



INTERNATIONAL CIVIL AVIATION ORGANIZATION

Seventh Meeting of APIRG Subgroup on Information and Infrastructure Management (IIM/SG7)

Dakar, Senegal, August 5 - 8, 2024

Agenda Item 3: Results in Information Management and Infrastructure

IP3.4A - Regional cooperation between ANSP AFI in terms of AIXM databases

(Presented by ASECNA & GCAA Gambia)

SUMMARY

This document presents the position of ASECNA in the implementation of the AFI-CAD initiative and the cooperation activities undertaken with the State of The Gambia for the production of the third edition of the AIP Gambia derived from an AIXM database.

The AFI-CAD initiative is an approach to address the needs of airspace users in the AFI region for aeronautical databases, aeronautical obstacles and terrain data. It does not include the provision of AIS services on behalf of participating States, which remains a responsibility of the State.

Since December 05, 2019, ASECNA has declared the operational implementation of its AIXM 4.5 aeronautical database after a phase of migration and standardization of the existing aeronautical information of its 17 member states that lasted about 09 years. This changeover, including the technical means deployed, has made it possible to undertake cooperation actions with The Gambia, in order to host its own database dedicated to The Gambia in an environment separate from the ASECNA database.

Actions of the Meeting in **paragraph 3**.

REFERENCE(S):

- AN-Conf 12 recommendation 3/8 (c)
- APIRG 20 conclusion 20/33, 20/34 & 20/35
- Global air navigation plan (GANP), (Doc 9750)
- APIRG 21 conclusion 21/14

This working note relates to **ICAO's Strategic Objectives: Air Navigation Capability and Efficiency (ICAO Roadmap for the Transition from AIS to AIM)**

1. INTRODUCTION

1.1 Since the ICAO Air Navigation Conference held in 2012, AFI States have been invited to engage in intra-regional and inter-regional cooperation for a rapid transition from AIS to AIM in a harmonized manner. They were also invited to use digital data exchange and to consider regional and subregional AIS databases as a catalyst for the transition from AIS to AIM.

- 1.2 Several outcomes approved by APIRG meetings were achieved to implement the AFI-CAD framework, guidance documents, project business plan and the proposed 04 AFI-CAD regional hubs in the AFI region (see Figure 1). By APIRG 20 Conclusion 20/34, States were invited to ensure compatibility and integration of their different AIS databases to facilitate the implementation of a system-wide information system (SWIM), under ASBU B0-DATM.
- 1.3 To support the implementation of low-cost, interoperable systems, and to encourage better cooperation and exchange of experience between ASECNA and The Gambia AIM experts, the two parties agreed, through a joint plan signed on 26 July 2022, to start actions to host a Gambia AIXM database in ASECNA's AIXM server environment under a separate partition guaranteeing intellectual property and rights of the State of The Gambia. These actions also include the handling of the tools and the training of staff.
- 1.4 This note reports on the progress made by ASECNA and The Gambia in this cooperation and on future developments planned to support reliable operations with AFI States that would like to collaborate with ASECNA in the context of data exchange and/or the management of their databases.

2. DISCUSSION

- 2.1 Since December 5, 2019, ASECNA has deployed in 17 of its African Member States all the functionalities of its centralized AIS database via VPN connections. The database is based on AIXM 4.5 and allows the automatic production of electronic AIPs, displayed on a Web server. It complies with GANP B1-DAIM standards and offers options for digital data exchanges.
- 2.2 The database is designed on a distributed architecture across multiple sites and with cybersecurity measures (*see Figure 2*).
- 2.3 To support the transition to AIXM, as part of the transition from AIS to AIM for the State of The Gambia, the action plan signed between the parties (*see Figure 3*), foresees ASECNA's assistance to the Civil Aviation Authority of The Gambia in the following areas:
 - Hosting the Gambia Aviation Database
 - Generating an AIP from this database
 - Continuous updating of the Gambia database and periodic publication of the AIP
 - Induction of the Gambia AIS staff to be able to eventually generate the Gambia electronic AIP and update the database autonomously.
- 2.4 The activities for the implementation of this action plan consisted first of all in the creation of a server partition of the ASECNA infrastructure limited to an AIXM database specific to the Gambia. The population actions of this database consisted of a series of two-way exchange missions, between experts from ASECNA and The Gambia, in order to understand the system, update the information to be qualified for inclusion in the database, introduce staff to the handling of the tools and ensure collaborative work between the parties.
- 2.5 To allow The Gambia to access its aeronautical data independently, taking into account the context of the fight against cybercrime, a VPN tunnel and a Fortigate have been deployed in Banjul by ASECNA for dedicated staff.
- 2.6 The project is at 80% of its implementation, with the remaining phases being joint work to validate the final version of the available eAIP draft, printing new AIP binders and conducting a safety study prior to operational implementation.
- 2.7 The expected benefits of this cooperation are:

- the launch of a web portal for access to digital aeronautical information of The Gambia
- the printing of a new AIP of The Gambia with the contribution of ASECNA
- the interoperability guaranteed for the exchange of datasets and the transition to AIXM for The Gambia.

2.8 ASECNA has also started, as part of its services and equipment plan, the process of acquiring an AIXM 5.X database with the latest applicable standards and recommendations. To sustainably support the system with an integrated view with other operational databases (regional weather data, OPMET, IWXXM), ASECNA plans to set up a robust infrastructure that consists of the acquisition of a high-speed IP network in the public cloud.

3. ACTION TO BE TAKEN BY THE MEETING

3.1 The meeting is invited to:

- a) note the ongoing cooperation actions between ASECNA and The Gambia for the production of the Gambia's eAIP to support the implementation of the AFI-CAD initiative in the Region.
- b) note ASECNA's readiness to cooperate with the States of the AFI Region within the framework of the AFI-CAD initiative for a harmonized transition from AIS to AIM.

3.2 IIM/SG7 Conclusion/Decision 6/xx: Title of Conclusion/Decision

It is concluded/decided that:

The States of the AFI Region undertake to sign letters of agreement setting out the cooperation actions for the exchange and interoperability of the digital datasets at their disposal.

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