International Civil Aviation Organization
North American, Central American and Caribbean Office

WORKING PAPER

NACC/WG/8 — WP/13
30/08/23

Eighth North American, Central American and Caribbean Working Group Meeting (NACC/WG/8)
Mexico City, 29 August - 1 September 2023

Agenda Item 3: **Follow-up of NACC/WG 2022-2023 Action Plan**
3.5 AIDC NACC/WG/AIDC Automation Task Force Progress Presentation

AIDC TASK FORCE PROGRESS REPORT

(Presented by the AIDC Rapporteur)

EXECUTIVE SUMMARY

This working paper provides an overview of AIDC implementation in the NAM/CAR region, presents past and current challenges of the AIDC implementation, and considers identified priorities for the future.

Action:	Suggested actions are presented in Section 9.
Strategic Objectives:	• Safety • Air Navigation Capacity and Efficiency • Economic Development of Air Transport • Environmental Protection
References:	• NACC/WG/RAP/02-NE/0127/03/2023 Second Meeting of Rapporteurs of the North American, Central American and Caribbean Working Group (NACC/WG/RAP/02) • ICAO/Eurocontrol Base of Aircraft Data (BADA) Workshop, August 03, 2023 • Fifth NAM/CAR Air Traffic Services Interfacility Data Communication (AIDC) and North American Interface Control Document (NAM/ICD) Implementation Follow-up Meeting (AIDC/NAM/ICD/5) • Sixth NAM/CAR Air Traffic Services Interfacility Data Communication (AIDC) and North American Interface Control Document (NAM/ICD) Implementation Follow-up Meeting (AIDC/NAM/ICD/6)

1. Introduction

1.1 Due to the COVID-19 pandemic, all meetings had to be held virtually, which represented a great challenge to continue providing the necessary support to the States face-to-face. Nevertheless, the NAM/CAR region has continued its progress in the implementation of AIDC.

1.2 In the NAM/CAR region, there are mainly two protocols in use, commonly known as Interface Control Documents (ICD):

a) NAM ICD were developed by the NAM Region.
b) Those based on the Asia/Pacific (APAC) interface control document. This includes the APAC ICD *per se*, and also the PAN ICD, which results from the merger of the ICD of the APAC and NAT regions.

2. Progress and results of the AIDC Task Force

2.1 Most of the States in the region have successfully implemented at least one interface and, therefore, have good experience for future implementations with the remaining adjacent FIRs. The status of these interfaces are shown in Table 1.

Antigua and Barbuda	Dominican Republic	Mexico
Bahamas	El Salvador	Trinidad and Tobago
Barbados	Grenada	United States
Belize	Guatemala	Nicaragua
Canada	Haiti	Saint Kitts and Nevis
Costa Rica	Honduras	Saint Lucia
Cuba	Jamaica	Saint Vincent and the Grenadines
Dominica		
OPERATIONAL	NON OPERATIONAL	IN PROCESS

Table 1: States with at least one operational AIDC interface

3. Progress on Phase III Implementation between the United States and Canada

3.1 The United States is currently in a trial phase with Canada for the implementation of the NAM/ICD Phase III. The United States described the telecommunications infrastructure used in the different interfaces, including the specifications for Internet Protocol (IP) connections.

3.2 In view of the previous paragraph, it is imperative that the new Caribbean Air Navigation Service Network (CANSNET) consider the connectivity requirements described in the previous paragraph for Phase III.

3.3 The identified implementation challenges of the NAM/ICD protocol in its phase III are:

a. Adapt information exchange and coordination.
b. Software design and modification.
c. Testing schedules and priorities among multiple programs.
d. Controller training.
e. Telecommunications network capabilities for information sharing.
f. Update 14a and 15c fields of the CPL message obtained from the surveillance system and not from the FPL message as is currently the case.

4. Progress in the implementation of Class I AIDC between JAMAICA and CUBA

4.1 Due to the benefits identified in terms of operational safety and efficiency, the States resumed AIDC implementation activities, prioritizing activities in Jamaica, Cuba, Haiti and Mexico during the 2022-2023 period. At the Fifth NAM/CAR Air Traffic Services Interfacility Data Communication (AIDC) and North American Interface Control Document (NAM/ICD) Implementation Follow-up Meeting (AIDC/NAM/ICD/5) it was decided to:

a) Prioritize the connection between Cuba and Jamaica with NAM/ICD phase I;
b) Support Haiti in the project to implement its automated surveillance system.

5. ICAO/Eurocontrol Aircraft Database (BADA) Workshop

5.1 Following the recommendations of the North American, Central American and Caribbean Working Group/Air Traffic Services (ATS) Inter-facility Data Communications Task Force (NACC/WG/AIDC/TF), in accordance with the need for each CAR State to work on updating the Air Traffic Control (ATC) aircraft database, the Air Traffic Control (ATC) **Base of Aircraft Data (BADA) workshop** was held on August 3, with the support of Eurocontrol and the industry, and its main objective was to assist CAR States in the process of updating their ATC databases. A brief description of BADA is included in the Appendix of this paper.

6. Standardization of REJ and ACK messages.

6.1 Since most airline systems currently accept the FAA format for REJ and ACK messages, it is proposed that any implementation be modeled based on this format. These messages are important as feedback to airlines, which will contribute to the reduction of flight plan errors, as well to implement **Flight and Flow Information for a Collaborative Environment (FF-ICE)** aligned services.

7. Change of Rapporteur

7.1 At the Sixth NAM/CAR Air Traffic Services Inter-Facility Data Communication (AIDC) and North American Interface Control Document (NAM/ICD) Implementation Follow-up Meeting (AIDC/NAM/ICD/6) held on August 3 and 4, 2023, a change of Rapporteur of the group took place, appointing Mr. Luis Fuentes from the Dominican Republic as the new Rapporteur, replacing Mr. Fernando Casso, who was appointed to other functions. Such a change was approved by the group at the same meeting.

8. NACC/WG/AIDC Task Force Action Plan Update

Task	Head	Date
1.Support AIDC implementations that are in progress: a) Jamaica b) Trinidad and Tobago c) Haiti	Task Force	TBD
2. Perform a flight plan error data collection, to assess current situation.	Task Force	TBD
3. Coordinate meetings with the airspace optimization group, to determine what is required from our task force, based on which KPIs and targets will be created for eANP Volume III.	Task Force	TBD
4. Propose to system manufacturers the implementation of REJ and ACK messages, taking as a model the format used by the FAA.	Task Force	TBD
5. Develop a procedure for the gradual transition to the mandatory services of the FF-ICE (Planning service and Filing service).	Task Force	TBD

9. Suggested actions

9.1 The meeting is invited to:

a) review the documentation described in the **Appendix** (only in Spanish);

b) urge the NAM/CAR States to evaluate the execution of the agreement for the licensing of the BADA use;

c) support coordination actions between Jamaica and Cuba for the implementation of the NAM/ICD Phase I between both States;

d) support Haiti in the project to implement its automated surveillance system; and

e) propose the implementation of the REJ and ACK messages to the manufacturers of automated systems, taking the format used by the FAA as a model.

— — — — — — — — — — —

APPENDIX
(only in Spanish)

Breve descripción de BADA

1.1. BADA significa Base de Datos de Aeronaves

1.2. BADA es un modelo de rendimiento de aeronave, desarrollado y mantenido por EUROCONTROL desde principios de los 90, en cooperación con fabricantes y operadores de aeronaves.
1.3. BADA proporciona datos sobre el rendimiento de las aeronaves adecuados para la predicción y simulación de trayectorias dentro de las herramientas ATC
1.4. BADA se establece como una base de datos estándar mundial de desempeño de aeronaves para aplicaciones ATM/ATC

1.5. **Licencias BADA**

1.5.1. Para el uso de BADA se requiere de la firma de un acuerdo para obtener la licencia, la cual será solicitada por una persona que cuente con la autoridad legal para hacerlo. Este punto focal, tendrá acceso a los datos de BADA y la responsabilidad de obedecer los términos y condiciones de la licencia con respecto al uso de BADA. El uso de BADA es gratuito.

1.6. **Beneficios del uso de BADA**

- Precisión de ETO y Velocidad
- Precisión de ToC y ToD
- Estimación de límites mejorada (lo que resulta en una mejor coordinación AIDC)
- Mejor conocimiento de la evolución del perfil de ascenso y descenso
- Detección de conflictos a mediano plazo
- Mejor anticipación en aeropuertos densos para la llegada

1.7. **Problemas potenciales**

- Introducción del modelo BADA en el sistema ATC actual frente a una actualización importante de FDP compatible con BADA
- Falta de información sobre la toma de peso y la temperatura
- Modelo faltante para aeronaves utilizadas en la región
- Impactos de las actuaciones del actual sistema ATC

— END —