



Agenda

- Item 1: Follow-up to the performance of AIDC operation and results of the AIDC interconnection trials in the NAM/CAR/SAM Regions**

AIDC IMPLEMENTATION STATUS IN THE DOMINICAN REPUBLIC

(Presented by the Dominican Republic)

SUMMARY

This information paper presents the AIDC implementation status in the Dominican Republic, as well as lessons learned during the process

1. Introduction

1.1 The Dominican Civil Aviation Institute (IDAC), through the Air Navigation Directorate (DINA), entity in charge of providing Air Navigation Service for the Santo Domingo Flight Information Region, implemented new air traffic control systems in Santo Domingo and Punta Cana in 2014, which were enabled, from the beginning, for the use of AIDC. Since then, efforts have been made to implement an AIDC interface with Miami FIR and San Juan FIR, during which several problems have been detected and whose details are offered in the form of lessons learned.

2. Discussion

2.1 The NAM ICD contemplates three classes of messages (I, II and III), which respectively represent increasing levels of coordination automation. Our system as installed has enabled messages up to Class III and the highest level of automation. This configuration difficult the exchange of messages with FIRs that have only implemented Class I or II, as is currently the case. At this moment the FIR Miami and San Juan had capacity only for Class I and subsequently for Class II.

2.2 The last interoperability test with the United States was carried out on 17 and 18 February 2016, with the presence of a supplier technician in Santo Domingo. This test revealed additional problems:

- a) Carriage return/line feed characters were received between items in the CPL messages generated from Santo Domingo, and also from the FAA via AMHS.
- b) CPL messages were being generated for VFR flights, and the FAA System only accepted IFR flights.
- c) Our system has interface management messages enabled (IRQ/IRS/TRQ /TRS). The FAA system did not use those messages at the time.
- d) Difficulties in sending NAM messages manually from Santo Domingo, for testing purposes.

2.3 These problems were documented by the supplier for their correction.
AIDC - IP/XX

2.4 After a series of emails and meetings exchange, the System provider has recognized that the separation of messages by class is a requirement specified in the NAM ICD, and therefore a matter of compliance. The agreement to update the software, including particular requests for coordination between the Santo Domingo and Punta Cana systems was finalized in October 2017. The software is being updated to allow, among other things, the use of messages by class.

2.5 While the software is being updated, internal tests are planned to prepare the next interoperability test with the FAA. These tests consist of the following:

- a) The manual generation of IRS messages (initialization response) to allow establishing the NAM ICD interface connection. As indicated above, the FAA system does not respond to interface management messages, so doing it manually could allow activating the interface and from there a correct operation. The tests could then continue.
- b) Test the generation and formats of messages after establishing the interface connection. Since the interface was not operational in view of the subject described in paragraph 2.2 c) above, messages used in the 2016 test were regular ATS messages and therefore not really AIDC messages. The differences found could be attributed to this.

2.6 Conversations have been held with Curacao to also initiate AIDC tests between both FIRs, but nothing has yet been agreed upon. Curacao has indicated that its system has only capability for AIDC with the Asia PAC ICD, and our system also has the capability to operate with that ICD. Therefore, internal tests with the PAC ICD have also been scheduled.

3. Conclusion

3.1 As stated in previous meetings, a very important matter is the adherence to the NAM ICD. Although the document is explicit as to which messages belong to which class, in the practice this is not carried out to the letter. This is the case of the use of CPL/LAM/LRM Class I messages, since LRM is really a Class II message. This could be interpreted as a Class II interface, using only the LRM message from the Class II message set. Classes are defined in the NAM ICD for ease of transition from a no automated to an automated State, but the particularities between adjacent FIRs will determine which messages will be important in the early stages. In the case of Santo Domingo, it would be logical to assume that apart from CPL/LAM, LRM would be included at the beginning to feedback errors and FPL messages for "pre-departure clearance" given the proximity to the airport of Punta Cana on the border with FIR San Juan.

3.2 From the above, it is emphasized that in AIDC implementation the greatest possible flexibility in the use of messages be granted, so that adjacent States have the ability to use any set of messages they consider necessary.

3.3 Finally, the importance of internal tests cannot be underestimated. It is absolutely necessary for staff to fully understand the software's behavior and therefore be able to describe the adjacent FIR what to expect from the system.

- END -