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International Civil Aviation Organization
South American Regional Office

THIRD WORKSHOP/MEETING OF THE SAM IMPLEMENTATION GROUP (SAM/IG/3)
REGIONAL PROJECT RLA/06/901

Lima, Peru, 20 to 24 April 2009

Agenda Item 3: Implementation of performance-based navigation (PBN) in the SAM Region

AIS-AIM MIGRATION

(Presented by Uruguay)

Summary

This working paper presents an analysis of problems that may be discussed in AIS/AIM migration in the Region in order to guarantee a better quality validated and updated of the information provided at present by Regional Aeronautical Information Services.

References:

- World Congress of Aeronautical Information Service (Madrid, 2006)
- Manual on World Geodetic System 1984 (WGS-84).

1. Introduction

1.1. During World Congress of Aeronautical Information Services (Madrid, 2006) a definition of a transition strategy from AIS (Aeronautical Information Service) to AIM (Aeronautical Information Management) was started, due to new requirements to provide a complete aeronautical information timely, with adequate quality and based, mainly in the new ATM concepts (Air Traffic Management).

1.2 ATM depends on pertinent, precise, quality and timely information available, to allow decision making fully aware. Those decisions should be adopted based in a process of Collaboration Decision Making (CDM), and not isolated. When shared by all the system and when using the adequate technologic advances, this type of information will allow the ATM participants to develop their activities and operations in a profitable and efficient way.

1.3 The traditional provision of aeronautical information services focused in the product, should be replaced by a solution centralized in data and directed towards systems, where confident and opportune data be given in a permanent and dynamic way for its use in applications addressed to perform the required tasks (flight planning, flight management, navigation, separation guaranty, CDM or any other strategic or tactical ATM activity.

2. **Discussion**

2.1 The traditional Aeronautic Information Services (AIS) should perform the transition to AIM, which would constitute the first important step in the evolution towards a data network environment for ATM, environment that may be characterized by an increasing application of thorough principles of information management in all the system.

2.2 The objective of the AIS is to create a community of persons, mechanisms, information, and services, interconnected through a communications network, with the purpose to make an optimum use of resources and much better synchronize the events and their consequences.

2.3 The most important changes are the transition from a service focused in the product towards the performing and management of data in an interoperable way, enough for the final use, and on the other hand, the data range expansion away from the narrow confines of Appendix 15. In order to guarantee the effectiveness, general consistency and interoperability, it must be considered that all data used in aeronautical operations is relevant to the AIM, which consequently should gradually incorporate it in its opened environment application.

2.4 The general strategic objective of Aeronautic Information Management (AIM) is a standard and efficient structure based in a data management in all the system that may allows to give support in all flight phases.

2.5 When facing this situation, SAM Region States are dedicated to corresponding investigation in order to meet these new requirements set out. For this reason, the reutilization of current systems (NOTAM Data Bank) was suggested, and the purchase of new systems, as well as the necessary hardware, in order to integrate all the systems and manage the aeronautic information in an efficient and effective manner.

2.6 The necessary work to tune-up and load data, will depend to a large extent on the data availability (not all of these exist at present in the AIS of the Region), as well as on the verification and validation of same, depending also on its magnitude, according to every State.

2.7 It should also be considered a period of time with a duration of several months for equipments' installation, as well as for the software installation and tune-up. Likewise, a similar period of time for the connection to existing systems should be considered.

2.8 Once available verified and validated information, total data base loading may be finished approximately in a one-two year period, depending on data complexity and magnitude of each State.

2.9 Finally, also it should be taken into account that Gravity Model adjustment (EGM96), as well as South American network adjustment SIRGAS, demand measurements updating, which have been claimed for a long time by ICAO.

2.10 In this sense, ICAO Global Geodetic System User's Guide 1984 (WGS-84) contains a group of guidelines, both about measurement, storage and information management.

3. **Suggested Action**

3.1 The meeting is invited to analyze this working paper and evaluate the need of a Conclusion to encourage the States, that have not made it yet, to start urgently the process of migration from AIS to AIM for a better data management and validation, which are keys to guarantee navigation quality and the use of autonomous systems.

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