



Fifth Meeting of the Programmes and Projects Review Committee (PPRC/5)
 Mexico City, Mexico, 16 to 18 July 2019

Agenda Item 3: Global, Intra- and Inter-Regional Air Navigation Activities
3.3 Follow-up to the implementation of inter- and intra-regional activities

CAR/SAM INTER-REGIONAL ACTIVITIES

(Presented by the Secretariat)

EXECUTIVE SUMMARY	
<p>This working paper presents information on inter-regional air navigation activities carried out between the CAR and SAM Regions since the PPRC/3 meeting, as well as on activities scheduled for the remaining of 2016, specifically in the CNS, ATM and MET areas.</p>	
Action:	Suggested actions are presented in Section 3.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none"> • Air Navigation Capacity and Efficiency • Environmental Protection
<i>References:</i>	<ul style="list-style-type: none"> • Annex 10 — Aeronautical Telecommunications • Doc 9750 — Global Air Navigation Plan • Reports of the Programmes and Projects Review Committee Meetings (PPRC) • Report of the Eighteenth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/18), Punta Cana, Dominican Republic, April 2018. • Report of Twentieth Third Meeting of the SAM Implementation Group (SAM/IG/23), Lima, Peru, May 2019

1. Introduction

1.1 The CAR and SAM Regions have developed and approved their respective regional air navigation implementation plans in alignment with the ICAO ASBU methodology, and have defined regional implementation priorities, which are also reflected in national priorities.

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

1.3 Global airspace interoperability and harmonisation is a global need and the main objective of the new global air navigation plan. Accordingly, inter-regional coordination between the CAR and SAM Regions is of vital importance when planning the implementation of services, procedures, and equipment.

2. Discussion

CAR Region

2.1 CAR Region information will be presented under P/2, Agenda Item 3.3.

CNS inter-regional aspects

Implementation of ATN ground-ground applications

AMHS interconnection

2.2 As follow-up to AFTN-to-AMHS migration activities between Brazil and United States, all tests (IOT and POT) were carried out successfully, and cutover is scheduled for the end of July. Between United States and Perú, the Technical Letter between the Federal Aviation Administration (FAA) and Corporación Peruana de Aeropuertos y Aviación Comercial (CORPAC) was signed, and the interoperability tests will start in August of 2019. After establishing the interconnection between Atlanta (FAA) y Lima (CORPAC), FAA will coordinate with Venezuela.

AIDC implementation

2.3 In late November 2018, AIDC tests were conducted between the CENAMER ACC and the Guayaquil ACC to solve the problem reported priory, where the messages originated in the Guayaquil FIR were rejected in the CENAMER system, due to the absence of information in box 18 of the flight plan of the ABI message.

2.4 On 12 December 2018, tests continued after the automated CENAMER system was upgraded to a new FDP version that corrected box 10 and 18 of the flight plan. Since then, the AIDC message cycle has been working satisfactorily, except for the TOC and AOX messages, due to loss of the radar signal in some sectors. Based on the satisfactory results obtained, consideration could be given to migrating to the operational phase by the second half of this year.

2.5 With respect to AIDC between Bogota ACC and CENAMER, there is one single coordination point (BOLDO) between the two ACCs, so no major problems are expected. The testing is estimated to be concluded by the second half of this year.

Technical backup proposal for the MEVA III – REDDIG II interconnection

2.6 During the SAM Region Implementation Group Meeting (SAM/IG/23 – Lima, 20 to 24 May 2019), the Secretariat presented a working paper SAM/IG/23-WP/10 on the proposal to use the REDDIG II backup network to provide an alternate link for communications routed through the MEVA III – REDDIG II interconnections, mainly the AMHS connections between the Atlanta COM Centre and the COM Centres of Brasilia, Caracas y Lima. Figure 1 depicts the conceptual schematic of the proposal.

2.7 The FAA has expressed interest in the aforementioned proposal, because in case of failure of the MEVA III – REDDIG II interconnection, it would lose communication with three important COM centres of the SAM Region. In this sense, it has set a letter (**Appendix A**) expressing interest in obtaining access to the REDDIG terrestrial network (MPLS), contracting directly from the telecommunication provider (CenturyLink). The ICAO South American Office will organize an Extraordinary Meeting of the RLA/03/901 Coordination Committee, by means of a teleconference on 21 August 2019, in order to discuss the subject.

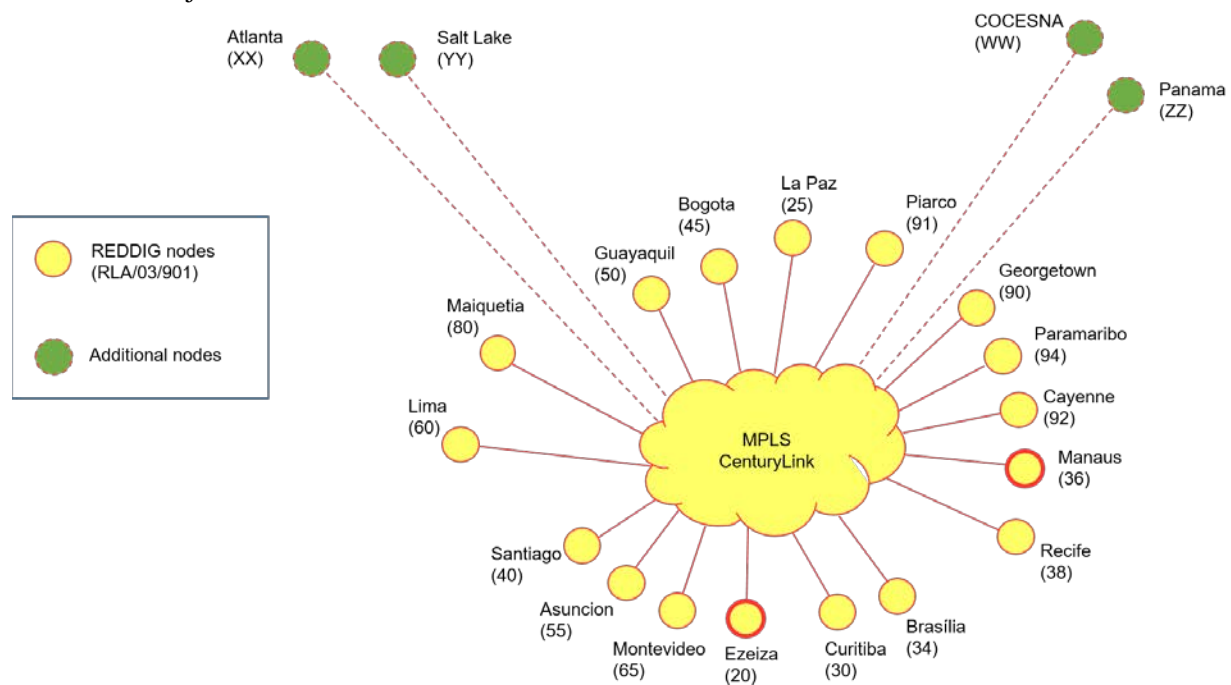


Figure 1 – REDDIG II MPLS network and additional nodes

2.8 This proposal was also discussed during the MEVA/TMG/34 (Miami, 11 to 13 June 2019), when other States/Organizations that have communications with SAM States showed interest in this proposal. In this regard, the following conclusion was drafted:

CONCLUSION	
MEVA/TMG/34/02	COMMUNICATION REDUNDANCY CHANNEL FOR MEVA III – REDDIG II INTERCONNECTION
<p>What:</p> <p>That, in order to support the terrestrial backup of the SAM REDDIG Network offered to MEVA members having direct connections to REDDIG members, Panama, the United States and COCESNA,</p> <p>a) will move forward in performing the technical, administrative and legal analysis for this terrestrial backup, carried out individually agreement with the REDDIG management, and</p> <p>b) to inform the progress to the MEVA TMG/35 Meeting and ICAO NACC Regional Office.</p>	<p>Expected impact:</p> <p><input type="checkbox"/> Political / Global</p> <p><input checked="" type="checkbox"/> Inter-regional</p> <p><input checked="" type="checkbox"/> Economic</p> <p><input type="checkbox"/> Environmental</p> <p><input checked="" type="checkbox"/> Operational/Technical</p>
Why: Provide a back-up communication between ICAO Regional Networks	
When: MEVA/TMG/35 Meeting.	Status: <input checked="" type="checkbox"/> Valid / <input type="checkbox"/> Superseded / <input type="checkbox"/> Completed
Who: <input type="checkbox"/> States <input checked="" type="checkbox"/> ICAO <input type="checkbox"/> Other:	Panama. United States and COCESNA

ADS-B Implementation

2.9 As NAM/CAR/SAM support activities on surveillance systems implementation, two Meetings/Workshops were carried out on specifically surveillance using ADS-B:

- WORKSHOP/SEMINAR FOR THE AUTOMATIC DEPENDENT SURVEILLANCE – BROADCAST (ADS-B) IMPLEMENTATION (ADS-B/IMP), Lima-Peru, 13 to 16 November, 2017 – The Workshop/Seminar was attended by 51 representatives of 19 NAM/CAR/SAM States, one International Organization (COCESNA) and six enterprises (AIREON, EMBRAER, Frequentis, INDRA LATAM and Thales).
- AUTOMATIC DEPENDENT SURVEILLANCE – BROADCAST (ADS-B) IMPLEMENTATION AND REGULATION MEETING FOR THE NAM/CAR/SAM REGIONS (ADS-B/LEG) Mexico City, Mexico, 26-30 November 2018 – It was attended by 50 representatives of 12 NAM/CAR/SAM States, one International Organization (COCESNA) and nine enterprises (AEROTEL, AIREON, Delta, Frequentis, INDRA, INVAP, Leonardo, Thales and TUM Aerocargas).

2.10 An AUTOMATIC DEPENDENT SURVEILLANCE – BROADCAST OUT IMPLEMENTATION MEETING FOR THE NAM/CAR REGIONS (ADS-B/OUT/M) in programmed in Ottawa, Canada, from 21 to 23 August 2019, to which SAM States have also been invited to participate. On 23 August 2019 NAV Canada will host a visit to their facilities that will provide an opportunity to the participants to see the ground ADS-B operation and the satellite ADS-B implementation.

CAR/SAM Interregional aspects in ATM and MET areas

PBN Implementation

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

2.12 The meeting adopted 35 optimization proposals and initiatives for regional and inter-regional ATS routes, backing the implementation of RNAV - 5 navigation specification. These proposals became effective on 31 January of 2019.

2.13 Complementarily, the meeting coordinated a number of agreements for longitudinal separation optimization, applying minimum of 40 or 20 NM, in continental space in both regions.

2.14 The Tenth SAM Workshop/Meeting on ATS Routes Network Optimization (SAM ATSRO/10) was held at the Auditorium of the Centro de Estudios Aeronáuticos (CEA) in Bogota, Colombia, from 17 to 21 June 2019. The Meeting was attended by twelve States of the SAM Region: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Panama, Paraguay, Peru, Suriname, Uruguay and Venezuela, two States from CAR Region: Jamaica and United States, COCESNA (via teleconference), as well as IATA and IFALPA, totaling 41 participants.

2.15 In total, the Meeting analyzed 59 initiatives. 56 initiatives were declared accepted (with date of publication/effectiveness agreed), or feasible subject to coordination. 3 initiatives were rejected because were considered unfeasible. The routes will be implemented thru supplements or amendments of AIP, in order to complete the process on June 2020.

Space Weather

2.16 The ICAO seminar on Space meteorology and exchanges model of meteorological messages (IWXXM), was held from 16 to 20 July 2018 in Panama City, Republic of Panama. The meeting was attended by 52 delegates from 11 States of the NAM/CAR and 11 States of the SAM Region. In addition, also participated: The Secretary of the ICAO MET Panel, an expert of the FAA and an expert of the INPE in Brazil.

2.17 Capacity was created in the States, to meet conditions of the space weather forecast. Contacts between States and the ICAO MET Panel have been established, to share information on the approval process for global centres of advice on spatial conditions.

2.18 Contacts with centres of teaching and laboratories of space meteorology for the announcement of space events and to explore workshops related to the monitoring and forecasting of space events have been established.

3. Suggested actions

3.1 The Meeting is invited to:

- a) take note of the information presented in this working paper and appendix;
- b) analyse inter-regional activities between the CAR and SAM Regions, as shown in section 2 of this working paper; and
- c) review any other related issue it may deem appropriate.

APPENDIX



**Federal Aviation
Administration**

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Date: June 17, 2019

To: Fabio Faizi Rahnemay Rabbani, Regional Director, ICAO SAM

Cc: Melvin Cintron, Regional Director, ICAO NACC
Cc: Francisco Almeida, CNS Officer, ICAO SAM
Cc: Mayda Avila, CNS Officer, ICAO NACC

With reference to the proposal made during SAM/IG/23 (WP/10), that the REDDIG MPLS network be used as a backup for the MEVA-REDDIG AMHS connections from Atlanta to Brasilia and Lima, the FAA is very interested in pursuing this concept.

Brasil and Peru are the heaviest AMHS users in the CAR/SAM area. They act for each other as alternate routes to Atlanta, and can optionally route via Venezuela. Under AFTN there was diverse routing to S. America; a terrestrial line to Brasilia and the MEVA-REDDIG connection to Lima. With AMHS the intent is to use the MEVA-REDDIG connection at Bogota, Columbia for both Brasilia and Lima traffic. There are two common failure points: the MEVA system and the Bogota interconnection. A terrestrial connection to the REDDIG MPLS network will provide the necessary backup connections.

Direct connection to the REDDIG network has additional advantages for the FAA. It provides a backup route to Venezuela avoiding MEVA, and a backup route to Trinidad and Tobago avoiding the ECAR network.

The FAA understands that this will involve no costs for the States participating in the Regional Project RLA / 03/901 (REDDIG). Likewise, the FAA will have no role in, or be part of the management or direction of the REDDIG network.

Naturally, all necessary security measures will be taken to prevent intrusion into the REDDIG network from FAA connections.

Andy Isaksen, Manager, Enterprise Product Support Team, FAA/AJM-3122

A handwritten signature in black ink, appearing to read "Andy Isaksen".

— END —