



International Civil Aviation Organization

CAR/SAM Regional Planning and Implementation Group (GREPECAS)

**Tenth Meeting of the GREPECAS Aeronautical Information Services Subgroup (AIS/MAP/SG/10)**

Caracas, Venezuela, 26 February - 02 March 2007

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**Agenda Item 3:**

**Review of Planning Aspects and the Transition towards AIM**

**3.1 Review of the implementation status in the CAR/SAM Regions on AIS/MAP actions adopted by the Eleventh Air Navigation Conference and the new AIM concept.**

**AIM ELEMENTS FOR THE CAR/SAM REGIONS**

(Presented by Cuba)

**SUMMARY**

This working paper presents essential information for understanding and applying the Aeronautical Information Management (AIM) concept in the CAR/SAM States.

**References:**

- Information from the Global AIS Congress, held in Madrid, Spain, June 2006.
- Working and information papers presented at various meetings of GREPECAS contributory bodies.

**1. Introduction**

1.1 Transition of the Aeronautical Information Service (AIS) to Aeronautical Information Management (AIM) is already a fact, but it does not mean that it will not require great effort and investments in order to ensure a suitable and efficient transition.

1.2 This working paper provides the principal elements necessary to achieve a better understanding of this process, which all the States of the CAR/SAM Regions should undertake as soon as possible.

1.3 To develop this paper, we have identified the essential elements discussed at various ICAO meetings dealing with the subject, EUROCONTROL's experiences and elements presented during the Global AIS Congress.

## **2. Discussion**

### **2.1 *Current Situation of the Aeronautical Information Service. Its Limitations.***

2.1.1 Currently, the aeronautical information services of our Regions are inflexible and require long time for production and distribution of permanent information. This makes rapid distribution difficult and reduces the degree of the information's effectiveness.

2.1.2 Likewise, NOTAM publication from the moment of the originator's request for publication until its transmission via AFTN does not allow for extensive or graphic information.

2.1.3 All of this manual processing increases the risks to data integrity caused by human error.

### **2.2 *CNS/ATM Environment***

2.2.1 Nevertheless, even with these limitations, the development of CNS/ATM systems continues to advance with the development of the ATM Operational Concept, a fundamental concept that demands and requires correlative support and collaboration of aeronautical information.

2.2.2 The ATM Operational Concept may be defined as a worldwide integrated, harmonized and inter-functional system that provides multiple benefits to the entire aviation community, such as seamless inter-operability, the utilization, management and exchange of information at a world-wide level, equitable access to airspace, minimum flight path deviation, increased capacity to work in information rich environments with real time data leading to optimization of services.

2.2.3 Within this CNS/ATM environment, the new AIM concept is set to emerge along with a new nomenclature to designate the processing of aeronautical information.

2.2.4 The new requirements of ATM, RNAV, RNP and of the automated navigation systems demand new AIS requirements to ensure the quality and timely distribution of information.

2.2.5 The traditional function of AIS service will evolve into an information management service with changing duties and responsibilities. The provision of aeronautical information, with the integrity required by ATM, will not be able to remain based on a printed environment. AIS services should rapidly migrate towards electronic means and automated processing.

2.2.6 In the global ATM environment, AIS will become one of the more valuable and important facilitation services, ensuring the provision of up-to-date and quality aeronautical information for all phases of flight.

2.2.7 Aeronautical data will be exchanged in a completely electronic and networked environment; only that information needed as reference, temporary memorization or visual support for human operators will be printed. The creation of and application of a database will become a cornerstone in the development of a digital environment.

2.2.8 EUROCONTROL has developed a database using the Aeronautical Information Conceptual Model (AICM) and the Aeronautical Information Exchange Model (AIXM), and they are to date the only exchange models which are in use (AICM/AIXM). These models and their mutual inter-functionalities are the models that are currently suggested to be developed for AIM.

2.2.9 Another main aspect in this environment refers to the quality of information, which will be the responsibility of the ORIGINATOR, where subsequent handling will not compromise its quality.

2.2.10 Aeronautical information/data should be provided in real time and should be managed in an efficient manner in order to ensure the quality of the information supporting ATM operations.

2.2.11 For the transition from AIS to AIM in the CNS/ATM environment, it is necessary that ICAO update Annexes 4 and 15 with the new standards and methods on the provision, electronic storage, in-line access and maintenance of information and aeronautical charts.

### **2.3 *Transition Towards AIM Strategy***

2.3.1 It is necessary to develop and implement a strategy ensuring the gradual implementation of AIM in each one of the CAR/SAM States. The goal will be to identify the important requirements and components of a capable and sufficient aeronautical information management system to support the demands of CNS/ATM navigation.

2.3.2 When developing this strategy, its scope must be considered, and all areas of AIS (publications, NOF and AD AIS Units) should be involved, covering all the phases of flight.

2.3.3 Objectives and strategic actions to be developed for the transition of AIS to AIM.

2.3.3.1 Within this strategy, the main strategic objectives in order to attain an adequate transition towards AIM should be defined. These could include the following:

- Establish AIM as the central ATM process.
- Ensure the provision and availability of up-to date and quality aeronautical information for all phases of flight.
- Convert from paper publication of aeronautical information products to electronic format provision of information of each element of aeronautical information.
- Adopt procedures, frameworks and contents of harmonized databases on a global basis in a fully-digitized aeronautical information environment.
- Define the necessary human resources to ensure the future AIM environment.
- Resolve the intellectual property, financial, legal, organizational and institutional aspects associated with AIM handling.

2.3.4 In order to attain these strategic objectives, it is necessary to carry out strategic actions such as:

- Keep and improve the Quality Management System implemented and certified by the AIS service and be able to insert it into the Safety Management System (SMS) applicable to AIS according to ATM.
- Planning and development of the electronic AIP.
- Review the current NOTAM concept, in view that AIM will allow automatic access to databases.
- Study, plan and process the availability of terrain and obstacles data, as well as electronic aeronautical charts and charts databases in digital format.
- Define the scope, nature and presentation methods of aeronautical information, taking into account modifications and new requirements.
- Diversify and extend the means of access to aeronautical information auto-briefing.
- Planning and implementation of AIM transition training concurrent with traditional AIS service training while they coexist.
- Promote granting licenses to AIS personnel and develop the study and application of requirements for hiring new personnel.
- Project a harmonious framework of the AIS service in the AIM environment and the link with other fields within ATM.
- Propose using the expanded development of AIXM and AICM for the adoption of a global database.
- Identify the need to amend the ICAO SARPs as a requirement to attain the objectives so that it may progress through ICAO's mechanisms.

### 3. **Suggested Action**

3.1 The Meeting is invited to:

- a) note the contents of this working paper;
- b) consider, if accepted, the contents of this working paper for its use as guideline in the preparation of strategic actions for implementing AIM by the CAR/SAM States.