



ICAO

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

INFORMATION PAPER

ANI/WG/PBN/TF/2 — IP/02
21/07/21

Second NAM/CAR Air Navigation Implementation Working Group (ANI/WG) Performance-Based Navigation (PBN) Implementation Task Force Meeting (ANI/WG/PBN/TF/2)

On line 10 to 12 August 2021

Agenda Item 2: Review of the 2021 Version of Proposal for Amendment (PfA) NACC 21/03 – ATM

EXPERIENCE OF THE HABANA FIR WITH THE PFA NACCC 21/03 IMPLEMENTATION

(Presented by Cuba)

EXECUTIVE SUMMARY	
Results obtained in the Havana FIR from the implementation of the modifications in the route structure corresponding to the PFA-3. Impact on the efficiency of air operations.	
<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">• Final Report of the NAM/CAR Air Navigation Implementation Working Group (ANI/WG) Performance-Based Navigation (PBN) Airspace Concept Task Force (ANI/WG/PBN/TF/OPT), 20 to 23 October 2020.

1. Introduction

1.1 During the NAM/CAR Air Navigation Implementation Working Group (ANI/WG) Performance-Based Navigation (PBN) Airspace Concept Task Force (ANI/WG/PBN/TF/OPT) Meeting, held On-line from 20 to October 23, 2020, a process for the optimization of airspace in the CAR Region was developed and approved.

1.2 The aforementioned process includes the initiation, collaboration, design, agreement, publication and implementation of new Air Traffic Services (ATS) routes.

1.3 The optimization of the airspace of the ATS route network in the CAR Region is a recurring task, which requires significant interaction between the Air Navigation Service Providers (ANSP) of the CAR Region and adequate integration with the NAM and SAM Regions; as well as an adequate coordination and feedback process with aircraft operators.

2. Background

2.1 The ANSP in the Havana FIR, *Empresa Cubana de Navegación Aérea* (ECNA), jointly with the Cuban Civil Aeronautics Institute (IACC), created a working group, made up of managers and Air Traffic Management (ATM), Procedures for Air Navigation Services - Aircraft Operations (PANS/OPS) and Aeronautical Information Management (AIM) specialists, supported by Communications, Navigation and Surveillance (CNS) specialists, who analyzed and discussed a group of proposals for modifications of the route network in the Havana Flight Information Region (FIR), with the aim of increasing the safety and efficiency of air operations.

2.2 During the analysis of the airspace of the Havana FIR, the traffic flows that cross it and the pairs of cities in the CAR Region and the adjacent NAM/SAM Regions that register the highest number of air operations, traffic flows were detected that could be optimized, by creating new routes to reduce flight distances; as well as offering new options for flight planning in the event of meteorological phenomena, operational restrictions or other factors that affect operations.

3. Analysis and implemented changes

3.1 It was determined, that there were new route options, which would bring significant operational advantages to aircraft operators in the Region, carrying out operations between the NAM Region and the CAR/SAM Regions and vice versa, which, in all cases, allow reducing the flight distance and have an additional operational variant for flight planning by operators in the event of meteorological and other effects. The new routes developed are:

- a) New route (UM463) for aircraft from the NAM Region bound for Cancun airport and for those bound for Central America (San Salvador, San Pedro Sula and other destinations).
- b) New route (UL465) for aircraft from the NAM Region bound for the Caribbean (Grand Cayman, Montego Bay, etc.) and vice versa.
- c) New route (UL218) from Port-au-Prince to the border with the Miami FIR for aircraft from the NAM Region bound for South America (Brazil, Bolivia, etc.) and vice versa.
- d) New route (UM451) for aircraft operating between the Eastern Caribbean and the central/southern US (Dallas-Houston).

3.2 These routes required an arduous process of prior coordination with the adjacent FIRs involved; as well as the establishment for the first time of the coordination between the Havana and Houston FIRs, which required the approval and implementation of a Letter of Agreement between both centres.

4. Obtained results

4.1 Between 17 June, when the amendment came into force with the implementation of the new PBN routes, until July 15 (28 days), 89 operations have been registered in them, divided into:

UM463:	60 operations.
UL218:	15 operations.
UL465:	12 operations.
UM451:	2 operations

4.2 The operators that have used these new routes the most are:

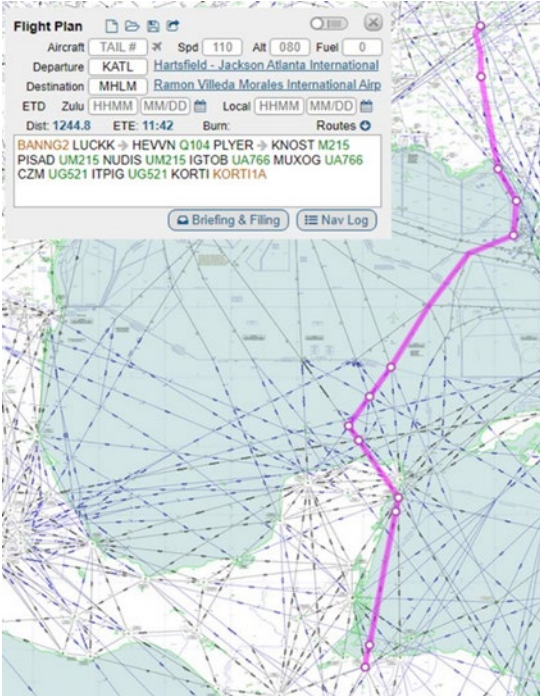
TACA (Avianca El Salvador):	40 operations.
Delta Airlines:	17 operations.
United Airlines:	9 operations.
LATAM:	6 operations.
General Aviation:	6 operations.

4.3 The most used city pairs have been:

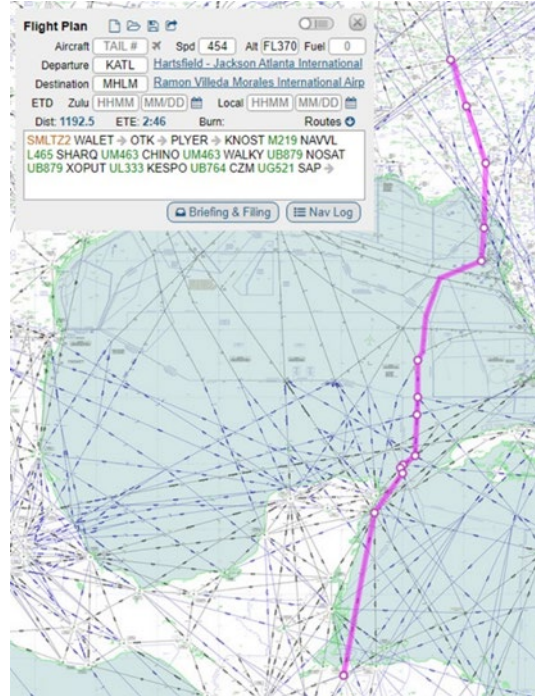
- Washington (KIAD Dulles Intl) and El Salvador (MSLP Mon Oscar Romero Intl): 29 operations.
- New York (KJFK John F. Kennedy) and El Salvador (MSLP Mon Oscar Romero Intl): 14 operations.
- Atlanta (KATL Hartsfield-Jackson) and San Pedro Sula (MHLM Ramón Morales Intl): 5 operations.
- Atlanta (KATL Hartsfield-Jackson) and Costa Rica (MROC Juan Santamaría): 2 operations.
- Houston (KIAH George Bush) and Montego Bay (MKJS Sangster Intl): 2 operations.
- Punta Cana (MDPC Punta Cana Intl) and Houston (KIAH George Bush): 2 operations.

4.4 A Notice for Airmen (NOTAM) published by the FAA is in force prohibiting the use, within the airspace of the Houston FIR, of route L465 for aircraft operations bound for the Cancun airport. There is evidence that several of the main North American operators are interested in being able to use this variant, due to the reduction in distance and flight time.

4.5 The benefits obtained by the operators in the use of the new routes between Atlanta - San Pedro Sula and Washington - San Salvador are shown below:

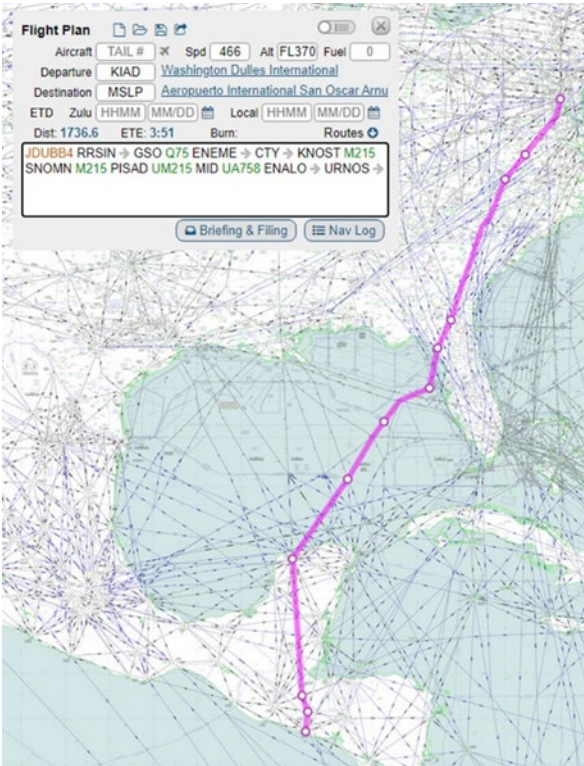


DAL1920 15 june. Distance 1244,8 NM

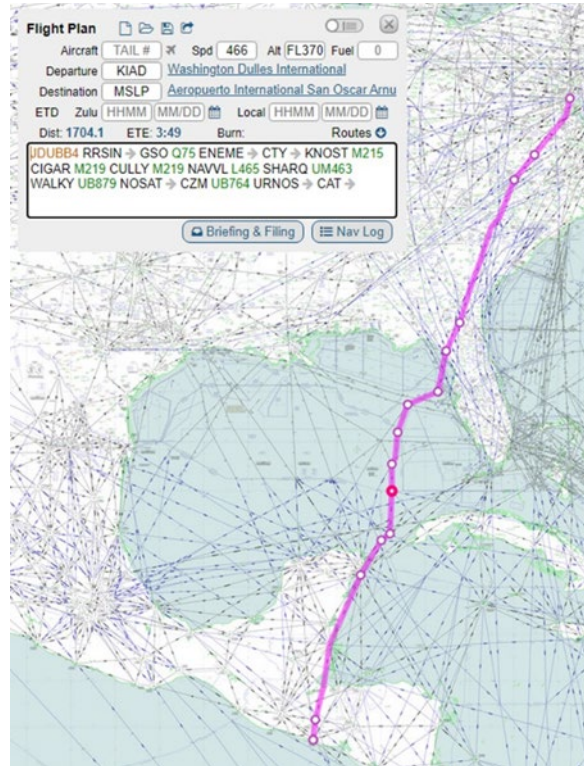


DAL1920 18 june. Distance 1192,5 NM

Savings: 52,3 NM



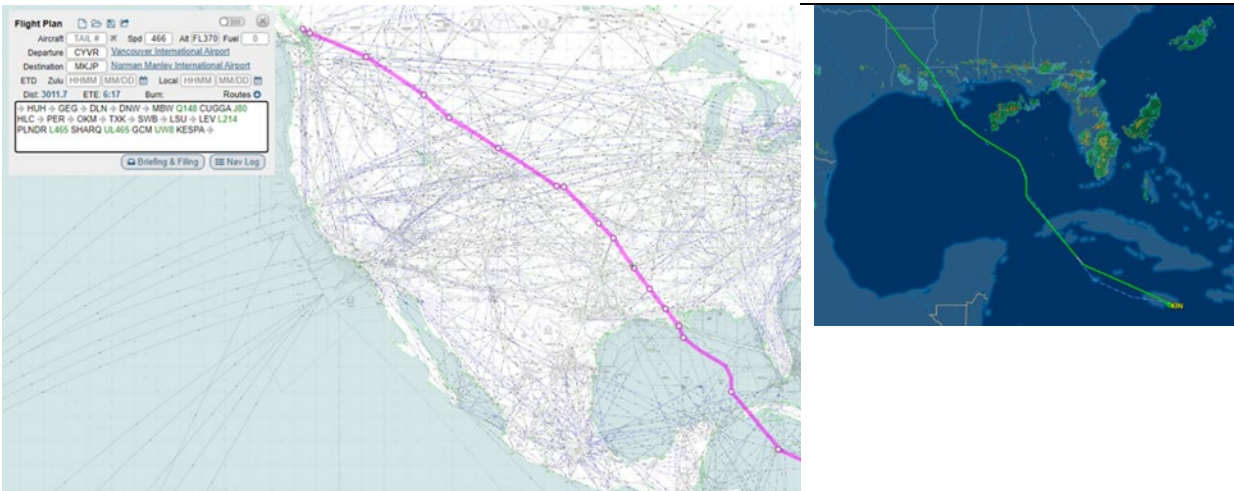
TAI591 15 june. Distance 1736,6 NM.



TAI591 19 june. Distance 1704,1 NM.

Savings: 32,5 NM

4.6 It also shows how, thanks to the option of the new UL465 route, despite flying 12 additional miles to its most optimal usual route, flight SWG9855 on June 23 was able to evade complex bad weather conditions in Florida, by plan your flight on a different route than usual:



4.7 Only in the first 28 days after the new routes come into force, it is calculated that the savings in flight distance, only for the operations registered between the Atlanta - San Pedro Sula and Washington - San Salvador city pairs, has been 1204 nautical miles, with the consequent reduction in flight time, fuel consumption and emission of polluting gases into the atmosphere.

5. Suggested actions

5.1 The Meeting is invited to:

- a) Take note of the information provided.
- b) ANSPs are encouraged to exchange their experiences and good practices of this PFA 3 process