



ICAO

INTERNATIONAL CIVIL AVIATION ORGANIZATION

WESTERN AND CENTRAL AFRICA OFFICE

Twenty-fourth Meeting on the improvement of Air Traffic Services over the South Atlantic (SAT/24)

Luanda, Angola, 3-7 June 2019

Agenda Item 4: Communications, navigation and surveillance (CNS) (by the CNS Working Group)

4.3 Improvement of the CNS systems in the SAT Region (AMHS, AIDC, ADS-C&B)

AIDC IMPLEMENTATION

(Presented by ASECNA)

SUMMARY

This paper provides updates to the meeting on the progress made by ASECNA towards the implementation of Air Traffic Service (ATS) Inter-facility Data Communication (AIDC).

Reference: SAT/23 meeting report - SAT 23 - Conclusion 23/13

1. Introduction

1.1 Identified in the Aviation System Blocks Upgrades (ASBU) modules as one of the candidate functionality for the block zero elements/technologies, AIDC provides automated coordination, which significantly reduces the workload of Air Traffic Controllers while impacting positively on safety, including reducing:

- the need for oral coordination between ATS units;
- the controller workload;
- the repetition/read back errors during coordination.

1.2 SAT 21 meeting, Conclusion 21/17: Implementation of AIDC called upon states to conduct periodic teleconferences (preferably monthly) with the AIDC focal points and the SAT Secretariat, in order to study the implementation of AIDC.

1.3 Furthermore, the Conclusion 23/12 of SAT 23 meeting held in Durban, South Africa, 07-08 June 2018, recommended that, concerned SAT ACCs pursue their collaboration in order to overcome the technical barriers (Incompliance of Interfaces, Loss of Flight Plans, Human Factor...) for the effective implementation of the following AIDC circuits:

- a) Abidjan /Accra by 31 12 2018
- b) Dakar/Atlántico by 31 12 2019
- c) Ezeiza/Johannesburg by 31 12 2019
- d) Luanda/Johannesburg by 31 12 2020

1.4 This working paper reports on the progress made for the implementation of AIDC between ASECNA and the neighboring involved centers and makes proposals for development of procedures for circuits validation and performance monitoring.

2 Discussion

2.1 In the framework of SAT, several teleconferences were conducted with the coordination of SAT secretariat.

2.2 The AIDC circuit between Abidjan and Accra is functional since march 2019 and upon validation tests. Details of tests trials are provided in Appendix A&B.

2.3 Trails are ongoing between Dakar and Atlántico. Progress made is developed in Appendix 1

2.4 The CNS/ATM environment is an integrated system including physical systems (hardware, software and communication network), human elements (pilots, controller and engineers), operational and technical training, airspace design and the operational procedure for its implementation. Therefore, states and ANSP needs to harmonize their framework for AIDC implementation and performance monitoring according to the related SARPs.

2.5 In order to validate circuits and effectively use the AIDC application for the interchange of ATC coordination data, performance requirements need to be specified. These specified performance requirements need to be mutually agreed between neighboring ATSU's implementing AIDC.

2.6 Procedures should be developed to ensure system performance by validation, reporting and tracking of possible problems revealed during system monitoring with appropriate follow up actions.

2.7 ASECNA is in coordination with centers in interface with EUR region (Sal, Casablanca, Algiers) using only OLDI, instead of both AIDC and OLDI, AIDC being the protocol adopted by ICAO and the AFI region.

2.8 Some works are in progress to upgrade the ATM systems to enable the implementation of AIDC with other centers.

3. Action Required

The meeting is invited to:

- a) Take note the information provided above;
- b) Consider the necessity for states and ANSP to have an harmonized framework for AIDC Implementation;
- c) Take recommendations to develop guidance materials;
- d) Encourage the stakeholders to pursue and finalize the implementation of AIDC identified between the various centers.

Annexe A – Status of AIDC implementation

| ASECNA ATS Centers | Connection centers | AIDC Data Exchange Yes/No | AIDC Validation Planning | Comments |
|-------------------------------|-------------------------------|--|---|--|
| Abidjan | Roberts | No | - | ATM system upgrading ongoing in Roberts |
| | Luanda | No | - | Implementation planning to agree |
| | Accra | Yes | Dec. 2018 | AIDC test over AFTN, operational since march 2019. During testing and implementation, several errors messages and issues were encountered. Such messages compiled are provided in Annex B with a brief description of the errors, possible causes and recommended actions as lessons learnt for forthcoming implementations. |
| | Atlántico | No | - | Implementation planning to agree |
| Dakar | Roberts | No | - | ATM system upgrading ongoing in Roberts |
| | Las Palmas | No | - | Implementation planning to agree due to interoperability issue between OLDI and AIDC systems |
| | SAL | No | - | Implementation planning to agree due to interoperability issue between OLDI and AIDC systems |
| | Cayenne | No | - | Trials on going |
| | Piarco | No | - | Implementation planning to agree |
| | Recife | No | Dec. 2019 | Trials ongoing. |
| Brazzaville | Luanda | No | - | Trials to continue |

Annexe B –AIDC Issues during Accra – Abidjan Trials

| Fault Description | Possible cause | Recommended actions |
|---|--|---|
| Messages rejected for Invalid message (LRM/57) | Unclear semantics and lack of real technical/operational requirements | Improve personnel's training (operations and technical) |
| Messages rejected for Invalid ATS routes (LRM/ | | |
| Messages rejected for invalid time designator | Lack of properly trained personnel to fulfil system analyst functions. | Develop common test protocols including Prerequisite check lists, test configuration development and test results templates |
| Messages rejected for invalid time designator (LRM-RMK/23/14) | | |
| Messages rejected for undefined error (LRM-RMK/62/7) | | |

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