



**Agenda Item 6: Other business**

**AIM ACTIVITIES IN SUPPORT OF AIR NAVIGATION**

(Presented by the Secretariat)

**SUMMARY**

This paper presents the activities carried out in the AIM area in support of air navigation.

**References:**

- Annex 15 – Aeronautical information services (AIS)
- Annex 11– Air traffic services
- Doc 9750 – GANP
- Doc 9854 – ATM operational concept
- Doc 10039 – Manual on SWIM (Disclaimer)
- Reports of SAM/AIM meetings
- Report of the GREPECAS/18 meeting

**1. Introduction**

1.1 According to ICAO Annex 15, the AIS will make sure that the aeronautical information and the aeronautical data required for the safety, regularity and efficiency of air navigation are made available, in accordance with the operational requirements, to the air traffic management (ATM) community, including:

- a) those who participate in flight operations, including the crews, flight planning and flight simulator personnel; and
- b) the air traffic service unit responsible for flight information services and pre-flight information services.

1.2 Annex 11 states that agreements will be entered into between the authority in charge of aeronautical information services and that in charge of air traffic services, in order to ensure that aeronautical information service units receive information enabling them to provide updated pre-flight information and meet the need to have information available during the flight.

1.3 Doc 9750, in the ASBU methodology, includes module B0-DATM, which covers Blocks 1 and 2, and module B1- SWIM, that sets forth the actions and elements to be implemented by AIS providers in order to be aligned with the GANP.

1.4 In addition to other issues, SAM/AIM meetings have taken the necessary action to develop the Roadmap for the transition from AIS to AIM. These activities are reviewed by GREPECAS because they are carried out through projects.

1.5 Doc 9854 states that the ATM operational concept is based on seven elements, where aeronautical information management is the central axis that ensures consistency and linkage among the seven components of the concept.

## **2. Discussion**

2.1 Annex 15 states that the AIS will receive, collate or assemble, edit, format, publish/store, and distribute aeronautical information and aeronautical data concerning the entire territory of the State and areas of the high seas where the State is responsible for providing air traffic services. The aeronautical information and the aeronautical data will be provided as integrated aeronautical information documentation.

2.2 The Roadmap for the transition from AIS to AIM has been designed to extend the scope of AIS, understanding that enhanced aeronautical information is crucial for an integrated and cross-functional ATM system that allows air navigation service providers to safely manage a larger volume of air traffic within the same airspace and within the same period of time.

2.3 The AIM concept requires that all the information, including that currently contained in aeronautical information publications (AIP), be stored as standard data sets that may be consulted from user applications. The purpose is to use existing technology to meet the new requirements emanating from the global ATM operational concept. To this end, a broader aeronautical information management concept must be applied, using a different method for provision and management, given its data-centred approach, unlike AIS, which is product-centred. It is possible that functions and responsibilities will need to be customised as transition evolves.

2.4 For transition to AIM, the States and ICAO will have to undergo three phases:

First phase — Consolidation

Second phase — Transition to the digital environment

Third phase — Information management

The ultimate goal is to transform the traditional product- and paper-based work of AIS, and adopt a data-centred approach in a fully electronic and interoperable environment.

2.5 The GANP has included common elements in modules B0-DATM and B1-DATM.

2.6 In order to implement this roadmap, the SAM Region has worked in the form of projects for the implementation of those steps that represented the main challenges, such as e-TOD (electronic terrain and obstacle data), the AIM/QMS, and the standard aeronautical information exchange model (AIXM).

2.7 In the Region, it has been noted that e-TOD poses significant challenges, mainly in relation to:

- availability or competencies for conducting a cost/benefit analysis concerning availability of digital terrain and obstacle data;

- communicating to relevant institutions in the States, and sensitising them on the usefulness of having digital terrain and obstacle data;
- the development of competencies or provision of assistance for the development of the technical terms of reference for hiring terrain and obstacle data providing companies;
- the need to strengthen competencies in some States in order to work in a digital terrain and obstacle data environment;
- the need to strengthen competencies in the management of the database containing obstacle data from the entire State; and
- improving coordination and communication with the institution in charge of mapping at national level.

2.8 Air navigation services should assess the impact of lack of terrain and obstacle data for precision procedures, and accompany e-TOD implementation projects. They should consider the establishment of a multi-disciplinary group to conduct a cost-benefit analysis of e-TOD, especially the impact of the availability or non-availability of electronic data on safety and situational awareness.

2.9 Regarding AIM/QMS implementation, good progress has been made. At present, 5 States are AIM/QMS certified in ISO 9001 version 2015 and other three States are certified in version 2008, but planning to re-certify under version 2015 this year.

2.10 Regarding AIXM, the Secretariat has worked on the drafting of guides for its implementation based on EUROCONTROL guides.

2.11 Furthermore, work is underway for the implementation of Phase 2. In this regard, significant progress has been made in Brazil, Colombia, Peru, Panama, and Venezuela.

2.12 However, progress made in infrastructure and acquisition of aeronautical information management packages should go hand in hand with a training programme and a plan to retrain AIS personnel, even redefining the AIS professional profile to turn it into an AIM technician with IT knowledge. Air navigation services, when planning training, should contemplate training plans that will give sustainability to information management infrastructure modernisation projects. They must think that technology, on its own, will not be able to manage information. This management will depend to a large extent, on new AIM technical personnel that is knowledgeable of traditional AIS rules but capable of aeronautical management in an electronic environment.

2.13 The SAM/AIM/11 meeting analysed the impact of Amendment 40 to Annex 15 and of the new PANS-AIM. The meeting agreed that the impact is significant on AIS regulation, as well as on implementation, and that work should be done together with regulators and service providers to adjust to the new requirements. It should be noted that these amendments, together with the country, provide the frame of reference for inserting AIS into the digital environment.

2.14 Special mention should be made of ICARD system management. ICAO Headquarters has worked hard in purging the ICARD database, mainly on issues related with duplicated points or similar-sounding codes located in close proximity.

2.15 Some State practices, such as:

- a) Use of codes without entering them into ICARD;
- b) Non-compliance with the rule on avoiding similar-sounding codes within 500 NM;
- c) Codes that have been discarded in the AIP but continue to be valid in ICARD;
- d) Codes discharged from ICARD but not from the AIP;
- e) Use of codes from other blocks

have resulted in an out-of-date database. The main issues may be classified as follows:

- a) a significant number of duplicated codes (including codes in triplicate and in quadruplicate);
- b) similar-sounding codes in close proximity or on the same flight plan route; and
- c) differences between 5LNC data registered in ICARD and that published in national aeronautical information publications (AIPs).

2.16 States should request, first of all, the validation of their codes by the SAM Regional Office prior to publication in the AIP. Another way to detect duplicated codes is to cross-check the codes currently in use and published in the AIP with the designated codes in ICARD.

### **3 Suggested action**

3.1 The Meeting is invited to take note of the information presented herein.

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