange of ATFM information.

## **2. DISCUSSION**

### Background

2.1 One of the crucial lessons learned from the ATFM-on-SWIM trial was the importance of establishing a common FIXM version for cross-border information exchange between operational ATFM systems. This is essential to ensure stability in system development and acquisition across the Asia/Pacific region. To support this, at the ATFM/SG/14, the FIXM version 4.3 was therefore

recommended and subsequently adopted by APANPIRG/35 as the agreed regional standard for cross-border flight information exchange among ATFM systems in a SWIM environment.

2.2 While a common version of FIXM has been established, a change to the version is considered inevitable. Over time, it is expected that the currently-agreed version of FIXM may no longer fully support the evolving operational requirements, or that more data fields may be required to be exchanged among ATFM systems. Recognizing this, the Technical Sub-Group (TSG) of AMNAC identified the need for a forum and a structured process through which a change to the agreed FIXM version could be proposed. In response, the AMNAC TSG was tasked by ATFM SG/14 to develop a change process for reviewing, proposing, and formalizing a change to the regionally-agreed FIXM version.

#### Proposed Change Process for the Cross-Border FIXM Operating Version

2.3 During the twenty-second meeting of AMNAC (AMNAC/22), held in October 2024 in Singapore, it was discussed that ATFM SG would be the appropriate contributory body to assess the operational impacts of any proposed change to FIXM version, especially its suitability in supporting operational requirements in the region. At the same time, the SWIM TF was recognized as the expert group to evaluate the technical implications of such change. It was also emphasized that, given the region-wide impact of any modification to the agreed FIXM version, approval by ATM SG, and subsequently endorsement by APANPIRG would be required. Taking all these considerations into account, the AMNAC TSG agreed to propose the following change process for the consideration of ATFM SG/15:

- a) Submit the proposed change to the FIXM version, in the form of Working Paper, to ATFM SG for review and assessment of its operational impacts and suitability in supporting regional operational requirements;
- b) Upon adoption by ATFM SG, submit the proposal to SWIM TF for review and assessment of its technical implications; and
- c) Following agreement by SWIM TF, submit a summary of the change proposal to ATM SG for approval, and subsequently to APANPIRG for endorsement.

#### Recommended Content of Change Proposal

2.4 Regarding the content of change proposal, the AMNAC TSG discussed and agreed to propose the following for the consideration of ATFM SG/15:

- a) Name of State(s) or collaboration group, including the specific names of organizations, proposing the change;
- b) Proposed FIXM version;
- c) Reason(s) for the proposed change(s);
- d) Testing result<sup>1</sup> of the proposed version; and
- e) Proposed timeframe for the change to take effect (*a minimum lead time of 2 years is required*).

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<sup>1</sup> Testing result with another State or organization, e.g. ANSP, within the Asia/Pacific region. Testing result may not be required if it is deemed that the version change does not affect the FIXM architecture, e.g. minor change to FIXM version.

2.5 Notably, the AMNAC TSG does not recommend adopting a FIXM version for use in APAC solely in response to the release of a new FIXM version. Instead, any change should be proposed based on operational necessity, as such update has implications for the resources required by ANSP to implement the change.

### Conclusion

2.6 A commonly-agreed FIXM version is crucial to ensure effective communication and interoperability among ATFM systems within the Asia/Pacific region. To maintain interoperability and achieve harmonized implementation, a well-structured change process to the FIXM version is necessary. This will not only help ensure that the implementation plans of all stakeholders are aligned but also reduce risk of incompatibility among ATFM systems.

2.7 As tasked by the ATFM SG/14 to develop recommendations on the change process, the AMNAC TSG is proposing the following Draft Conclusion for the consideration of ATFM SG/15.

<b>Draft Conclusion ATFM/SG/15/x: Change Process of the FIXM Version Used for Asia/Pacific Cross-Border Operational ATFM System-to-System Information Exchange in SWIM</b>	
<b>What:</b> That, the change process stated in paragraph 2.3 and 2.4 of this paper be adopted as a regional process for revision of FIXM version for cross-border ATFM information exchange.	<b>Expected impact:</b> <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
<b>Why:</b> To ensure effective communication, interoperability, reduced risk of incompatibility among ATFM systems within the Asia/Pacific region, as well as aligned implementations of all stakeholders.	<b>Follow-up:</b> <input type="checkbox"/> Required from States
<b>When:</b> 29-Aug-2025	<b>Status:</b> Draft to be adopted by Subgroup
<b>Who:</b> <input checked="" type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other: SWIM TF/10	

## **3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) Note the information contained in this paper;
- b) Discuss the recommended change process of the FIXM version for cross-border ATFM information exchange as presented in paragraph 2.3 and 2.4, and agree to Draft Conclusion as presented in paragraph 2.7; and
- c) Discuss any relevant matters as appropriate.

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