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**Third North American, Central American and Caribbean Working Group (NACC/WG)
Air Traffic Flow Management (ATFM) Implementation Task Force Meeting
(ATFM/TF/3)**

ICAO NACC Regional Office, Mexico City, Mexico, 17 to 19 May 2022

Agenda Item 2: Air Traffic Flow Management (ATFM) Minimum Level of Services in the CAR Region

AIR TRAFFIC FLOW MANAGEMENT (ATFM) MINIMUM REQUIREMENTS FOR THE CAR REGION

(Presented by the Secretariat)

EXECUTIVE SUMMARY	
This Working Paper presents a proposal for Air Traffic Flow Management (ATFM) Minimum requirements for the CAR Region to be included in the CAR/SAM Air Navigation Plan (ANP).	
Action:	Suggested actions are included in Section 6.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Safety• Air Navigation Capacity and Efficiency
<i>References:</i>	<ul style="list-style-type: none">• Annex 11 – <i>Air Traffic Services</i>• Procedures For Air Navigation Services – Air Traffic Management (PANS-ATM)• CAR/SAM Air Navigation Plan• Air Traffic Services Planning Manual• Manual on Collaborative Air Traffic Flow Management (ATFM)

1. Introduction

1.1 ATFM is a service established with the objective of contributing to a safe, orderly and expeditious flow of air traffic by ensuring that Air Traffic Control (ATC) capacity is utilized to the maximum extent possible and that the traffic volume is compatible with the capacities declared by the appropriate Air Traffic Services (ATS) authority.

1.2 ATFM is an enabler of Air Traffic Management (ATM) efficiency and effectiveness. It contributes to the safety, efficiency, cost-effectiveness and environmental sustainability of an ATM system. It is also a major enabler of global interoperability in the air transport industry.

1.3 A properly designed and implemented ATFM service provides ATM performance benefits with organization, processes, training, and automation matched to the operational need.

2. ATFM Requirements

2.1 Annex 11 requires that ATFM shall be implemented for airspace where air traffic demand at times exceeds, or is expected to exceed, the declared capacity of the ATC services concerned. The capacity of the ATC services concerned will normally be declared by the appropriate ATS authority.

2.2 PANS-ATM expands the requirements to elaborate on ATS system capacity and ATFM. The number of aircraft provided with an ATC service shall not exceed that which can be safely handled by the ATC unit concerned under the prevailing circumstances. In order to define the maximum number of flights which can be safely accommodated, the appropriate ATS authority should assess and declare the ATC capacity for control areas, for control sectors within a control area and for aerodromes.

2.3 The PANS-ATM describes that ATFM should be carried out in three phases:

- a) strategic planning, if the action is carried out more than one day before the day on which it will take effect. Strategic planning is normally carried out well in advance, typically two to six months ahead;
- b) pre-tactical planning, if the action is to be taken on the day before the day on which it will take effect;
- c) tactical operations, if the action is taken on the day on which it will take effect.

3. ATFM minimum levels of services

3.1 The ICAO Doc 9426 - *Air Traffic Services Planning Manual* provide details regarding the ATFM service basic strategic and tactical functions:

- a) Collection and collation of data on the air navigation infrastructure and on the capacities of the ATC system and selected aerodromes within the “ATFM area”, including runway, taxiway and gates capacities. This embraces those areas in which traffic flow problems are likely to be encountered;
- b) Collection and analysis of data for all planned controlled flight operations into, out of, within and through the ATFM area;
- c) Determination of a coherent picture of expected traffic demand, including anticipated Ad hoc traffic, comparison with available capacity and identification of areas and time periods of expected critical traffic loadings;

- d) Co-ordination with the appropriate ATS authorities in order to make every possible attempt to increase the available ATC capacity where required; and
- e) Where ATC capacity shortfalls cannot be eliminated, determination and implementation in good time of suitable tactical measures co-ordinated throughout the ATFM area as necessary and with aircraft/aerodrome operators concerned.

4. ATFM requirements for the CAR Region.

4.1 ATFM should be implemented on the basis of regional air navigation agreements or, if appropriate, through multilateral agreements. Such agreements should make provision for common procedures and common methods of capacity determination.

4.2 Currently, the CAR/SAM Air Navigation Plan makes no reference to ATFM regional agreement or to specify those airspaces where ATFM should be considered. Evidently, the determination of the capacity of the ATS system is a fundamental requirement to guarantee the safety in the provision of air traffic services, as well as the subsequent need for the implementation of ATFM.

5. Conclusions

5.1 The NACC/WG ATFM Task Force (TF) has been working for several years to define the ATFM different requirements in order to provide adequate support for a harmonized ATFM implementation.

5.2 The NAM and CAR Regions consensus support the establishment of a regional agreement to define airspaces where ATFM services shall be required.

6. Suggested actions

6.1 The Meeting is invited to:

- a) Support the ATFM minimum requirements described in the **Appendix**;
- b) Instruct the Secretariat to present to GREPECAS a proposal to amend the CAR/SAM ANP Vol. II to include ATFM minimum requirements for the CAR Region described in the Appendix; and
- c) Take any other action deemed appropriate.

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APPENDIX

ATFM MINIMUM REQUIREMENTS FOR THE CAR REGION

1. ATC Capacity determination

1.1 ATS Authorities of the CAR Region must assess, declare and periodically review the capacity of their ATC system, in order to safely provide services to aircraft during normal activities.

1.2 ATC capacity must be published as part of the State aeronautical information publication.

2. Establishment of Flow Management Units (FMU)

2.1 ATFM service is considered a part of the ANS basic building block framework for the upper airspace in the CAR Region.

2.2 All Area Control Centers (ACCs) of the CAR Region must establish flow management units.

2.2.1 ATS providers responsible for more than one ACC can make internal operational arrangements for the establishment of FMUs that serve multiple ACCs under their jurisdiction.

2.2.2 In cases of ACCs with limited automation, incapable to exercise traffic flow management functions, formal agreements must be established with neighboring ATS providers related to receive traffic flow management functions and procedures.

Approach control offices and aerodrome control towers must establish Flow Management Positions, or coordinate flow management functions to the FMU serving the ACC that handles their upper airspace.

2.2.3 In the cases of approach control offices and aerodrome control towers under the jurisdiction of a different ATS authority of the ACC that handles their upper airspace, formal agreements must be established.

3. ATFM service basic strategic and tactical functions

3.1 In airspaces where ATFM is considered a requirement, the following functions, as a minimum, should be carried out:

- a) Collection and collation of data on the air navigation infrastructure and on the capacities of the ATC system and selected aerodromes within the "ATFM area", including runway, taxiway and gates capacities. This embraces those areas in which traffic flow problems are likely to be encountered;
- b) Collection and analysis of data for all planned controlled flight operations into, out of, within and through the ATFM area;
- c) Determination of a coherent picture of expected traffic demand, including anticipated ad hoc traffic, comparison with available capacity and identification of areas and time periods of expected critical traffic loadings;
- d) Co-ordination with the appropriate ATS authorities in order to make every possible attempt to increase the available ATC capacity where required; and

- e) Where ATC capacity shortfalls cannot be eliminated, determination and implementation in good time of suitable tactical measures co-ordinated throughout the ATFM area as necessary and with aircraft/aerodrome operators concerned.

4. Actions Taken to Mitigate the Impact of ATFM Measures

4.1 ATC Units of the CAR Regions must work together and collaborate in order to reduce as possible the impact of traffic management measures imposed.

5. State Responsibility regarding ATFM provision and oversight

5.1 As part of ATM services, ATS Authorities of the CAR Region must address airspace capacity determination, including an assessment of the number of staff required to ensure the adequate provision of an ATS system, and ATFM functions in their oversight programs for ATS providers under their jurisdiction, according to ICAO SARPS, the CAR/SAM ANP and Regional Agreements.