



International Civil Aviation Organization

The Fourth Meeting of ICAO Asia/Pacific Air Traffic Flow Management Steering Group (ATFM/SG/4)

Bangkok, Thailand, 1 – 5 December 2014

Agenda Item 5: Development of Regional ATFM Framework

ATFM PRINCIPLES

(Presented by the Secretariat)

SUMMARY

This paper presents Draft ATFM Principles for inclusion in the Regional Framework for Collaborative ATFM, for consideration by ATFM/SG

1. INTRODUCTION

1.1 As discussed at ATFM/SG/2 and ATFM/SG/3, the performance improvement plan Regional Framework for Collaborative ATFM should be based on an agreed set of principles. The principles will form an appendix to the document, and the performance improvement objectives of the Framework will be mapped to them.

2. DISCUSSION

2.1 The development of regional collaborative ATFM principles has included consideration of the principles contained in higher level documents including:

- i. The Asia/Pacific Region Seamless ATM Plan;
- ii. The Asia/Pacific Region ATFM Concept of Operations; and
- iii. ICAO Doc 9971 – Manual on Collaborative ATFM

2.2 The draft ATFM principles also include those developed by ATFM/SG. As ATFM/SG/2 decided that the distributed multi-nodal networked ATFM concept be considered as a viable foundation to be incorporated into the regional ATFM framework, key elements of the Regional ATFM Concept proposed under WP/04 are also included.

2.3 **Attachment A** provides the latest list of draft ATFM principles for consideration by ATFM/SG.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the draft ATFM principles in **Attachment A**;
- b) discuss, amend and agree to the list of principles for inclusion in the Framework;
and
- c) discuss any relevant matters as appropriate.

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Collaborative ATFM Principles

Updated or new principles are highlighted: **new information** and ~~deletions~~

New principles arising from the proposed Regional ATFM Concept (ATFM/SG/4-WP/04) are highlighted **yellow**.

Aviation Regulations, Standards and Procedures

1. Increased capacity is the primary and central method for management of increasing demand.
2. Collaborative Decision-Making (CDM) to achieve optimum ATFM network outcomes while taking into account stakeholder goals.
3. An emphasis on delivery of ATFM services based **where practicable** on CNS capability, resulting in flexible, dynamic systems **delivering optimal ATFM network outcomes** while providing equity of access ~~and delivering optimal ATFM network outcomes~~.
4. Regionally harmonized methodology for the ~~collection and ongoing monitoring of demand and capacity data~~ **continuous monitoring and declaration of airport and airspace demand and capacity, the dynamic updating and sharing of capacity information, and for daily post-operations analysis.**
5. Prioritization of ATFM implementation for high density airports and the busiest city pairs and FIRs.
6. **Demand and Capacity inputs from automated data feeds including ATM automation systems, ATN/AFTN, and from FMPs and FOCs using web-based manual ATFM interfaces.**
7. The minimum necessary ATFM Measures applied, for the shortest necessary time period and only to operations at or in capacity constrained airports or airspace.
8. Regional **distributed multi-nodal network** model of inter-connected sub-regional ATFM networks based on system-wide CDM, serving the busiest terminal airspace and major sub-Regional traffic flows.
9. **Independent formulation of ATFM programs and measures by each ANSP for its own arrival airports and airspace sectors.**
10. **Participation by at least 70% of aircraft operating in or to the constrained resource.**
11. **Aircraft operator options for delay absorption through the flexible distribution of total ATFM measure delay per aircraft to gate hold, surface hold and/or airborne delay.**

12. Except in the case of flexible aircraft operator options for absorption of delay, separate ATFM measures should not be cumulatively applied to a flight.
13. Exemption from ATFM measures of emergency, humanitarian, declared medical evacuation, search and rescue, and Head-of-State flights, and other flights as determined by the State authority.
14. Direct coordination between aircraft operator and airport operator to determine maximum gate delay and surface delay.
15. Direct input of delay absorption intent into the ATFM system by aircraft operators.
16. Pilot-in-command responsibility for adherence to operational procedure for requesting speed, route or level changes where flexible delay option is exercised.
17. Continuous monitoring of compliance with ATFM measures, supported by procedures for the real-time and post-operational management of non-compliance.
18. Harmonized regional or sub-regional ATFM rules and guidelines based on the ICAO Manual on Collaborative Air Traffic Flow Management (Doc 9971).
19. Harmonized ATFM, runway sequencing (AMAN/DMAN) and A-CDM processes using common reference points and information exchange.
20. Bi-lateral or multilateral agreements between stakeholders where necessary to support common business rules for departure, destination and en-route ANSPs, airport operators and aircraft operators.
21. Development of manual processes and skills to promote practical knowledge and understanding of ATFM before implementing technology based solutions, and as a contingency response capability.
22. The use of high-fidelity simulators to train controllers and ATFM personnel involved in ATFM procedures and techniques.
23. Consistency between the ICAO Regional Air Navigation Plan, Asia/Pacific Seamless ATM Plan and Regional Framework for Collaborative ATFM.

ATM Coordination

24. The prioritization of integrated AIDC systems for timely ATM and ATFM system updates of trajectory data, including preferred implementation of advanced AIDC messaging and configuration of systems for early delivery of AIDC messages.

Aerodromes

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25. Encouragement for aerodrome operators to actively participate in ATM coordination in respect of A-CDM development and operational planning, including aerodrome complexity and capacity.

ATS Units

26. Collaboration by ANSPs for evaluation and planning of harmonized ATFM facilities.
27. Optimization of ATFM facilities through automated, networked, central flow management centres and units or equivalent virtual platforms.

ATFM Systems

28. Independent FMP/ATFM systems operated by each ANSP, connected to the sub-regional or regional ATFM network.
29. Continuous supervision, operation, adjustment, monitoring and executive control of ATFM systems and their output by ~~trained and competent~~ dedicated ATFM or designated ATC personnel.
30. ATFM communications via existing internet/telecommunications networks.
31. Relevant ATFM data and notifications from each ANSP, including slot assignments, distributed to stakeholders via web interfaces.
32. ~~Encouragement of the use of dual-redundant automated ATFM processing and communications systems,~~ ATFM processing system and communication network reliability, maintainability and availability commensurate with requirements for ATC operational platforms, surveillance and communications, supported by agreed contingency procedures and communications facilities including ATN/AMHS and public telephone systems.
33. Collaborative development of CDM, ATFM, AMAN and DMAN ~~capability support tools.~~
34. Encourage the real-time sharing of dynamic air traffic data relating to flights operating or intending to operate in civil-controlled airspace, between military ATM systems and civil ATM/ATFM systems.

ATM Modernisation Projects

35. Inter-regional and sub-regional cooperation ('clustering') for the research, development and implementation of ATFM projects
36. ~~A focus on harmonized technologies for earliest deployment and best cost benefits.~~