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20/09/05

Agenda Item 3: Air Navigation Services

3.1 CNS/ATM

IMPLEMENTATION OF ATFM IN THE CENTRAL AMERICAN FIR

(Presented by COCESNA)

SUMMARY

Through this paper, COCESNA presents its interest in carrying out the implementation of an ATFM system for the Central American FIR, taking into account the regional CAR/SAM agreements on air navigation, the air operations growth estimate, the existing aeronautical infrastructure and the technological and aeronautical management level attained by the Central American States and COCESNA, as well as important investment projects in the air navigation area that will be soon developed in Central America.

References:

- Doc. 9426 – *Air Traffic Services Planning Manual*
- Doc 9828 - *Report of the Eleventh Air Navigation Conference - Montreal, 22 Sept-3 Oct. 2003.*
- Third Meeting of the GREPECAS ATM/CNS Subgroup (ATM/CNS/SG/3)
- Annex 11 / Doc. 4444 /ATM 501
- Twelfth Meeting of GREPECAS (GREPECAS/12)
- Preparatory Meeting of the ATFM/TF of the ATM Comité of the GREPECAS ATM/CNS/SG (Sao José dos Campos, Brazil, 3-5 August, 2005)
- Air Traffic Flow Management (ATFM) Coordination Meeting for the NAM/CAR Regions (ATFM/1) Mexico City, Mexico 8 to 10 August 2005
- Fourth Meeting of the GREPECAS ATM/CNS Subgroup (ATM/CNS/SG/4)
- Fourth Meeting of the Air Navigation Central American Experts Working Group (CA/ANE/WG/4, Mexico City, Mexico, 31 August-02 Sept. 2005)
- Third ATFM Global Conference (20-22 September 2005, Ottawa, Canada)

1. Introduction

1.1 Due to a considerable increase of air operations at a world-wide level, some areas and airports of the CAR/SAM Regions are experiencing important air traffic concentrations during determined periods of the year, which is negatively affecting air traffic management by ATC services providers and activities of air operators and of airports systems.

1.2 This situation concerns all the States, and it is foreseen that the situation might turn more complex if no suitable and timely measures are taken, in view that indicators show an important growth trend in the short and long terms.

1.3 Central America is strategically located between North and South America, which are important industrial, commercial and tourism development poles, and therefore a sustained growth in commercial aviation is experienced, which has an effect on the efficiency of aeronautical facilities, which is more evident during certain months, days and hours, in determined geographical areas, flight routes and airports located in the Central American FIR.

2 Analysis

2.1 The need for implementing ATFM in the CAR/SAM Regions has been discussed in different ICAO fora. Likewise, some countries of those Regions have developed important work on the matter in order to establish a national system allowing to face in a suitable manner their current and future needs to attain an adequate air traffic management of airport and related services.

2.2 Under this scheme, and considering the guidelines established by the 11th Air Navigation Conference, the CAR/SAM Regional Planning and Implementation Group (GREPECAS), COCESNA has considered the convenience of implementing an ATFM system for the States included in the Central American FIR and COCESNA.

3. Resources for the implementation of ATFM

3.1 The ATFM implementation includes, among other, financial resources, adequate ATM/CNS infrastructure and project management capability, as well as a favourable environment, where the collaboration of air operators, Central American and other CAR Region States, adjacent ATM units and other related bodies is necessary.

3.2 In this regard, COCESNA deems to be in an advantageous situation, considering that the current available resources in COCESNA and in the States of Central America, as well as other that are being developed or under implementation process by COCESNA, would provide the necessary support to carry out ATFM implementation according to the implementation horizon established in the ATM Evolutionary Tables for the CAR/SAM Regions, approved by GREPECAS or, failing that, the delays established in the regional agreements on this matter and the coordination carried out during the Third Global ATFM Conference, wherein COCESNA participated.

3.3 Among those resources the following can be mentioned:

- a) Institutional support of the Central American States, ICAO and COCESNA to carry out the project;
- b) Automated ATC/AIS Systems implemented in all the Central American countries and in COCESNA;
- c) Implementation and currently in place, of a Central American Pre-ATN network;
- d) Availability of an Central American Aeronautical Communications Satellite Network (CAMSAT), through which oral (ATC units), radar data and AFTN data are transmitted;
- e) Aeronautical satellite links with diverse ATC units of the CAR Region though the MEVA network, which has voice and data (radar data, AFTN, etc.) transmission capability;
- f) Current operational agreements and systems to exchange and share radar data among Central American countries and COCESNA;

- g) Agreements between COCESNA and United States for radar data exchange (ETMS), which currently allows the visualization of air traffic from Canada, United States, Mexico, Chile, and in the future at a continental level, facilitating strategic planning of air traffic management;
- h) Human resources with a high level training on ATM, automation and CNS;
- i) A solid infrastructure in the computer science field, with a broad experience in the development of similar projects.
- j) Collaboration of air operators, as well as of countries outside Central America, ICAO and other related organizations.

4 Considerations for the implementation of ATFM

4.1 The implementation of ATFM in the Region requires taking into account a series of aspects in order to attain the objective in a successful manner, with the consequent benefits for all the parties related with it.

4.2 Some of the aspects considered are the following:

- a) Develop the project from an integral perspective, involving in it all the related parties (Central American States, COCESNA, ICAO, air operators, States outside Central America, etc).
- b) Define the Terms of Reference for the implementation of the project in accordance with the guidelines established by ICAO and the regional and global agreements backing it, so that obtaining a coherent product may be ensured, compatible with the actions in this regard developed in other countries, especially with those belonging to the CAR/SAM Regions.
- c) Take advantage of the available technological resources in the market concerning aeronautics and other fields, in order to develop and implement an ATFM system not limited to the needs of the Central American FIR, but also capable of expanding its coverage and service to the CAR Region.
- d) Establish bilateral or multi-lateral co-operation agreements with countries or bodies with experience in the field, in order to attain the implementation of an efficient, trustworthy, dynamic and evolutionary system, based on state-of-the-art technology platform, supporting the current and future demand.
- e) Clearly identify those aspects of interest of air operators that might negatively influence the development of the project in order to foster the suitable preventive measures concerning the capacity of the systems, airport infrastructure, etc.

5 Principles on which the COCESNA's ATFM would be based.

5.1 In order to fulfill its objectives, ATFM should be based on the following principles:

- a) To be, in a transparent manner, at the disposal of all the States, users and other concerned parties, considering the requirements of air operators, airports, ATC units and other ATFM related units.
- b) Use a common flight data base, permanently up-to-date and of high availability.
- c) Take the relevant measures with enough time to prevent and/or minimize overloads in the ATC system.

- d) Keep a close and continued coordination with other ATFM units, Flow Management Units (FMU) and/or Flow Management Posts (FMP), aircraft and airport operators and ATC units.
- e) Take measures to ensure that the delays that may occur be fairly distributed among operators.
- f) Apply quality management to the services provided.
- g) Base the implementation of ATFM measures on the collaborative decision-making (CDM) process.
- h) Foster the highest use of the existing capacity without compromising safety.
- i) Contribute to attain the global ATM objectives.
- j) Have the necessary flexibility to allow the operators to amend their arrival/departures schedules.

6. Suggested action

6.1 The Meeting is invited to approve the following Draft Conclusion:

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CONCLUSION 2/XX

IMPLEMENTATION OF ATFM IN THE CENTRAL AMERICAN FIR

That, considering the important operational and financial benefits for air operators, airports systems, air transport users and ATC service providers (ATM), derived from the implementation of an efficient and safe Air Traffic Flow Management (ATFM) system, the States in the Central American FIR and COCESNA:

- a) initiate, under the coordination of COCESNA, the actions regarding the implementation of a regional ATFM system for the Central American FIR, considering to that end the guidelines of ICAO, as well as the tasks and implementation programme to be agreed upon in the CAR/SAM Regions;
- b) continue the coordination with States, International Organizations, air operators, other ATFM Units and related bodies within a cooperative framework, in order to establish an efficient, safe and highly beneficial system; and
- c) present to the NACC/DCA/3 Meeting, through COCESNA, a report on the status of the progress of this project.