



International Civil Aviation Organization

The Eighth Meeting of the ICAO Asia/Pacific Air Traffic Flow Management Steering Group (ATFMSG/8)

New Delhi, India, 14 – 18 May 2018

Agenda Item 5: Development of Regional ATFM Framework

A PROPOSAL OF ESTABLISHING ATFM IMPLEMENTATION HARMONIZATION SMALL WORKING GROUP (ATFM/IH/SWG)

(Presented by the Secretariat)

SUMMARY

This paper presents a proposal on establishment of a small working group to manage the harmonized implementation of the regional ATFM initiatives in various projects to ensure the regional ATFM network interoperability.

1. INTRODUCTION

1.1 The Air Traffic Flow Management (ATFM) is one of the ICAO's priorities as described in the 5th Edition of *The Global Air Navigation Plan* published in 2016, it is also one of ten priorities in Asia & Pacific Region as agreed in *The Asia/Pacific Seamless ATM Plan*;

1.2 In Asia and Pacific Region, *The Regional Framework for Collaborative ATFM (The Framework)* and its companion document - *The Asia/Pacific Air Traffic Flow Management Concept of Operations (CONOPS)*, were developed and adopted. Both documents, aligned with the *Manual on Collaborative Air Traffic Flow Management (Doc.9971)*, provide guidance and common regional framework for regional ATFM development and harmonization.

1.3 The Distributed Multi-Nodal ATFM Network Operational Trial Project, evolved from a Tripartite CDM Project by Hong Kong China, Singapore and Thailand in 2012, has been participated by 11 States/Administrations/ANSPs now. The Project, which was mapped into 3 phases, has completed its Phase I and progressed into the Phase II in late 2017; the North-east Asia Regional ATFM Harmonization Group (NARAHG) Project, jointly established by China, Japan and Republic of Korea and supported by ICAO APAC RSO, made progress as well with the installation /implementation of the Cross Regional Data Exchange Platform (CRACP).

1.4 New proposals of regional cross-border ATFM initiatives are also under development by the ICAO member States, including the China-Mongolia-Russia air traffic flow management cooperation, and China -West Asia countries cooperation in ATC and ATFM;

1.5 In the South Asia, India has developed the domestic ATFM system in New Delhi, cooperative processed with A-CDM systems in India (e.g. New Delhi and Mumbai). To meet traffic growth in the South Asia region, especially when considering the traffic between South-east Asia and Middle East, a cross-border ATFM may be necessary in the near future in this region;

1.6 The discrepancies in information sharing and ATFM measures application between the ATFM project and the Regional direction specified in *The Framework* have been identified, and a common misgiving was raised that whether the new ATFM projects could eliminate the discrepancies if no further project management actions are taken. The States, with recognition of this tendency, have requested for harmonizing these cross-border ATFM initiatives in removing any potential contradictory instruction and ATFM measures to ensure the ATFM network development be within the agreed *Framework*;

1.7 Initial attempt of ATFM harmonization was taken at the 5th ATFM/SG Meeting to establish an ATFM Information Requirements Small Working Group (ATFM/IR/SWG), comprised of China, Hong Kong China, India, Japan, Singapore and Thailand, to draft an operation requirements document for the exchange of and interaction with ATFM information, and to develop a technical interface control document (ICD) (Decision ATFM/SG/5-1); Other actions on ATFM harmonization have also been being underway, including the adoption of 12 data attributes for an Asia/Pacific FIXM Extension, as well as the development of the system-to-system Interface Control Document (ICD);

2. DISCUSSION

2.1 The Asia and Pacific Region takes the Distributed Multi-Nodal ATFM Network as its core concept, gives the States/Administrations certain liberties to plan and develop its own “node”, or group of “Nodes” by cooperating with other States/Administrations to constitute a sub-regional ATFM network. Although *the regional ATFM CONOPS* and *The Framework* are in place, the design, development and implementation of these “nodes”, or sub-regional ATFM systems would still tend to contain discrepancies in methodologies, functionalities, interactions and system connectivity, jeopardizing the interoperability. These discrepancies would stem from the complexities in technical standards conformity, system development and project management, as well as from the lack of coordination and collaboration between the groups responsible for the projects management;

2.2 It was envisaged that a small working group under ATFM/SG would be required to be established to support the harmonized implementation of the cross-border ATFM network. The small working group, with its tentative name of ATFM Implementation Harmonization Small Working Group (ATFM/IH/SWG), would be comprised of SMEs in ATFM, IT, Data Communication, System Engineering and Project Management from member States/Administrations, and would be functioning as a central project management forum to support the development of the necessary documentation for ATFM harmonization, and to manage the implementation of the different ATFM initiatives in a structured, systematic and collaborative way, in order to ensure the regional ATFM network interoperability;

2.3 It was also proposed to establish ATFM/IH/SWG on the basis of already existed ATFM/IR/SWG by changing its name and expanding its working scope, to simplify the organizational structure under ATFM/SG and to synergize the efforts of information requirements development with the ATFM system harmonization.

2.4 The proposed revised Terms of Reference (ToR) of the ATFM/IH/SWG, with changes marked-up, is at **Attachment A** of this paper. A clean version is at **Attachment B**.

2.5 Taking the SMEs availability and convenience into consideration, the face-to-face meetings should be conducted only where necessary and/or in conjunction with other meetings, such as the Multi-Nodal ATFM Network Operational Trial meeting and NARAHG meeting. The proposed tentative small working group meetings until next ATFM/SG are as below;

- 2Q 2018 Telecon
- 3Q 2018 F2F meeting

- 3Q 2018 Telecon
- 4Q 2018 F2F meeting
- 1Q 2019 Telecon
- 2Q 2019 F2F meeting
- 2Q 2019 ATFM/SG/9

3. ACTION BY THE MEETING

- 3.1 The meeting is invited to:
- a) note the information contained in this paper;
 - b) discuss any relevant matters as appropriate, and
 - c) approve the draft decision.

Draft Decision ATFMSG/8-X: ATFM Implementation Harmonization Small Working Group (ATFM/IH/SWG)	
<p>What: That, recognizing the direction provided in the Asia/Pacific Regional Framework for Collaborative ATFM and Regional ATFM Concept of Operations, as well as the need for the harmonization of ATFM initiatives to ensure regional ATFM network interoperability, the ATFM Implementation Harmonization Small Working Group (ATFM/IH/SWG) comprised of SMEs from member States/Administrations, be established to continue the work of the ATFM/IR/SWG, and to advance ATFM harmonization in accordance with the Terms of Reference provided in ATFM/SG/8 WP/XX Attachment A.</p>	<p>Expected impact:</p> <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
<p>Why: A small working group under ATFM/SG is necessary to ensure the ATFM interoperability in different sub-regional ATFM projects.</p>	<p>Follow-up: <input checked="" type="checkbox"/> Required from States</p>
<p>When: 18-May-18</p>	<p>Status: Draft to be adopted by Subgroup</p>
<p>Who: <input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: Small Working Group</p>	

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Terms of Reference

~~ATFM Information Requirements~~ **Implementation Harmonization** Small Working Group (ATFM/IHR/SWG)

Recognizing that:

~~The Draft Regional Framework for Collaborative ATFM will be presented to APANPIRG/26 for endorsement; and~~

~~The ongoing development of the Regional ATFM Concept and the understanding of operational requirements for information distribution are dependent on experience to be gained in trial programs and operational deployments;~~

Recognizing the direction provided in the Asia/Pacific Regional Framework for Collaborative ATFM and Regional ATFM Concept of Operations, the ATFM/IH/SWG will:

1. Support harmonized implementation of cross-border ATFM, including common operating procedures and a common network level CDM process, between States and groups of States in the Asia/Pacific Region;
2. Develop any Flight Information Exchange Model (FIXM) extensions necessary for the exchange of ATFM information in the Asia/Pacific Region;
3. ~~The ATFM/IR/SWG, reporting to ATFM/SG, will develop~~ **Develop** a draft operational requirements document detailing:
 - a) ~~Items of ATFM information, such as ADP, ATFM measures and compliance information to be distributed and dynamically updated to each of the following stakeholder domains:~~
 - i. ~~ATFMU;~~
 - ii. ~~ATSU (ACC/APP/TWR);~~
 - iii. ~~Airspace User; and~~
 - iv. ~~Airport Operator~~
 - b) ~~Access levels and authorizations for stakeholders;~~
 - e)a) Items of ATFM Information that ~~authorized users may~~ **collaborative ATFM participants should distribute or publish, add or amend or cancel**, including but not limited to:
 - i. ADP;
 - ii. **Initiation, amendment or cancellation of ATFM measures;**
 - iii. ~~Collaborative ATFM interaction;~~
 - iv. ~~Cancellation, suspension and de-suspension of ATFM measures;~~
 - iii. Compliance monitoring information such as ATOT ~~and~~, ATO **and** ALDT;

Note: Collaborative ATFM Participants may include ATFMU, ATSU (ACC/APP/TWR), Airspace Users and Airport Operators.

- ⊖b) Network and/or node administrator arrangements;
 - ⊖c) Required reliability and availability of the distributed multi-nodal network and its links and interfaces, where not already established.
 - ⊖d) Notification parameters guidance for ATFM measure implementation.
4. Make recommendations to ATFM/SG on interim methods of ATFM information exchange in the absence of FIXM capability between States, including:
 - a. Systems and methods of information exchange and storage; and
 - b. User interfaces;
 - 2.5. ~~ATFM/IH/SWG will, in~~ In cooperation with the ACS ICG ~~and~~ other relevant Regional groups, develop an interface control document (ICD) for cross-border ATFM described in the Regional Framework for Collaborative ATFM and the Regional ATFM Concept; and
 6. Develop any necessary Proposals for Amendment (PfAs) to the Regional Framework for Collaborative ATFM and Regional ATFM Concept of Operations, for discussion and agreement by ATFM/SG.

The ATFM/IH/SWG will conduct its activities mainly by electronic means between meetings of the ATFM/SG, with face-to-face meetings conducted only where necessary and in conjunction with other meetings where opportunity presents. The group should include, as a minimum, representatives from the Asia/Pacific Administrations participating in the Multi-Nodal ATFM Operational Trial (Level 3), the North-east Asia Regional ATFM Harmonization Group (NARAHG), Australia and India, supported by ICAO.

The ATFM/IH/SWG reports to ATFM/SG.

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Terms of Reference

ATFM Implementation Harmonization Small Working Group (ATFM/IH/SWG)

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1. Support harmonized implementation of cross-border ATFM, including common operating procedures and a common network level CDM process, between States and groups of States in the Asia/Pacific Region;
2. Develop any Flight Information Exchange Model (FIXM) extensions necessary for the exchange of ATFM information in the Asia/Pacific Region;
3. Develop a draft operational requirements document detailing:
 - a) Items of ATFM Information that collaborative ATFM participants should distribute or publish, amend or cancel, including but not limited to:
 - i. ADP;
 - ii. Initiation, amendment or cancellation of ATFM measures;
 - iii. Compliance monitoring information such as ATOT, ATO and ALDT;

Note: Collaborative ATFM Participants may include ATFMU, ATSU (ACC/APP/TWR), Airspace Users and Airport Operators.
 - b) Network and/or node administrator arrangements;
 - c) Required reliability and availability of the distributed multi-nodal network and its links and interfaces, where not already established.
 - d) Notification parameters guidance for ATFM measure implementation.
4. Make recommendations to ATFM/SG on interim methods of ATFM information exchange in the absence of FIXM capability between States, including:
 - a. Systems and methods of information exchange and storage; and
 - b. User interfaces;
5. In cooperation with the other relevant Regional groups, develop an interface control document (ICD) for cross-border ATFM described in the Regional Framework for Collaborative ATFM and the Regional ATFM Concept; and
6. Develop any necessary Proposals for Amendment (PfAs) to the Regional Framework for Collaborative ATFM and Regional ATFM Concept of Operations, for discussion and agreement by ATFM/SG.

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The ATFM/IH/SWG reports to ATFM/SG.

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