



**Agenda Item 2: Air navigation activities at global, intra-regional and inter-regional level**

**2.1 Follow-up to the implementation of intra-regional activities**

**CAR/SAM INTER-REGIONAL ACTIVITIES**

(Presented by the Secretariat)

<b>SUMMARY</b>	
<p>This working paper presents information on the inter-regional air navigation activities carried out between the CAR and SAM Regions since the GREPECAS/17 Meeting, and on the activities foreseen for the remainder of 2015, specifically in the CNS and ATM areas.</p>	
<b>REFERENCES</b>	
<ul style="list-style-type: none"> <li>• Final report of the Fourteenth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/14, San José de Costa Rica, 16-20 April 2007)</li> <li>• Final report of the Thirteenth Workshop/Meeting of the SAM Planning Group (SAM/IG/13, 21-25 April 2014)</li> <li>• Final report of the Seventeenth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/17, Cochabamba, Bolivia, 21-25 July 2014)</li> <li>• Final report of the First MEVA III-REDDIG II Coordination Meeting (Oranjestad, Aruba, 25-26 April 2015)</li> <li>• Second Meeting of the NAM/CAR Air Navigation Implementation Working Group (ANI/WG/2) (Puntarenas, Costa Rica, 1-4 June 2015)</li> </ul>	
ICAO strategic objectives:	<ul style="list-style-type: none"> <li><i>A - Safety</i></li> <li><i>E – Environmental protection</i></li> </ul>

**1 Background**

1.1 The CAR and SAM Regions have developed and approved their own regional air navigation implementation plans aligned with the ICAO ASBU Methodology, and have defined regional implementation strategies that are reflected in their national priorities.

1.2 The follow-up to the implementation of air navigation services, equipment and air navigation procedures in the CAR and SAM Regions is done through regional mechanisms such as meetings, seminars, workshops, and teleconferences.

1.3 Airspace interoperability and harmonisation at global level represent a global need and the main objective of the new Global Air Navigation Plan. Therefore, inter-regional coordination between the CAR and SAM Regions when planning the implementation of services, procedures, and equipment is extremely important.

## 2 Discussion

2.1 The inter-regional activities carried out since the GREPECAS/17 meeting as well as those scheduled for 2015 in the CNS and ATM fields are described below.

### Inter-regional aspects related to the CNS field

#### *MEVA-REDDIG interconnection*

2.2 The first MEVA III-REDDIG II coordination meeting was held in order to coordinate the final activities required for the implementation of aspects still pending for the interconnection of the new MEVA III and REDDIG II networks, the implementation of new interconnection services, the review of the Memorandum of Understanding that provides for technical, operational, and administrative coordination between the MEVA III and REDDIG II networks.

2.3 The coordination meeting was attended by 29 delegates of 9 CAR and SAM States/Territories, one international organisation (COCESNA), the MEVA III service provider, and the REDDIG II Administrator. The main results of the meeting are listed below:

- Establishment of the steps to be taken to complete the implementation of the data (AFTN) and switched speech circuits foreseen for the MEVA III – REDDIG II interconnection.
- Establishment of the action to be taken to complete the implementation of hot lines in Bogota and Caracas, and AFTN circuits with Atlanta from Bogota and Caracas.
- An analysis of the implementation of new circuits in the MEVA III – REDDIG II interconnection during the 2015-2017 period. The circuits considered were the following:

NO.	Circuits required	Estimated implementation date
1	Radar data exchange between Curacao and Venezuela	Before 2017
2	Radar data exchange between Colombia and Panama	Mid- 2016
3	Implementation of SAM AMHS circuits with Atlanta <ul style="list-style-type: none"> <li>• Caracas - Atlanta</li> <li>• Brasilia - Atlanta</li> <li>• Lima - Atlanta</li> <li>• Bogota - Panama</li> </ul>	2016-2017
4	Implementation of Atlanta- PIARCO AMHS circuit through the REDDIG II COCESNA node	2016
5	PIARCO- Curacao AFTN circuit	After 15 June 2015

2.4 In this regard, the meeting formulated Conclusion MIII/RII 1/2, *Confirmation of new interconnection circuit requirements*, requesting the States concerned to confirm the implementation of the circuits listed in the table under paragraph 2.3, so as to coordinate as needed for their implementation.

2.5 Finally, through conclusion MIII/RII 1/3, the meeting reviewed and approved the Memorandum of Understanding between MEVAIII and REDDIGII member States/Territories/International Organisations concerning coordination and cooperation for the MEVA III – REDDIG II interconnection.

### ***Implementation of ATN ground-ground applications***

#### ***AMHS interconnection***

2.6 Regarding AMHS applications between the CAR and SAM Regions, the first MEVAIII/REDDIGII coordination meeting analysed the migration from the AFTN circuits between the SAM Region and Atlanta to AMHS circuits. Accordingly, the States concerned attending the PPRC/3 meeting could reconfirm or confirm such migration in order to start an implementation plan. The list of AFTN circuits to be migrated to AMHS is contained in the table under paragraph 2.3 of this working paper.

#### ***Implementation of AIDC***

2.7 Regarding AIDC applications between the CAR and SAM Regions, bilateral coordination has taken place between the CENAMER ACC and the Panama, Guayaquil and Bogota ACCs in order to study the feasibility of implementing this service. Likewise, the intention is to implement the AIDC service between the Curacao and Maiquetia ACCs and the PIARCO and Maiquetia ACCs. These implementations have been included in the CAR/SAM Regional AIDC Implementation Plan, and the States involved in this implementation are invited to review the timelines and actions needed to complete these implementation.

2.8 In the SAM Region, the *Interface Control Document (ICD) for data communications between ATS units in the Caribbean and South American Regions (CAR/SAM ICD)* was reviewed by the SAM/IG Group. In this regard, the Guide for the implementation of AIDC through the interconnection of adjacent automated centres was drafted and presented at the SAM/IG/13 meeting. The guide is currently use as a reference in the SAM Region for the implementation of AIDC between adjacent ACCs. A copy thereof can be downloaded from <http://www.icao.int/SAM/Pages/eDocumentsDisplay.aspx?area=CNS>.

2.9 The guideline defines the technical and operational considerations for the implementation of AIDC between adjacent ACCs in the SAM Region. Among the operational considerations, it defines the minimum number of AIDC messages for notification, coordination, and transferring of flights. The minimum message set is based on version 3.0 of September 2007 of the ASIA/PAC AIDC interface control document (ICD).

2.10 In the CAR Region, following an analysis of operational scenarios, and taking into account the broad radar coverage in the CAR and NAM Regions as well as automation levels in ACCs, the AIDC service, phase 1 (CPL-LAM) was recommended and implemented using the NAM Interface Control Document (ICD). Likewise, an action plan template was developed for the implementation, the updating of the Regional AIDC implementation plan, and examples of operational scenario analyses (available at the NACC Office website). Five NAM/CAR States have completed the operational implementation of AIDC with the NAM ICD. It should be noted that CAR ACCs have at their disposal the connection-configurable software and selectable message set, normally between the NAM ICD, the ASIA/PAC ICD, etc.

***Analysis of a consolidated AIDC ICD***

2.11 GREPECAS/17 took note of the efforts made to consolidate one single ICD for the North Atlantic (NAT) and Asia/Pacific (APAC) Regions, through the ICAO Inter-regional AIDC Task Force (IRAIDCTF), the purpose of which had been to prepare a final draft of the document to be submitted to the different ICAO Regions, called NAT/APAC AIDC ICD v1.0 (September 2014).

2.12 GREPECAS/17, taking into account the work being carried out in the CAR and SAM Regions for AIDC implementation under GREPECAS programmes C and D, endorsed the analysis of the use of the PAN AIDC ICD in the CAR/SAM Regions for current and future interfaces that use the AIDC protocol. Accordingly, it formulated conclusion 17/9, *Activities for a consolidated interface control document (ICD) for AIDC implementation in the CAR and SAM Regions*, so that the coordinators of ATN application projects might assess the implementation of a consolidated ICD for the CAR/SAM Regions.

2.13 In this regard, in the SAM Region, the AIDC group examined the NAT/APAC AIDC ICD v1.0 document (September 2014) at the SAM/IG/15 meeting (Lima, Peru, 11-15 May 2015) and considered that it was in accordance with the technical and operational aspects of AIDC planning, and that it would initially use the minimum AIDC set of messages described in the AIDC implementation guide, through the interconnection of adjacent automated centres of the SAM Region, which are also part of the PAN AIDC ICD version 1.0. The group took note that in the new list of AIDC messages of the PAN AIDC ICD, there are messages that correspond to the NAT/PAC Regions, such as TDM and NAT.

2.14 Pursuant to GREPECAS Conclusion 17/9, a comparative analysis of the three existing ICDs (NAM, ASIA/PAC (PAN), and CAR/SAM) was conducted in the CAR Region, identifying the different messages available and their usage. The ICD comparison is available at the NACC Office website. In this regard, and prioritising the operational benefits of each ICD, a proposal has been made to use the NAM ICD as a reference document for the CAR Region, and to use the PAN ICD mainly for the inter-regional AIDC service.

**Seminar/workshop on the implementation of advanced surveillance and automation systems**

2.15 In order to support the implementation of advanced surveillance (ADS-B and multilateration) and automation (AIDC) systems in CAR/SAM States, Territories and International organisations, and meet the operational surveillance and automation requirements specified in the NAM, CAR and SAM performance-based regional implementation plans within the framework of the Global Navigation Plan of ICAO, a Seminar/workshop on the Implementation of Advanced Surveillance and Automation Systems will be carried out in Panama City, Panama, will be held on 22-25 September 2015.

***Radar data exchange***

2.16 A task proposed for the CAR and SAM Regions is the exchange of radar data, which should be accomplished with the MEVA III – REDDIG II interconnection (see table in paragraph 2.3), as well as other exchanges already planned but not implemented, such as the exchange of radar data between PIARCO and Venezuela.

## **Inter-regional aspects in the ATM field**

### **Analysis of Large Height Deviations (LHD)**

2.17 In order to inform CAR/SAM focal points about the flight data collection process and height deviations (LHDs), and about the importance of timely delivery of the required information, taking into account that errors or the absence of data significantly affect the work carried out by CARSAMMA, precluding the results foreseen in the Regional Monitoring Agencies (RMA) manual in detriment of regional and inter-regional safety, the Caribbean and South American Monitoring Agency (CARSAMMA) Focal Points Meeting was held in Rio de Janeiro, Brazil on 11-13 August 2014.

2.18 The Fourteenth Meeting of the GREPECAS Scrutiny Working Group (GTE/14) was held in Mexico City, on 1-5 December 2014, to continue with the assessment and analysis of large height deviations (LHDs) of 300ft or more, apply the GTE methodology to LHD events, taking into account parameter values, use the quantitative vertical collision risk calculation methodology, identify operational trends, and propose mitigation measures to reduce LHD events and improve safety. Likewise, the Fifteenth Meeting of the GREPECAS Scrutiny Group is being scheduled for 16-20 November 2015 in Lima, Peru, to continue with the assessment and analysis of LHDs.

### **Air traffic flow management (ATFM)**

2.19 In order to support regional and inter-regional implementation of ATFM, the Eighth Global Conference on Air Traffic Flow Management (ATFM) was held in Cancun, Mexico, jointly sponsored by IATA, ICAO, CANSO, SENEAM, EUROCONTROL, and FAA, with the support of AEROTHAI). At the conference, the participants received guidance on why and how to implement ATFM and CDM procedures in their respective States, Organisations, and Regions.

2.20 In order to train experts in air traffic flow management in the CAR/SAM Regions, a Workshop on the implementation of air traffic flow management in the CAR/SAM Regions was held in Panama City on 25-29 May 2015.

### **PBN**

2.21 In order to apply common procedure design criteria in the CAR/SAM Regions for the development of approach procedures for a select group of navigation specifications, as specified in ICAO Doc 9613 and the associated Standards and Recommended Procedures (SARPs), a Course on design of performance-based navigation (PBN) approach procedures was conducted in Mexico City, on 17-28 November 2014.

## **Regional Search and Rescue (SAR) System and Civil/Military Coordination**

2.22 In order to discuss matters of interest concerning regional and global search and rescue issues, SAR agreements, civil/military coordination, and airspace organisation and management (AOM), a NAM/CAR/SAM Meeting/workshop to improve the Regional Search and Rescue (SAR) System and Civil/Military Coordination was held in Havana, Cuba, on 13-17 April 2015.

### **3 Suggested action**

3.1 The Meeting is invited to:

- a) take note of the information contained in this working paper;

- b) review the inter-regional activities between the CAR and SAM Regions shown in section 2 of this working paper; and
- c) discuss any other related matters it may deem appropriate.

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