

**International Civil Aviation Organization****Fourth Meeting of the APIRG Communications, Navigation  
and Surveillance Sub-group (CNS/SG/4)  
(Dakar, Senegal, 25 – 29 July 2011)****Agenda Item 4, 5 &7*****Review of the conclusions and decisions of SAT/16 pertaining to Aeronautical Telecommunications***

<b>SUMMARY</b>
This paper presents the summary of the conclusions and decisions of the 16 <sup>th</sup> meeting of for the improvement of air traffic service over South Atlantic (SAT/16).
<b>Action by the meeting is at paragraph 3.</b>
<b>References :</b> Terms of Reference of SAT CNS WG Report on CNMC 1 <sup>st</sup> Meeting Report on SAT/FIT/6 <sup>th</sup> Meeting Report on SAT16 <sup>th</sup> Meeting <i>Note: References can be downloaded from <a href="http://www.icao.int/wacaf">www.icao.int/wacaf</a>.</i>
Related ICAO Strategic Objective <b>A: Safety</b> and <b>C: Environmental Protection and Sustainable</b> Development of Air Transport.

**1. INTRODUCTION**

1.1 The Sixteenth Informal Coordination Meeting on the improvement of air traffic services over the South Atlantic (**SAT/16**) was held in Recife, Brazil back to back with the Sixth meeting of SAT FANS/1A Interoperability Team (**SAT/FIT/6**) and the first meeting of the CAFSAT Network Management Committee (**CNMC/1**) from 02 to 06 May 2011. The meeting was hosted by the Departamento de Control del Espacio Aéreo (DECEA) of Brazil and was held at the Park Hotel.

1.2 The meeting was attended by 45 participants from ten (10) ICAO contracting States namely, Angola, Argentina, Brazil, Cape Verde, Cote d'Ivoire, Portugal, South Africa, Senegal, Spain and Uruguay and 5 representatives from International/Interregional Organizations and the industry (ARINC/USA, ASECNA, IATA, INSA and SITA).

**2 DISCUSSION**

2.1 The SAT meeting under its agenda item 2, Communications, Navigation and Surveillance (CNS) examined the follow up of the SAT/15 Conclusions pertaining to the CNS field, reviewed AFS performance within SAT and endorsed the report of the first meeting of the CAFSAT Network Management Committee (CNMC/1).that was held on 2 May 2011.

2.2 The meeting also reviewed the report of the sixth meeting of the SAT FANS/1A Interoperability Team (SAT/FIT/6) aiming to harmonizing the ADS/CPDLC programmes within SAT aerie and examined the status of implementation of Performance Based Navigation (PBN) in the South Atlantic.

It can be noted that concerning Communication, Navigation and Surveillance, the SAT States/Organization have developed cooperative initiatives aimed to ensure a harmonious implementation of AMHS, GNSS, SSR and ADS-C /CPDLC through memorandum of understanding in order to ensure interoperability and interconnectivity of CNS systems.

SAT States have adopted the GOLD document to facilitate the implementation, the operation and monitoring of CPDLC.

The meeting adopted 11 Conclusions and 05 Decisions pertaining to CNS field as presented in **Appendix** to this Working Paper.

### **3. ACTION TO BE TAKEN BY THE MEETING**

The meeting is invited to:

- a) - Take note of the above information.
- b) – Examine the results of the SAT 16<sup>th</sup> meeting pertaining to CNS of interest to the AFI Region;
- c) – Request AFI SAT States/Organizations to implement these conclusions in the frame of the cooperation between ICAO EUR, SAM and AFI regions aiming to increasing air navigation safety over South Atlantic; and take advantage of the experience gained in SAT activities when implementing the AFI CNS components (AMHS; PBN/GNSS; ADS-C/CPDLC; SSR...).

## Appendix

### Summary of the Conclusions and Decisions of SAT 16<sup>th</sup> Meeting pertaining to CNS

*Follow up Conclusion SAT/15/09: Implementation of ATS/DS circuit for Luanda/Atlantico*

*Conclusion SAT/16/10: Implementation of the ATS/DS Circuit between Luanda and Atlantico*

*That:*

- a) In the framework of the Joint Technical Team for CAFSAT evaluation and re-engineering Spain, Team Leader , provide Brazil and Angola with the guidelines for planning of CAFSAT modernization plan by end of June 2011;*
- b) Considering the a) results Angola and Brazil implement and operate the Luanda Atlantico ATS/DS circuit by the end of April 2012*

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*Follow up Conclusion SAT/15/11: Trials for extension of ATS-N5 Voice switching protocol*

*Conclusion SAT/16/11: Trials for extension of ATS-N5 Voice switching protocol*

*That:*

*In accordance with the recommendation contained within the ICAO Manual on ATS Ground-Ground Voice Switching and Signalling (Doc 9804, Chapter 2 Section 2.3), SAT States pursue their effort to conducting the ATS-N5 Voice switching protocol through the following steps:*

- a) Spain provide an update procedure for the implementation of ATS-N5 voice switching protocol in EUR/SAM area by 30<sup>th</sup> June 2011;*
- b) Other SAT States report current VCCS capability to support ATS-N5 by 29 July 2011;*
- c) Spain develops and conducts trials with the SAT States that comply with b) in coordination with the Joint Technical Team for CAFSAT modernization and re-engineering.*

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*Follow up Decision SAT/15/02: ADS Data Sharing*

*Decision SAT/16/02: Operational Requirements for ADS Data Sharing*

*That:*

*In order to establish technical, financial and legal aspects, SAT ATM/WG is urged to implement Decision SAT/15/02: ADS Data Sharing, by conducting the study on the operational requirements to be provided to the SAT CNS/WG for consideration during the next SAT/17 Meeting.*

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*Follow up Conclusion SAT/15/12: Implementation and Interconnection of AMHS systems*

**Conclusion SAT/16/12: Development of Memorandum of Understanding for AMHS interconnection**

*That:*

*In order to ensure a coordinated AMHS interconnection, SAT States are encouraged to develop, if necessary, bilateral Memorandum of Understanding taking into consideration all the technical operational and administrative requirements.*

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**Conclusion SAT/16/13: Implementation of AMHS within the SAT region**

*That:*

*In order to take the benefit of ICAO provision in AMHS implementation process, SAT States who have not implemented AMHS, endeavor to participate in the forthcoming regional seminars and workshops organized by ICAO to support the implementation of AMHS regional Plans requirements.*

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**2.2 Review of AFS Performance**

**Conclusion SAT/16/14: Regular Evaluation of AFS performance**

*That:*

*SAT States forward the monthly availability of AFS (AFTN & ATS/DS) to the respective ICAO Regional Offices for compilation and analysis starting from first of June 2011 or commence the delivery of such information as soon as possible thereafter, while advising the relevant ICAO office of the intended date on which delivery of the information will commence.*

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**Follow up Conclusion SAT/15/13: Investigation of missing Flight Plans**

**Conclusion SAT/16/15: Development of a consolidated procedure for the analysis of missing Flight Plans**

*That:*

*In accordance with the Terms of Reference of SAT/CNS/WG, a draft consolidated procedure should be developed by ASECNA, by the end of year 2011, in order to properly mitigate the missing flight plans.*

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**Conclusion SAT/16/16: ATS voice circuits implementation via REDDIG and CAFSAT VSAT networks**

*That:*

*Argentina, Brazil, French Guyana, Santa Maria, Senegal, South Africa, Trinidad & Tobago and Uruguay inform to the respective ICAO regional offices by the fifteen June 2011 their intention to implement ATS voice trials using a double hoop satellite link through the REDDIG and CAFSAT networks following the draft Action Plan presented as **Appendix D** to this report, in order to complete the pending direct circuit implementation between CAR /SAM and AFI region specified in their respective Air Navigation Plan (DOC 8733 & 7474).*

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**Conclusion SAT/16/17: ATS voice circuits implementation via AFISNET and CAFSAT VSAT networks**

*That:*

*Considering the operational coordination requirement, Brazil and Côte D'Ivoire, inform to their respective ICAO regional offices by the fifteen June 2011 through an agreed planning, their intention to implement ATS voice trials using a double hop satellite link through the AFISNET and CAFASAT networks in order to satisfy the ATS coordination requirement between Abidjan and Atlantico ACCs.*

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**2.3 Review of CNMC report**

**Follow up Decision SAT/15/03: Adoption of the Terms of Reference of CAFSAT Network Management Committee**

**Decision SAT/16/03: Adoption of the Report of the first meeting of CNMC**

*That:*

*The Report of the first meeting of CAFSAT Network Management Committee (CNMC) is adopted.*

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**Conclusion SAT/16/18: Active participation in CNMC meetings by CNMC members**

*That:*

*CNMC Members should endeavour to actively:*

- a) Participate in CNMC regular meetings and technical specialized Task Forces /Study Groups and therefore,*
- b) Provide the suitable support to their nominated delegates in accordance with the commitment they have taken under the Terms of Reference and Work Programme of CNMC.*

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**Follow up Conclusion SAT/15/14: Harmonization of AFS maintenance procedures and AFS statistics data collection**

**Conclusion SAT/16/19: Development of CAFSAT Earth Stations Performance Data Collection Form (PDCF)**

*That:*

*In accordance with ICAO guidelines on Performance of Very Small Aperture Terminals (VSAT), ASECNA and GHANA, already tasked by SNMC Conclusion 18/ 02 for the matter, develop and submit to next CNMC meeting, a draft Earth Stations Performance Data Collection Form (PDCF) aiming to facilitating the future automation of the collection and the monitoring of CAFSAT stations performance data, taking into consideration the most sensitive components of the network.*

**Note: List of sensitive components: Modems, UP/down Converters, SSPA , Antenna Feed....**

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**Decision SAT/16/04: Utilization of provisional templates for the collection of the Performance data statistic of CAFSAT nodes**

*That:*

*Meanwhile the complete development of the PDCF (Conclusion SAT/16/19 refers) for the automation of the monitoring of the Network Performance, CAFSAT members adopt the templates attached in **Appendix E of the report of CNMC/1 meeting** and report quarterly to the current CNMC manager with copy to relevant ICAO Regional Offices.*

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**Follow up Conclusion SAT/15/15: Modernization of CAFSAT Network**

**Conclusion SAT/16/20: Development of a Roadmap for CAFSAT joint technical evaluation and re-engineering**

*That:*

*In accordance with ICAO guidance materials (Annexe X, Vol 1, Attachment F: Guidance material concerning reliability and availability of radiocommunications and navigation aids; ICAO Guidelines on Performance of Very Small Aperture Terminal (VSAT) Networks) CNMC member states develop a Roadmap for a Joint Technical Evaluation and re-engineering in the view of ensuring an efficient and optimized modernization of CAFSAT Network taking into consideration:*

- a) Required service performance level of the network to support the operation and development of sensitive current and forthcoming CNS/ATM components;*
- b) CAFSAT interoperability with its neighboring networks;*
- c) Maintenance fundamental parameters governing service availability, continuity and integrity such as: reliability, turn over statistics, maintenance personnel expertise;*
- d) Cost-effectiveness;*

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**Decision SAT/16/05: Establishment of a Joint Technical Team for CAFSAT Network evaluation and re-engineering**

*That:*

*A Joint Technical Team for CAFSAT network evaluation and re-engineering (JTT) is established with Terms of Reference and Work Programme presented in **Appendix D to the Report of CNMC/1 meeting**.*

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**2.4 Any other CNS business**

**Follow up Conclusion SAT/15/16: Implementation of AIDC /OLDI in SAT**

**Conclusion SAT/16/21: Development of a harmonized Interface Communication Documentation**

*That:*

*In accordance with their Regional Plan AFI SAT States develop Interface Communication Documents (ICD) taking in consideration the existing ICD in the SAM Region in order to facilitate an harmonized AIDC implementation and operation in the SAT region.*

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**Agenda Item 3. Communications, navigation and surveillance / Air traffic management (CNS/ATM) Systems**

**3.1. Harmonization of ADS/CPDLC programmes**

- Review of the Report of the Sixth SAT FANS 1/A Interoperability Team (SAT/FIT/6)

**Decision SAT 16/06: SAT/FIT/6 Report**

*That The SAT/16 Meeting approved the SAT/FIT/6 Report and its conclusions*

**Agenda Item 4: Terms of reference and Future Work Programme**

**Decision SAT 16 /07: Amendment to the work programmes of the ATM/WG and the CNS/WG**

*That the work programmes of ATM/WG and CNS/WG are amended as shown at **Appendix E** to this report*