



International Civil Aviation Organization

North American, Central American and Caribbean Office (NACC)

**Seventh Central American Air Navigation Experts Working Group Meeting  
(CA/ANE/WG/7)**

**Ninth Central Caribbean Working Group Meeting (C/CAR/WG/9)**

ICAO NACC Regional Office, Mexico City, Mexico, 5 to 9 March 2012

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**Agenda Item 3**

**Air Navigation Matters**

**3.3 Specific Developments in Air Navigation**

- **ATM**

**50 NM LATERAL SEPARATION AND  
RNAV ROUTE STRUCTURE IN THE GULF OF MEXICO**

(Presented by the United States)

**SUMMARY**

The purpose of this Working Paper is to inform the group that the United States Federal Aviation Administration (FAA) and Servicios a la Navegación en el Espacio Aéreo Mexicano (SENEAM), in coordination with the ICAO North American, Central American and Caribbean (NACC) Office and operator organizations are progressing a plan to implement 50 NM lateral separation and an Area Navigation (RNAV) route structure. Phase 1 was implemented in the Gulf of Mexico Control Areas on 20 October 2011. Phase 2 is tentatively planned to be implemented on 20 September 2012. This paper discusses Phase 2 planning and objectives and provides a Concept of Operations, Task List and Schedule, and a draft RNAV route structure.

***Strategic  
Objectives***

*This working paper is related to Strategic Objective A.*

**1. Introduction**

1.1 In 2009 the United States Federal Aviation Administration (FAA) and Servicios a la Navegación en el Espacio Aéreo Mexicano (SENEAM) started working together to progress implementation of 50 NM lateral separation between operators and aircraft authorized for Area Navigation (RNAV) 10, Required Navigation Performance (RNP) 10 or RNP 4 operations and to introduce an RNAV route structure for the airspace overlying the Gulf of Mexico. The FAA and SENEAM have conducted a number of meetings to plan the project and, in addition, have participated in ICAO regional planning meetings to inform States and industry organizations of progress on the project. In 2011, the FAA and SENEAM coordinated to provide papers on the project to NACC Working Group/3 in May 2011 and to NACC DCA/4 in June 2011. In addition, the FAA, in coordination with SENEAM, provided a briefing to overview the project at the ICAO Workshop on PBN Airspace Redesign in October 2011.

1.2 In December 2010, the FAA and SENEAM concluded that additional work is needed on the RNAV route system design before moving toward route publication. This being the case, it was agreed that the Gulf of Mexico RNAV project would be implemented in two phases:

1.3 Phase 1 was implemented on 20 October 2011. In Phase 1, 50 nautical mile (NM) lateral separation is applied in Gulf of Mexico airspace between aircraft authorized RNP 10 or RNP 4 while leaving the existing ATS route structure and route operating policies in place.

1.4 Phase 2 is tentatively planned for 20 September 2012. In Phase 2, the existing ATS route structure is planned to be replaced with an RNAV route system based on 50 NM lateral separation.

1.5 Provisions for 50 NM lateral separation have been applied in the San Juan Flight Information Region (FIR), the Atlantic portion of the Miami Oceanic Control Area (CTA) and the West Atlantic Route System (WATRS) since June 2008. Those provisions are published in ICAO Regional Supplementary Procedures (SUPPS) for the Caribbean (CAR) Region, Chapter 2 (Flight Plans), paragraph 4.1.1 (Area navigation (RNAV) Specifications); paragraph 6.2.1 (Lateral Separation); and Chapter 7.2 (Airspace Monitoring). In addition, provisions for the application of 50 NM lateral separation have been incorporated into paragraph 5.4.1.2 (Lateral Separation Criteria and Minima) of ICAO Doc 4444.

## **2. Significant Phase 1 Developments**

2.1 Paragraph 4.1.1.1.1 of the CAR SUPPS was updated for Phase 1 implementation to show Houston Oceanic FIR, the Gulf of Mexico portion of Miami Oceanic and Gulf of Mexico portion of the Mexican FIR as areas where 50 NM lateral separation can be applied.

2.2 Operational policy and procedures for the application of 50 NM lateral separation were published in the following documents:

- FAA Notice: Gulf of Mexico 50 NM Lateral Separation Initiative – Operational Policy and Procedures;
- DGAC México Circular Obligatoria: Implementación de Separación Lateral de 50 NM en el Golfo de México

2.3 The FAA, in coordination with SENEAM, established a Webpage containing significant guidance and policy documents and information related to the project. It is entitled “The Gulf of Mexico 50 NM Lateral Separation Reduction Initiative Webpage” and can accessed at the following URL:

[http://www.faa.gov/about/office\\_org/headquarters\\_offices/ato/service\\_units/enroute/oceanic/gomex/](http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/enroute/oceanic/gomex/)

## **3. Phase 2 Project Objectives**

3.1 The major objectives of the project are to:

- Continue to apply 50 NM lateral separation between aircraft authorized for RNP 10 or RNP 4 operations within the Houston Control Area (CTA)/Flight Information Region (FIR), the Gulf of Mexico portion of the Miami Oceanic CTA, the Merida High CTA and the Monterrey CTA.

- Continue to apply provisions of the ICAO Performance-Based Navigation (PBN) Manual for Gulf of Mexico operations to allow aircraft equipped with a single Long Range Navigation System to qualify for RNP 10 authorization. (Reference ICAO PBN Manual, Volume II, Part B, Chapter 1, paragraph 1.3.6.2);
- Accommodate the operation of the very small percentage of operators and aircraft that may not have obtained RNP 10 authorization, while continuing to work with operators and international organizations to maximize the number and percentage of Gulf of Mexico flights conducted by operators and aircraft authorized for RNP 10 or RNP 4 operations.
- Harmonize 50 NM lateral separation policies and procedures between adjacent ATS providers.
- Implement an RNAV route system in the Gulf of Mexico CTAs based on 50 NM lateral separation.

#### 4. Information provided in Appendices to this paper

4.1 The Appendices to this paper describe the operational provisions and tasks for Phase 2 implementation of RNP 10 for the Gulf of Mexico airspace in accordance with CAR SUPPS and Doc 4444. The appendices are:

- **Appendix A:** Phase 2 Concept of Operations For Implementation of 50 NM Lateral Separation on Existing Gulf of Mexico Routes;
- **Appendix B:** Phase 2 Task List: Implementation of 50 NM Lateral Separation on Existing Gulf of Mexico ATS Routes;
- **Appendix C:** Chart Depicting Existing Gulf of Mexico ATS Route Structure;
- **Appendix D:** Chart Depicting Draft Gulf of Mexico RNAV Route Structure;
- **Appendix E:** Draft List of Route Segments Proposed To Be Deleted or Amended In Gulf of Mexico CTAs For ICAO Doc 8733 revision;
- **Appendix F:** Draft RNAV Route Operating Policies.

#### 5. Suggested Actions

5.1 The meeting is invited to:

- a) note the Phase 2 project plan, task schedule and draft RNAV route system;

- b) support the continued work toward implementation of 50 NM lateral separation and an RNAV route system in the airspace overlying the Gulf of Mexico.

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## APPENDIX A

### PHASE 1 CONCEPT OF OPERATIONS

**Note:** final policies and procedures will be published in an FAA Notice and a DGAC Mexico Circular Obligatoria and posted on the Gulf of Mexico 50 NM Lateral Separation/RNAV Routes Project Website.

### CONCEPT OF OPERATIONS FOR IMPLEMENTATION OF 50 NM LATERAL SEPARATION ON EXISTING GULF OF MEXICO ROUTES

#### 1. Vertical and horizontal boundaries of airspace

a. **Horizontal Boundary.** 50 NM lateral separation is planned to be applied between aircraft authorized RNP 10 or RNP 4 operating on oceanic routes or areas:

- Within the Houston Oceanic CTA/FIR and the Miami CTA/FIR.
- Within the Mexico FIR/UTA: Monterrey CTA and Merida High CTA

b. **Vertical Boundary.** 50 NM lateral separation is planned to be applied between aircraft authorized RNP 10 or RNP 4 operating above the floor of controlled airspace within the CTAs listed above.

#### 2. Lateral separation standard(s) to be applied

a. **Application of 50 NM Lateral Separation to Operators/Aircraft Authorized RNP 10 or RNP 4.** 50 NM lateral separation will be applied between aircraft authorized RNP 10 or RNP 4 operating at any altitude within the Gulf of Mexico CTAs above the floor of controlled airspace.

b. **Lateral Separation Applied to Operators/Aircraft Not Authorized RNP 10 or RNP 4.** Within the Gulf of Mexico Oceanic CTAs, the lateral separation currently applied to operators/aircraft not authorized RNP 10 or RNP 4 (NonRNP10 aircraft) will continue to be applied, i.e., 100 NM in the Houston, Monterrey and Merida CTA's and 90 NM in the Miami Oceanic CTA.

3. **Concept for transfer of control to Adjacent CTA's.** Transfer of control will be affected per regional agreement with the appropriate separation standard applied.

#### 4. Concept for Route Structure.

a. The RNAV route structure in the oceanic portion of the Gulf of Mexico will be based on 50 NM lateral separation.

5. **Operator/Aircraft requirements for operation on routes on the periphery of the Gulf CTAs.** Operation on certain routes that fall within the boundaries of Gulf CTAs will not be affected by the introduction of RNP 10/50 NM lateral separation (e.g., routes defined by VOR and DME).

#### 6. Flight Plan Equipment Suffix Requirements

a. **ICAO Flight Plan Required.** Operators are required to file an ICAO flight plan.

b. **ICAO Flight Plan Entries.** To inform ATC that they have RNP 10 or RNP 4 authorization and are eligible for 50 NM lateral separation, operators must annotate:

- \*Item 10 (Equipment) of the ICAO Flight Plan with the letter “**R**” (RNP type certification) and “**Z**” (Other equipment carried).
- \*Item 18 (Other Information) with, as appropriate, “NAV/RNP10”, “NAV/RNP4”, “STS/NONRNP10”.

c. **15 November 2012 Implementation: ICAO Flight Plan (FPL) 2012.** ICAO has published a revised ICAO Doc 4444, Appendix 2 policy for ICAO Flight Plan Item 18 entries to show aircraft Comm, Nav and Surveillance capabilities. The revised Doc 4444, Appendix 2 material is planned to be effective on 15 November 2012.

## 7. Provisions for accommodating aircraft not meeting RNP 10 or RNP 4

a. For the project to be fully successful, operators flying on oceanic routes or areas in the Gulf of Mexico CTAs between FL 290-410 (inclusive) should obtain RNP 10 or RNP 4 authority (to the maximum extent possible). **For initial project implementation, however, the airspace of the Gulf CTAs will not be “exclusionary”.** Aircraft not authorized RNP 10 will be allowed to fly on oceanic routes or areas within Gulf CTAs, however, 50 NM lateral separation will not be applied to them. They will be cleared on their preferred routes and altitudes as traffic permits. Aircraft that are authorized RNP 10 or RNP 4 will have a better opportunity of obtaining their preferred route and altitude because the 50 NM lateral separation standard will be applied to those aircraft.

b. The following basic accommodation policies will apply:

(1) Operators/aircraft not authorized RNP 10 or RNP 4 will file “STS/NONRNP10” in Item 18 of the ICAO flight plan and will notify the controller that they do not have RNP 10 authorization upon making voice contact.

Note: this provision will have to be reviewed and possibly revised for FPL 2012 implementation on 15 November 2012.

(2) Non-RNP 10 operators/aircraft will be able to file any route at any altitude in the Gulf of Mexico CTAs. They will be cleared to operate on their preferred routes and altitudes in accordance with existing policy (i.e., traffic permitting).

(3) Non-RNP 10 aircraft will retain the option of climbing to operate at altitudes above those where traffic is most dense (i.e., at/above FL 410). To minimize the chance of conflict with aircraft on adjacent routes, Non-RNP 10 aircraft should plan on completing their climb to or descent from higher FL’s within radar coverage.

## 8. Aircraft Population RNP 10 or RNP 4 Authorization Objective

a. Implementation Objective: Percentage of Flights Authorized RNP 10 or RNP 4. The Gulf Task Force will progress its work with the objective of having approximately 85% of flights operating in Gulf oceanic airspace authorized for RNP 10 or RNP 4 by 20 September 2012.

b. RNP 10 or RNP 4 Compliance To the Maximum Extent Possible. The Gulf Task Force will advocate that all operators/aircraft that fly in the Gulf CTAs obtain RNP 10 or RNP 4 authorization as soon as possible.

**9. Aircraft/operator authorization requirements (equipage, RNP 10 authorization documents)**

a. For 50 NM lateral separation to be applied, operators are required to obtain RNP 10 or RNP 4 authorization from the appropriate State authority.

b. For Gulf of Mexico operations, aircraft equipped with a single Long Range Navigation System will qualify for RNP 10 authorization. The provisions of Volume II, Part B, Chapter 1, paragraph 1.3.6.2 of the ICAO PBN Manual will apply.

c. Guidance To Be Used. The FAA will use FAA Order 8400.12 (as amended) for RNP 10 authorization or, if applicable, FAA Order 8400.33 (as amended) for RNP 4 authorization. It is recommended that other States use either the FAA orders or the ICAO Performance Based Navigation (PBN) Manual (ICAO Document 9613).

**12. Target Dates:**

a. Implementation Decision Date: 1 June 2012

b. Operator/aircraft RNP 10 or RNP 4 Authorization Date: 20 Sept 2012

c. Target Implementation Date: 20 Sept 2012

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**PHASE 2 TASK LIST: IMPLEMENTATION OF 50 NM LATERAL SEPARATION ON GOMEX RNAV ROUTES**

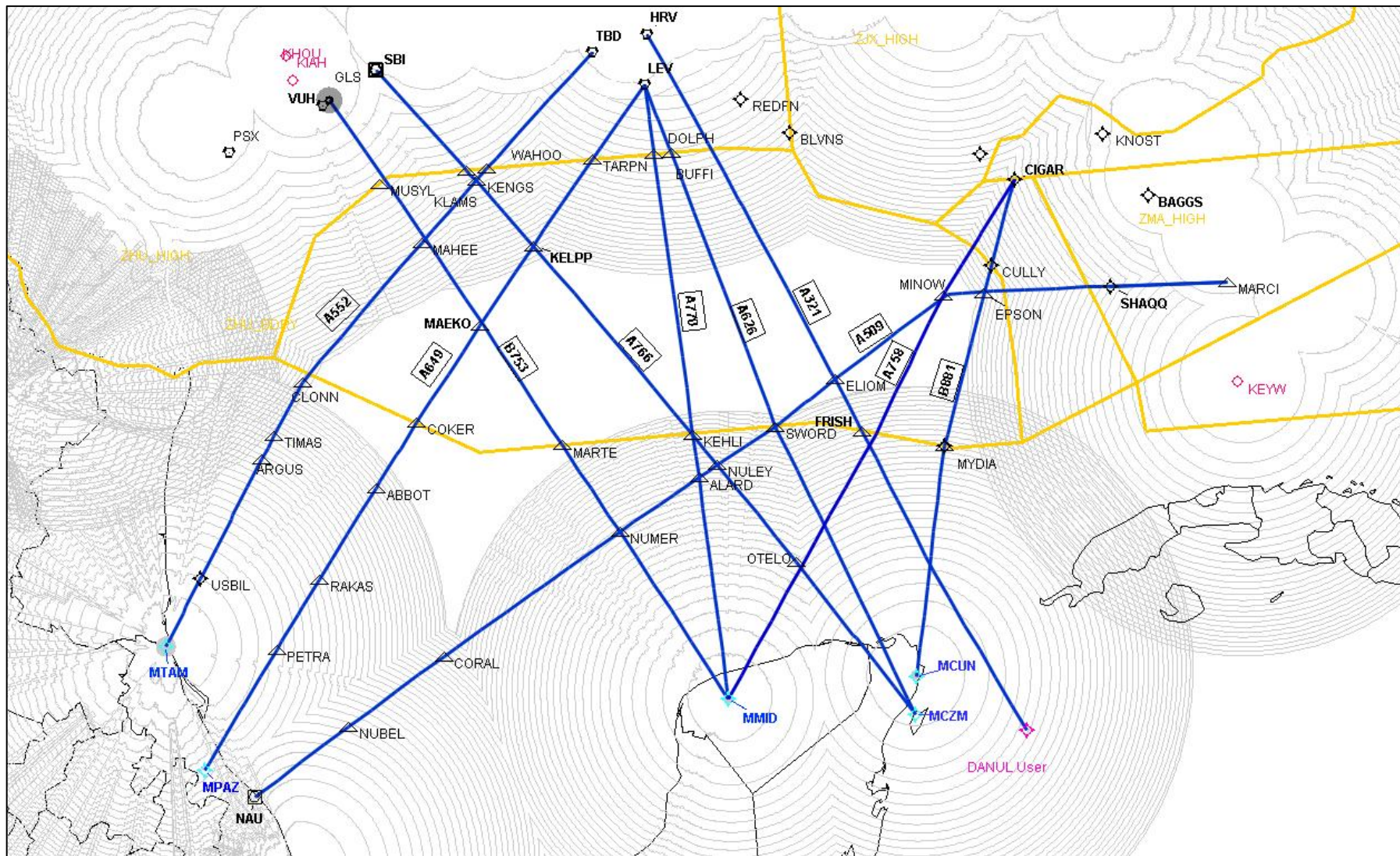
<u>SUBJECT</u>	<u>TARGET DATE</u>	<u>LEAD</u>	<u>SUMMARY/STATUS OF KEY IMPLEMENTATION TASKS</u> – update 30 Jan 12
<b>ICAO SARPS and Guidance</b>	3/15/2010	FAA, SENEAM	<b>Complete.</b> Review related ICAO SARPS and guidance documents. ICAO Doc 4444, Annexes 2 and 6. Note: 50-lat criteria is currently published on Caribbean (CAR) Regional Supplementary Procedures (ICAO Doc 7030) and ICAO Doc 4444, paragraph 5.4.1.2.
<b>Task List and Schedule</b>	3/15/2010	FAA, SENEAM	<b>Ongoing.</b> Draft Task List developed and coordinated. Add updates as needed.
<b>Concept of Operations</b>	3/15/2011	FAA, SENEAM	<b>Complete.</b> Concept of Operations reviewed at the July 2011 FAA/SENEAM/IATA meeting. Incorporated into FAA Notice and DGAC Mexico Circular Obligatoria.
<b>Develop Safety Assessment/Collision Risk Modeling Document</b>	5/25/2011	FAA	<b>Complete.</b> FAA Tech Center submitted draft Safety Assessment /Collision Risk Modeling on 10 May.
<b>RNP 10 or RNP 4 Authorization Job Aids</b>	8/1/2011	FAA	<b>Complete.</b> Job Aids updated to reflect S-LRNS and posted to Gulf Webpage
<b>RNP 10 and RNP 4 authorization criteria including S-LRNS eligibility.</b>	8/1/2011	FAA, SENEAM	<b>Complete.</b> 1. Reviewed ICAO Performance Based Navigation (PBN) Manual (ICAO Doc 9613) for current criteria for RNP 10 and RNP 4 authorization. (Third Edition - 2008 is current) 2. Determined that RNP 10 can be authorized for single LRNS equipped aircraft for Gulf operations. Reference: ICAO PBN Manual, Vol II, Part B, Chapter 1, paragraph 1.3.6.2. FAA Order 8400.12C, Operations Specifications, LOA's, Inspector Handbook material completed.
<b>Provider State ATS Policy Documents</b>	8/15/2011	FAA, SENEAM	<b>Complete.</b> Provider States review or develop Air Traffic Services policy documents, as necessary. FAA Order 7110.65 has been updated and submitted.
<b>State Regulations and Guidance</b>	9/1/2011	States	States revise regulations and guidance, as necessary and prepare responsible offices for operator authorization tasks.
<b>ICAO Regional Supplementary Procedures</b>	9/1/2011	ICAO NACC Office	<b>Complete.</b> CAR Regional SUPPS updated to add Houston, Miami on Gulf side and Mexican FIRs in Gulf airspace as areas where 50-lat can be applied.
<b>RNP 10 Operator Authorization Documents</b>	10/1/2011	FAA, SENEAM	<b>Complete.</b> Finalize operator authorization documents: Operations Specifications (OpSpecs), Intl. General Aviation LOA's (Letters of Authorization), etc



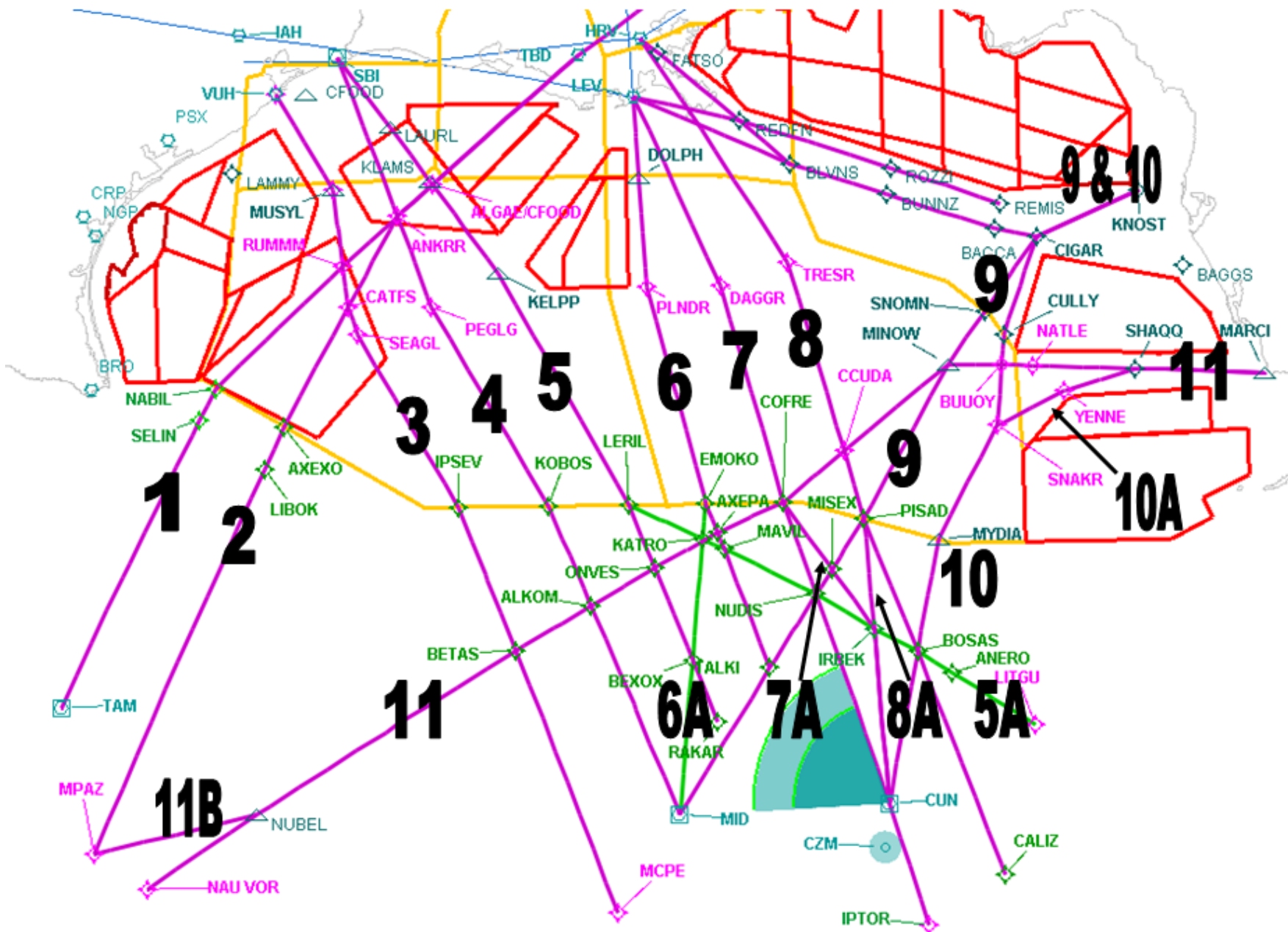
<u>SUBJECT</u>	<u>TARGET DATE</u>	<u>LEAD</u>	<u>SUMMARY/STATUS OF KEY IMPLEMENTATION TASKS</u> – update 30 Jan 12
<b>Establish Target Implementation Date</b>	12/1/2011	FAA, SENEAM	<b>Complete.</b> Agreement reached to target 20 Sept 2012 as the date for Phase 2 implementation.
<b>NACC WG/9: 5-9 March 2012</b>	3/5/2012	FAA, SENEAM	Attend NACC WG/9 meeting at ICAO Offices in Mexico City. FAA and SENEAM to be provided rooms for break out meetings on Gulf RNAV project.
<b>RNAV Route Structure &amp; Route Operating Policies</b>	3/7/2012	FAA, SENEAM	<b>On-going.</b> Review RNAV route structure and route operating policies during ICAO NACC WG/9 meeting (5-9 March 2012).
<b>Examination of Costs and Benefits</b>	3/7/2012	FAA, SENEAM	<b>OPEN.</b> 1. FAA Tech Center Route Analysis results available for 7 March. (Minimal cost to operators: aircraft already equipped with at least single LRNS).
<b>Plan Working Papers for Regional ICAO Working Groups</b>	3/7/2012	FAA, SENEAM	<b>Ongoing.</b> Submit Working Papers and Information Papers to appropriate ICAO Working Groups in the region, as needed.
<b>Revision to ICAO Doc 8733 (CAR/SAM Air Navigation Plan (ANP))</b>	3/7/2012	FAA, SENEAM, ICAO	<b>OPEN.</b> Review list of revisions to ICAO Doc 8733 (CA/SAM ANP) and establish date for submission to ICAO NACC Office.
<b>ATC Systems</b>	3/7/2012	FAA, SENEAM	<b>On-going.</b> Review any issues related to ATC systems.
<b>Plan and schedule for aeronautical chart data publication</b>	3/7/2012	FAA, SENEAM	<b>OPEN.</b> Review key dates for route publication: a. Stand-alone Transition Waypoints (if adopted): data by 4/27/12 for publication on 5/29/12. b. Gulf RNAV Route/Waypoint: data by 6/22/12 for publication on 7/24/12 for 9/20/12 Gulf RNAV route implementation
<b>Transition Plan</b>	3/7/2012	FAA, SENEAM	<b>OPEN.</b> Develop sequence of events for day prior and day of implementation.
<b>Safety Risk Management Document (SRMD) and Safety Assessment</b>	4/1/2012	FAA, SENEAM	<b>In progress.</b> Update as necessary
<b>Advance Notice</b>	4/1/2012	FAA, SENEAM	<b>OPEN.</b> Publish notice of intent to implement (key dates, basic plan and operating policy, etc.).
<b>ICAO State Letter</b>	4/1/2012	ICAO	<b>OPEN.</b> Distribute ICAO State letter on Gulf RNAV Routes project. Outline project and use of RNP 10 and RNP 4 Job Aids and other guidance posted on the Gulf of Mexico Webpage.

<u>SUBJECT</u>	<u>TARGET DATE</u>	<u>LEAD</u>	<u>SUMMARY/STATUS OF KEY IMPLEMENTATION TASKS – update 30 Jan 12</u>
<b>Information Dissemination Program</b>	4/1/2012	FAA	<b>OPEN.</b> 1. Action: update Web Page content and post documents. (Web page is online). 2. Distribute material to operator, flight planning, flight products, training and appropriate State authorities using distribution list.
<b>Establish measures to inform Flight Operations inspectors</b>	4/1/2012	FAA, SENEAM	<b>OPEN.</b> Advance Notice to be distributed to FSDO, Regional and Industry contacts. SENEAM contacts have been added. Take action to inform Flight Operations inspectors of Gulf program requirements.
<b>Project status review</b>	6/1/2012	FAA, SENEAM	<b>OPEN.</b> FAA and SENEAM review factors related to implementation and determine whether to proceed with implementation on 9/20/12.
<b>Operator/aircraft fleet readiness projection</b>	7/1/2012	FAA	<b>OPEN.</b> Need to assess percentage of flights filing RNP 10 or RNP 4. Gulf aircraft are currently equipped with at least a single long range navigation system (LRNS) that will meet RNP 10. Know Your Airspace (KYA) data is available.
<b>Operational Policy &amp; Procedures Documents</b>	7/15/2012	FAA, SENEAM	<b>OPEN.</b> FAA update FAA Notice. SENEAM update DGAC Circular Obligatoria.
<b>Notice of Decision to Implement</b>	7/20/2012	FAA, SENEAM	<b>OPEN.</b> Provider States issue NOTAM of intent to implement on 20 Sept 2012. Provide notification to States and operators of decision to implement
<b>State Controller Training</b>	8/20/2012	FAA, SENEAM	<b>OPEN.</b> ATS provider States start controller training. FAA and SENEAM to share training materials.
<b>Operators Obtain RNP 10 or RNP 4 Authorization</b>	8/20/2012	Operators	<b>OPEN.</b> Operators of RNP 10 or RNP 4 capable aircraft try to obtain RNP 10 or RNP 4 authorization one month in advance of implementation. Will need to follow up with operator groups.
<b>Target Implementation Date and time</b>	9/20/2012	All	<b>OPEN.</b> Need to determine time of implementation. <b>Time UTC?</b>
<b>Post Implementation Monitoring: 30-day Review</b>	10/20/2012	FAA, SENEAM	Conduct 30-day post implementation review. Convene specialists as necessary for monitoring.
<b>12-month Review</b>	10/20/2012	FAA, SENEAM	Conduct 12-month review.
<b>90-day Review</b>	12/20/2012	FAA, SENEAM	Conduct 90-day review.

### EXISTING GULF ATS ROUTES



# DRAFT GULF RNAV ROUTES



**APPENDIX E**

Draft 27 Jan 12

<b>ROUTE (RUTA) SEGMENTS PROPOSED TO BE DELETED <u>IN GULF CTA'S</u></b>		
<b>AIRWAY</b>	<b>RNAV REPLACEMENT</b>	<b>CTA's</b>
UA552	RUTA 1	MTY/MEX/HOU
UA649	RUTA 2	MTY/MEX/HOU
UT7	RUTA 2	MTY/MEX
UT21	RUTAS 3 & 4	MID
UB753	RUTA 4	MID/HOU
UL674	5A	HOU/MID/HAV
A766	RUTA 5 & 6	MID/HOU
UA770	6A	MID/HOU
A626	RUTA 6 & 7	MID/HOU
A321	RUTA 8	MID/HOU
UA509	RUTA 11	MEX/MID/MIA
UA758	9	MID/MIA
UB881	10	MID/MIA

<b>ROUTES PROPOSED TO REMAIN</b>	<b>CTA's</b>
UT11, UJ2, J177, UJ34	MTY/HOU
UR522, UT11,UJ2, B646	MID/MIA

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## APPENDIX F

DRAFT 31 Jan 2012

### **GULF OF MEXICO RNAV ROUTE OPERATING POLICY**

#### **1. Introduction**

a. Purpose of This Document. This document contains the draft Air Traffic Management (ATM) operating policies proposed to be applied to the proposed Gulf RNAV routes. It focuses on policies such as: bidirectional versus unidirectional operations and route usage.

b. Tentative Gulf RNAV Route Implementation Date. The tentative implementation date being considered is 20 Sept 2012. The implementation date may be affected by factors such as the FAA ERAM/ATC automation upgrade schedule.

#### **2. Key Policies Proposed For Specific Routes**

a. Miscellaneous Policies Applicable To Routes 1-11.

(1) During RADAR outages - Non-RADAR rules will apply

(2) Control Areas (CTAs): to facilitate RADAR handoffs

AIRWAY	WAYPOINT	CTA's
1	NABIL	ZHU-MTY
2	AXEXO	ZHU-MTY
3	IPSEV	ZHU-MID
4	KOBOS	ZHU-MID
5	LERIL	ZHU-MID
6	EMOKO	ZHU-MID
7	COFRE	ZHU-MID
8	PISAD	ZHU-MID
8	PISAD	ZHU-MID
10	MYDIA	ZHU-MID
11	COFRE	ZHU-MID

(3) IATA has requested that FAA/SENEAM consider life raft equipment rule (162 NM from shore) in developing routes paralleling the coast.

b. Policies Applicable to SENEAM/FAA Proposed RNAV Routes

(1) Proposed minimum track spacing is 50 NM.

- (2) 50 NM lateral separation will only be applied to operators/aircraft authorized RNP 10 or RNP 4.
- (3) Operators/aircraft not authorized RNP 10 or RNP 4 are proposed to be accommodated, however, 50 NM lateral separation will not be applied to them.
- (4) FAA and SENEAM will allow aircraft equipped with one Long Range Navigation System to qualify for RNP 10 operations (S-LRNS).
- (5) At this time, S-LRNS qualification for RNP 10 will only apply to GoMex operations. Any expansion of this provision will require assessment and agreement by the appropriate State authorities.

### 3. Operating Policy In Houston (ZHU) and Monterrey (MTY) Centers

#Route 1:        -Planned to be unidirectional – northbound in MTY airspace  
-Planned to be published as unidirectional  
(Editorial note: is only Route 1 to be published uni-directional?)  
-Planned to be operated as bidirectional in ZHU airspace

#Route 2:        -Planned to be bidirectional in ZHU airspace  
-Planned to be unidirectional southbound only in MTY airspace

### 4. Operating Policy In ZHU and Merida (MID) Centers

#### a. General Notes:

- (1) Operating policy to/from Cancun (MMUN) also applies to Cozumel (MMCZ)
- (2) “**Over flights**” refers to flights over flying MMUN, Merida (MMMD) and MMCZ to/from destinations in the Caribbean, Central and South America.

#### b. Proposed Route Operating Policies.

#Route 3:        -Planned to be bidirectional  
-Over flights allowed to/from destinations in Caribbean, Central and South America  
-No MMUN/MMCZ arrivals  
-No altitude restrictions  
-Campeche (CPE) and Merida (MMMD) arrivals allowed

#Route 4:        -Planned to be bidirectional  
-Over flights allowed  
-MMUN/MMCZ/MMMD arrivals allowed  
-No altitude restriction

#Route 5:        -Planned to be bidirectional in FAA airspace  
-Planned to be unidirectional Southbound in SENEAM airspace  
-MMUN/MMCZ arrivals allowed

#Route 5A       (LERIL-LITGU)  
-Planned to be bidirectional  
-Over flights allowed

— F3 —

-No altitude restriction

#Route 6:        -Planned to be bidirectional in FAA airspace  
-Planned to be unidirectional Southbound in SENEAM airspace  
-MMUN/MMCZ arrivals only  
-No over flights  
-No altitude restriction

#Route 6A:       -Planned to be bidirectional  
-Over flights allowed  
-MMMD arrivals allowed.  
-No altitude restriction

#Route 7:        -Planned to be bidirectional in FAA airspace  
-Planned to be unidirectional Southbound in SENEAM airspace  
-MMUN/MMCZ arrivals allowed  
-Southbound over flights.  
-No altitude restriction.

#Route 8:        -Planned to be bidirectional  
-No altitude restriction  
-MMUN/MMCZ arrivals (PISAD, Route 9 NUDIS, MMUN) allowed  
-Over flights allowed

#Route 7A        CUN-IRBEK-MISEX-COFRE  
-Planned to be unidirectional  
-Departures from Cancun only

#Route 8A        CUN-IRBEK-PISAD  
-Planned to be unidirectional  
-Departures from Cancun only

#Route 9:        -Planned to be bidirectional  
-No altitude restriction  
-MMUN/MMCZ arrivals allowed  
-MMMD arrivals allowed  
-Military flights to join Route 8 southbound to remain clear of sovereign  
Airspace



CA/ANE/WG/7 / C/CAR/WG/9  
WP/23

— F4 —

#Route 10: -Planned to be northbound only  
-No altitude restriction  
- Procedurally separated from Route 9 (can use inappropriate altitude for direction)

#Route 10A: under ZMA/ZHU discussion.

#Route 11: -Miami to MMMX routing: Route 11 to MINOW to COFRE to NUBEL  
-Planned to be bidirectional  
-No altitude restriction  
-Route is planned to be operated under radar and VHF coverage.

#Route 11A: NAU - NUBEL for departures from MMMX

#Route 11B: NUBEL - PAZ for arrivals into MMMX

— END —