

**CNMC/5**

**INTERNATIONAL CIVIL AVIATION ORGANIZATION  
WESTERN AND CENTRAL AFRICAN OFFICE**



**FIFTH MEETING OF CAFSAT NETWORK  
MANAGEMENT COMMITTEE (CNMC/5)**

**FINAL REPORT**

**Abidjan, Côte d'Ivoire, 1 – 2 June 2015**

**Prepared by ICAO, Secretariat of the meeting**

**The CNMC Meeting is as a result of the SAT Group Decision SAT/15/03:**

***Adoption of the Terms of Reference of CAFSAT Network Management Committee***

**Its Reports are therefore submitted to SAT/CNS/WG for review and action.**

**The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of ICAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.**

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## **PART I – HISTORY OF THE MEETING**

### **1. Introduction**

**1.1** The Fifth Meeting of the CAFSAT Network Management Committee (CNMC/5) was held in the Conference room of the IVOTEL hotel, Abidjan Côte d’Ivoire, from 1 to 2 June 2015 in parallel with the SAT/FIT/10 Meeting and preceding the SAT/ 20 Meeting (3-5 June 2015).

**1.2** Mr. **Mr. Boukari Benjamin Soro**, Technical adviser of the minister of Transport of Cote d’Ivoire opened the meeting. He was assisted by **Mr.Sinaly Silué**, Director General of the Civil Aviation Authority of Cote d’Ivoire and **Mr. Matthieu Mel Agnimel**, Representative of ASECNA in Côte d’Ivoire. Mr Soro welcomed the participants, outlined the important role played by the CAFSAT to support the provision of a reliable Aeronautical Fixed Service (**AFS**)-**ATS/DS & AFTN** and noted the importance of CNMC meetings in the coordination and harmonization of the Network to support future aviation applications.

**1.3** He also noted the main role of CAFSAT to enable the interconnection and the interoperability of ATM systems between AFI, EUR, NAT and SAM regions of automated ATM systems. He wished fruitful deliberation to the participants and opened the meetings.

### **2. Officers and Secretariat**

The Meeting was chaired by Mr. **Sabino André Galvão Baptista**, Inspector ANS Cabo Verde. Mr. **François Xavier Salambanga**, RO/CNS, ICAO WACAF Office served as Secretary of the meeting.

### **3. Attendance**

The meeting was attended by Seventeen (16) participants from nine (9) States namely **Angola, Argentina, Brazil, Cabo Verde, Côte d’Ivoire, France, Ghana, Portugal, Senegal**), three (3) international organisations, **ASECNA, the Roberts FIR, and SITA**.

The list of participants is attached in **Appendix A** to this report.

### **4. Working Language**

The meeting was conducted in the English language and the Working and Information Paper were submitted in this language.

### **5. Agenda**

The Meeting adopted and discussed the following Agenda items through the Work programme.

**Agenda Item 1: Review of the status of implementation of the Conclusion/Decision of the fourth meeting of CNMC (CNMC/4)**

**Agenda Item 2: Review the performance of CAFSAT earth stations and the operational statistics of availability for supported links**

**Agenda Item 3: Implementation of recommendations 6/19 of Special AFIRAN meeting**

**Agenda Item 4: Interconnection and interoperability of CAFSAT with its neighbouring networks**

**Agenda Item 5: Outcome of ITU WRC-12 pertaining to VSATs Networks and preparation of WRC-15**

**Agenda Item 6: CAFSAT modernization and re-engineering**

**Agenda item 7: Review of the Terms of Reference and Work Programme of CNMC**

**Agenda Item 8: Review of the draft Conclusions/Decisions of CNMC/5 Meeting**

**Agenda Item 9: Any other business**

## **6. Summary of Conclusions**

After deliberation the meeting adopted three (3) Decisions and eleven (10) Conclusions.

The conclusions/decisions are presented below:

**Agenda item 1: Revue of the Status of implementation Conclusions and Decisions of the fourth meeting of CNMC (CNMC4)**

**Conclusion 5/01: Implementation of CNMC/4 outstanding Conclusions and Decisions**

*That:*

*CNMC Administrations/Organizations endeavor to implement the outstanding Conclusions/Decisions of the fourth meeting of CNMC*

**Decision 5/02: Automation of CAFSAT PDCF**

*That:*

- a) CNMC Administrations/Organizations are invited to use the use the software Inseye provided in the CAFSAT Management and Control (M&C) implemented by ISDEFE.*
- b) Brazil continue to contact ISDEFE on this issue, assess the cost of the upgrade of ISDEFE software Inseye into the PDCF format and share with States/Organizations*

**Agenda item 2: Review of the performance of CAFSAT earth stations and operational statistics of availability**

**Conclusion 5/03: Restoration of the Nouakchott Casablanca ATS/DS circuit**

*That:*

*As a matter of urgency ASECNA and ONDA implement the current arrangement to expedite the restoration of the Nouakchott/Casablanca AFS circuit no later than 31 July 2015.*

**Decision 5/04: Assessment of CAFSAT AFS performance through the Performance Data Collection Forms (PDCFs)**

*That:*

- a) States/organizations take the example of Portugal to and fill the PDCF document for reporting to the current CNMC coordinator with copy to the Secretariat;*
- b) The ICAO Regional Offices of Dakar and Lima coordinate to centralize the filled PDCF for a comprehensive assessment of the statistics on CAFSAT performance*

**Agenda item 3: Implementation of recommendation 6/19 of Special AFI RAN meeting**

**Conclusion 5/05: Participation of CNMC members to the Regional coordination Meeting on VSATs Networks**

*That:*

*In order to harmonize the best practices for the implementation, operation and modernization of the network, CAFSAT States/Organizations endeavor to actively attend the Regional coordination Meeting on VSATs Networks and implement their outcome.*

**Agenda item 4: Interconnection and interoperability of CAFSAT with its neighboring networks**

**Conclusion 5/06: Implementation of AFS involving Dakar, Cayenne, Piarco, Recife and Santa Maria ACCs**

*That:*

*The concerned ANSPs continue their collaboration in order to implement the AFS circuits no later than 31 December 2015 in particular:*

- a) ASECNA French Guyana and Trinidad & Tobago complete the ongoing deployment of the AFISNET nodes in Cayenne and Piarco;*
- b) ASECNA and DECEA finalize their agreement aiming to implementing the AFISNET node in Recife to clear out the ATS/DS deficiency between Abidjan and Atlántico ;*
- c) Portugal ASECNA and Trinidad Tobago explore the cost effective way to establish the Piarco Santa Maria ATS/DS circuit;*
- d) ICAO continue to assist and facilitate the bilateral arrangements for the interconnection of the Networks*

**Conclusion 5/07: Communication Requirement between Piarco, and Santa Maria That;**

*That:*

*In order to ensure a sustainable ATS/DS circuit(s) between ATCs Santa Maria Fir (Portugal), and Piarco Fir (Trinidad & Tobago);*

- a) Concerned Organizations envisage the establishment of direct links based on the existing satellite VSAT networks (AFISNET and CAFSAT) and conduct case by case technical analysis taking into consideration the cost effectiveness of the possible solutions.*
- b) SAT Secretariat to coordinate technical meetings (teleconferences and e-meetings) for collaborative decision making.*

**Agenda item 5: ICAO Position for ITU WRC-15 and preparation on issues pertaining to VSATs Networks**

**Conclusion 5/08: Support to ICAO Position for WRC-15**

**That:**

**States /Administrations support ICAO position for WRC-15 by:**

- a) **Coordinating the national spectrum requirements for civil aviation for consideration by the national preparatory meetings conducted by the national Authority of Regulation of Telecommunication;**
- b) **Participating in national and regional preparatory meetings for WRC-15;**
- c) **Ensuring the presence of Civil Aviation personnel in the national delegation for ITU WRC-15 scheduled to take place in Geneva (02-27 November 3015)**

**Conclusion 5/09: Protection of the C Band operated by Aeronautical VSAT Networks**

**That:**

**CNMC Administrations/Organizations take the appropriate measures to:**

- a) **populate among the civil aviation community the draft revised Resolution 154 (WRC-12) adopted by the ITU-R Conference preparatory Meeting (CPM) in order to ensure its best understanding by stake holders;**
- b) **strengthen/defend the current draft text and obtain national consensus in the national level;**

**Agenda item 6: CAFSAT Modernization and re-engineering**

**Conclusion 5/10: Completion of phase 1 of the CAFSAT modernization and re-engineering**

**That:**

**States/Administration who have not yet done so endeavor to carry out the completion of phase 1 of the CAFSAT modernization and re-engineering in particular Argentina and South Africa to provide to the coordinator (Portugal) the relevant information for the update of the follow up table**

**Conclusion 5/11: Future phase of the CAFSAT modernization and re-engineering**

**That:**

- a) **States/Organizations that have not done so, forward to Portugal (Team Leader for the CAFSAT re-engineering and modernization) no later than 31 August 2015, their nominated focal points.**
- b) **States/Organizations forward to Portugal their contributions to the study.**

**Conclusion 5/12: Implementation of the Luanda CAFSAT Station**

**That:**

**ENANA endeavor to expedite the implementation and operation of the Luanda CAFSAT node in order to establish the ATS/DS circuit between Luanda and Recife no later than 31 July 2015**

**Agenda item 7: Review of the terms of Reference and Work programme of CNMC**

**Decision 5/13: Adoption of the Terms of Reference and Work programme of CNMC**

*That:*

*The Terms of Reference and Work Programme of CNMC is adopted as attached at Appendix F*



## **PART II – REPORT ON AGENDA ITEMS**

### **Agenda item 1: Revue of the Status of implementation Conclusions and Decisions of the fourth meeting of CNMC (CNMC4)**

1.1 Under this agenda item the meeting reviewed the status of implementation of the conclusions and decisions of the fourth meeting of the CNMC. The meeting noted the progress made in the implementation of some of these conclusions/decisions and encouraged CAFSAT members to implement the outstanding.

The status of implementation of the conclusions/decisions of CBMC/5 is presented at **Appendix B** to this report.

The following conclusion was formulated:

#### **Conclusion 5/01: Implementation of CNMC/4 outstanding Conclusions and Decisions**

**That:**

#### **CNMC Administrations/Organizations endeavor to implement the outstanding Conclusions/Decisions of the fourth meeting of CNMC**

**1.2** The meeting discussed the issued related to the collection of statistics on CAFSAT operation. Brazil and Portugal reported on the statics of respectively Recife, Lisbon and Santa Maria CAFSAT nodes under the PDCF format.

**1.3** The meeting examined the status of implementation of CNMC/4 Decision 4/03 establishing a Study Group for the Automation of CAFSAT Performance Data and calling upon for the assignment of focal points and a Team Leader. In this regards Brazil reported on the progress made in using the software **Inseye** provided in the CAFSAT Management and Control (M&C) implemented by **ISDEFE**. States and Administration were strongly encouraged to take example of Brazil invited to liaise with ISDEFE assess the cost of the upgrade of its software **Inseye** into the PDCF format and share with States/Organizations.

The following decision was formulated:

#### **Decision 5/02: Automation of CAFSAT PDCF**

**That:**

- a) **CNMC Administrations/Organizations are invited to use the use the software Inseye provided in the CAFSAT Management and Control (M&C) implemented by ISDEFE.**
- b) **Brazil continue to contact ISDEFE on this issue, assess the cost of the upgrade of ISDEFE software Inseye into the PDCF format and share with States/Organizations**

## **Agenda item 2: Review of the performance of CAFSAT earth stations and operational statistics of availability**

**2.1** The meeting examined the performance of CAFSAT and noted the outstanding unavailability of the Nouakchott Casablanca circuit resulting in a lack of ATS/DS coordination between the two centers. ASECNA informed the meeting on the actions undertaken with ONDA including a technical mission to Casablanca in order to clear out the dysfunction. The meeting confirmed the importance of this circuit and urged ONDA and ASECNA to take the appropriation action in order to restore the circuit.

The following conclusion was formulated:

### **Conclusion 5/03: Restoration of the Nouakchott Casablanca ATS/DS circuit**

**That:**

**As a matter of urgency ASECNA and ONDA implement the current arrangement to expedite the restoration of the Nouakchott/Casablanca AFS circuit no later than 31 July 2015.**

**2.2** The Secretariat reported to the meeting the difficulties encountered in the collection of CAFSAT performance data through the Performance Data Collection Form (PDCF). It was noted that except Portugal who regularly fill the form CNMC members do not fill and send the forms resulting in lack of performance data for all the nodes and links.

It was agreed that CAFSAT States take the example of Portugal and report to the current CNMC coordinator. The ICAO Regional Offices of Dakar and Lima were invited to coordinate and centralize the filled forms.

The following decision was formulated:

### **Decision 5/04: Assessment of CAFSAT AFS performance through the Performance Data Collection Forms (PDCF)**

**That:**

- a) States/organizations take the example of Portugal and fill the PDCF document for reporting to the current CNMC coordinator with copy to the Secretariat;**
- b) The ICAO Regional Offices of Dakar and Lima coordinate to centralize the filled PDCF for a comprehensive assessment of the statistics on CAFSAT performance**

## **Agenda item 3: Implementation of recommendation 6/19 of Special AFI RAN meeting**

**3.1** Under this agenda item the Secretariat provided the meeting with a summary of the main events conducted since CNMC/4<sup>th</sup> meeting. The meeting noted that the neighboring aeronautical satellite network which gave opportunity to address issues pertaining to the ground/ground and air/ground components of ATN and to continue the work on the definition of the conditions for the development of a robust sustainable telecommunication infrastructure based on the modernization of the existing VSAT Networks (AFISNET, CAFSAT, SADC/2, NAFISAT).

**3.2** The meeting was also provided with the outcome of APIRG CNS/SG/6 meeting held in Dakar, Senegal from 18 to 22 May 2015 which will be reported to APIRG/20 on October as well as with the outcome of a coordination meeting of VSAT Managers held in Johannesburg South Africa from 25 to 26 May 2015 in order to review ICAO general and regional requirements pertaining to VSAT as well as the work done by AFI VSAT Network Managers and APIRG as a follow up to ALLPIRG/5 (2006) and SP AFI RAN (2008) recommendations aimed at establishing a sustainable, modern IP-based integrated regional VSAT network.

The meeting applauded these outcome and encouraged CNMC members to endeavor to attend the Regional coordination Meeting on VSATs Networks and implement their outcome.

The following conclusion was formulated:

**Conclusion 5/05: Participation of CNMC members to the Regional coordination Meeting on VSATs Networks**

**That:**

**In order to harmonize the best practices for the implementation, operation and modernization of the network, CAFSAT States/Organizations endeavor to actively attend the Regional coordination Meeting on VSATs Networks and implement their outcome.**

**Agenda item 4: Interconnection and interoperability of CAFSAT with its neighboring networks**

**4.1** The Secretariat reported to the meeting the progress made to coordinate the arrangements between ASECNA and respectively, French Guyana, Brazil and Trinidad & Tobago for the installation of AFISNET earth stations in order to ensure the availability of ATS/DS between SAT concerned ACCs including the Abidjan/Recife circuit.

**4.2** The meeting applauded the effort made by stakeholders and encouraged concerned Sates/Organizations to realize/complete the interconnection process between CAFSAT and the neighboring networks in order to complete the remaining interconnection required for ATM operation and to pursue their collaboration when modernizing their respective networks components in order to build a harmonized interregional network provided with the capability to support the forthcoming CNS applications.

The following conclusion was formulated:

**Conclusion 5/06: Implementation of AFS involving Dakar, Cayenne, Piarco, Recife and Santa Maria ACCs**

**That:**

**The concerned ANSPs continue their collaboration in order to implement the AFS circuits no later than 31 December 2015 in particular:**

- a) **ASECNA French Guyana and Trinidad & Tobago complete the ongoing deployment of the AFISNET nodes in Cayenne and Piarco;**

- b) **ASECNA and DECEA finalize their agreement aiming to implementing the AFISNET node in Recife to clear out the ATS/DS deficiency between Abidjan and Atlántico ;**
- c) **Portugal ASECNA and Trinidad Tobago explore the cost effective way to establish the Piarco Santa Maria ATS/DS circuit;**
- d) **ICAO continue to assist and facilitate the bilateral arrangements for the interconnection of the Networks**

**4.3** The meeting discussed the request of Portugal for the establishment of a direct ATS/DS circuit between Santa Maria Fir (Portugal), and Piarco Fir (Trinidad & Tobago) ATCs. It was noted that the establishment of the circuit through direct links based on the existing satellite VSAT networks (AFISNET and CAFSAT) will require the conduct of case by case technical analysis taking into consideration the cost effectiveness of the possible solution.

The meeting encouraged the concerned organizations to pursue their concentrations in order to implement the circuit.

The following conclusion was formulated:

**Conclusion 5/07: Communication Requirement between Piarco, and Santa Maria**

**That:**

**In order to ensure a sustainable ATS/DS circuit(s) between ATCs Santa Maria Fir (Portugal), and Piarco Fir (Trinidad & Tobago);**

- a) **Concerned Organizations envisage the establishment of direct links based on the existing satellite VSAT networks (AFISNET and CAFSAT) and conduct case by case technical analysis taking into consideration the cost effectiveness of the possible solutions.**
- b) **SAT Secretariat to coordinate technical meetings (teleconferences and e-meetings) for collaborative decision making.**

**Agenda item 5: ICAO Position for ITU WRC-15 and preparation on issues pertaining to VSATs Networks**

**5.1** The Secretariat presented to the meeting a summary of ICAO position for the ITU World Radiocommunication Conference planned to take place in Geneva from 2 to 27 November 2015 (ITU WRC-15). The meeting noted that the appropriate initiatives that can help overcoming the challenges for the forthcoming WRC-15 should amongst others be:

- Support by CNMC members of ICAO position for WRC-15;
- Strong link between ANSPs and CAAs to represent and defend the ICAO position at the national regulation level with the aim to obtaining a clear support from the regulator
- Active participation in the national sub regional and regional preparatory meetings organized by, ANSPs, Regional Frequency Management Group, ATU, CEPT, CITEL, ICAO.
- Participation when possible in ITU preparatory meetings such as CPMs;

- Participation in the Conference itself.

The ICAO Position is attached at **Appendix C** to this report.

The meeting encouraged CNMC members to support ICAO position for ITU WRC-15

The following conclusion was formulated:

**Conclusion 5/08: Support to ICAO Position for WRC-15**

**That:**

**States /Administrations support ICAO position for WRC-15 by:**

- a) Coordinating the national spectrum requirements for civil aviation for consideration by the national preparatory meetings conducted by the national Authority of Regulation of Telecommunication;**
- b) Participating in national and regional preparatory meetings for WRC-15;**
- c) Ensuring the presence of Civil Aviation personnel in the national delegation for ITU WRC-15 scheduled to take place in Geneva (02-27 November 3015)**

**5.2** The Secretariat informed the meeting on ITU WRC-15 Agenda Item 9.1.5 related to technical and regulatory actions to be considered by WRC-15 in order to support existing and future operation of fixed-satellite service earth stations within the band 3 400-4 200 MHz, as an aid to the safe operation of aircraft and reliable distribution of meteorological information in some countries in Region 1

This agenda item was included in ICAO position and aims to protecting the C-band operated by CAFSAT network. The meeting applauded the actions undertaken and encouraged CAFSAT members to populate among the civil aviation community the draft revised Resolution 154 (WRC-12) adopted by the ITU-R Conference preparatory Meeting (CPM) in order to ensure its best understanding by stake holders and strengthen/defend the current draft test and obtain national consensus in the national level.

The draft revised resolution 154 is attached at **Appendix D** to this report.

The following conclusion was formulated:

**Conclusion 5/09: Protection of the C Band operated by Aeronautical VSAT Networks**

**That:**

**CNMC Administrations/Organizations take the appropriate measures to:**

- a) populate among the civil aviation community the draft revised Resolution 154 (WRC-12) adopted by the ITU-R Conference preparatory Meeting (CPM) in order to ensure its best understanding by stake holders;**
  - b) strengthen/defend the current draft test and obtain national consensus in the national level;**
- Agenda item 6: CAFSAT Modernization and re-engineering**

## **Agenda Item 6: CAFSAT modernization and re-engineering**

**6.1** Portugal tasked to coordinate the activities reported to the meeting on the ongoing action conducted in the framework of Phase 1 of the CAFST modernization. It was noted that phase 1 was completed for CAFSAT stations except for the nodes of Casablanca and Johannesburg for which the meeting encountered lack of updated information and the node of Ezeiza, the modernization of which is planned to be conducted within six (6) months after contract signature around June 2015. The update table of CAFSAT upgrade phase 1 is presented at **Appendix E** to this report

The following conclusion was formulated:

### **Conclusion 5/10: Completion of phase 1 of the CAFSAT modernization and re-engineering**

**That:**

**States/Administration who have not yet done so endeavor to carry out the completion of phase 1 of the CAFSAT modernization and re-engineering in particular Argentina and South Africa to provide to the coordinator (Portugal) the relevant information for the update of the follow up table**

**6.2** The meeting discussed the issues related to the future phases of modernization of CAFSAT. It was noted that States/Organizations did not yet appointed their nominated focal points and did not yet forward their contribution to the study for CAFSAT modernization.

The following conclusion was formulated:

### **Conclusion 5/11: Future phase of the CAFSAT modernization and re-engineering**

**That:**

- a) **States/Organizations that have not done so, forward to Portugal (Team Leader for the CAFSAT re-engineering and modernization) no later than 31 August 2015, their nominated focal points.**
- b) **States/Organizations forward to Portugal their contributions to the study.**

**6.3** The meeting was provided with the information on the installation of Luanda CAFSAT node and noted the delay in the completion of the installation. The meeting raised serious concern on the unavailability of ATS/DS circuit between Luanda and Recife due to the outstanding situation of the implementation of the CAFSAT node in Luanda. ENANA was urged to complete the installation and operation of the link no later than 31 July 2015.

The following conclusion was formulated:

### **Conclusion 5/12: Implementation of the Luanda CAFSAT Station**

**That:**

**ENANA endeavor to expedite the implementation and operation of the Luanda CAFSAT node in order to establish the ATS/DS circuit between Luanda and Recife no later than 31 July 2015**

**Agenda item 7: Review of the terms of Reference and Work programme of CNMC**

**7.1** The meeting reviewed and adopted the Terms of Reference of CNMC presented by the Secretariat and attached at **Appendix F**

The following decision was formulated:

**Decision 5/13: Adoption of the Terms of Reference and Work programme of CNMC**

**That:**

**The Terms of Reference and Work Programme of CNMC is adopted as attached at Appendix F**

**Agenda Item 8: Review of the draft Conclusions/Decisions of CNMC/5 Meeting**

Under this agenda item the meeting discussed, amended and approved the draft conclusion/decisions presented by the Secretariat.

**Agenda Item 9: Any other business**

The Meeting expressed its gratitude to the Cote d'Ivoire CAA for hosting and facilitating the holding of this meeting.