



INTERNATIONAL CIVIL AVIATION ORGANIZATION

**Third ICAO/IATA/CANSO Performance-Based
Navigation (PBN) Harmonization, Modernization
and Implementation Meeting for the North
American, Caribbean and South American
(NAM/CAR/SAM) Regions
(ICAO/IATA/CANSO/PBN/3)**

Final Report

Mexico City, Mexico, 2 – 6 July 2018

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HISTORICAL

ii.1 Place and Date of the Meeting

The Third ICAO/IATA/CANSO Performance-Based Navigation (PBN) Harmonization, Modernization and Implementation Meeting for the North American, Caribbean and South American (NAM/CAR/SAM) Regions (ICAO/IATA/CANSO PBN/3) was held at the ICAO NACC Regional Office in Mexico City, Mexico, from 2 to 6 July 2018.

ii.2 Opening Ceremony

Mr. Javier Vanegas, CANSO Regional Director for Latin America and the Caribbean welcomed the participants and highlighted the work done and the results achieved in the previous ICAO/CANSO/IATA joint meetings. Mr. Marco Vidal, IATA Safety and Flight Operations Manager for the Americas, highlighted the importance of the work that has been carried out within the framework of this forum, which serves as a space for collaboration between States, service providers and operators.

Mr. Melvin Cintron, Regional Director of the ICAO NACC Regional Office of the North American, Central American and Caribbean (NACC) Office of the International Civil Aviation Organization (ICAO) provided opening remarks and thanked the participants their support to this initiative, which will positively impact the safety and efficiency of the air operations in our regions. Mr. Cintron welcomed the participants to Mexico City and officially opened the meeting.

ii.3 Officers of the Meeting

The ICAO/IATA/CANSO PBN/3 Meeting was chaired by Mr. Riaaz Mohammed, Manager Air Navigation Services Planning and Development, Trinidad and Tobago Civil Aviation Authority. Mr. Eddian Méndez, Regional Officer, Air Traffic Management and Search and Rescue of the ICAO NACC Regional Office served as Secretary of the Meeting, assisted by Mr. Fernando Hermoza, Regional Officer, Air Traffic Management and Search and Rescue of the ICAO SAM Regional Office.

ii.4 Working Languages

The working languages of the Meeting were English and Spanish. The working papers, information papers and report of the meeting were available to participants in both languages.

ii.5 Schedule and Working Arrangements

It was agreed that the working hours for the sessions of the meeting would be from 08:30 to 15:30 hours daily with adequate breaks. Ad hoc Groups were created during the Meeting to do further work on specific items of the Agenda.

ii.6 Agenda

Agenda Item 1 Approval of the Meeting Agenda and Schedule

Agenda Item 2 Implementation of Performance-Based Navigation (PBN) Routes

- 2.1 Follow-up to the Proposal for Amendment PfA1
- 2.2 Approval and Implementation Process
 - 2.2.1 PfA1 Lessons Learned
 - 2.2.2 PfA Approval Process
 - 2.2.3 Optimized Route Proposal Format
 - 2.2.4 Publication Agreement and Date of Entry into Effect of Routes
 - 2.2.5 Letter of Agreements (LoAs) 2017-2018
- 2.3 New Performance-Based Navigation (PBN) Routes Proposal and Interregional Initiatives

Agenda Item 3 General Flight Efficiency Concepts

- 3.1 Key Performance Indicators (KPIs) (En-route)
- 3.2 Safety feedback (hotspots)
- 3.3 Airlines feedback on operational matters [Air Traffic Flow Management (ATFM) measures/others]

Agenda Item 4: Optimization of Longitudinal Separation

- 4.1 Review the Letters of Agreement related to the application of 40 NM and 20 NM separation between adjacent Flight Information Regions (FIRs) in the CAR and SAM Regions
- 4.2 Restrictions Related to the Air Traffic Management/Communications Navigation and Surveillance (ATM/CNS) constraints experienced by Air Navigation Service Providers (ANSPs) to implement 40 NM/20 NM separation

Agenda Item 5 ATM Situation Analysis in the CAR/SAM Regions

Under this Agenda Item, the Meeting will analyse the ATM scenario focusing in the common problems for the CAR/SAM Regions.

Agenda Item 6 Other Business

ii.7 Attendance

The Meeting was attended by 20 States/Territories from the NAM/CAR/SAM Regions, 3 International Organizations, and industry, totalling 72 delegates as indicated in the list of participants.

ii.8 Decision

The Meeting recorded its activities as Draft Conclusions and Decisions as follows:

An executive summary of the decision is presented in **Appendix A** to this report.

List of Decisions

Number	Title	Page
3/1	<i>IMPLEMENTATION OF REGIONAL/INTERREGIONAL OPTIMIZED RNAV ROUTES</i>	2-6

ii.9 List of Working and Information Papers and Presentations

WORKING PAPERS				
Number	Agenda Item	Title	Date	Prepared and Presented by
WP/01	1	Approval of the Meeting Agenda and Schedule	13/06/18	Secretariat
WP/02	4.1	Reduction of Longitudinal Separation Between Aircraft in the CAR/SAM Airspace	26/06/18	Venezuela

INFORMATION PAPERS

Number	Agenda Item	Title	Date	Prepared and Presented by
IP/01	--	List of Working, Information Papers and Presentations	02/07/18	Secretariat
IP/02	2.3	Update on the Implementation of PBN in Paramaribo Airspace	29/04/17	Suriname
IP/03	2.3	Brazilian Airspace Routing Proposal	26/06/18	Brazil
IP/04	4.1	Operational Conditions in FIR-AZ	26/06/18	Brazil

ROUTES PROPOSALS

Number	Agenda Item	Title	Date
1	2.3	Cuba	25/08/17
2	2.3	Curaçao	25/08/17
3	2.3	Jamaica	14/09/17
4	2.3	Trinidad and Tobago	25/08/17
5	2.3	United States	25/08/17
6	2.3	COCESNA	14/09/17
7	2.3	IATA	29/06/18

PRESENTATIONS

Number	Agenda Item	Title	Presented by
1	4.2	GNSS/RNAV Non-Radar Longitudinal Separation in the Caribbean	United States
2	2.3	FAA Briefing to the ICAO/IATA/CANSO PBN Harmonization Meeting	United States
3	3.1	Free Route Operations / FRTO	Colombia

PRESENTATIONS

Number	Agenda Item	Title	Presented by
4	3.1/3.3	Turning Challenges into Opportunities	IATA
5	5	Harmonization of ATS Contingency Plans	Secretariat

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Agenda Item 1 Approval of the Meeting Agenda and Schedule

1.1 Under this Agenda Item, the Chairperson of the Meeting was elected. Dominican Republic nominated Mr. Riaaz Mohammed, Manager Air Navigation Services Planning and Development, Trinidad and Tobago Civil Aviation Authority, as Chairperson of the Meeting. This proposal was supported by Uruguay. Mr. Mohammed was unanimously elected.

1.2 The Secretariat presented WP/01REV2 and invited the Meeting to approve the Provisional Agenda and Schedule. The Meeting approved the Agenda and Schedule as presented.

Agenda Item 2 Implementation of Performance-Based Navigation (PBN) Routes

2.1 Follow-up to the Proposal for Amendment PfA1

2.1.1 Under this Agenda Item, the Meeting followed-up the implementation of the CAR/SAM Air Navigation Plan amendment, Volume II, e-ANP, Part IV – Air Traffic Management (ATM), Table ATM II – CAR/SAM 1 – *CAR/SAM Regions ATS Routes*, included in the Proposal for Amendment NACC 17/01 – ATM.

2.1.2 The States and International Organizations highlighted the effort made to comply with the abovementioned amendment and the setbacks faced in the process. Some States commented that, after having prepared and published the new routes or having made the adjustments according to the routes restructure, they had to cancel the publications because the adjacent respective Flight Information Regions (FIRs) had not complied with the proposed dates or with the accepted changes.

2.1.3 In this sense, the Meeting agreed to make a more detailed analysis of the situation and asked the States to present their differences so that they may be addressed with the involved entities.

2.1.4 The Meeting agreed to receive the information of those States that still had pending matters to implement, for which a questionnaire was developed to evaluate the publication of the pending changes.

2.1.5 Four States had pending issues regarding the Proposal for Amendment 1 (PfA1) implementation, and agreed to take corrective actions to comply with the proposal for amendment.

2.2 Approval and Implementation Process

2.2.1 PfA1 Lessons Learned

2.2.1.1 Under this Agenda Item, the Meeting facilitated an open space for participants to share their experience regarding the PfA1 implementation, in order to be able to identify opportunities of improvement based on lessons learned by every State.

2.2.1.2 The main pitfalls pointed out by participants were as follows:

- The PfA was developed considering mainly the FIRs, but their connection with the Terminal Areas (TMAs) was obviated, in some cases where the upper and lower airspaces are managed by different States or Organizations.
- Some points of the PfA were not clearly detailed, so it is necessary to provide clearer guidelines for its correct implementation.

- Some States do not have a clear concept regarding the implemented changes, so they require certain assistance and guidance in order to implement.
- Some States, despite of agreeing with the PfA in principle, presented limitations to implement. Although they had several opportunities to notify their agreement with the proposed changes and their capacities to continue with the implementation, they did not notify in a clear manner their limitations.
- Some States implemented the PfA and added improvements to their airspaces, with PBN procedures implementation that operators do not use.
- The Collaborative Decision Making (CDM) procedures with the stakeholders must be improved.
- The improvement of the coordination between the CAR/SAM neighbouring FIRs is imperative.
- Confusion regarding the elimination of conventional routes exists for some States.
- The CAR Region must develop additional work that involves the TMA evaluation.
- The PfA was made with an initial focus on the route traffic or the flyover, which cannot connect later to provide routes to the local stakeholders.
- Although some operators are equipped and with an enabled crew, they do not use the implemented PBN procedures in a consistent manner.
- Lack of follow-up by the CAR Region Champion States.
- The agreements made were not adequately documented.
- Leadership challenges on the implementation.
- Lack of training by the regulator to accept the changes proposed by the service provider.

2.2.2 PfA Approval Process

2.2.2.1 The Secretariat informed the Meeting on the Regional Air Navigation Plans amendment procedure, approved by the ICAO Council on 18 June 2014. This procedure describes, clearly and precisely, the manner in which a proposal for amendment should be made and who can start it.

2.2.2.2 The amendments to Volume II of the Regional Air Navigation Plan should be based on adequately documented proposals, submitted by a State (or group of States) or by the Planning and Implementation Regional Group (PIRG) to the Secretary General, through the corresponding Regional Office. These proposals may include additions, changes or eliminations. This procedure does not prevent any State from submitting a proposal for amendment through the corresponding Regional Office, after consultation with another State.

2.2.2.3 Based on the procedure approved by the Council of ICAO, the Meeting agreed to analyse each initiative, to focus on the Area Navigation (RNAV) routes implementation, to document the discussions held, to keep record of the agreed proposals, and to include the dates of publication and entry into effect agreed by all involved FIRs. In order to comply with the established procedure for amendment to Table ATM II-CAR/SAM-1 – *CAR/SAM Regions ATS Routes*, the Meeting decided to follow a procedure for routes publication, included in **Appendix B** to this report.

2.2.3 Optimized Route Proposal Format

2.2.3.1 The Meeting assessed the optimized route proposal format proposed by IATA in the previous meeting. It was agreed to use this format with slight modifications.

2.2.4 Publication Agreement and Date of Entry into Effect of Routes

2.2.4.1 For this new version of routes for the CAR/SAM Regions, and taking into account the Regional Air Navigation Plans amendment procedure, the Meeting agreed that all changes should be published in the Aeronautical Information Regulation and Control (AIRAC) cycle of November 8th 2018, to entry into effect on 31 January 2019.

2.2.4.2 In the case of United States, the date of publication and entry into effect will be 31 January 2019, given the fact that according to their normal procedures the publication and entry into effect date is the same.

2.2.5 Letter of Agreements (LoAs) 2017-2018

2.2.5.1 States and International Organizations held conversations to update to their corresponding LOAs. Some progress was achieved that will be finalized in upcoming meetings.

2.3 New Performance-Based Navigation (PBN) Routes Proposal and Interregional Initiatives

2.3.1 Under this Agenda Item, IP/02 was presented, which details the progress on PBN implementation within the Paramaribo FIR/TMA. This paper states that more harmonisation and collaborative decision-making among States are needed, in order to go forward in the development of the PBN airspace concept in the NAM/CAR/SAM Regions.

2.3.2 Similarly, Brazil presented IP/03 that describes the routing proposal within the Brazilian airspace, adjusted to the NAM/CAR/SAM Regions PBN project. The proposed changes are aligned with the improvements proposed by the NAM/CAR FIRs, with 4 entry points into the Brazilian airspace, which will be directed to the four main Brazilian international airports: São Paulo International Airport-Guarulhos (SBGR), Galeão International Airport (SBGL), Presidente Juscelino Kubitschek International Airport (SBBR) and Tancredo Neves International Airport (SBCF).

2.3.3 In P/02, United States presented its Q and Y routes implementation project, named Florida Metroplex. This project presents a readjustment to the system of routes used by the control centres in Jacksonville (ZJX), Miami (ZMA) and San Juan (ZSU), which are implemented due to changes in preferential routes and air navigation system automatization. These changes improve the efficiency and connectivity, maintaining their connection with the routes in use by the adjacent FIRs.

2.3.4 During this meeting, Ad hoc Groups were established to analyse proposals for optimization of the route structure. The following proposals were agreed to be included in this new version of the routes:

Optimization of Routes Agreements			
No.	States/International Organizations involved	Affected FIRs	Impacted Region(s)
1	UNITED STATES-TRINIDAD AND TOBAGO	TJZS - TTZP	CAR
2	HAITI-JAMAICA	MTEG-MKJK	CAR
3	MEXICO-BELICE-COCESNA	MMFR-MHCC	CAR
4	MEXICO-GUATEMALA-COCESNA	MMFR-MHCC	CAR
5	MEXICO-BELICE-COCESNA	MMFR-MHCC	CAR
6	MEXICO-HONDURAS-NICARAGUA-COCESNA	MMFR-MHCC	CAR
7	PANAMA-COCESNA HONDURAS NICARAGUA	MPZL-MHCC	CAR/SAM
8	TRINIDAD AND TOBAGO	TTZP	CAR/SAM
9	TRINIDAD AND TOBAGO	TTZP	CAR/SAM
10	JAMAICA-PANAMA	MKJK-MPZL	CAR/SAM
11	JAMAICA-PANAMA	MKJK-MPZL	CAR/SAM
12	CUBA-JAMAICA-PANAMA	MUFH-MKJK-MPZL	CAR/SAM
13	CUBA-JAMAICA-COLOMBIA	MUFH-MKJK-SKEC	CAR/SAM
14	PANAMA-COLOMBIA-CURACAO-UNITED STATES	MPZL-SKEC-TNCF-TJZS	CAR/SAM
15	PANAMA/COLOMBIA/CURACAO/DOMINICAN REPUBLIC	MPZL-SKEC-TNCF-MDCS	CAR/SAM
16	DOMINICAN REPUBLIC - HAITI	MDCS-MTEG	CAR
17	DOMINICAN REPUBLIC - HAITI- JAMAICA	MDCS-MTEG-MKJK	CAR
18	CUBA	MUFH	CAR
19	CUBA	MUFH	CAR
20	CUBA	MUFH	CAR
21	CUBA-MÉXICO	MUFH-MMFR	CAR
22	CUBA-JAMAICA-CAYMAN ISLANDS	MUFH-MKJK-TMA GRAND CAYMAN	CAR
23	CUBA-JAMAICA-CAYMAN ISLANDS	MUFH-MKJK-TMA GRAND CAYMAN	CAR
24	CUBA-JAMAICA-CAYMAN ISLANDS	MUFH-MKJK-TMA GRAND CAYMAN	CAR
25	CUBA-JAMAICA-CAYMAN ISLANDS	MUFH-MKJK-TMA GRAND CAYMAN	CAR
26	CUBA-JAMAICA	MUFH-MKJK	CAR
27	CUBA-JAMAICA	MUFH-MKJK	CAR
28	CUBA-JAMAICA	MUFH-MKJK	CAR
29	CUBA-JAMAICA-PANAMA	MUFH-MKJK-MPZL	CAR/SAM
30	CUBA-JAMAICA-PANAMA	MUFH-MKJK-MPZL	CAR/SAM

Optimization of Routes Agreements			
No.	States/International Organizations involved	Affected FIRs	Impacted Region(s)
31	CUBA-UNITED STATES	MUFH-KZMA	CAR
32	CUBA-UNITED STATES	MUFH-KZMA	CAR
33	UNITED STATES-CUBA-JAMAICA	KZMA-MUFH-MKJK	CAR
34	UNITED STATES-CUBA-JAMAICA	KZMA-MUFH-MKJK	CAR

2.3.5 Considering proposals involving Route RNAV UL 474 flows, the Meeting took note that this route is currently suspended due to lack of surveillance and communications coverage in an area of the SKEC FIR. Colombia indicated that the use of this route segment between F250 and F280 levels will be managed shortly and the resolution of the communications and surveillance matter for the abovementioned airspace will be fostered.

2.3.6 The agreed proposals, signed by representatives of involved parties, are included in **Appendix C** to this report.

2.3.7 Each State and International Organization involved in the routes optimization proposals presented in this meeting is responsible for coordinating amongst them the technical details to support each proposal. These details shall be submitted to the corresponding ICAO Regional Office by 5 August 2018.

2.3.8 Consequently, States and International Organizations formulated the following decision regarding the routes implementation activities:

<p>DECISION ICAO/IATA/CANSO/PBN/3/1 IMPLEMENTATION OF REGIONAL/INTERREGIONAL OPTIMIZED RNAV ROUTES</p>	
<p>What: That, NAM/CAR/SAM States coordinate the implementation of the regional/interregional optimization initiatives of the RNAV routes agreed in Appendix C, and they define priority activities in order to:</p> <ul style="list-style-type: none"> a) validate and match the technical parameters of the routes to be implemented; b) update the ATS procedures and provide training to the operational staff, if needed; c) perform the safety analysis regarding the airspace change; and d) develop the aeronautical publication complying with AIRAC terms and deadlines agreed for the effective implementation of the optimized routes. 	<p>Expected impact:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Political/ Global <input checked="" type="checkbox"/> Inter-regional <input checked="" type="checkbox"/> Economic <input checked="" type="checkbox"/> Environmental <input checked="" type="checkbox"/> Operational/Technical
<p>Why: In order to complete the implementation of the “NAM/CAR/SAM Routes July 2018 version”, approved by the Meeting.</p>	
<p>When: Immediate entry into effect and until the RNAV route effective implementation.</p>	<p>Status: Adopted by ICAO/IATA/CANSO/PBN/3</p>
<p>Who: <input checked="" type="checkbox"/> Coordinators <input checked="" type="checkbox"/> States <input checked="" type="checkbox"/> ICAO Secretariat <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Others: COCESNA</p>	

Agenda Item 3 General Flight Efficiency Concepts

3.1 Key Performance Indicators (KPIs) (En-route)

3.1.1 P/04, provided by IATA, highlighted the importance of using appropriate performance indicators to measure the safety and efficiency in a seamless operational environment. These indicators are necessary in order to support decision-making related to the implementation of key improvement measures. The correct analysis of the presented data, allows the States and the Air Navigation Service Providers (ANSP) to select adequate options to reduce the complexity of the airspaces and improve their use.

3.1.2 Under this Agenda Item, Colombia also provided in P/03 with description of the project developed by the State to allow the optimized use of the airspace and a flexible routing adjusted to specific traffic patterns. This project allows major routing possibilities, reducing a possible congestion of trunk routes and saturated crossing points, resulting in a reduction of CO₂ polluting gases and fuel consumption.

3.2 Safety feedback (hotspots)

3.2.1 Under this Agenda Item, IATA provided feedback of essential points regarding safety performance, which could help to support decision-making related with air space optimization and other air traffic management improvements.

3.3 Airlines feedback on operational matters [Air Traffic Flow Management (ATFM) measures/others]

3.3.1 Under P/04, IATA also presented an analysis of the suggested strategies to provide a more efficient use of the airspace by operators. As part of this analysis, the interregional initiatives were discussed, which would allow a better interconnection between the main cities in Latin America and United States. The main challenge is the need to harmonise different airspace types. The presentation highlighted that the isolated and non-coordinated implementation by FIRs has a negative impact in air operations, which results in poor benefits due to the significant investment made by the ANSPs. Additionally, the presentation detailed the status of the longitudinal separation implementation among the CAR/SAM FIRs, urging the States and the ANSPs to evolve from a longitudinal separation based on time to a longitudinal separation based on Distance Measuring Equipment (DME) and Global Navigation Satellite System (GNSS).

Agenda Item 4 Optimization of Longitudinal Separation

4.1 Review the Letters of Agreement related to the application of 40 NM and 20 NM separation between adjacent Flight Information Regions (FIRs) in the CAR and SAM Regions

4.1.1 Under this Agenda Item, Brazil presented IP/04 that describes the operational conditions of the Amazonic FIR to support the 40 Nautical Miles (NM) and 20 NM longitudinal separation minima, respectively. Almost all the Brazil airspace is supported by RADAR surveillance coverage and has full Very High Frequency (VHF) coverage. Brazil has made important changes in the air routes that assist their main airports: São Paulo International Airport-Guarulhos (SBGR), Galeão International Airport (SBGL), Presidente Juscelino Kubitschek International Airport (SBBR) and Tancredo Neves International Airport (SBCF).

4.1.2 IATA exposed the current situation of the optimization of longitudinal separation for NAM/CAR/SAM Regions. After the discussion held in the Ad hoc Groups, the following updates were provided by the states:

- Cuba:
 - o Mexico: 20NM
 - o Jamaica: 20NM
 - o Haiti: 80NM (expected to be changed in January 2019 to 40 NM – waiting for Curaçao implementation)
- Jamaica:
 - o UM782 stills with 80NM (with CENAMER) due to SUR/COMMs limitations but it is expected to be reduced on 31 August 2018.
 - o Cuba: 20NM
 - o Haiti 80NM (expected to be changed in January 2019 to 40 NM)
- Curaçao:
 - o Venezuela (accepted 40NM but will be implemented in January 2019)
 - o Colombia (accepted 40NM but will be implemented in January 2019)
 - o Jamaica (accepted 40NM but will be implemented in January 2019)
 - o Haiti (accepted 40NM but will be implemented in January 2019)
 - o Dominican Republic (accepted 40NM but will be implemented in January 2019)
 - o San Juan; 80NM for FAA constraints (Very High Frequency (VHF) and regulation)
- Dominican Republic:
 - o Ready with all FIR neighbors (expected implementation in January 2019 after Curaçao)

- United States:
 - o San Juan (all CAR FIR limits);
 - reported VHF issues at FIRs boundary, mitigation study is undergoing
 - United States will provide an update in the Fourth NAM/CAR Air Navigation Implementation Working Group (ANI/WG) Meeting about the regulatory constraint they had (airspace classification)
 - o GOMEX;SENEAM/FAA are having a meeting in August 2018. Expected update afterwards
- Venezuela:
 - o Trinidad and Tobago still with 80NM and discussing the reduction to 40NM, by November 2018.

4.1.3 The integrated information regarding the optimization of longitudinal separation for NAM/CAR/SAM Regions, is presented in the **Appendix D** to this report.

4.2 Restrictions Related to the Air Traffic Management/Communications Navigation and Surveillance (ATM/CNS) constraints experienced by Air Navigation Service Providers (ANSPs) to implement 40 NM/20 NM separation

4.2.1 The WP/02, presented by Venezuela, puts into consideration of the States and the Secretariat the need to specify the efforts made by the CAR/SAM Regions regarding the implementation of the longitudinal separation reduction. The paper proposes that, either in a conventional operative environment or in a radar one, the expectation is that the longitudinal separation optimization serves to increase the CAR/SAM Regions operations efficiency, and to reduce the workload of air traffic controllers and pilots, considering that the aircrafts would be “naturally separated” and little intervention by air traffic controllers would be needed to change the aircrafts flight level. This workload reduction would result in a safety improvement.

4.2.2 All SAM States agree with the longitudinal separation optimization for the traffic evolution among their FIRs. SAM and CAR bordering States are required to jointly review their Letters of Agreement for the establishment of the 40 NM longitudinal separation in those routes that are of common interest between two FIRs and under the agreed established conditions.

4.2.3 Under this Agenda Item, United States provided P/01 that summarizes the longitudinal separation currently applied to the adjacent FIRs of the CAR Region and presents potential opportunities to reduce this separation.

4.2.4 During the Ad hoc Groups meetings, Venezuela established contact with Trinidad and Tobago, beginning a conversation for joint work on the update of Air Traffic Service (ATS) and Search and Rescue (SAR) Letters of agreement (LoAs) as well as the optimization of longitudinal separation, among other Air Traffic Management (ATM) and Communications, Navigation and Surveillance (CNS) matters. The first teleconference about these activities was agreed to be held no later than 10 August 2018.

Agenda Item 5 ATM Situation Analysis in the CAR/SAM Regions

5.1 The Secretariat provided P/05 regarding the need of the States to develop and harmonise their contingency plans for ATS services, considering that the Meeting had among its objectives the regional and interregional airspace optimization, also aiming to the efficiency and safety of ATS services and, ATM in general.

5.2 In this sense, ICAO Annex 11 – *Air Traffic Services* points out that the States are responsible to guarantee to the international civil aviation that the ATS continue to operate and that the main international air route remain open in case of an ATS interruption, through the development of an ATM Contingency Plan.

5.3 The Meeting recognized that the ATS contingency plans should provide actions related to flight plans, its presentation and particularly, if needed, to establish the special arrangements for the flyover authorizations for those flights that must operate through another State's jurisdiction airspace.

5.4 The Meeting was informed on the importance of harmonising the ATS contingency plans between neighbouring States, and even more, between States that are in the border of the NAM/CAR or CAR/SAM Regions. The harmonisation must be understood as a dialogue and a search of consensus, which would allow the State dealing with an ATS deterioration (including technical and operational support services) to receive assistance and support of the adjacent States, and also to facilitate the flyover without severe limitations until the services conditions are back to normal. It was also highlighted that the ATS contingency plans could be incorporated in the national plans for response to natural disasters, such as volcanic activity emergencies.

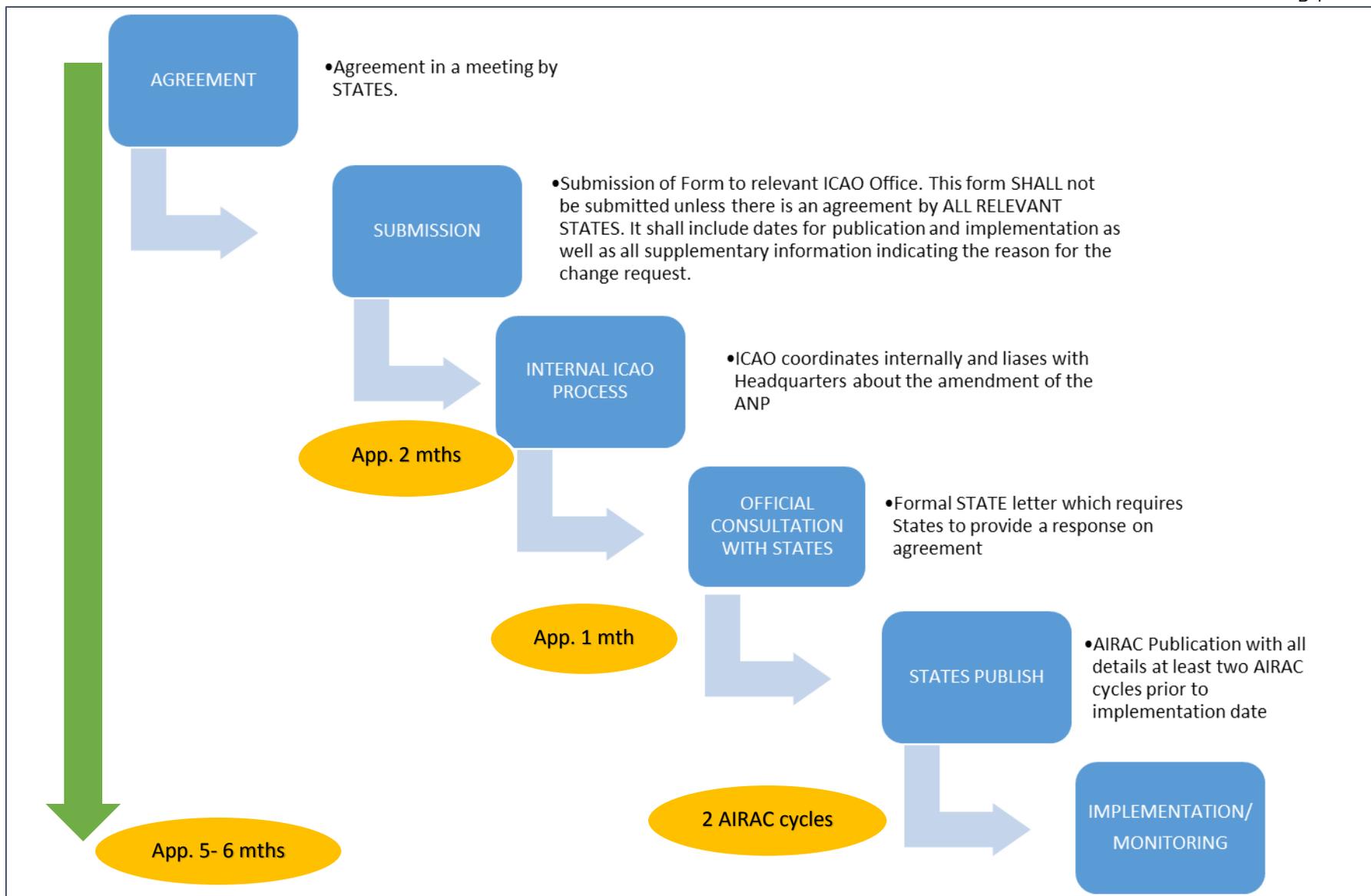
5.5 As a good practice, the Meeting mentioned that this benefit could be obtained by including the ATS contingency plans as appendices to the ATS Letters of Agreement (LoA).

Agenda Item 6 Other Business

6.1 Under this Agenda Item, the Secretariat presented to the Meeting a progress of the ICAO NACC Regional Office new strategy to support the PBN implementation in the CAR Region. This strategy proposes changes to the work methodology of the NAM/CAR Air Navigation Implementation Working Group (ANI/WG) PBN Task Force, which includes an update of the Terms of Reference and the readjustment of this Task Force work programme. This strategy will be presented in the Fourth ANI/WG (ANI/WG/4), to be held in Miami, United States, from 21 to 24 August 2018.

**APPENDIX A
EXECUTIVE LIST OF DECISIONS**

DECISION	
ICAO/IATA/CANSO/PBN/3/1 IMPLEMENTATION OF REGIONAL/INTERREGIONAL OPTIMIZED RNAV ROUTES	
<p>What: That, NAM/CAR/SAM States coordinate the implementation of the regional/interregional optimization initiatives of the RNAV routes agreed in Appendix C, and they define priority activities in order to:</p> <ul style="list-style-type: none"> a) validate and match the technical parameters of the routes to be implemented; b) update the ATS procedures and provide training to the operational staff, if needed; c) perform the safety analysis regarding the airspace change; and d) develop the aeronautical publication complying with AIRAC terms and deadlines agreed for the effective implementation of the optimized routes. 	<p>Expected impact:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Political/ Global <input checked="" type="checkbox"/> Inter-regional <input checked="" type="checkbox"/> Economic <input checked="" type="checkbox"/> Environmental <input checked="" type="checkbox"/> Operational/Technical
<p>Why: In order to complete the implementation of the “NAM/CAR/SAM Routes July 2018 version”, approved by the Meeting.</p>	
<p>When: Immediate entry into effect and until the RNAV route effective implementation.</p>	<p>Status: Adopted by ICAO/IATA/CANSO/PBN/3</p>
<p>Who: <input checked="" type="checkbox"/> Coordinators <input checked="" type="checkbox"/> States <input checked="" type="checkbox"/> ICAO Secretariat <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Others: COCESNA</p>	



Identification Number	F L O W S - CITY PAIRS										
	NORTH AMERICA-CARIBBEAN-SOUTH AMERICA										
	OPTIMIZATION AIMS:										
	REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)					
				X	X						
STATES CONCERNED					FIR CONCERNED			ICAO REGIONS			
United States - Trinidad & Tobago					TJZS - TTZP			NAM/CAR/SAM			

ATS ROUTES	ROUTE to be DELETED				CURRENT ROUTE				NEW ROUTE				REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM	
										UL329/L329										
	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE
					KORTO	08 55 06.00N	59 26 47.00W													
					DELNU	13 39 44.95N	61 17 30.26W													
					OZZEE	15 13 42.03N	61 55 10.08W													
					TIKAL	17 28 25.70N	62 49 04.81W													
					PJM	18 02 17.22N	63 07 05.80W													
					SAULT	20 22 00.00N	64 16 00.00W													
					KEEKA	22 05 49.45N	65 08 05.37W													
	TOTAL DISTANCE				0				TOTAL DISTANCE				0				TOTAL DISTANCE			

R E C O R D S											
Proposed by	United States (San Juan Center) & Trinidad & Tobago			Reviewed by:	Jose Arcadia (TJZS) & Robert Rooplal (TTZP)		Reviewed by		Reviewed by		
<p>L329 in TJZS will connect to UL329 in TTZP at TIKAL. It is a bi-directional route. SAULT, OZZEE and DELNU still needs to be published. Consideration will be given to introduce an additional WP for the segment DELNU to KORTO to comply with the 200NM recommendation. Piarco will publish November 8th 2018 and implementation date for USA and Trinidad January 31st 2019</p>				 							

FLIGHTS PER MONTH											NOTES
TYPE	A320	A340	B737	B787	B738	B763	B772		E190	TOTAL	
AMOUNT											

SAVINGS											NOTES
DISTANCE (NM)						CO2 (KG)					

(2/3)

Identification Number	F L O W S - CITY PAIRS										
	CARIBBEAN										
	OPTIMIZATION AIMS:										
	REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONNECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)					
		X		X	X	X					
STATES CONCERNED					FIR CONCERNED			ICAO REGIONS			
HAITI / JAMAICA					MTEG-MKJK			CAR			

ATS ROUTES	ROUTE to be DELETED				CURRENT ROUTE				NEW ROUTE				REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM	
						UM-594				UM-594				X	X					
	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE
	BENEF				KEBET															
					COLBY															
	TOTAL DISTANCE				0				TOTAL DISTANCE				0				TOTAL DISTANCE			

R E C O R D S							
Proposed by	Jamaica	Reviewed by:	Haiti	Reviewed by:		Reviewed by:	
<p>In a bilateral meeting between Haiti and JAMAICA, both delegations agreed to:</p> <ul style="list-style-type: none"> • Realign the route UM-594 within HAITI FIR to go directly over KEBET • To extend the route UM-594 from KEBET to COLBY <p>For Jamaica was accepted by Howard Greaves For Haiti was accepted by Joseph Jacques Boursiquot Publication Date October November 8th, 2018. Implementation date January 31 2019</p>							

FLIGHTS PER MONTH											NOTES
TYPE	A320	A340	B737	B787	B738	B763	B772		E190	TOTAL	
AMOUNT											

SAVINGS		NOTES
DISTANCE (NM)	CO2 (KG)	

Identification Number	F L O W S - CITY PAIRS										
	CARIBBEAN										
	OPTIMIZATION AIMS:										
	REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONNECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)					
	x					x					
STATES CONCERNED					FIR CONCERNED			ICAO REGIONS			
MEXICO-GUATEMALA-COCESNA					MMFR-MHCC			CAR			

ATS ROUTES	ROUTE to be DELETED				CURRENT ROUTE				NEW ROUTE				REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM	
										UM201										
	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE								
					CPE	19° 49 51"N	090° 30 14"W													
					ATUTO	17°49.00.00N	090°24.36.12W													
					BIBES	16°0324N	090°19 47"W													
	TOTAL DISTANCE				0				TOTAL DISTANCE				0				TOTAL DISTANCE			

R E C O R D S							
Proposed by	CESAR TURCIOS		Reviewed by:	JOSE ANTONIO VILLANUEVA		Reviewed by	JOSE GIL JIMENEZ
							
<p>REUNIDOS MEXICO (SENEAM Y DGAC) Y COCESNA, SE ACORDO DARLE SEGUIMIENTO A ESTA RUTA QUE YA HABIA SIDO COORDINADA EN 2017, SE REVISARON LAS COORDENADAS DEL FIJO ATUTO ENTRE FIR MERIDA Y CENAMER Y SE ACORDO LA COORDENADA INCLUIDA EN EL CUADRO. Fecha de Implementación 8 de Noviembre de 2018 Fecha de Publicación: 31 de Enero de 2019</p>							

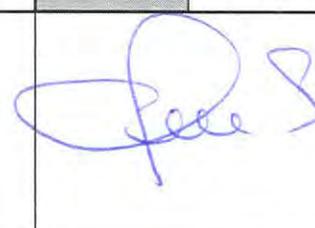
FLIGHTS PER MONTH											NOTES
TYPE	B752	B738	B737	A320	E109	MD83	G4	0	TOTAL	TOTAL	
AMOUNT	74	205	26	6	3	7	6	0	327		

SAVINGS		NOTES
DISTANCE (NM)	CO2 (KG)	
18NM	849KG PER FLIGHT	

6

Identification Number	F L O W S - CITY PAIRS										
	CARIBBEAN										
	OPTIMIZATION AIMS:										
	REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONNECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)					
	x					x					
STATES CONCERNED					FIR CONCERNED				ICAO REGIONS		
MEXICO-BELICE-COCESNA					MMFR-MHCC				CAR		

ATS ROUTES	ROUTE to be DELETED				CURRENT ROUTE				NEW ROUTE				REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM		
	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	
									UM203												
					CPE	19° 49 51"N	090° 30 14"W														
					DASMO	18°01 19.550"N	088°46.05.840"W														
					BELICE	17°3222.62158N	088°1850.31636W														
	TOTAL DISTANCE				0				TOTAL DISTANCE				0				TOTAL DISTANCE				

R E C O R D S							
Proposed by	CESAR TURCIOS	Reviewed by:	JOSE ANTONIO VILLANUEVA	Reviewed by	JOSE GIL JIMENEZ	Reviewed by	GILBERTO TORRES
<p>REUNIDOS MEXICO (SENEAM Y DGAC) , COCESNA Y BELICE SE ACORDO DARLE SEGUIMIENTO A ESTA RUTA QUE YA HABIA SIDO COORDINADA EN 2017, SE REVISARON LAS COORDENADAS DEL FIJO DASMO ENTRE FIR MERIDA Y CENAMER Y SE ACORDO LA COORDENADA INCLUIDA EN EL CUADRO. Fecha de Publicación: 8 de Noviembre de 2018 Fecha de Implementación: 31 de Enero de 2019</p>							

FLIGHTS PER MONTH										NOTES
TYPE	B737	B738	A319	A320	E190	B739	B763	TOTAL	TOTAL	
AMOUNT	1126	3959	1400	2579	1739	403	662	11868		

SAVINGS		NOTES
DISTANCE (NM)	CO2 (KG)	
18NM	FUEL 832 KG PER FLIGHT	



Identification Number	F L O W S - CITY PAIRS										
	CARIBBEAN										
	OPTIMIZATION AIMS:										
	REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONNECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)					
	x					x					
STATES CONCERNED					FIR CONCERNED				ICAO REGIONS		
MEXICO-HONDURAS-NICARAGUA-COCESNA					MMFR-MHCC				CAR		

ATS ROUTES	ROUTE to be DELETED				CURRENT ROUTE				NEW ROUTE				REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM	
										UM204										
	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE
					OMVON	22° 01 35"N	089° 11 43"W													
					ANIKO	19°02 55"N	086° 54 23"W													
					URVIL	17°15 00"N	085°31 47"W													
					PUSEM	14°40 52"N	083°35 23"W													
					FALLA	13° 26 00"N	082°40 00"W													
	TOTAL DISTANCE				0				TOTAL DISTANCE				0				TOTAL DISTANCE			

R E C O R D S							
Proposed by	CESAR TURCIOS	Reviewed by:	JOSE ANTONIO VILLANUEVA	Reviewed by	JOSE GIL JIMENEZ	Reviewed by	HERIBERTO SIERRA-HOLMAN MOLINA
<p>REUNIDOS MEXICO (SENEAM Y DGAC) , COCESNA Y BELICE SE ACORDO DARLE SEGUIMIENTO A ESTA RUTA QUE YA HABIA SIDO COORDINADA EN 2017, SIN NINGUNA MODIFICACION EN CUANTO A FIJOS Y COORDENADAS.</p> <p>Fecha de implementación: 8 de Noviembre de 2018</p> <p>Fecha de implementación: 31 de Enero de 2019</p>							

FLIGHTS PER MONTH											NOTES
TYPE	B737	B738	B739	A320	A319	B752	E190	B777	TOTAL	TOTAL	
AMOUNT	77	232	104	102	60	39	23	16	653		

SAVINGS		NOTES
DISTANCE (NM)	CO2 (KG)	
12NM	FUEL 797 KG PER FLIGHT	

Identification Number	F L O W S - CITY PAIRS									
	CARIBBEAN-SOUTH AMERICA									
	OPTIMIZATION AIMS:									
	REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONNECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)				
	X				X					
STATES CONCERNED					FIR CONCERNED			ICAO REGIONS		
PANAMA-COCESNA HONDURAS NICARAGUA					MPZL-MHCC			CAR/SAM		

ATS ROUTES	ROUTE to be DELETED		CURRENT ROUTE				NEW ROUTE				REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM
	UA766						UM205										
	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE					
	SIGMA	19° 36 59"N	086° 22 03W		SIGMA	19° 36 59"N	086° 22 03W										
	KELVO	18° 59 18"N	085° 59 06"W		AMESI	16° 26 08.9N	084°12 35.1W										
	IRGOL	18° 16 12"N	085° 33 06"W		TEKUG	13°53.40N	082°32.41W										
	MELDA	17°44 06"N	085° 13 54"W		SPP	12°34'57"N	081°42'19"W										
	HLONA	17° 02 24"N	084°49 06"W														
	CORAL	16° 42 57"N	084° 37 41"W														
	LERIK	16° 20 25"	084° 24 28"W														
	KITTS	15° 15 34"N	083° 46 43"W														
	TOTAL DISTANCE			0	TOTAL DISTANCE			0	TOTAL DISTANCE								

R E C O R D S							
Proposed by	CESAR TURCIOS (COCESNA)	Reviewed by:	ANA MONTENEGRO (PANAMA)	Reviewed by	COCESNA	Reviewed by	
<p>CORDINADA CON PANAMA EN 2017 QUIEN SOLICITO A OACI FIJO ENTRE LOS 2 FIRs (TEKUG) SE ACORDARON COORDENADAS ENTRE LOS 2 FIR LAS CUALES SE DEBEN AJUSTAR HASTA 2 DECIMAS DE SEGUNDO. DEBIDO A LA IMPLANTACION DE ESTA RUTA ELIMINARA LA UA766 SOLO EN ESPACIO AEREO DE CENAMER.</p> <p>Fecha de publicación: 8 de Noviembre de 2018 Fecha de implementación: 31 de Enero de 2019</p>							

FLIGHTS PER MONTH											NOTES
TYPE	B737	B738	B739	A320	A319	B752	E190	B777	TOTAL		TOTAL
AMOUNT	77	232	104	102	60	39	23	16			696

SAVINGS											NOTES
DISTANCE (NM)						CO2 (KG)					
10NM						785KG PER FLIGHT FUEL					CALCULADO CON B738

F L O W S - CITY PAIRS											
CARIBBEAN											
OPTIMIZATION AIMS: SAVING TRACK MILES - INCREASE AIRSPACE CAPACITY - ACCESS for the following city pairs KMIA (MIA)/KFL(FLL) to SBBE											
REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONNECTIVITY	FLOW IMPROVEMENT				OTHERS (SPECIFY)			
YES	YES	YES	YES	YES				Provides more direct routing for KMIA (MIA)/KFL(FLL) to SBBE (BEL)/SBFZ(FOR)/SBRF(REC)			
STATES CONCERNED						FIR CONCERNED				ICAO REGIONS	
SURINAME,TRINIDAD AND TOBAGO,UNITED STATES						TTZP				CAR/SAM	

ATS ROUTES	ROUTE to be DELETED		CURRENT ROUTE		NEW ROUTE		REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM
			UA555		U????								
	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	
					ILURI	16° 18' 04".00"N	063° 00' 00".00"W						
					OZEE	15° 13' 42".03"N	061° 55' 10".03"W	89					
					ETBIG	13° 19' 48".00"N	060° 03' 35".00"W	157					
					ROSLU	10° 09' 20".68"N	057° 00' 00".00"W	261					
					TRAPP	09° 05' 05".00" N	055° 59' 29".00" W	88					
	TOTAL DISTANCE			0	TOTAL DISTANCE			595.5	TOTAL DISTANCE				

R E C O R D S											
Proposed by	TRINIDAD AND TOBAGO			Reviewed by:		Reviewed by		Reviewed by			
<p>This route proposal was agreed by the United States (San Juan) and Suriname.It will be a bi-directional route.Waypoints OZEE and ROSLU still to be published Publication date: November 8th 2018 Implementation date: January 31st 2019</p> <p style="text-align: center;"><i>Robert Roopdel</i></p>											

FLIGHTS PER MONTH											NOTES
TYPE	A320	A340	B737	B787	B738	B763	B772	E190	TOTAL		
AMOUNT				28							

SAVINGS		NOTES
DISTANCE (NM)	CO2 (KG)	
1		

✓ 1 2 3 4 5

Identification Number	F L O W S - CITY PAIRS									
	CARIBBEAN									
	OPTIMIZATION AIMS :SAVING TRACK MILES - INCREASE AIRSPACE CAPACITY - ACCESS for the following city pairs KMIA (MIA)/KFLI(FL) to SBBE (BEL)/SBFZ(FOR)/SBRF(REC)									
	REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONNECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)				
	YES	YES	YES	YES	YES	Provides more direct routing for KMIA (MIA)/KFLI(FL) to SBBE (BEL)/SBFZ(FOR)/SBRF(REC)				
STATES CONCERNED					FIR CONCERNED			ICAO REGIONS		
TRINIDAD AND TOBAGO					TTZP			CAR/SAM		

ATS ROUTES	ROUTE to be DELETED		CURRENT ROUTE				NEW ROUTE		REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM	
							U????									
	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE
					GABAR	17° 21' 14".00" N	063° 00' 00".00" W									
					TOXED	15° 30' 42".60" N	061° 03' 12".10" W	157								
					KEDMI	13° 04' 30".00" N	058° 32' 44".61" W	206								
					NOSOB	11° 13' 23".31" N	056° 41' 34".62" W	155								
					DOLRO	09° 14' 12".00" S	054° 44' 12".13" W	166								
	TOTAL DISTANCE			0	TOTAL DISTANCE			684.5	TOTAL DISTANCE							

R E C O R D S								
Proposed by	TRINIDAD AND TOBAGO		Reviewed by:			Reviewed by		
<p>This route proposal was agreed by the United States (San Juan) and Suriname. It will be a bi-directional route. Waypoints TOXED, KEDMI and NOSOB still to be published Publication date: November 8th 2018 Implementation date: January 31st 2019</p> <div style="text-align: center; font-size: 2em; color: blue; margin-top: 20px;"> <i>Robert Rooplet</i> </div>								

FLIGHTS PER MONTH											NOTES
TYPE	A320	A340	B737	B787	B738	B763	B772	E190	TOTAL		
AMOUNT											

SAVINGS										NOTES
DISTANCE (NM)					CO2 (KG)					



F L O W S - CITY PAIRS					
CARIBBEAN-SOUTH AMERICA					
OPTIMIZATION AIMS:					
REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONNECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)
X		X	X		
STATES CONCERNED			FIR CONCERNED		ICAO REGIONS
Panama / Jamaica			MPZL / MKJK		CAR/SAM

ATS ROUTES	ROUTE to be DELETED	CURRENT ROUTE	NEW ROUTE	REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM		
		UB510				UM542						
	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	PC/INTS	LAT	LONG	DISTANCE
	SIA				SIA	183003.80N	077526.80W	212.2				
	COLBY				COLBY	150000.00N	0783159.00W					
	OPLOS				TBG							
	DAGAS											
	MKGUS											
	TBG											
	TOTAL DISTANCE			0	TOTAL DISTANCE			0	TOTAL DISTANCE			

R E C O R D S					
Proposed by	JAMAICA/PANAMA	Reviewed by:	ANA MONTENEGRO	Reviewed by	Reviewed by
Delete conventional route UB510 and replace with RNAV route UM542. Howard Greaves from Jamaica and Ana Montenegro from Panama Publication Date: November 8th 2018 Implementation date: January 31st 2019		<i>Ana Montenegro</i>			
		<i>Howard Greaves</i>			

FLIGHTS PER MONTH										NOTES
TYPE	A320	A340	B737	B787	B738	B763	B772		E190	TOTAL
AMOUNT										

SAVINGS		NOTES
DISTANCE (NM)	CO2 (KG)	

F L O W S - CITY PAIRS										
NORTH AMERICA-SOUTH AMERICA										
OPTIMIZATION AIMS:										
REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONNECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)					
		X								
STATES CONCERNED					FIR CONCERNED				ICAO REGIONS	
Cuba/Jamaica/Panamá					MUFH-MKJK-MPZL				CAR/SAM	

ATS ROUTES	ROUTE to be DELETED				CURRENT ROUTE				NEW ROUTE				REALIGN	EXTEND	TRIM
	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE			
	UG437														
	TBG			372											
	DLXJUN	150000.00N	0791323.00W	299.3											
	GONIS	200000.00N	0785611.00W	121											
	LCA	220054.00N	0784857.00W	125											
	DYNAH	235700.00N	0775647.00W												
	TOTAL DISTANCE				545.3				TOTAL DISTANCE				0		

R E C O R D S												
Proposed by	PANAMA/JAMAICA/CUBA				Reviewed by:	<i>ANA MONTENEGRO</i>				Reviewed by		
<p>Deletion of this route to be replaced with other RNAV routes (UM/795 and L780) Agreed by Howard Greaves from Jamaica, Ana Montenegro from Panama and Jorge Centella from Cuba Publication date: November 8th 2018 Implementation date: January 31st 2019</p>												

FLIGHTS PER MONTH											NOTES
TYPE	A320	A340	B737	B787	B738	B763	B772		E190	TOTAL	
AMOUNT				28							

SAVINGS											NOTES
DISTANCE (NM)						CO2 (KG)					
30											

15

F L O W S - CITY PAIRS					
NORTH AMERICA-SOUTH AMERICA					
OPTIMIZATION AIMS:					
REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONNECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)
		x			
STATES CONCERNED			FIR CONCERNED		ICAO REGIONS
Cuba/ Jamaica/Colombia			MUFH/MKJK/SKEC		CAR/SAM

ATS ROUTES	ROUTE to be DELETED		CURRENT ROUTE		NEW ROUTE	REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM
			UB503									
	POINTS	LAT	LONG	DISTANCE								
	TOTAL DISTANCE			0	TOTAL DISTANCE			0	TOTAL DISTANCE			

R E C O R D S							
Proposed by	JAMAICA	Reviewed by:	Cuba/Colombia	Reviewed by		Reviewed by	
RENAME FROM CONVENTIONAL TO REGIONAL RNAV DESIGNATOR HOWARD GREAVES from Jamaica, Jorge Centella Artola from Cuba and Freddy Celis from Colombia. Publication date november 8th November 2018 implementation date january 31st 2019							

FLIGHTS PER MONTH										NOTES	
TYPE	A320	A340	B737	B787	B738	B763	B772		E190	TOTAL	
AMOUNT											

SAVINGS		NOTES
DISTANCE (NM)	CO2 (KG)	

Identification Number UL328	F L O W S - CITY PAIRS										
	NORTH AMERICA-CARIBBEAN-SOUTH AMERICA										
	OPTIMIZATION AIMS:										
	REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONNECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)					
		x		x	x						
	STATES CONCERNED					FIR CONCERNED				ICAO REGIONS	
PANAMA / COLOMBIA / CURACAO/ USA					MPZL /SKEC/TNCF/TJZS				CAR/SAM		

1

ATS ROUTES	ROUTE to be DELETED				CURRENT ROUTE				NEW ROUTE				REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM	
	UA574								XXXXX											
UA574	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE								
	TBG				TBG VOR															
	BOGAL				BOGAL															
	CTG				CTG VOR															
					AMBAS															
					SCAPA															
					TRNKY															
					OBIKE															
TOTAL DISTANCE				0	TOTAL DISTANCE				0	TOTAL DISTANCE										

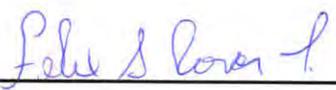
R E C O R D S								
Proposed by	CURACAO			Reviewed by:		Reviewed by		Reviewed by
SE MANTIENE LA RUTA A574 (NIVEL INFERIOR) EN TODA SU EXTENSIÓN SE MANTIENE LA UA574 ENTRE CARTAGENA HASTA CURACAO. USA/SAN JUAN INDICAN QUE ELLOS NO UTILIZAN SUFIX UPPER LETRA U, FECHA DE PUBLICACION ACORDADA SERA 08 DE NOVIEMBRE 2018 (FAA NOTIFICA ATRAVES DE NFDD) Y FECHA DE IMPLEMENTACION EFECTIVA SERA 31 DE ENERO 2019 00:00 UTC. CAR OFFICE PROVIDED ROUTE DESIGNATOR. FREDY CELIS - COLOMBIA ANA MONTENEGRO - PANAMA				Airway A574 (Lower Route) will be maintained to full extent. Airway UA574 will be maintained between Cartagena (CTG VOR) and Curacao (PJG VOR) USA/SAN JUAN indicates that the suffix U (for upper route) is not being used by them. It is agreed that publication date will be 8 November 2018 (FAA notifies it's users via NFDD), and implementation/effective date will be 31 January 2019 00:00UTC. CAR office provided the route designator. FREDY CELIS - COLOMBIA ANA MONTENEGRO - PANAMA JACQUES LASTEN - CURACAO JOSÉ ARCADIA - SAN JUAN				

FLIGHTS PER MONTH											NOTES
TYPE	A320	A340	B737	B787	B738	B763	B772		E190	TOTAL	
AMOUNT											

SAVINGS		NOTES
DISTANCE (NM)	CO2 (KG)	

Identification Number	F L O W S - CITY PAIRS										
	CARIBBEAN										
	OPTIMIZATION AIMS:										
	<i>REDUCE FLIGHT DISTANCE</i>	<i>ATC EFFICIENCY</i>	<i>HARMONIZATION</i>	<i>CONNECTIVITY</i>	<i>FLOW IMPROVEMENT</i>	<i>OTHERS (SPECIFY)</i>					
		x	x	x	x						
	STATES CONCERNED					FIR CONCERNED			ICAO REGIONS		
Dominican Republic/Republic of Haiti					MDCS-MTEG			CAR			

ATS ROUTES	ROUTE to be DELETED	CURRENT ROUTE			NEW ROUTE			REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM
		UM-596			UM-596			x	x					
	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE		
	PTA VOR				PTA VOR									
	DUTAV				POBIN									
	NABEN				BEPAL									
					ETBOD									
					XXXXX									
					XXXXX									
					MUPOV									
	TOTAL DISTANCE			0	TOTAL DISTANCE			0	TOTAL DISTANCE					

R E C O R D S											
Proposed by	Dominican Republic /Republic of Haiti			Reviewed by:			Reviewed by			Reviewed by	
<p>In a bilateral meeting between the delegations of Dominican Republic and the Republic of Haiti, both delegations agreed to:</p> <ul style="list-style-type: none"> • Realign the route UM-596 within Santo Domingo FIR to overlay the segment from PTA VOR to ETBOD with the route UB-891 • To extend the route UM-596 from ETBOD to MUPOV <p>For Dominican Republic was accepted by Felix Rosa For Haiti was accepted by Joseph Jacques Boursiquot Publication Date: November 8th 2018 Implementation Date: January 31st 2019</p> <div style="text-align: center; margin-top: 20px;">  </div>											

FLIGHTS PER MONTH											NOTES
TYPE	A320	A340	B737	B787	B738	B763	B772	E190	TOTAL		
AMOUNT											

SAVINGS											NOTES
DISTANCE (NM)						CO2 (KG)					

Identification Number	F L O W S - CITY PAIRS										
	CARIBBEAN										
	OPTIMIZATION AIMS:										
	REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)					
	STATES CONCERNED					FIR CONCERNED			ICAO REGIONS		
Dominican Republic/Haiti/Jamaica					MDCS/MTEG/MKJK			NAM/CAR/SAM			

ATS ROUTES	ROUTE to be DELETED	CURRENT ROUTE			NEW ROUTE			REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM	
	UB-520														
DNTX	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE			
	DCR														
	SASON														
	MANLEY														
	PESTO														
TOTAL DISTANCE				0	TOTAL DISTANCE				0	TOTAL DISTANCE					

R E C O R D S											
Proposed by		Reviewed by:						Reviewed by		Reviewed by	
<p style="text-align: center;"><i>Felix & Rosa</i></p> <p>This route is going to be deleted because this route was replaced by UL349 Courtney Malcom/Howard Greaves from Jamaica, Jacques Boursiquot from Haiti and Félix Rosa from Dominican Republic Publication date: November 8th 2018 Implementation date; January 31st 2019</p>											

FLIGHTS PER MONTH											NOTES	
TYPE	A320	A340	B737	B787	B738	B763	B772		E190		TOTAL	
AMOUNT												

SAVINGS											NOTES
DISTANCE (NM)						CO2 (KG)					

F L O W S - CITY PAIRS										
CARIBBEAN										
OPTIMIZATION AIMS:										
REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONNECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)					
				X						
STATES CONCERNED					FIR CONCERNED			ICAO REGIONS		
CUBA					MUFH			CAR		

ATS ROUTES	ROUTE to be DELETED				CURRENT ROUTE				NEW ROUTE				REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM	
	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE
									X											
									PTO1											
									PTO2											
									PTO3											
									PTO4											
									PTO5											
									PTO6											
									PTO7											
									GELOG	183342N	0751042W									
	TOTAL DISTANCE				0				TOTAL DISTANCE				0			TOTAL DISTANCE				

R E C O R D S													
Proposed by	HABANA				Reviewed by:	JORGE CENTELLA, DORA RICARDO (CUBA)				Reviewed by	Reviewed by		
<p>PARA REDISTRIBUIR EL TRÁNSITO EN UN NUEVO FLUJO POR URSUS-G430- PTO1 (A 52NM AL SUR DE URSUS POR LA RUTA G430)-GELOG Y BALANCEAR LA CAPACIDAD DE LOS SECTORES NEVAS Y MAYA. LAS COORDENADAS SE PUNTUALIZARÁN Y POSTERIORMENTE SE ENVIARÁN LOS VALORES. Fecha de publicación 8 de noviembre de 2018 Fecha de implementación 31 de enero de 2019</p>													

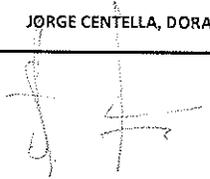
FLIGHTS PER MONTH											NOTES
TYPE	A320	A340	B737	B787	B738	B763	B772		E190	TOTAL	
AMOUNT											

SAVINGS											NOTES
DISTANCE (NM)						CO2 (KG)					

20
22

F L O W S - CITY PAIRS											
CARIBBEAN											
OPTIMIZATION AIMS:											
REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)						
				X							
STATES CONCERNED						FIR CONCERNED			ICAO REGIONS		
CUBA						MUFH			CAR		

ATS ROUTES	ROUTE to be DELETED		CURRENT ROUTE				NEW ROUTE				REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM
	L/UL795										X						
	POINTS	LAT	LONG	DISTANCE		POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE				
	URSUS	240000N	0790412W														
	GELOG	183342N	0751042W														
	TOTAL DISTANCE			0		TOTAL DISTANCE			0		TOTAL DISTANCE						

R E C O R D S											
Proposed by	HABANA, JAMAICA		Reviewed by:	JORGE CENTELLA, DORA RICARDO (CUBA)				Reviewed by		Reviewed by	
<p>PARA REDISTRIBUIR EL TRÁNSITO EN UN NUEVO FLUJO A TRAVÉS DE URSUS-G430- PTO1 (A 52NM AL SUR DE URSUS POR LA RUTA G430)-GELOG Y BALANCEAR LA CAPACIDAD DE LOS SECTORES NEVAS Y MAYA. Fecha de publicación 8 de Noviembre de 2018. Fecha de implementación 31 de enero de 2019</p>											

FLIGHTS PER MONTH											NOTES
TYPE	A320	A340	B737	B787	B738	B763	B772		E190	TOTAL	
AMOUNT											

SAVINGS										NOTES
DISTANCE (NM)					CO2 (KG)					

F L O W S - C I T Y P A I R S									
CARIBBEAN									
OPTIMIZATION AIMS:									
REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONNECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)				
	X		X	X					
STATES CONCERNED					FIR CONCERNED			ICAO REGIONS	
CUBA, MÉXICO					MUFH-MMFR			CAR	

ATS ROUTES	ROUTE to be DELETED			CURRENT ROUTE			NEW ROUTE			REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM
							X									
	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE
					CANOA	240000N	830300									
					PTO1	232216.13N	0860000W									
					PTO2											
					PTO3											
					PTO4											
					PTO5											
					PTO6											
					PTO7											
					AXOMU	210410N	950000									
	TOTAL DISTANCE			0	TOTAL DISTANCE			0	TOTAL DISTANCE			0	TOTAL DISTANCE			

R E C O R D S								
Proposed by	HABANA Y MÉRIDA		Reviewed by:	JORGE CENTELLA, DORA RICARDO (CUBA)		Reviewed by	PATRICIA S. MANSO (MÉXICO)	
<p>RUTA PROPUESTA PARA CANALIZAR EL TRÁNSITO A CIUDAD MÉXICO, COORDINADO ENTRE CUBA Y MÉXICO. LAS COORDENADAS SE PUNTUALIZARÁN Y POSTERIORMENTE SE ENVIARÁN LOS VALORES. LOS ESTADOS INVOLUCRADOS ESTÁN DE ACUERDO.</p> <p>Fecha de publicación 8 de Noviembre de 2018. Fecha de implementación 31 de enero de 2019</p>								

FLIGHTS PER MONTH										NOTES
TYPE	A320	A340	B737	B787	B738	B763	B772	E190	TOTAL	
AMOUNT										

SAVINGS		NOTES
DISTANCE (NM)	CO2 (KG)	
30		

2724

F L O W S - CITY PAIRS											
CARIBBEAN											
OPTIMIZATION AIMS:											
REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONNECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)						
X	X		X								
STATES CONCERNED						FIR CONCERNED				ICAO REGIONS	
CUBA/ JAMAICA/ GRAND CAYMAN						MUFH/ MKJK/ TMA GRAND CAYMAN				CAR	

ATS ROUTES	ROUTE to be DELETED				CURRENT ROUTE				NEW ROUTE				REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM	
						L/UL465								X						
	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE
					VOR GCM	191704N	0812203W													
					PTO1															
	TOTAL DISTANCE				0				TOTAL DISTANCE				0				TOTAL DISTANCE			

R E C O R D S							
Proposed by	HABANA, GRAND CAYMAN, JAMAICA	Reviewed by:	JORGE CENTELLA, DORA RICARDO (CUBA)	Reviewed by	ERICK BOODEM (ISLAS CAYMAN)	Reviewed by	COURTNEY MALCOLM (JAMAICA)
LAS COORDENADAS DEL PTO1 ESTÁN PENDIENTES A MEDICIÓN POR GRAND CAYMAN. LOGRAR FLUJOS DE ENTRADA Y SALIDA A TMA GRAND CAYMAN Y SEPERAR LOS FLUJOS. LAS COORDENADAS SE PUNTUALIZARÁN Y POSTERIORMENTE SE ENVIARÁN LOS VALORES. Fecha de publicación 8 de noviembre de 2018 Fecha de implementación 31 de enero de 2019							

FLIGHTS PER MONTH											NOTES
TYPE	A320	A340	B737	B787	B738	B763	B772	E190	TOTAL		
AMOUNT				28							

SAVINGS		NOTES
DISTANCE (NM)	CO2 (KG)	
90		



F L O W S - CITY PAIRS											
NORTH AMERICA-SOUTH AMERICA											
OPTIMIZATION AIMS:											
REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONNECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)						
		X									
STATES CONCERNED						FIR CONCERNED			ICAO REGIONS		
CUBA/ JAMAICA/GRAND CAYMAN						MUFH/ MKJK/ TMA GCM			CAR		

ATS ROUTES	ROUTE to be DELETED		CURRENT ROUTE				NEW ROUTE				REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM
	B/UB 767																
	POINTS	LAT	LONG	DISTANCE		POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE
	VOR UCA	220054.23N	0784856.94W														
	KANEX	200000N	0804304W														
	VOR GCM	191704N	0812203W														
	TOTAL DISTANCE			0		TOTAL DISTANCE			0	TOTAL DISTANCE							

R E C O R D S							
Proposed by	HABANA, JAMAICA	Reviewed by:	JORGE CENTELLA, DORA RICARDO (CUBA)	Reviewed by	COURTNEY MALCOLM (JAMAICA)	Reviewed by	ERICK BOODEM (ISLAS CAYMAN)
SE SUSTITUYE POR LA M/UM 330 REALINEADA EN EL SEGMENTO VOR UCA A VOR GCM Y SE ADICIONA UNA RUTA CONVENCIONAL EN ESTE SEGMENTO. Fecha de publicación 8 de noviembre de 2018 Fecha de implementación 31 de enero de 2019							

FLIGHTS PER MONTH											NOTES
TYPE	A320	A340	B737	B787	B738	B763	B772		E190	TOTAL	
AMOUNT											

SAVINGS		NOTES
DISTANCE (NM)	CO2 (KG)	

F L O W S - CITY PAIRS										
CARIBBEAN										
OPTIMIZATION AIMS:										
REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONNECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)					
		X	X							
STATES CONCERNED					FIR CONCERNED			ICAO REGIONS		
GRAND CAYMAN / CUBA/ JAMAICA					MUFH/ MKJK/ TMA GCM			CAR		

ATS ROUTES	ROUTE to be DELETED				CURRENT ROUTE				NEW ROUTE				REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM	
									X											
	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE
					PIGBO	211849N	0790746W													
					KATAL	200000N	0793818W													
					NDB CBC	194104N	0795104W													
	TOTAL DISTANCE				0				TOTAL DISTANCE				0		TOTAL DISTANCE					

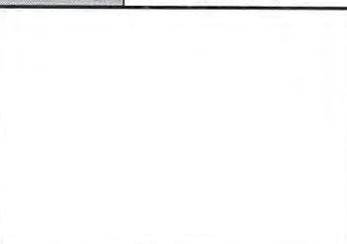
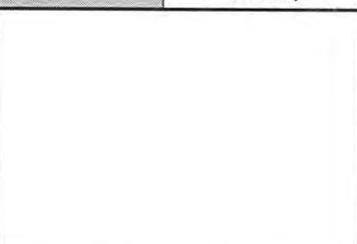
R E C O R D S							
Proposed by	HABANA, JAMAICA	Reviewed by:	JORGE CENTELLA, DORA RICARDO (CUBA)	Reviewed by	COURTNEY MALCOLM (JAMAICA)	Reviewed by	ERICK BOODEM (ISLAS CAYMAN)
PARA CANALIZAR EL TRÁFICO PARA LLEGADAS A CAYMAN BRAC Fecha de publicación 8 de noviembre de 2018 Fecha de implementación 31 de enero de 2019							

FLIGHTS PER MONTH										NOTES	
TYPE	A320	A340	B737	B787	B738	B763	B772		E190	TOTAL	
AMOUNT											

SAVINGS		NOTES
DISTANCE (NM)	CO2 (KG)	

F L O W S - CITY PAIRS											
CARIBBEAN											
OPTIMIZATION AIMS:											
REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONNECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)						
		x									
STATES CONCERNED					FIR CONCERNED					ICAO REGIONS	
CUBA/ JAMAICA/GRAND CAYMAN					MUFH/ MKJK/ TMA GCM					CAR	

ATS ROUTES	ROUTE to be DELETED		CURRENT ROUTE			NEW ROUTE		REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM
			B 330 (DENOMINACIÓN TEMPORAL)			X								
	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE		
					ENAMO	233344N	0772135W							
					VOR UCA	220054.23N	0784856.94W							
					KANEX	200000N	0804304W							
					VOR GCM	191704N	0812203W							
	TOTAL DISTANCE			0	TOTAL DISTANCE			0	TOTAL DISTANCE					

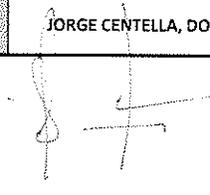
R E C O R D S							
Proposed by	HABANA, JAMAICA	Reviewed by:	JORGE CENTELLA, DORA RICARDO (CUBA)	Reviewed by	COURTNEY MALCOLM (JAMAICA)	Reviewed by	ERICK BOODEM (ISLAS CAYMAN)
<p>NUEVA RUTA CONVENCIONAL PARA ARMONIZACIÓN CON LAS FIRS DE JAMAICA Y TMA GRAND CAYMAN Y FACILITA EL TRÁFICO DE AERONAVES NO EQUIPADAS HASTA UNA FECHA QUE DETERMINARÁ LA FIR HABANA PARA FACILITAR QUE LOS OPERADORES SE EQUIPEN ADECUADAMENTE. LAS COORDENADAS SE PUNTUALIZARÁN Y POSTERIORMENTE SE ENVIARÁN LOS VALORES.</p> <p>Fecha de publicación 8 de noviembre de 2018 Fecha de implementación 31 de enero de 2019</p>		 					

FLIGHTS PER MONTH											NOTES
TYPE	A320	A340	B737	B787	B738	B763	B772	E190	TOTAL		
AMOUNT											

SAVINGS										NOTES
DISTANCE (NM)					CO2 (KG)					

F L O W S - CITY PAIRS											
CARIBBEAN											
OPTIMIZATION AIMS:											
REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)						
			X								
STATES CONCERNED						FIR CONCERNED			ICAO REGIONS		
CUBA						MUFH			CAR		

ATS ROUTES	ROUTE to be DELETED				CURRENT ROUTE				NEW ROUTE				REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM	
	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE
					M/UM331									X						
									VOR UHG	204753.18N	0761810.79W									
									MATOS	192923N	0772826W									
	TOTAL DISTANCE				0				TOTAL DISTANCE				0				TOTAL DISTANCE			

R E C O R D S																
Proposed by	HABANA, JAMAICA				Reviewed by:	JORGE CENTELLA, DORA RICARDO (CUBA)				Reviewed by	ROCCO HEESTERS (KLM)					
<p>CONEXIÓN DE TRÁFICO EN LAS FIRS DE LA HABANA Y JAMAICA. PROPORCIONA CONEXIÓN A LAS AERONAVES DE LA LINEA AÉREA KLM, BAW, TON, CFG.. LAS COORDENADAS SE PUNTUALIZARÁN Y POSTERIORMENTE SE ENVIARÁN LOS VALORES.</p> <p>Fecha de publicación 8 de noviembre de 2018 Fecha de implementación 31 de enero de 2019</p>																

FLIGHTS PER MONTH											NOTES
TYPE	A320	A340	B737	B787	B738	B763	B772		E190	TOTAL	
AMOUNT											

SAVINGS											NOTES
DISTANCE (NM)						CO2 (KG)					

F L O W S - CITY PAIRS											
NORTH AMERICA-SOUTH AMERICA											
OPTIMIZATION AIMS:											
REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)						
X		X									
STATES CONCERNED						FIR CONCERNED			ICAO REGIONS		
CUBA/ JAMAICA						MUFH/ MKJK			CAR/SAM		

ATS ROUTES	ROUTE to be DELETED				CURRENT ROUTE				NEW ROUTE				REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM
					Z/UZ 465				X UXXX										
	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE							
	FUNDI	240000N	0810043W																
	ALVEK	230113N	0805814W	59															
	UDNET	210407N	0805341W	117															
	LEPON	200000N	0805053W	64															
	ARNAL																		
	TOTAL DISTANCE			240	TOTAL DISTANCE			0	TOTAL DISTANCE										

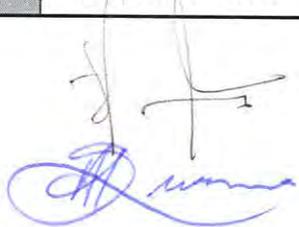
R E C O R D S									
Proposed by	HABANA, JAMAICA			Reviewed by:	JORGE CENTELLA, DORA RICARDO (CUBA)	Reviewed by	COURTNEY MALCOLM (JAMAICA)	Reviewed by	
<p>MODIFICACIÓN EN LA DESIGNACIÓN DE LA RUTA Z/UZ 465 E INCLUIRLA EN EL SISTEMA DE RUTAS DE LA REGIÓN Y EVITAR CONFUSIÓN CON LA L/UL 465. KINGSTON Y LA HABANA PARA ESTABLECER FLUJOS Y CANALIZAR TRÁFICO RUMBO SUR.</p> <p>PARA LOS VUELOS QUE CONTUAN AL ÁREA DE PANAMÁ SE REALIZAN POR COORDINACIÓN HASTA QUE SE CREE UNA NUEVA RUTA O SE EXTIENDA LA EXISTENTE.</p> <p>Fecha de publicación 8 de noviembre de 2018 Fecha de implementación 31 de enero de 2019</p>									

FLIGHTS PER MONTH											NOTES
TYPE	A320	A340	B737	B787	B738	B763	B772		E190	TOTAL	
AMOUNT				28							

SAVINGS		NOTES
DISTANCE (NM)	CO2 (KG)	

F L O W S - CITY PAIRS										
NORTH AMERICA-SOUTH AMERICA										
OPTIMIZATION AIMS:										
REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)					
		x								
STATES CONCERNED				FIR CONCERNED				ICAO REGIONS		
CUBA/ JAMAICA				MUFH/ MKJK				CAR		

ATS ROUTES	ROUTE to be DELETED		CURRENT ROUTE		NEW ROUTE		REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM
				M/UM 330				x	x				
	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	
					ENAMO	233344N	0772135W						
					VOR UCA	220054.23N	0784856.94W						
					KANEX	200000N	0804304W						
					VOR GCM	191704N	0812203W						
	TOTAL DISTANCE			0	TOTAL DISTANCE			0	TOTAL DISTANCE				

R E C O R D S							
Proposed by	HABANA, JAMAICA	Reviewed by:	JORGE CENTELLA, DORA RICARDO (CUBA)	Reviewed by		Reviewed by	
ARMONIZACIÓN CON LAS FIRs DE JAMAICA Y TMA GRAND CAYMAN. LAS COORDENADAS SE PUNTUALIZARÁN Y POSTERIORMENTE SE ENVIARÁN LOS VALORES. Fecha de publicación 8 de noviembre de 2018 Fecha de implementación 31 de enero de 2019							

FLIGHTS PER MONTH											NOTES
TYPE	A320	A340	B737	B787	B738	B763	B772		E190	TOTAL	
AMOUNT											

SAVINGS		NOTES
DISTANCE (NM)	CO2 (KG)	

F L O W S - CITY PAIRS											
CARIBBEAN											
OPTIMIZATION AIMS:											
REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)						
		X									
STATES CONCERNED				FIR CONCERNED				ICAO REGIONS			
CUBA/ JAMAICA				MUFH/ MKJK				CAR			

ATS ROUTES	ROUTE to be DELETED			CURRENT ROUTE			NEW ROUTE			REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM
				M/UM795						X						
	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE				
					TASNO	220742N	0790640W									
					NIBEO	200008N	0785611W									
					COLBY	150000N	0783200W									
	TOTAL DISTANCE			0	TOTAL DISTANCE			0	TOTAL DISTANCE							

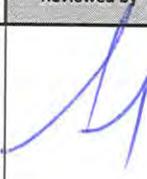
R E C O R D S							
Proposed by	HABANA, JAMAICA	Reviewed by:	JORGE CENTELLA, DORA RICARDO (CUBA)	Reviewed by	COURTNEY MALCOLM (JAMAICA)	Reviewed by	
<p>ESTA RUTA, REALINEADA, AHORA COMIENZA EN EL PUNTO TASNO HASTA COLBY. SE PROPONE CAMBIO DE DESIGNACIÓN PARA EVITAR CONFUSIÓN CON LA L/UL795. LAS COORDENADAS SE PUNTUALIZARÁN Y POSTERIORMENTE SE ENVIARÁN LOS VALORES. Fecha de publicación 8 de noviembre de 2018 Fecha de implementación 31 de enero de 2019</p>							

FLIGHTS PER MONTH											NOTES	
TYPE	A320	A340	B737	B787	B738	B763	B772		E190		TOTAL	
AMOUNT												

SAVINGS		NOTES
DISTANCE (NM)	CO2 (KG)	

F L O W S - CITY PAIRS											
NORTH AMERICA-SOUTH AMERICA											
OPTIMIZATION AIMS:											
REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)						
		X									
STATES CONCERNED						FIR CONCERNED			ICAO REGIONS		
ESTADOS UNIDOS / CUBA/ JAMAICA						KZMA-MUFH-MKJK			CAR		

ATS ROUTES	ROUTE to be DELETED				CURRENT ROUTE				NEW ROUTE							
					G/UG430				REALIGN X							
	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE				
					URSUS	240000N	0790412W									
					PUTUL	185934N	0781736W									
	TOTAL DISTANCE				0				TOTAL DISTANCE				0			

R E C O R D S															
Proposed by	HABANA, JAMAICA				Reviewed by:	JORGE CENTELLA, DORA RICARDO (CUBA)				Reviewed by	COURTNEY MALCOLM (JAMAICA)		Reviewed by	MATTHEW DEAK (EEUU)	
<p>A PARTIR DE LA ELIMINACIÓN DE LOS SEGMENTOS DE RUTA TANIA- VOR UCA- PUTUL. .SE REALINEA A LA RUTA URSUS - PUTUL, EN LA FIR HABANA PARA ARMONIZAR ENTRE LAS FIRs.. Fecha de publicación 8 de noviembre de 2018 Fecha de implementación 31 de enero de 2019</p>															

FLIGHTS PER MONTH											NOTES
TYPE	A320	A340	B737	B787	B738	B763	B772		E190	TOTAL	
AMOUNT											

SAVINGS											NOTES
DISTANCE (NM)						CO2 (KG)					

F L O W S - CITY PAIRS											
NORTH AMERICA-SOUTH AMERICA											
OPTIMIZATION AIMS:											
REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)						
		X									
STATES CONCERNED						FIR CONCERNED			ICAO REGIONS		
ESTADOS UNIDOS / CUBA/ JAMAICA						KZMA-MUFH-MKJK			CAR		

ATS ROUTES	ROUTE to be DELETED		CURRENT ROUTE				NEW ROUTE				REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM			
	G/UG430										X									
	POINTS	LAT	LONG	DISTANCE		POINTS	LAT	LONG	DISTANCE		POINTS	LAT	LONG	DISTANCE		POINTS	LAT	LONG	DISTANCE	
	TANIA	240148N	0793142W																	
	VOR UCA	20054.23N	0794856.94W																	
	PUTUL	185934N	0781736W																	
	TOTAL DISTANCE			0		TOTAL DISTANCE			0		TOTAL DISTANCE									

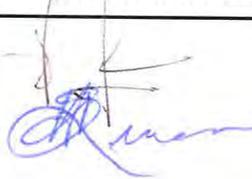
R E C O R D S												
Proposed by	HABANA, JAMAICA		Reviewed by:	JORGE CENTELLA, DORA RICARDO (CUBA)				Reviewed by	v	Reviewed by	MATTHEW DEAK (EEUU)	
SE ELIMINAN LOS SEGMENTOS TANIA-VOR UCA-PUTUL PARA REALINEARLA Y ARMONIZARLA ENTRE LAS FIRS HABANA Y MIAMI. Fecha de publicación 8 de noviembre de 2018 Fecha de implementación 31 de enero de 2019												

FLIGHTS PER MONTH											NOTES
TYPE	A320	A340	B737	B787	B738	B763	B772		E190	TOTAL	
AMOUNT											

SAVINGS											NOTES
DISTANCE (NM)						CO2 (KG)					

F L O W S - CITY PAIRS											
NORTH AMERICA-SOUTH AMERICA											
OPTIMIZATION AIMS:											
REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)						
				X							
STATES CONCERNED						FIR CONCERNED			ICAO REGIONS		
CUBA/JAMAICA/ESTADOS UNIDOS						MUFH/MKJK/KZMA			CAR		

ATS ROUTES	ROUTE to be DELETED			CURRENT ROUTE			NEW ROUTE			REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM
							X									
	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE				
					PTO 1 DETRO DE FIR KZMA											
					ZEUSS	240000N	0784745W									
					PTO1											
					PTO2											
					PTO3											
					EPSIM	194845N	0780110W									
					VOR SIA	183001N	0775504W									
	TOTAL DISTANCE			0	TOTAL DISTANCE			0	TOTAL DISTANCE			0	TOTAL DISTANCE			

R E C O R D S									
Proposed by	HABANA, JAMAICA		Reviewed by:	JORGE CENTELLA, DORA RICARDO (CUBA)		Reviewed by	COURTNEY MALCOLM (JAMAICA)	Reviewed by	MATTHEW DEAK (EEUU)
<p>CANALIZACIÓN DEL TRÁFICO RUMBO NORTE ENTRE LAS FIRS MKJK, MUFH Y KZMA.. POR ESA RUTA SÓLO VUELA HACIA EL NORTE TODO EL TRÁFICO EXEPTO EL QUE DESPEGA DE MANLEY. LAS COORDENADAS SE PUNTUALIZARÁN Y POSTERIORMENTE SE ENVIARÁN LOS VALORES. Fecha de publicación 8 de noviembre de 2018 Fecha de implementación 31 de enero de 2019</p>									

FLIGHTS PER MONTH											NOTES
TYPE	A320	A340	B737	B787	B738	B763	B772		E190	TOTAL	
AMOUNT											

SAVINGS		NOTES
DISTANCE (NM)	CO2 (KG)	

Identification Number	F L O W S - CITY PAIRS										
	NORTH AMERICA-CARIBBEAN-SOUTH AMERICA										
	OPTIMIZATION AIMS:										
	REDUCE FLIGHT DISTANCE	ATC EFFICIENCY	HARMONIZATION	CONNECTIVITY	FLOW IMPROVEMENT	OTHERS (SPECIFY)					
				X							
STATES CONCERNED					FIR CONCERNED			ICAO REGIONS			
United States - Curacao					TJJS - TNCF			NAM/CAR/SAM			

ATS ROUTES	ROUTE to be DELETED		CURRENT ROUTE				NEW ROUTE		REALIGN	EXTEND	TRIM	NEW ROUTE	REALIGN	EXTEND	TRIM
							L327								
	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE	POINTS	LAT	LONG	DISTANCE			
					SCAPA	15 50 02.90N	67 29 58.30W								
					SAULT	20 22 00.00N	64 16 00.00W								
					OPALU	21 51 23.75N	63 50 47.68W								
TOTAL DISTANCE				0	TOTAL DISTANCE				0	TOTAL DISTANCE					

R E C O R D S							
Proposed by	United States (San Juan Center)		Reviewed by:	Jose Arcadia (San Juan Center)		Reviewed by	Reviewed by
<p>This route will connect to UL328 in TNCF at SCAPA. It is a bi-directional route. SAULT still needs to be submitted for publication. We agree to implement this on 31 Jan 2019.</p>			<p>by mistake of the Secretariat not included in the report. Discussed separately</p> <p><i>agreed by e-mail IAO since ATM/SAR AD</i></p>				

FLIGHTS PER MONTH											NOTES
TYPE	A320	A340	B737	B787	B738	B763	B772		E190	TOTAL	
AMOUNT											

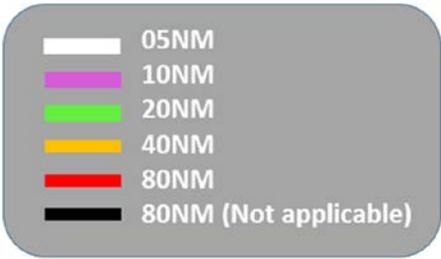
SAVINGS											NOTES
DISTANCE (NM)						CO2 (KG)					

APPENDIX D

Longitudinal separation (LSEP) in NAM/CAR/SAM Regions

Common FIRs (applicable for LSEP optimization) = 79
Goal: 40NM or less by 2018 = 85%

LSEP	Q1 2019	%
5	6	8%
10	7	9%
20	11	14%
40	43	54%
80	12	15%



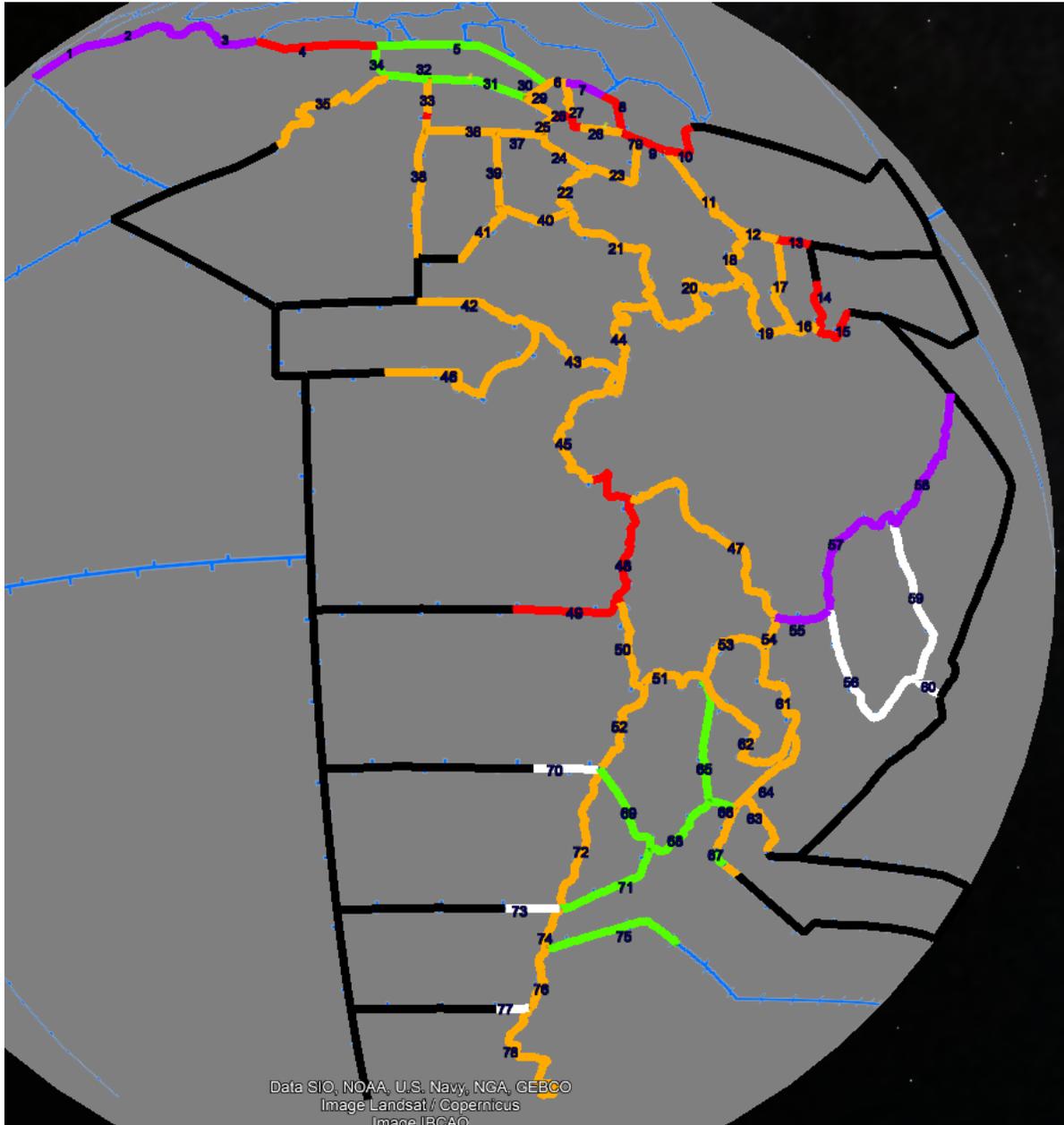
*First row number corresponds to the FIR Boundaries shown in maps

FIR #	LSEP	Comments
1	10	
2	10	
3	10	
4	80	
5	20	
6	40	FAA is having a telcon with Haiti in JUL2018 to talk about the reduction to 40NM
7	10	
8	80	
9	80	
10	80	
11	80	
12	40	
13	80	
14	80	
15	80	
16	40	

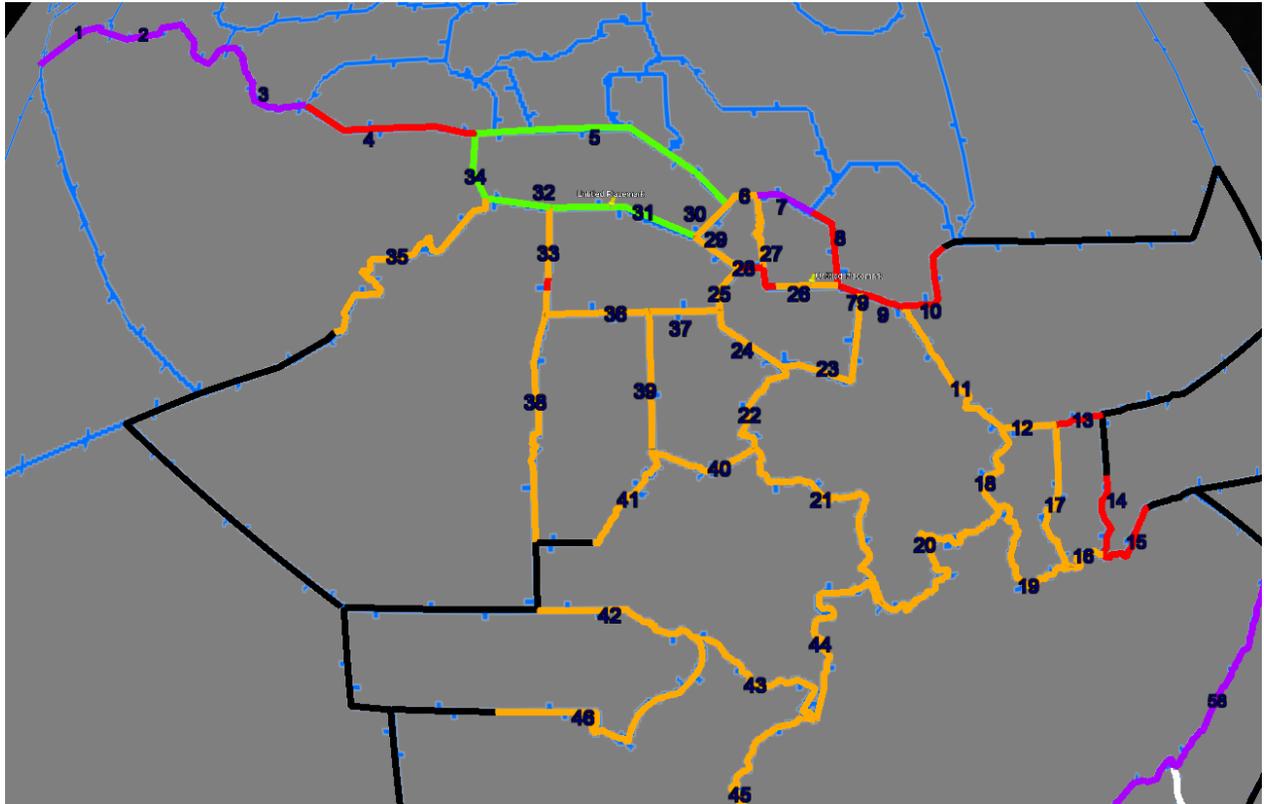
FIR #	LSEP	Comments
17	40	
18	40	
19	40	
20	40	
21	40	
22	40	
23	40	
24	40	
25	40	Curacao/Jamaica confirmed: agreed in the JUL 2018 PBN meeting to be implemented in JAN2019
26	40	Curacao/Dominican Republic confirmed: agreed in the JUL 2018 PBN meeting to be implemented in JAN2019 - A319 remain at 80nm to reduce the airspace complexity in Curacao with crossing traffic from Jamaica
27	40	Haiti/Dominican Republic confirmed: agreed in the JUL 2018 PBN meeting to be implemented in SEPT2018
28	80	UG444 remain at 80nm to reduce the airspace complexity in Curacao with crossing traffic from Jamaica
29	40	agreed: Waiting for a meeting in SEPT 2018 for 40NM
30	40	Concept agreed and a meeting is expected in SEP2018 to implement the 40NM
31	20	
32	20	
33	40	in effect: Limitation is VHF at boundary with Jamaica. Request has been made by Jamaica for solution. When this is accomplished, analysis for use of 20nm will be done by Jamaica. UM782 SUR/COMMS constraint. AUG31st 2018 is expected to be reduced to 40NM
34	20	
35	40	
36	40	
37	40	
38	40	
39	40	40NM 10-2016 CONFIRM if UM787 also have 40NM
40	40	
41	40	
42	40	
43	40	
44	40	
45	40	80NM Comms issues
46	40	

FIR #	LSEP	Comments
47	40	
48	80	
49	80	
50	40	
51	40	
52	40	
53	40	
54	40	
55	10	
56	5	
57	10	
58	10	
59	5	
60	5	
61	40	
62	40	
63	40	
64	40	
65	20	
66	20	
67	20	SARGO=40NM DARKA=40NM; 1/1/2017, RODOV=40NM, SUGRA=40NM UB555=40nm 01-01-2017
68	20	
69	20	
70	5	
71	20	
72	40	
73	5	
74	40	
75	20	
76	40	
77	5	
78	40	
79	80	

MAPS



MAPS



MAPS

