



International Civil Aviation Organization

The Fifth Meeting of ICAO Asia/Pacific Air Traffic Flow Management Steering Group (ATFM/SG/5)

Bangkok, Thailand, 30 March – 3 April 2015

Agenda Item 5: Development of Regional ATFM Framework

**FRAMEWORK SECTIONS – RESEARCH AND FUTURE DEVELOPMENT;
MILESTONES, TIMELINES, PRIORITIES AND ACTIONS**

(Presented by the Secretariat)

SUMMARY

This paper presents the final two sections of the Draft Framework for Collaborative ATFM for review by the meeting

1. INTRODUCTION

1.1 The Draft Framework Sections at Attachment A form the final part of the document, being a summary of anticipated research and future development possibilities, and a summary of milestones, timelines, priorities and actions for review by the meeting.

2. DISCUSSION

Research and Future Development Possibilities

2.1 This section of the document includes items for future development, where it was considered that elements of the Regional Concept may not be achievable within the near to medium term timeframe of the Framework (2015 – 2018), or additional items identified by the ATFM/SG. Included in this section are items that will be dependent on the continuation of the ATFM/SG as the body maintaining the Regional overview of CDM/ATFM programs and facilitating their coordination and alignment.

Milestones, Timelines, Priorities and Actions

2.2 This section briefly discusses the milestones, timelines, priorities and actions detailed elsewhere in the Framework, and their alignment with the Seamless ATM Plan. It also discusses ongoing actions of the Steering Group that will be dependent on the continuance of the group and amendment of its terms of reference (TOR), which are presented for review by the group under WP/14.

3. ACTION BY THE MEETING

- a) The meeting is invited to:
- b) note the information contained in this paper;
- c) amend as necessary the presented sections of the Framework; and
- d) discuss any relevant matters as appropriate.

.....

RESEARCH AND FUTURE DEVELOPMENT POSSIBILITIES

Research and Development

8.1 Version 1 of the Regional Framework for Collaborative ATFM provides the initial framework for implementation of a distributed multi-nodal ATFM network, as envisaged in the Regional ATFM Concept. This concept, being untried elsewhere, will continue to develop as experience is gained through trials and subsequent operational implementation. The Framework is therefore iterative in nature, and will require regular update in the medium term.

8.2 Further research and development of the distributed multi-nodal ATFM network concept will largely be conducted by ATFM/SG participating States through their operations trial programs, consistent with Principle 36 of the Asia/Pacific Seamless ATM Plan Principle 36 – *‘Clustering’ for the research, development and implementation of ATM projects*. The outcomes of trials and lessons learned from operational deployment will be considered by ATFM/SG for the improvement of the Regional Concept, and hence the updating of the Framework.

ATFM Interface Control Document

8.3 The ATFM Interface Control Document Small Working Group (ATFM/ICD SWG) will develop an ICD for networked ATFM information exchange, to be delivered to ATFM/SG for consideration before then being referred to the 3rd Meeting of the ATM Sub-Group of APANPIRG (ATM/SG/3) in August 2016.

Collaborative ATFM Concept Developments

8.4 The following concepts should be researched, and developed, for implementation in the Asia/Pacific Region:

8.5 **Delay Absorption Intent** – included in the Regional ATFM Concept, provides aircraft operators with the flexibility to choose how to distribute the delay assigned by an ATFM measure to various phases of flight. Not yet included in the ATFM Performance Improvement Plan, this concept has the potential to improve outcomes by increasing the number of aircraft participating in the program, through the application of ATFM delays to longer distance flights that are currently exempt from ground delay programs. The development of this concept will be undertaken in trials before then being potentially included in the broader Framework.

8.6 **FIXM Extension** – may be required for implementation of any Asia/Pacific region ATFM practices or procedures that are not covered in FIXM version 3.0 or later versions deployed by States.

8.7 **Application of ATFM Measures to Long Range Flights** – will improve equity in ATFM processes, and contribute to better outcomes in those ATC sectors where long range flights are currently exempt from all but minimal en-route delays. This will require further development of ATFM measures the CTO ATFM measure, and the formulation of regionally agreed limits on the total ATFM+AMAN delay that may be applied to long range and ultra-long range flights.

8.8 **Interoperability of ATFM, AMAN/DMAN and A-CDM systems** – will require ANSPs and airport operators to collaboratively develop their local operational letters-of-agreement to incorporate procedures and practices optimizing gate-to-gate flow management of flights.

8.9 **Collaborative Trajectory Options** – provide for flexible routing options that permit aircraft operators to elect to re-route flights via longer trajectories to avoid constrained airspace and take advantage of the reduction or removal of ground delay (or en-route delay, where implemented) that would be imposed if the flight continued through the constrained airspace. A collaborative trajectory options program would significantly improve the safety and efficiency of ATM in cases of large scale weather deviations (LSWD) such as those experienced in the cyclonic weather season in the Bay of Bengal and South China Sea areas, and contingency operations including the avoidance of airspace that is either unsafe (e.g. volcanic ash cloud) or unavailable.

8.10 The development of a collaborative trajectory options program in the Asia/Pacific Region, particularly in South East Asia, will require a coordinated multi-partite effort to improve the regional ATS route network and ATS surveillance/communications infrastructure, and to provide sufficient ATS route options for the program. ATS route specification and implementation of surveillance and communications infrastructure are included in the performance objectives of the Seamless ATM Plan.

8.11 **Network Collaborative Decision-Making** – to provide mechanisms within the distributed multi-nodal ATFM network for the formulation of executive flow management decisions in the event of competing stakeholder priorities. This will require research and development of network-suitable automated decision-support tools and associated business rules. Operational experience in the distributed multi-nodal ATFM network environment will be key to identifying the potential challenges, and formulating and testing strategies.

MILESTONES, TIMELINES, PRIORITIES AND ACTIONS

Milestones and Timelines

9.1 Section 7 (Performance Improvement Plan) provides milestones and timelines for a number of elements generally aligned with the Asia/Pacific Seamless ATM Plan PARS and PASL Phase I and II, being effective 12 November 2015 and 09 November 2018 respectively:

Regional ATFM Capability Phase	Expected Implementation
Phase 1A	12 November 2015
Phase 1B	10 November 2016
Phase 2	08 November 2018

9.2 States that have not yet implemented collaborative ATFM, or having implementations that are not in accordance with the provisions of this Framework, should commence planning from the date of its approval by APANPIRG.

9.3 It should be noted, however, that the ATFM capability outlined in the Framework should be implemented as early as possible. The Framework timelines should under no circumstances be interpreted as limiting or deferring ATFM implementation where there is a current or expected need for it in an earlier timeframe than outlined.

Priorities

9.4 While it is a matter for each State to determine priorities in accordance with its own economic, environmental, safety and administrative drivers, States should be aware of the Asia/Pacific Regional Priorities adopted by APANPIRG, including ASBU **B0-NOPS**, and the Annex 11 requirement for States to implement ATFM where there is a current or expected imbalance of demand and capacity.

Actions

9.5 This Plan is iterative in nature, and will require further development as experience is gained in operational trials of the distributed multi-nodal ATFM concept. ATFM/SG, under its terms of reference, should continue to oversee and coordinate the development of the Regional ATFM Concept and subsequent amendment of the Framework, facilitate the coordination and alignment of CDM/ATFM programs being conducted within the Region, and review the effectiveness of existing and planned ATFM programs. An important project being conducted by the ATFM/SG is the development of a Regional Interface Control Document (ICD) for ATFM, which is expected to be completed for consideration by ATFM/SG, then presented to the ATM Sub-Group of APANPIRG in August 2016.
