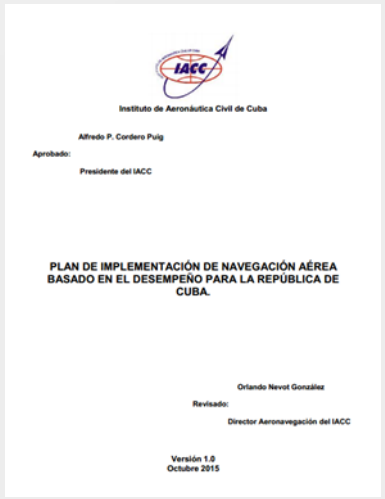
PROJECT
PBN ROUTES NETWORK
HAVANA FIR

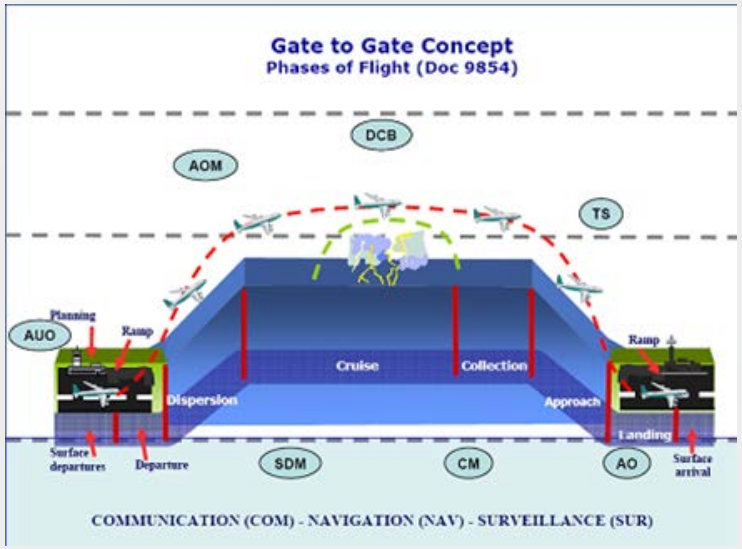
Second ICAO/IATA/CANSO performance-based navigation (PBN) Harmonization, modernization and implementation meeting for the Caribbean (CAR) region

San José de Costa Rica, Costa Rica
7– 9 December 2016

INTRODUCTION

According to the prescribed in the ANP RPB, regional and particularly national performance objectives, was developed a routes project, with a focus performance-based, in two versions.

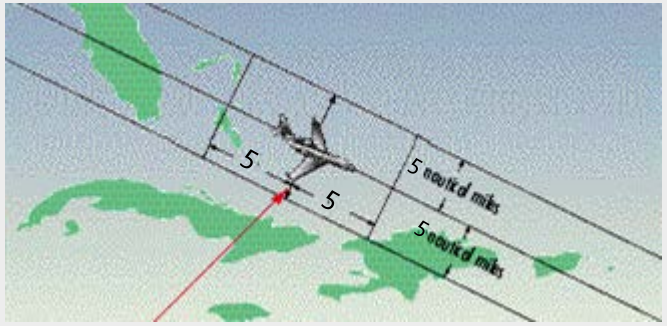


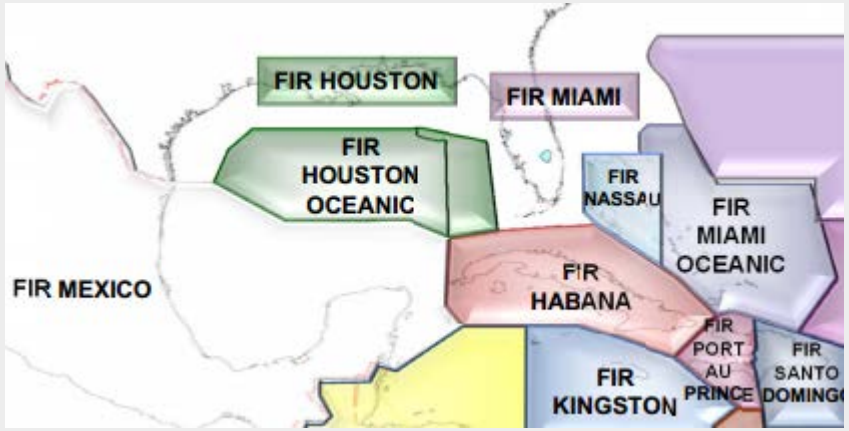


In the second version, the proposals of the neighboring FIRs have been considered, in addition to the issues treated in the Firts ICAO/IATA/CANSO performance-based navigation (PBN) Harmonization, modernization and implementation meeting

GOALS OF THE PROJET

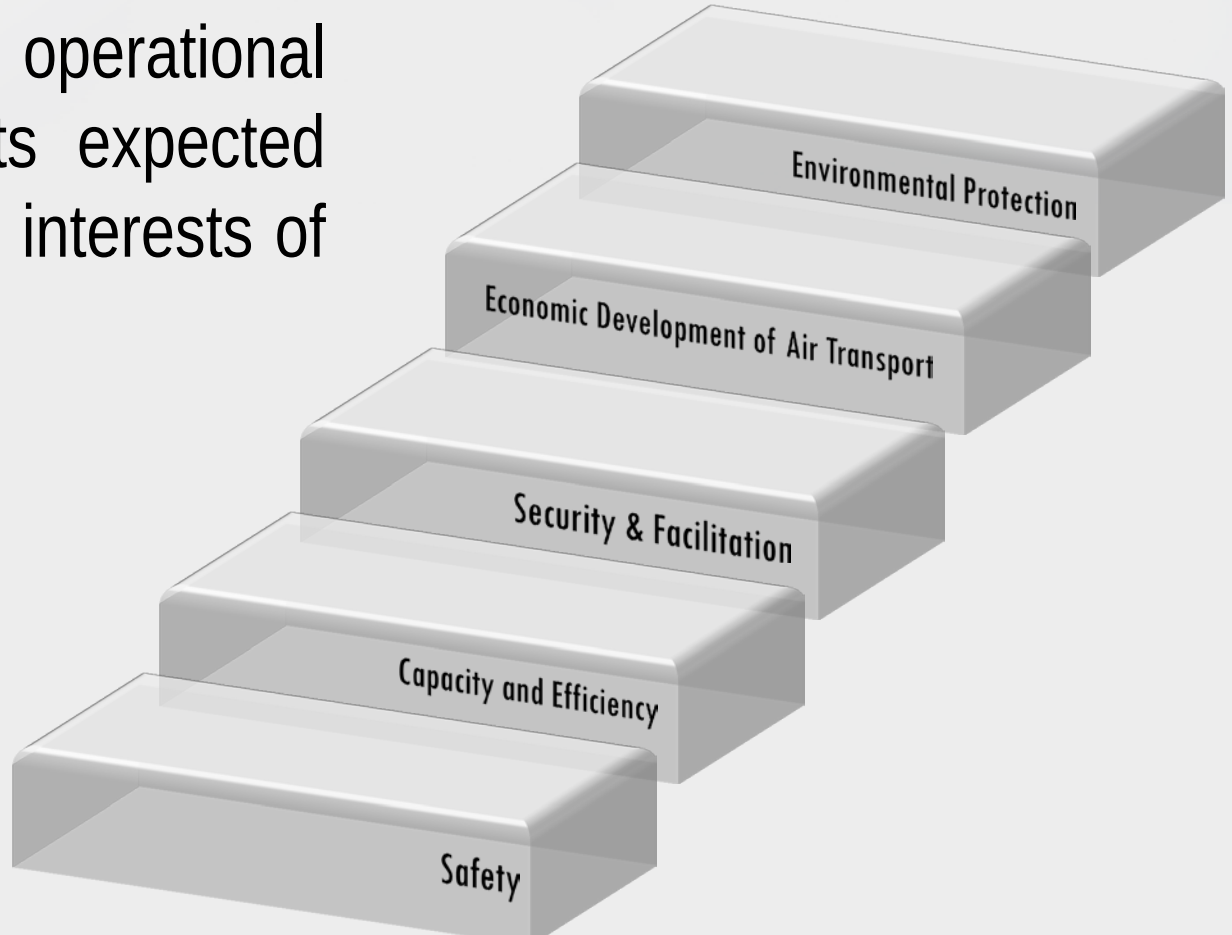
Develop an airspace concept of the Habana FIR, based on the CAR / SAM PBN Roadmap and the performance-based navigation implementation plan, for to design and implement routes connecting pairs of routes of the main destination in the airspace based on the PBN, with RNAV / 5 specification, considering the harmonization with adjacent FIRs. and the rest.





BENEFITS OF THE PROJECT

With the establishment of performance objectives, substantial benefits will be achieved common to all, tthrough the establishment of technical and operational strategies and activities, fulfilling the results expected from the strategic objectives of ICAO and the interests of the community.



PRINCIPLES FOR PRESENTING THE PROJECT

Follow the trajectories of the current flows and future

Benefit operators and ANSP as much as possible

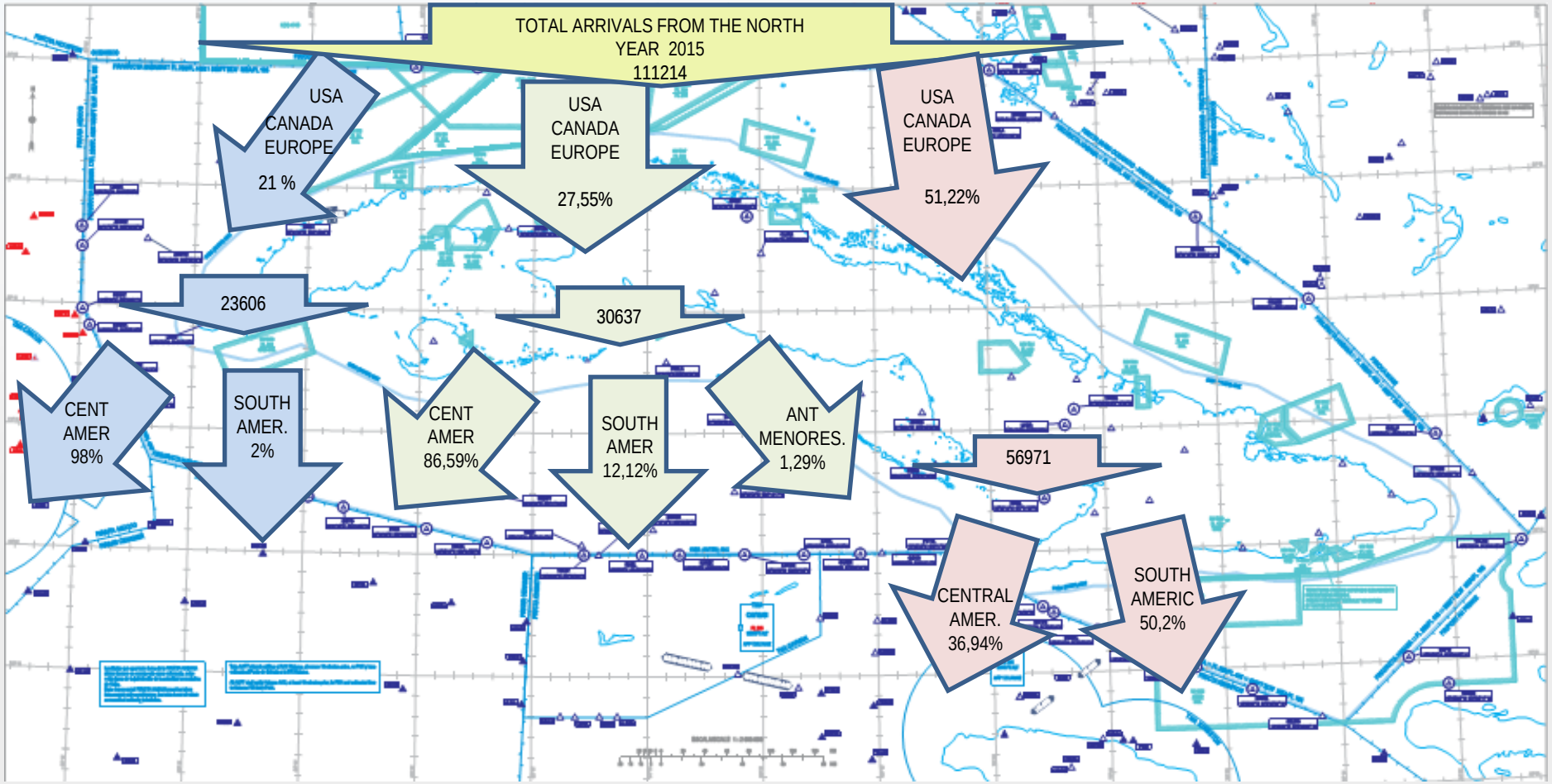
Mitigate the risks resulting from the hazards identified during operation of the current network

Coordinate appropriately with the adjacent FIRs, in order to achieve the effective interconnection of the flow that overfly us towards the destinations

RISK MANAGEMENT AND HAZARDS IDENTIFICATION

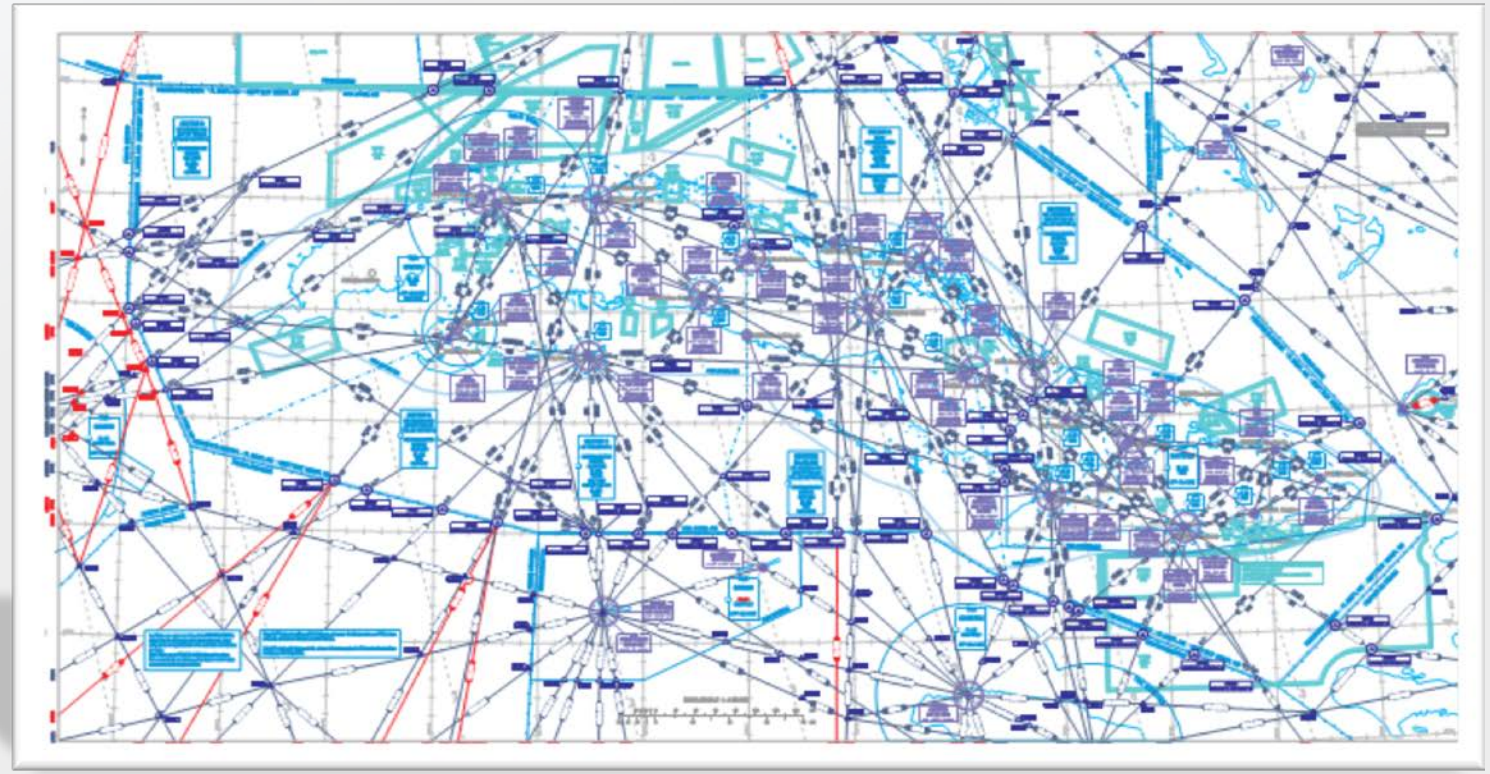
The new route network, in addition to achieving more direct flights and less emission of polluting gases, eliminates 20% of the crossings and presents better routing by subtracting confluences and establishing a single direction for the traffic in evolution (ascents and descents), this allows reduce restrictions for aircraft with opposing traffic, reducing the occurrence of incidents ATS.

TRAFFIC FLOWS FOR THE HAVANA FIR



STRUCTURE OF CURRENT NETWORK ROUTES

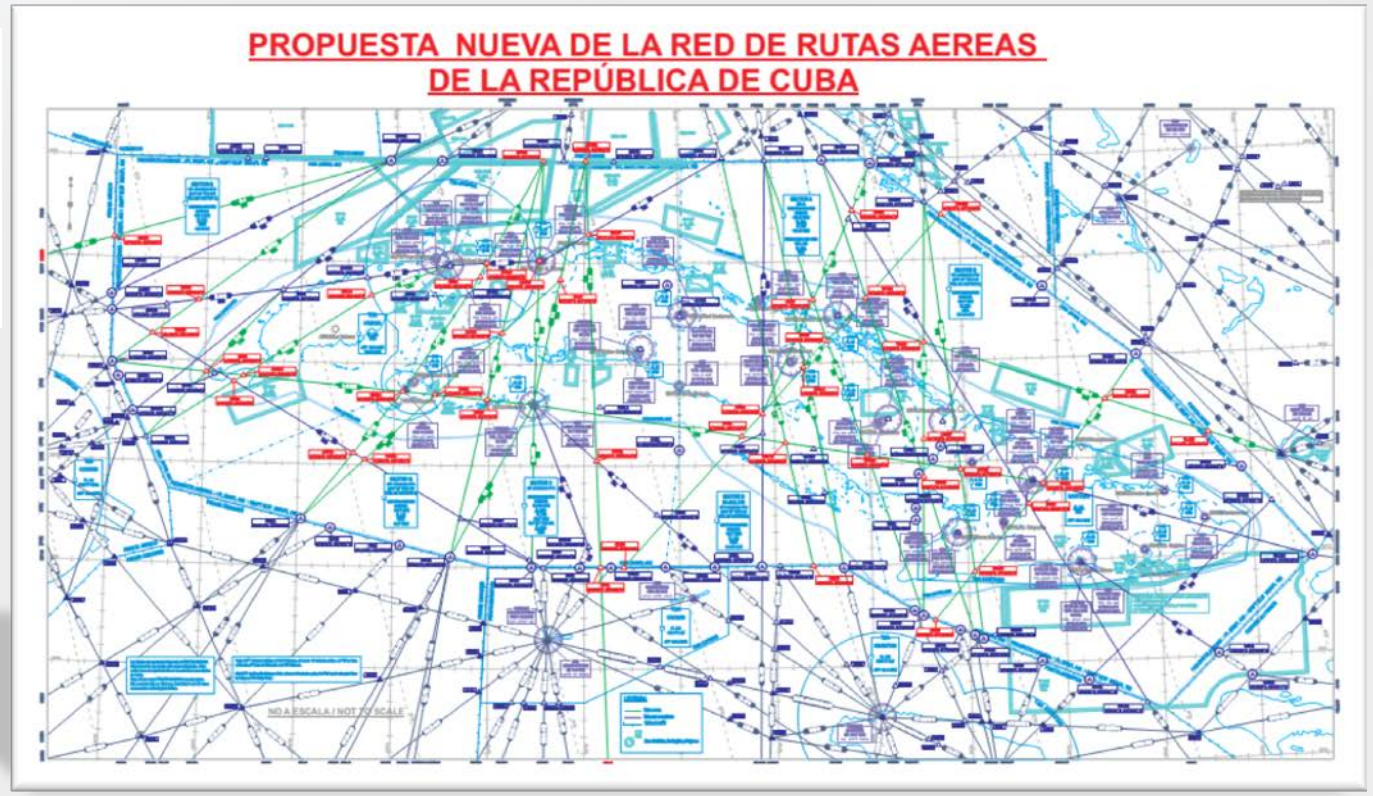
TOTAL OF CURRENT ROUTES	
LOW ROUTES	29
HIGH ROUTES	39
TOTAL DISTANCE	7448,9 NM



STRUCTURE OF THE ROUTES NETWORK PROJECT

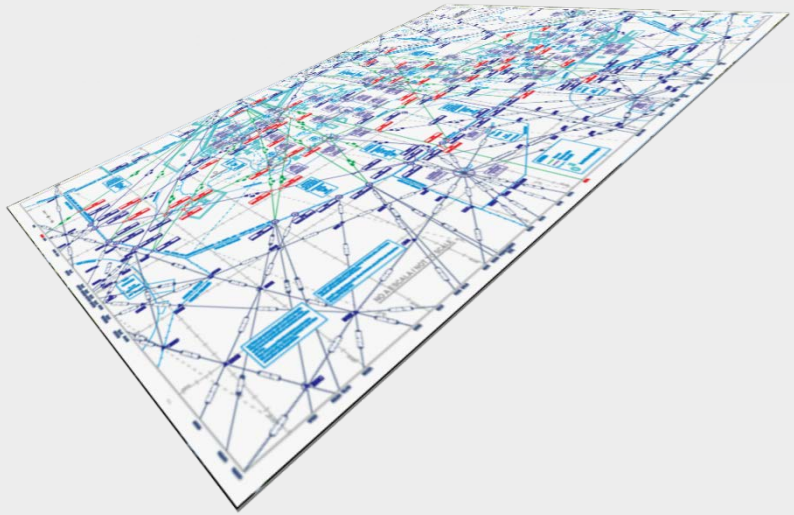
TOTAL ROUTES OF THE PROJECT	
ROUTES	32
TOTAL DISTANCE	6481,3 NM

DIFFERENCE BETWEEN THE PROJECT AND THE CURRENT	
ROUTES	- 4
TOTAL DISTANCE	- 967,6 NM



MODIFICATIONS TO THE CURRENT ROUTES NETWORK

TOTAL ROUTES OF THE PROJECT	
ROUTES CANCELED	13
ROUTES THAT ARE NOT MODIFIED	11
REALINE ROUTES	15
NEW ROUTES	9



BRIEF SPECIFICATION OF THE MAIN PROPOSALS OF THE PROJECT

ACTION	DESIGNATOR	ORIGIN	DESTINATION	DESCRIPTION
REALINEADA	B-503	ENAMO	~~RABAG~~ VIKRO	MAKE THE MOST DIRECT ROUTE TO MANLEY. FOR THE NORTH HEADING TRAFFIC LEAVING FROM MANLEY AND WITH THE SOUTH HEADING TO FLOW TRAFFIC TO SOUTH AMERICA
REALINEADA	B-879	NOSAT	CANOA	FOR A MORE EFFECTIVE AND SAFE TRANSFER OF TRAFFIC TO CACUM AND COZUMEL
REALINEADA	G-430	~~REGLA~~ FRALO	PUTUL	TO TRANSFER OF TRAFFIC HEADING NORTH TAKE OFF FROM MONTEGO. AVOID IN FRONT TRAFFIC
REALINEADA	G-448	TULEV	CAYO LARGO FUNDI	FROM MUCL TO ALILU POINT NORTH HEADING. FROM MUCL TO THE SOUTH IN BOTH WAYS. IT HAS BEEN REALING TO TULEV IN ORDER TO NOT INTERRUPTING THE GRAN CAIMÁN DEPARTURE PROCEDURES. THE ARRIVAL WILL BE VIA TULEV
REALINEADA	R-506	NUDAL	HABANA VOR	TO TRANSFER THE ARRIVAL TO HAVANA AND AVOID CONFLICT WITH R/522
REALINEADA	R-625	ENAMO	MATOS	TO MAKE SHORTER DISTANCE. TO BE USE IN BOTH WAYS AND TO TRANSFER THE TRAFFIC TO MONTEGO BAY.

BRIEF SPECIFICATION OF THE MAIN PROPOSALS OF THE PROJECT(continuation)

ACTION	DESIGNATOR	ORIGIN	DESTINATION	DESCRIPTION
REALINEADA	L-212	NOSAT	URLAM	TO MAKE SHORTER DISTANCE BETWEEN EAST AND WEST. TO MAKE POSSIBLE CONNECTION WITH ROUTES THAT CROSS IT AN TO MAKE CONNECTION TO HAITI AND DOMINIC REPUBLIC, MOSTLY BETWEEN TURISTIC SITES.
REALINEADA	L-341	TANIA	~~NIBOS~~ NIBEO	TO TRANSFER OF TRAFFIC TO MONTEGO BAY AND SOUTH AMERICA. IF IT IS ACTIVE WARNING AREA 465 THE TRAFFIC ENTER VIA URSUS AND THE INTERSECTION OF 341N WITH 780, THEN CONTINUES TO SOUTH.
REALINEADA	L-345	SELEK	~~IKPUM~~ IKBIX	TO MAKE MORE DIRECT TRANSFER OF TRAFFIC TO USA, NORTH HEADING FROM CENTRAL AMERICA
REALINEADA	L-417	BORDO	~~PULKA~~ BEMOL	FOR NORTH HEADING TRAFFIC BASICALLY, TO TRANSFER OF TRAFFIC FROM JAMAICA FIR AND BARRANQUILLA FIR. IT IS COORDINATED WITH KINGTON
REALINEADA	L-471	PABEL	~~IKPUM~~ IKBIX	TO TRANSFER OF TRAFFIC OF CENTRAL AMERICA, NORTH HEADING TO MIAMI FIR
REALINEADA	M-330	POCHO	~~ELUSI~~ ILASI	TO TRANSFER OF TRAFFIC OF EUROPE TO CENTRAL AMERICA.
REALINEADA	M-331	GHANN	~~AMSIG~~ MATOS	TO TRANSFER OF TRAFFIC OF EUROPE TO KINGSTON AREA AND LATER CENTRAL AMERICA

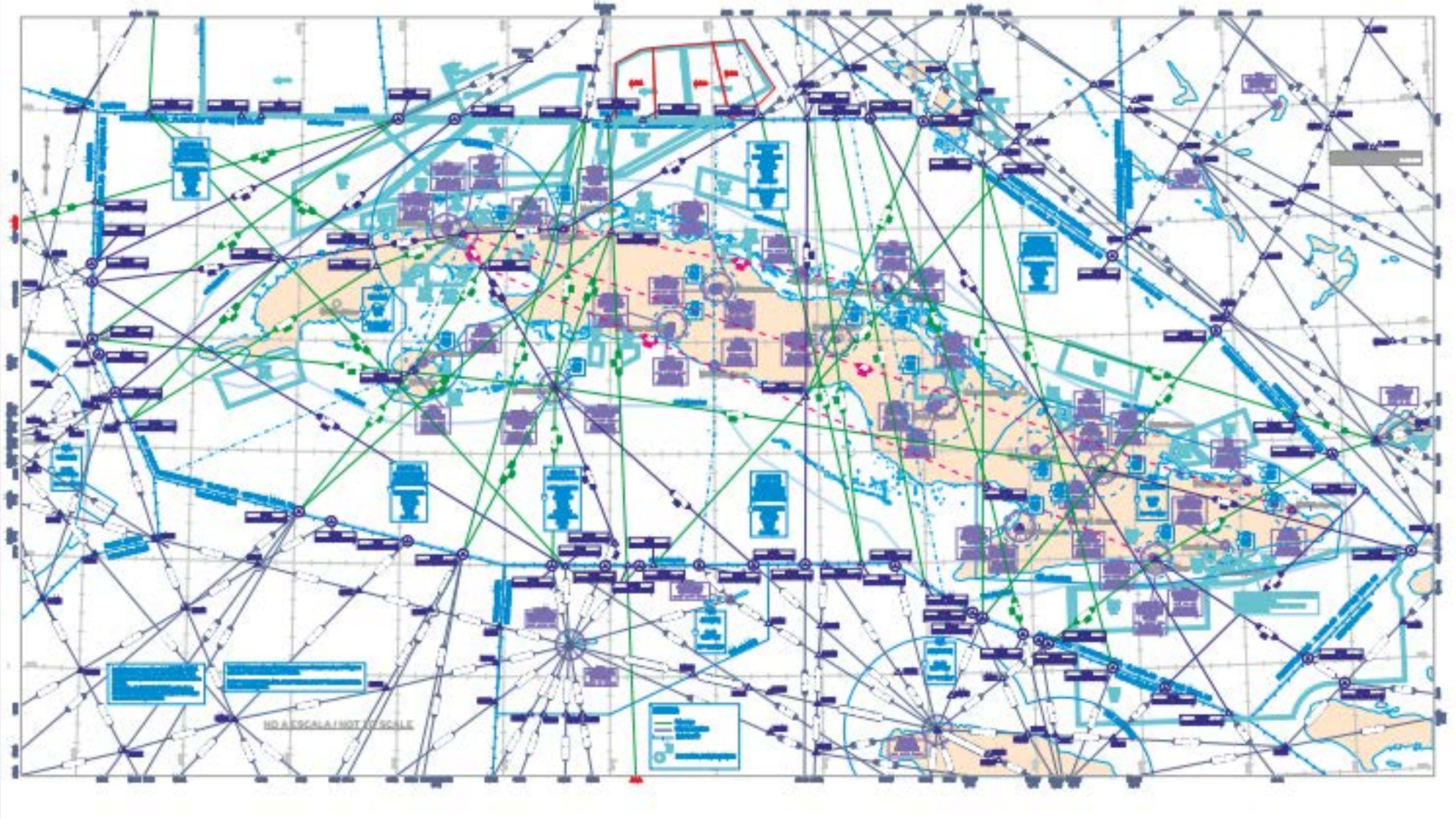
BRIEF SPECIFICATION OF THE MAIN PROPOSALS OF THE PROJECT (continuation)

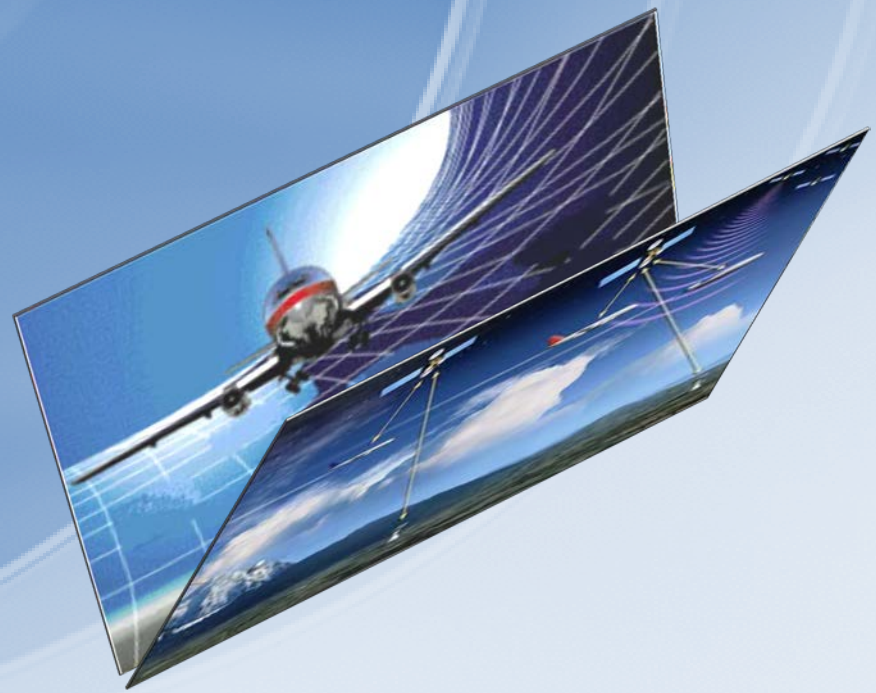
ACTION	DESIGNATOR	ORIGIN	DESTINATION	DESCRIPTION
NUEVA	O1	CANOA	~~CHINO~~ CHINU	TO TRANSFER OF TRAFFIC TO MEXICO CITY FROM CANOA TO OXUMO. IT USED TO BE VIA B/646
NUEVA	O2	NUDAL	~~ANALI~~ FLAKO	TO TRANSFER OF OUTGOING TRAFFIC FROM CAMCUN AND THEN ANALI TO CONTINUOS FOR G/765 IN ORDER TO AVOID ASCENDING AND IN FRONT TRAFFIC.
NUEVA	O3	SHARQ	NAKRO	TO TRANSFER OF TRAFFIC FROM HOUSTON FIR TO HAVANA, VARADERO AND OTHER SITES
NUEVA	O4	SHARQ	ATUVI	TO TRANSFER OF TRAFFIC FROM HOUSTON FIR TO GRAND CAYMAN.
NUEVA	C1	PABEL	ALILU	TO TRANSFER OF TRAFFIC FROM USA TO CENTRAL AMERICA AREA CREATING A FLOW DESCENDING AND AVOID PUT TRAFFIC IN FRONT OF ASCENDING VIA L471
NUEVA	C2	SELEK	MUCL ALILU	TO TRANSFER OF TRAFFIC FROM CAYO LARGO TO SELEK SOUTH HEADING. AVOID FRONT TRAFFIC.

BRIEF SPECIFICATION OF THE MAIN PROPOSALS OF THE PROJECT(continuation)

ACTION	DESIGNATOR	ORIGIN	DESTINATION	DESCRIPTION
NUEVA	C3	LEPON	FUNDI	TO TRANSFER OF TRAFFIC FROM NORTH TO SOUTH AREA OF CENTRAL AMERICA. IT IS CONNECTED TO PANAMA AREA IN ARNAL POINT. IT IS CONSULTED WITH KINGSTON. SOUTH HEADING BASICALLY
NUEVA	OR1	JARDINES VOR	~~FLAKO~~ MEBSA	TO TRANSFER OF TRAFFIC TO EASTERN CARIBBEAN

BRIEF SPECIFICATION OF THE MAIN PROPOSALS OF THE PROJECT(continuation)





OTHER ACTIVITIES RELATED TO THE PROJECT

San José de Costa Rica, Costa Rica
7– 9 December 2016

CHANGES IN THE MINIMUM LONGITUDINAL SEPARATION EXISTING BETWEEN ADJACENT FIRs

FIRs	PREVIOUS SEPARATION (NM)	CURRENT SEPARATION (NM)
MIAMI	10	10
MERIDA	10 40	10 20
CENAMER	40	20
KINGSTON	80	20
PUERTO PRINCIPE	10 MIN	10 MIN

DISCUSSION AND PROPOSALS FOR CHANGES TO ROUT OPTIMIZATION

During the current year and the end of the previous year in order to optimize routes, among others, exchange meetings and letter agreements were held in accordance with:

Miami,

Kingston,

COCESNA

Still pending is the exchange with colleagues in Merida and Puerto Príncipe

ANALYSIS OF REGIONAL EFFORTS OF IMPLEMENTATION AND DISCUSSION OF BEST PRACTICES RELATED TO ATFM

The aeronautical authority and the service provider have performed the following activities:

1) Advice from a Go-Team assistance.
2) Implementation and evaluation of activities through module B0-35 NOPS of ASBU.
3) Conclusion of the draft of the Cuban Handbook of ATFM. Participation in TELCON
4) Implementation of an ATFM Sector in the control room of ACC Havana

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