International Civil Aviation Organization

MIDANPIRG Air Traffic Flow Management Task Force

First Meeting (ATFM TF/1)
(Muscat, Oman, 23 – 25 September 2018)

Agenda Item 3: Regional ATFM Framework

PROPOSED CONCEPT OF OPERATION OF AN ATFM IMPLEMENTATION IN THE MID REGION

(Presented by the State of Qatar)

SUMMARY

This paper highlights the need for a Regional Air Traffic Flow Management (ATFM) operational concept in the Middle East Region. With the continued increase of air traffic in the Region, there will be a need to enhance operational efficiency and optimize capacity by providing greater predictability for stakeholders by effectively managing the demand against capacity, at major international air hubs. The paper proposes the introduction of the Multi-Nodal ATFM network concept in the Region for consideration by the Task Force on the understanding that once it is matured, the option of having a centralized ATFM will be further discussed.

This paper relates to –

Strategic Objectives:
A: Enhancement of Civil Aviation Safety
B: Increase capacity and improvement of efficiency
D: Sustainable Development of Air Transport

REFERENCES

- *Sixteenth MIDANPIRG Decision 16 on Air Navigation Conference.*
- *MID/ATFM TF terms of references endorsed by the ATM SG/3*
- *Asia/Pacific Regional Air Traffic Flow Management Concept of operations version*
- *Asia/Pacific Framework for Collaborative Air Traffic Flow Management Version 3.0 August 2017*
- *Doc 9971, Manual of Collaborative Air Traffic Flow Management*

1. INTRODUCTION

1.1 Air Traffic Flow Management (ATFM) is an enabler of Air Traffic Management (ATM) efficiency and effectiveness. It contributes to the safety, environmental sustainability, efficiency and cost-effectiveness of an ATM system. The proposed Regional ATFM in the Middle East aims at enhancing safety and efficiency. Its purpose is to balance traffic demand and available capacity within the Region.

1.2 The MID Region ATFM will rely on the clear definition of capacities (i.e. number of flights that can be handled by an airport or an en-route sector), as well as on the analysis of forecasted traffic flows. Therefore, MID Region ATFM will rely heavily on the exchange of information related to flight plans, airspace availability and capacity.

1.3 The MID Region ATFM is a major enabler for the enhancement of safety and efficiency of the MID Region ATM system.

1.4 The MID Region States have acknowledged the rapid and steep increase in the demand and volume of air traffic over the last few years. As this trend is expected to continue, various hubs in the Region have forecasted traffic movements to steadily increase by at least 4.7 % every year. Such steep increase in traffic volume and robust growth will lead to increasing complexity of the operating environment.

1.5 The traditional flow restrictions such as imposing larger longitudinal separation at transfer of control points are often used to regulate air traffic flow; though such measures have not been the most effective and often result in negative impact on stakeholders' operations, it is recognized that there is a need for the Regional ATFM to handle the large air traffic demand.

1.6 While States in this Region are progressing well to build up ATM capabilities to meet the increasing traffic volume, there will still be a need to manage demand efficiently at times where demands exceed capacity.

1.7 Meanwhile, it is recognized that current ATFM measures in some Regions may not be universally across other Regions. While concepts such as a single ATFM entity to serve a Region may work well in other parts of the world, it may not be at this stage the ideal solution for MID Region. Therefore, there is a need to carry out research to develop a collaborative decision-making concept (CDM) /ATFM concept that could be implemented at a Regional or sub-Regional level in MID Region.

1.8 Recognizing this need, the MID Region States will collaborate to develop Regional/Sub Regional Air Traffic Flow Management concept to deal with the current traffic demand and capacity requirements.

2. DISCUSSION

2.1 This MID Regional Air Traffic Flow Management (ATFM) Concept of Operations needs a collaborative effort to provide a Regionally agreed framework for the harmonized implementation of networked, interoperable, multi-FIR, multi-State, cross-boundary collaborative ATFM capability, involving the Civil Aviation Authorities, ANSPs, industry partners, IATA and major airlines.

2.2 The proposed concept is specifically for ANSPs in the MID Region. The MID Region is comprised of independent ANSPs, each with ATM authority for their respective FIRs and no overarching authority for the entire Region. The proposed MID Regional ATFM Concept at this early stage for the MID Region is based on a model of distributed authority throughout the Region and may be after the maturity of the concept, the centralized ATFM model will be in place. At this early stage, each individual ANSP will be responsible for issuing Traffic Management Measures to balance demand with capacity for airports and airspace within their respective FIRs. Aircraft Operators will adhere to the ATFM policies, rules and guidelines as defined by the ANSP.

2.3 At the early stage, the proposed MID Regional Air Traffic Flow Management (ATFM) Concept is described from the perspective of each single ANSP managing the flow of traffic to their arrival airports. These individual ATFM systems will communicate to ATFM systems in other ANSPs, providing the stakeholders with network-wide information.

2.4 The theory of the proposed concept of the Regional ATFM will be from the perspective of a single ANSP and will involve ANSPs operating on independent virtual CDM/ATFM nodes supported by interconnected information sharing framework. Where possible, Airport-CDM (A-CDM) mechanisms from participating airports could aid the collaborative decision-making process between ANSPs. The flows of air traffic will then be managed effectively based on common principles or agreements.

2.5 The suitable approach for the implementation of the proposed concept to start with short term objectives such as preparing and establishing information sharing framework which will lay the foundation for effective communication for collaborative decision-making process between the concerned ANSPs and developing the plans to establishing a communication framework that enables daily information exchanges via teleconferences supplemented by standard e-mails. The information exchanges aim to provide the predictability of operations through common awareness between the concerned ANSPs of any expected traffic congestion due to daily capacity reducing events such as adverse MET forecast and declared airport acceptance rate.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the need for the establishment of ATFM in the MID Region to cater for the significant traffic growth and enhance airspace and airport capacity and efficiency;

b) discuss the proposal for the establishment of a common framework and procedure to manage air traffic flows in the MID Region based on the Multi-nodal concept;

c) discuss the possibility for establishment of a system-wide, centralized Regional ATFM at later stage after the maturity of the multi- nodal ATFM concept within the Region;

d) agree on a mechanism to support the phased implementation of ATFM measures in the MID Region; and

e) propose actions, with set deadlines.

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