



**INTERNATIONAL CIVIL AVIATION ORGANIZATION**  
**Western and Central African Office**

**Twenty-third Meeting on the improvement of Air Traffic Services over the South Atlantic (SAT/23)**  
**(Durban, South Africa 06-08 June 2018)**

**Agenda Item 3: Communications, navigation and surveillance (CNS) (By CNS Working Group)**

**Follow up AMHS interconnection activities**  
(Presented by the Secretariat)

<b>EXECUTIVE SUMMARY</b>	
This Working Paper present information about the activities made to follow Interconnection of AMHS systems between AFI and SAM Regions and the status of AMHS in the SAM Region.	
<b>Action:</b>	Suggested Action is presented in Section 3.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none"><li>• Safety</li><li>• Air Navigation Capacity and Efficiency</li></ul>
<i>References:</i>	<ul style="list-style-type: none"><li>• SAT/21 Meeting , Paris France 7 to 9 June 2017</li><li>• SAM/IG/21 , Lima Peru 21 to 25 May 2018</li></ul>

**1. Introduction**

1.1 Argentina, Brazil, Senegal and South Africa have their AMHS system fully implemented and for this reason the SAT/21 considered to initiate the elaboration of a study for the interconnection of their AMHS systems.

1.2 For this reason each of the States involved in the study nominated focal points, these focal points with the support of the ICAO Secretariat (Dakar and Lima Offices) held various teleconferences and as a results of the same they considered to use the SAM and WACAF Regional guidelines for the implementation of AMHS interconnection, these guidelines are based on the Appendix E of EUR AMHS Manual, version 4.0, EUROCONTROL and for the AMHS trials between AFI and SAM Region it was recommended to use the Spain – Brazil AMHS interoperability trials document based in the Appendix E of the EUR AMHS Manual.

1.3 Also the AMHS groups conformed by the focal points and the secretariat considered the possibility to develop a Memorandum Of Understanding (MoU) that contains technical, operational considerations, schedules activities and people responsible to develop AMHS the activities for interconnection implementation. For the MoU it was informed the SAM Region have developed a model that is available at the following link: <http://www2010.icao.int/SAM/Pages/eDocumentsDisplay.aspx?area=CNS> that would be used as reference.

1.4 The AMHS interconnection between AFI and SAM Region will be made through the CAFSAT and AFISNET VSAT network.

1.5 The list of focal points of AFI and SAM Regions to coordinate the activities for AMHS interconnection between AFI and SAM Regions is presented as **Appendix A** of this working paper.

## **2 Analysis.**

2.1 The SAT/22 formulated the Conclusion 22/08: *Continuation of teleconferences for the coordination of the interconnection of AMHS systems in the SAT Region* in order to follow up AMHS interconnection activities among the followings States: Casablanca/Lisbon, Ezeiza/Johannesburg; Dakar/ Recife and Abidjan/Accra.

2.2 In reference at the AMHS interconnection Ezeiza- Johannesburg, the migration for the AFTN to AMHS circuit will be made once Argentina complete the modernization of the CAFSAT node in Ezeiza. The modernization of CAFSAT node in Ezeiza, is expected to entry in operation for the first semester of 2019. The modernized CAFSAT node in Ezeiza will be relocated in the new Ezeiza ACC site.

2.3 In reference at the AMHS interconnection between Brazil and Senegal ( Recife –Dakar) it is important to know that in Brazil the main AMHS system is in Brasilia so the AMHS connection is Brasilia -Dakar. Recife is the place where is installed the node of CAFSAT and AFISNET that communicated with Dakar. The connection between Brasilia and Recife will be made through the REDDIG II network.

2.4 The AMHS interconnection implementation between Brasilia and Dakar will be made through the AFISNET network, the trial is expected to be made during the second semester 2018 and the interconnection in operation by the end of 2018.

2.5 In reference at SAM Regional level in the month of April 2018 was implemented the operational AMHS interconnection between the MTA of Ezeiza (Argentina) and the MTA of Brasilia, for the month of July 2018 it is expected to be in operation the AMHS interconnection between the MTA of Brasilia and Ezeiza with the SITA AMHS gateway in Atlanta (EEUU). The AMHS connection with the SITA AMHS gateway is part of a world AMHS implementation connection with SITA.

2.8 To assist the transition planning information with the AMHS SITA Gateway a document was prepared by AMC and ICAO EUR region AFSG-Operations Group to provide guidance and AMC support to the COM centres to enable smooth integration of SITA Gateway

2.6 The status of implementation of the AMHS interconnection at regional and interregional level in the SAM Region are presented in the **Appendix B** of this working paper.

## **3. Action required**

3.1 The meeting is invited to take note of the information of this working paper and analyze the content of section 2 and their associated Appendixes (A and B).

## APPENDIX

## AMHS INTERCONNECTION REQUIREMENT AND DATE OF IMPLEMENTATION

STATES	AMHS INTERCONNECTION REQUIREMENTS	DATE OF IMPLEMENTATION	COMMENTS
Argentina	Bolivia	Dec 2016	
	Brazil	Jun 2016	Pending operational implementation
	Chile	Dec 2016	
	Paraguay	Mar 2012	Implemented
	Peru	Oct 2016	
	Uruguay	Dec 2016	
	Venezuela	Dec 2016	
	Southafrica (Johannesburg)	TBD	
Bolivia	Argentina	Dec 2016	
	Brazil	Dec 2016	
	Peru	Dec 2016	
Brazil	Argentina	Jun 2016	Pending operational implementation
	Bolivia	Dec 2016	
	Colombia	Jul 2016	
	Guyana	Jul 2016	
	French Guiana	TBD	AMHS pending implementation
	Paraguay	Jun 2016	
	Peru	Dec 2015	Implemented 14 December 2015
	Suriname	Dec 2016	
	Uruguay	Oct 2016	
	Venezuela	Dec 2016	
	Senegal (Dakar)	TBD	
Chile	Argentina	Dec 2016	
	Peru	Oct 2016	
Colombia	Brazil	Jul 2016	
	Ecuador	Jul 2016	
	Panama	Dec 2016	
	Peru	Sep 2010	Implemented
	Venezuela	Dec 2016	

Ecuador	Colombia	Jul 2016	
	Peru	Julio 2012	Implemented
	Venezuela	Dec 2016	
French Guiana (France)	Brazil	TBD	AMHS pending implementation
	Venezuela	TBD	AMHS pending implementation
Guyana	Brazil	Jul 2016	
	Suriname	Jun 2011	Implemented
	Venezuela	Dec 2016	
Panama	Colombia	Dec 2016	
Paraguay	Argentina	Mar 2012	Implemented
	Brazil	Jul 2016	
Peru	Argentina	Oct 2016	
	Bolivia	Dec 2016	
	Brazil	Dec 2015	Implemented 14 December 2015
	Chile	Oct 2016	
	Colombia	Sep 2010	Implemented
	Ecuador	Jul 2012	Implemented
	Venezuela	Oct 2016	
Surinamee	Brazil	Dec 2016	
	Guyana	Jun 2011	Implemented
	Venezuela	Dec 2016	
Uruguay	Argentina	Dec 2016	
	Brazil	Oct 2016	
Venezuela	Argentina	Dec 2016	
	Brazil	Dec 2016	
	Colombia	Dec 2016	
	Ecuador	Dec 2016	
	Guyana	Dec 2016	
	French Guiana	TBD	AMHS pending implementation
	Peru	Oct 2016	
	Suriname	Dec 2016	