



ICAO

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

WORKING PAPER

AIDC/NAM/ICD/4 — WP/04

05/03/21

Fourth NAM/CAR Air Traffic Services Inter-facility Data Communication (AIDC) and North American Interface Control Document (NAM/IDC) Implementation Follow-up Meeting (AIDC/NAM/ICD/4)

Online, from 9 to 11 March 2021, 9AM to 12PM, GTM -6

Agenda Item 3: Follow-up on the Activities to Regionally Minimize Flight Plan Errors

FOLLOW UP TO DECISION AND CONCLUSIONS OF PREVIOUS MEETINGS

(Presented by the Secretariat)

EXECUTIVE SUMMARY	
This Working Paper summarizes the actions taken by the Secretariat on the decisions and conclusions of the previous AIDC Task Force and Ad-hoc Flight Plan Group meetings.	
Action:	Suggested actions are presented in Section 4.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Safety• Air Navigation Capacity and Efficiency
<i>References:</i>	<ul style="list-style-type: none">• Report - NAM/CAR Air Traffic Services Inter-facility Data Communication (AIDC) and North American Interface Control Document (NAM/IDC) Implementation Follow-up Meeting, Mexico, 2019• Report – Third NAM/CAR Air Traffic Services Inter-facility Data Communication (AIDC) and North American Interface Control Document (NAM/IDC) Implementation Follow-up Meeting (AIDC/NAM/ICD/3), Mexico, 2020.• AIDC Task Force/FPL Monitoring Group Teleconference Minutes (01/2021).

1. Introduction

1.1 In the last four AIDC Task Force meetings, regional statistics had been presented by the Flight Plan (FPL) Error Ad-hoc group, part of the AIDC Task Force, analysing the causes of flight plan errors.

1.2 According to the statistics presented by the FPL Ad-Hoc Group and provided in **Appendix A**, errors caused by inconsistent type of aircraft, wrong level, wrong speed and invalid aircraft model type, represent high errors percentage in the region.

1.3 According to the NAM/CAR Air Traffic Services Inter-facility Data Communication (AIDC) and North American Interface Control Document (NAM/IDC) Implementation Follow-up Meeting, held in Mexico on 2019, Conclusion AIDC/NAM/ICD/03 was made:

DECISION	
AIDC/NAM/ICD/D/03	PROBLEM OF THE LACK OF AVAILABILITY OF THE PERFORMANCE DATA OF AIRCRAFT TYPES FOR UPDATING ATC SYSTEMS DATABASES
<p>What:</p> <p>That, in order that the States have at their disposal the performance data of the types of aircraft and that these be kept updated in the databases of their systems, Cuba, United States and COCESNA prepare a working paper that explains the risks that produces this situation and proposes solutions to it, to be presented in the next ANI/WG Meeting for its possible presentation by a Member State in the next ICAO Assembly.</p>	<p>Expected impact:</p> <p><input type="checkbox"/> Political / Global</p> <p><input type="checkbox"/> Inter-regional</p> <p><input type="checkbox"/> Economic</p> <p><input type="checkbox"/> Environmental</p> <p><input type="checkbox"/> Operational/Technical</p>
<p>Why:</p> <p>Because the lack of updated aircraft performance data represents a safety risk, since the systems cannot accurately project the trajectories of aircraft without this data.</p>	
<p>When: ANI/WG Meeting</p>	<p>Status: <input checked="" type="checkbox"/> Valid / <input type="checkbox"/> Superseded / <input type="checkbox"/> Completed</p>
<p>Who: <input checked="" type="checkbox"/> States <input type="checkbox"/> ICAO <input type="checkbox"/> Other:</p>	<p>Cuba, the United States and COCESNA</p>

1.4 During the 40th Session of the ICAO Assembly, Working Paper A40-WP/356 was presented by Cuba, supported by Aruba, Belize, Bolivia, Brazil, Colombia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru and Venezuela. The working paper explained the need for air traffic services (ATS) units to have correct tools that help avoid errors, wherever possible, in the automatic coordination of flight plan messages and support more accurate calculations and predictions for wind and temperature conditions and flight levels. The A40-WP/356 is attached under the **Appendix B**.

1.5 According to the various annual AIDC meetings' discussions, access to the Base of Aircraft Data (BADA) from Eurocontrol was seen as an option to improve the aircraft performance information in the database used by ATS units of the CAR States.

1.6 Regarding the last AIDC Task Force/FPL Monitoring Group Teleconference/01/2021, CAR States requested that the Secretariat follow up on the status and actions taken by ICAO on the A40-WP/356 and the possibility to access the BADA.

2. Discussion

2.1 Follow up to Working Paper A40-WP/356

2.1.1 The outcome of A40-WP/356 discussions was that the ICAO Council will consider the incorporation of the concerned technical parameters, subject to existing priorities funded through the 2020-2022 Budget and the availability of extra-budgetary resources (A40 Technical Commission Report - Doc 10137).

2.1.2 Reviewing Assembly Resolutions and Decisions during its 219th and 220th Sessions (C-WP/14983 and C-WP/15075 refer), the Council agreed that the proposed development of the ICAO online database be pending the identification of resources. At this moment, no further actions from ICAO headquarters are envisioned.

2.2. Use of BADA in the region

2.2.1 The ICAO NACC Regional Office presented to Eurocontrol a summary on the issues related to this matter and the need of all the NACC States and territories to access to BADA.

2.2.2 In this regard, Eurocontrol is very pleased to support the region and to provide the corresponding access to each of the States through a designated person, responsible for the access and correct use of this information.

2.2.3 The link to the BADA web site is <https://www.eurocontrol.int/model/bada> and the BADA access user guide is located in <https://www.eurocontrol.int/sites/default/files/2020-06/bada-user-guide-bada-3-4-h.pdf>

2.2.4 Each Point of Contact (PoC) of the States is required to first create a One Sky account, which is a mandatory step to ensure a secure access to the Eurocontrol portal before accessing the BADA User Interface (BUI). The access will be approved by the focal points of the States/Organizations to those using an official e-mail account (no personal e-mail or free account).

2.2.5 The BADA User Interface is a web interface, allows the user to request BADA licences and allows to follow up on their progress, access the BADA Libraries, containing BADA data files and documentation, report problems in its ticketing system (BADA Support Application) and perform basic Aircraft Performance Calculations with the BADA 3 model.

2.2.6 The States' PoC will need to fulfil the legal obligations for a BADA user, support the access for each State/Organization and use the BADA information only for outlined data needs.

2.2.7 For this purpose, training for all users had been coordinated with Eurocontrol. The date and time will be provided after all States complete the BADA access process.

3. Recommendations

3.1 The AIDC Task Force should include in its work plan the task of coordinating the PoC for each State, in accordance with the responsibility of updating the databases for the BADA PoC designation.

3.2 The updating of the database with aircraft performance information is very important to increase the operational safety indexes in automation. In this sense, it is necessary to adopt a regional procedure ensuring that all the information is updated in all ATS units at the same time.

3.3 The use of a procedure similar to the one used to access the Eurocontrol air traffic services messaging management centre (AMC), may be implemented for BADA access.

4. Suggested actions

4.1 The Meeting is invited to:

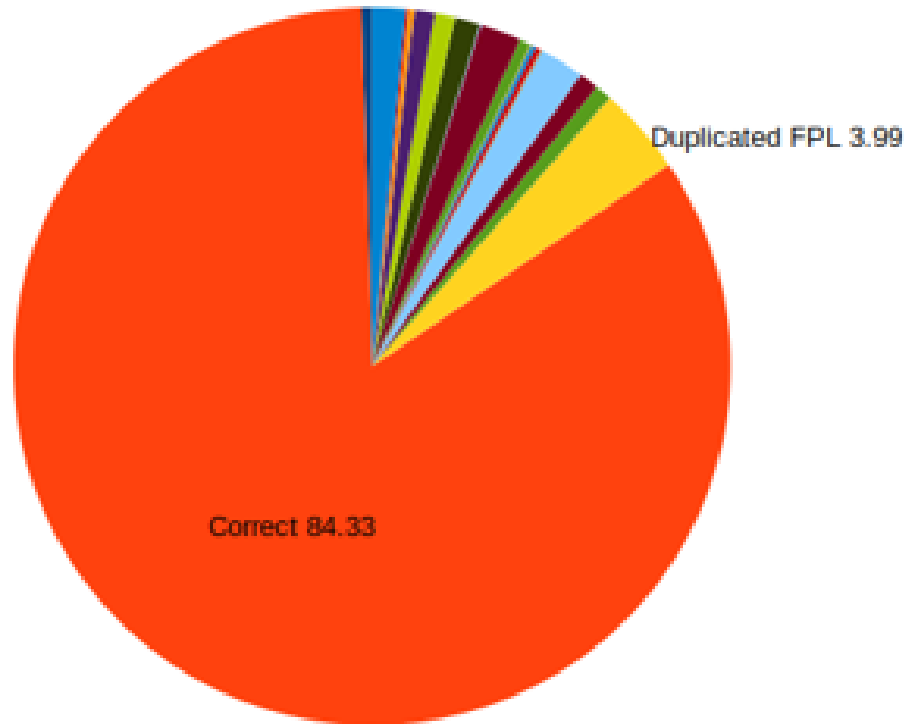
- a) request each NACC State to designate a Point of Contact (PoC) for managing access to BADA, and
- b) to request the AIDC Task force to develop a procedure to ensure that all the ATC are going to be update when needed.

APPENDIX A

ID | - all - Date | - all -

Errors/Correct FPLs

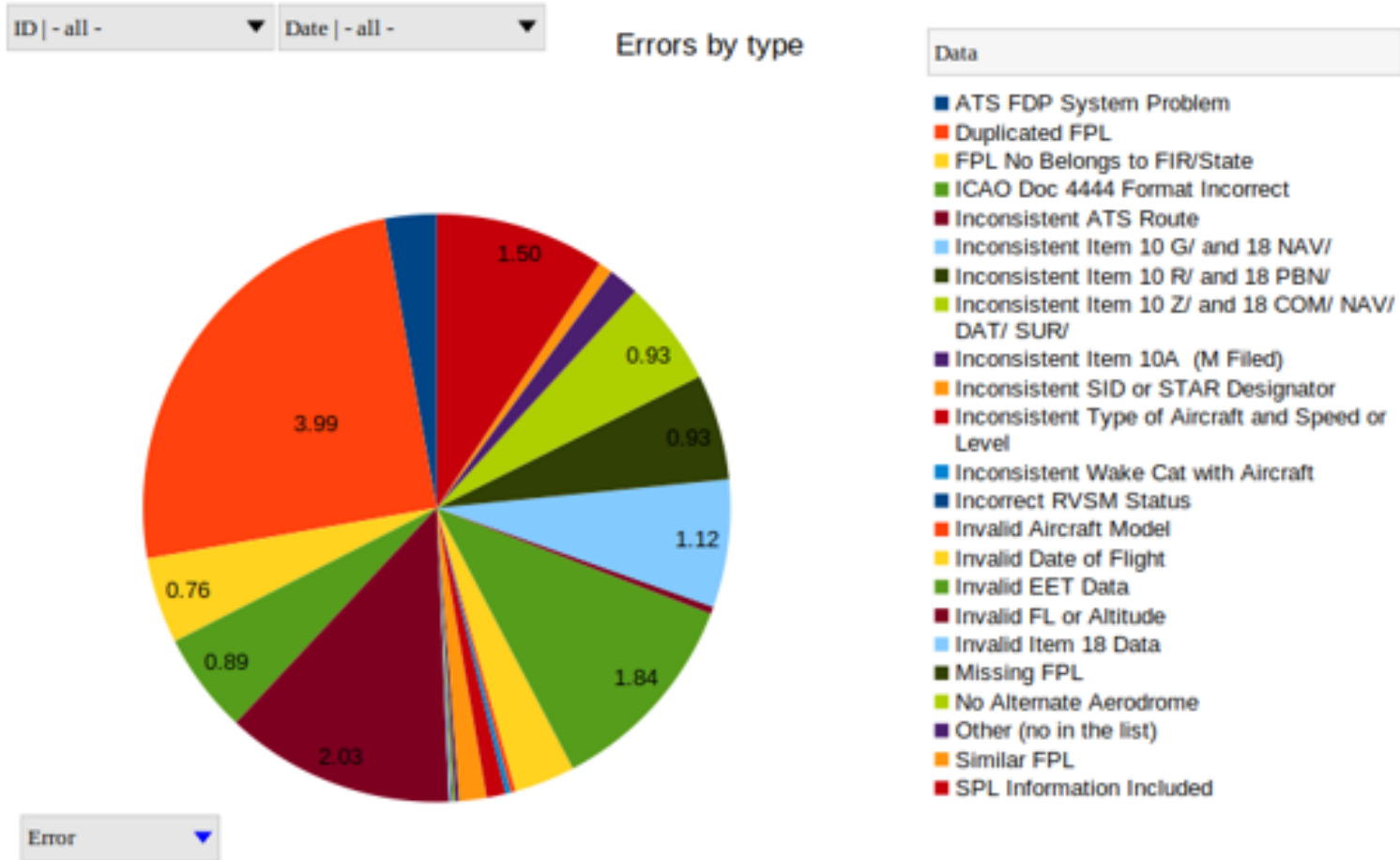
Data



- ATS FDP System Problem
- Correct
- Duplicated FPL
- FPL No Belongs to FIR/State
- ICAO Doc 4444 Format Incorrect
- Inconsistent ATS Route
- Inconsistent Item 10 G/ and 18 NAV/
- Inconsistent Item 10 R/ and 18 PBN/
- Inconsistent Item 10 Z/ and 18 COM/ NAV/ DAT/ SUR/
- Inconsistent Item 10A (M Filed)
- Inconsistent SID or STAR Designator
- Inconsistent Type of Aircraft and Speed or Level
- Inconsistent Wake Cat with Aircraft
- Incorrect RVSM Status
- Invalid Aircraft Model
- Invalid Date of Flight
- Invalid EET Data
- Invalid FL or Altitude
- Invalid Item 18 Data
- Missing FPL
- No Alternate Aerodrome
- Other (no in the list)
- Similar FPL
- SPL Information Included

Error ▼

Data source: FPL Monitoring Group 2019 Data Collection (First collection on 2019)



Data source: FPL Monitoring Group 2019 Data Collection (First collection on 2019)



WORKING PAPER

ASSEMBLY — 40TH SESSION

TECHNICAL COMMISSION

Agenda Item 30: Other issues to be considered by the Technical Commission

**ACCESS TO ESSENTIAL DATA FOR THE AUTOMATED PROCESSING OF THE NEW
FLIGHT PLAN FORMAT**

(Presented by Cuba, supported by Aruba, Belize, Bolivia, Brazil, Colombia,
Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Jamaica,
Mexico, Nicaragua, Panama, Paraguay, Peru, Venezuela)

EXECUTIVE SUMMARY

This working paper proposes to create an on-line database, which States and air navigation service providers need in order to access the technical parameters of the latest aircraft models, and thus facilitate and ensure the automated processing of flight plan data in the new format, for enhanced interoperability.

Action: The Assembly is invited to:

- a) recommend that ICAO coordinate with industry for the possible development of an on-line database, website or similar mechanism that provides the data referred to in paragraphs 2.5 and 2.6 of this paper, for each type of aircraft, and;
- b) allow States to access this tool free of charge, through focal points notified to ICAO.

<i>Strategic Objectives:</i>	This working paper relates to all Strategic Objectives.
<i>Financial implications:</i>	The development of the tool would have some financial impact. A cost-benefit analysis is required.
<i>References:</i>	Annex 11 – <i>Air Traffic Services</i> ICAO Doc 4444, <i>Procedures for Air Navigation Services — Air Traffic Management</i> ICAO Doc 8643, <i>Aircraft Type Designators</i>

¹ Spanish version provided by Cuba.

1. INTRODUCTION

1.1 The growing demands of air traffic between flight information regions (FIRs) are driving the need for enhanced capacity, efficiency and safety in air traffic services units (ATSUs). Hence the importance of having a site for updating databases on aircraft types and designators, so as to harmonise systems and procedures and ensure cross-border interoperability.

2. DISCUSSION

2.1 All air traffic control systems that are in any way automated have, at some point, had difficulties processing flight plans (FPL) or performing manual or automatic coordination because there were no updates to the databases for aircraft and designators, aircraft technical parameters, or for aircraft modifications and resulting designator changes.

2.2 The following is one example of this issue:

- a) in a sample of 30 days of flight plan data in the Havana FIR, there were 900 rejections (ERR_FIELD_INVALID_MODEL) for different aircraft type nomenclatures, which caused an impact in the generation of REJ FPL type messages (flight plan rejection) and LRM (logical rejection message) in automatic coordination; and
- b) analysis of these data identified the following causes:
 - 1) operator error in writing the wrong aircraft type nomenclature;
 - 2) in some cases, the entry was correct but was not found in the aircraft type and designator databases, and;
 - 3) the TYP (type) descriptor and model were not entered in FPL field 18, and ZZZZ was not entered in FPL field 9.

2.3 Today, the technical parameters used by the systems range from standard, or the most basic, to the most complex:

- a) aircraft designator;
- b) wake category;
- c) maximum cruising speed;
- d) minimum cruising speed;
- e) maximum flight level;
- f) rate of ascent;
- g) rate of descent, and;

h) minimum approach speed.

2.4 The most advanced air traffic control systems use these parameters in addition to other more complex variables that allow for more accurate calculations and predictions for wind and temperature conditions and flight levels, with the most accurate variables being used for predictions.

2.5 The electronic publications of ICAO Doc 8643, *Aircraft Type Designators* provide the following data:

- a) manufacturer;
- b) model;
- c) designator;
- d) description;
- e) type and number of engines, and;
- f) wake turbulence category (WTC).

2.6 The following parameters, which can be considered standard technical parameters, do not appear in the publication:

- a) maximum and minimum cruising speed;
- b) maximum flight level;
- c) standard rate of ascent and descent, and;
- d) minimum approach speed.

3. CONCLUSION

3.1 In view of the foregoing, for ATSUs to perform effectively and efficiently, it is of the utmost importance that they have the right tools that allow access to all of the aforementioned data in order to avoid errors, wherever possible, in the automatic coordination of flight plan messages.

— END —