### CNMC/7

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



### SEVENTH MEETING OF THE CAFSAT NETWORK MANAGEMENT COMMITTEE (CNMC/7)

FINAL REPORT

Paris, France, 05-06 June 2017

Prepared by ICAO WACAF Office, 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 Seventh Meeting of the CAFSAT Network Management Committee (**CNMC/7**) was held at the **Musée Mendjisky**, located 15 Square de Vergennes, 75015, Paris, France, from **05** to **06** June **2017** in parallel with the SAT/FIT/12 Meeting and preceding the SAT/ 22 Meeting (07-09 June 2017).

**1.2** The three meetings were officially opened on the 05<sup>th</sup> June 2017 by Mr. **Jérôme Journet**, Chef du service Navigation Aérienne d'Antilles Guyane DGAC, France. He was assisted by Mr. **Pascal Senard, Special Advisor to the Director for Overseas, Air Navigation Service Directorate, DSNA/DGAC, France.** 

**1.3** Mr. **Journet** firstly welcomed the participants to the three meetings (CNMC/7, SATFIT/12 and SAT/22) being held in parallel and back to back, and invited them to feel at home in Paris.

**1.4** Then, he outlined the maturity of the SAT Group expressed through successful cooperative activities resulting in the improvement of air navigation safety, capacity and efficiency over South Atlantic sea. Various success stories in the areas of flexible outing, preferred trajectories and flight level, enhanced surveillance capacity within ADS-C/CPDLC and the contribution to the preservation of the environment over the South Atlantic (SAT) were pointed out. The tangible improvement provided by the CAFSAT Network, an aeronautical satellite based communication network, was recalled to the attention of the participants as a key enabler for the interconnection and the interoperability of aeronautical ground/ground communication for ATS/DS coordination and transmission of aeronautical message through the AFTN across AFI, EUR and SAM regions. the importance of which

**1.5** 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.

**1.6** He recalled also how France interested in the activities of the CNMC since, his Air Navigation Service Provider is sharing crucial information with neighboring centers hosting CAFSAT nodes. Finally, he wished fruitful deliberations and a nice stay in Portugal to the participants.

### 2. Officers and Secretariat

The Meeting was chaired by Mr. Sabino André Galvão Baptista, Inspector ANS Cabo Verde. Mr. François Xavier Salambanga, Regional Officer Communication Navigation and Surveillance (RO/CNS), ICAO WACAF Office and Mr. Onofrio Smarelli, Regional Officer Communication Navigation and Surveillance (RO/CNS), ICAO SAM Office served as Secretary of the meeting.

### 3. Attendance

The meeting was attended by twenty (20) participants from twelve (12) States of the ICAO AFI, EUR, NACC and SAM regions namely, Angola, Argentina, Brazil, Cabo Verde, France, Ghana, Portugal, Senegal, South Africa, Spain, Trinidad de Tobago, United States of America including their Air Navigation Service providers (ASECNA, ASA, ATNS, ENAIRE, ENANA, DGCTA, NAV Control) four (04) representatives of the aeronautical industry (AIREON, IATA, INEO, 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 Papers were submitted in this language.

### 5.Agenda

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

- <u>Agenda Item 1:</u> Review of the status of implementation of the Conclusion/Decision of the Sixth meeting of CNMC (CNMC/6)
- Agenda Item 2: Review the performance of CAFSAT earth stations and the operational statistics of availability for supported links
- Agenda Item 3: Interconnection and interoperability of CAFSAT with its neighboring networks
- Agenda Item 4: CAFSAT re-engineering and modernization
- Agenda Item 5: ICAO Draft Position for the ITU World Radiocommunication Conference (WRC-19) on issues pertaining to VSATs Networks
- Agenda Item 6: Implementation of recommendations 6/19 of Special AFIRAN meeting
- Agenda Item 7: Review of the Terms of Reference and Work Programme of CNMC
- Agenda Item 8: Adoption of the draft Conclusions/Decisions of CNMC/7 Meeting
- Agenda Item 9: Any other business

### 6. Summary of Conclusions

After deliberation the meeting adopted three (3) Decisions and eleven (11) Conclusions summarized below:

<u>Agenda Item 1</u>: Review of the status of implementation of the Conclusion/Decision of the Sixth meeting of CNMC (CNMC/6)

Conclusions 7/01: Implementation of the outstanding Conclusions and Decisions of CNMC/6 Meeting

That;

CNMC Administrations/Organizations endeavor to implement the outstanding Conclusions/Decisions of the Sixth and previous meetings of CNMC.

Conclusion 7/02: Restoration of the Nouakchott Casablanca AFTN circuit

That;

ASECNA and ONDA pursue their effort and coordinate to restore the Casablanca/Nouakchott AFTN circuit and report to the current CNMC coordinator with copy to the Secretariat before 31 December 2017.

Conclusion 7/03: Focal points for CAFSAT Re-engineering and modernization That;

- a) South Africa, endeavor to nominate the Focal Point tasked to participate in the forthcoming activities on the CAFSAT Re-engineering and modernization;
- b) CNMC members ensure the availability of Focal Points contacts (Names and e-mails addresses, phone contacts...) for the coordination of future actions.

Decision 7/04: Coordination amongst Focal Points for CAFSAT Re-engineering and modernization

That;

In order to facilitate continuous coordination, CNMC Focal Points should take opportunity of emerging media such as teleconferences and social media (Skype, WhatsApp....) to respectively organize the preparation of the CAFSAT Re-engineering project and conduct bilateral coordination activities.

<u>Agenda Item 2</u>: Review of the performance of CAFSAT earth stations and the operational statistics of availability for supported links

Conclusion 7/05: Effective utilization of the Performance Data Collection Form (PDCF)

#### That;

On the basis of the Performance Data Collection Form (PDCF) circulated by the Secretariat to the participants of CNMC/7:

- a) CNMC members take the example of best practices from Brazil and Portugal and duly regularly fill up the PDCF, assess and share the technical and operational performance of their nodes to concerned neighbors and report periodically to the current coordinator with copy to the Secretariat and annually to CNMC.
- b) The current CNMC coordinator, with the assistance of the Secretariat, develop a follow up table to be periodically updated and remind every quarter, States/Organizations that have not forwarded the PDCFs.

Agenda Item 3: Interconnection and interoperability of CAFSAT with its neighboring networks

Conclusion 7/06: Interconnection and Interoperability between Networks to support AFS

That;

DECEA (Brazil), ENAIRE (Spain) and ASECNA (Dakar):

- a) Pursue their effort to interconnect the CAFSAT network respectively with the REDDIG and AFISNET networks and complete the trials on AMHS systems;
- b) Share the results of the interconnection for inclusion in the technical requirements for CAFSAT re-engineering and modernization.

Agenda Item 4: CAFSAT re-engineering and modernization

<u>Decision 7/07</u>: Endorsement of the outcome of the Coordination meeting for CAFSAT re-engineering and modernization That:

- a) The report of the Coordination meeting for CAFSAT re-engineering and modernization held in Canarias, Spain from 2 to 4 November 2016 is approved as attached in Appendix C.
- b) The Secretariat formally send the document to members for implementation.

<u>Conclusion 7/08:</u> Consideration of regional and interregional coordination mechanisms for the upgrade of the CAFSAT Network

### That;

With respect to CNMC Terms of References and in order to ensure future interconnectivity and interoperability between CAFSAT nodes, Argentina and Morocco, in the conduct of their respective current projects, endeavor to take into consideration the technical and operational requirements identified by the Joint Team for the CAFSAT Network re-engineering and Modernization.

Conclusion 7/09: Follow up with INTELSAT on the migration of CAFSAT supporting satellite

### That;

With the assistance of the Secretariat:

- a) CNMC members liaise with the satellite resource provider, INTELSAT in order to be provided no later than 31 August 2017 with the relevant information on the impact of the migration from IS 901 to IS 37 in particular the possibility of frequencies change and coordinate through the Joint Technical Team activities for the conduct of appropriate actions to minimize service interruption;
- b) Portugal, as CAFSAT Joint Technical Team coordinator, collect from members the relevant information in order to develop an integrated document to be considered for the re-engineering.

<u>Agenda Item 5</u>: ICAO Draft Position for the ITU World Radio Communication Conference (WRC-19) on issues pertaining to VSATs Networks

Conclusion 7/10: Support to ICAO Position for ITU WRC-19

### That;

In coordination with their CAA, CNMC members conduct the appropriate actions aiming at sensitizing the National Authorities of Telecommunication on ICAO position for ITU WRC-19 and actively attend the preparatory meetings for WRC-19 organized at national and regional levels.

### Conclusion 7/11: Registration of CAFSAT stations in the ITU MIFR

That;

With the assistances of ICAO Regional Offices of Dakar, Lima and Nairobi, CNMC Members endeavor to initiate the process of registration of their CAFSAT Stations in the ITU Main International Frequency Register (MIFR) by providing the required data to the National Authorities of Regulation of Telecommunication.

<u>Agenda Item 6</u>: Implementation of recommendations 6/19 of Special AFIRAN meeting <u>Conclusion 7/12</u>: Follow up of the performance of neighboring Networks

### That;

CAFSAT members consider the best practices shared by neighboring networks through the outcome of their Management Committees meetings.

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

Decision 7/13: Terms of Reference and Working Arrangements of CNMC

That;

The Terms of Reference and Working Arrangements of CNMC are adopted as presented in Appendix D

Agenda Item 8: Adoption of the draft Conclusions/Decisions of CNMC/7 Meeting

Agenda Item 9: Any other business

Conclusion 7/14: Follow up of the implementation of CNMC Conclusions and Decisions

That;

- a) CNMC members quarterly report on the status of implementation of the CNMC Conclusions and Decisions;
- b) The coordinator trough teleconferences organize regular common assessment of the level of implementation of CNMC Conclusions and Decisions;

### PART II - REPORT ON AGENDA ITEMS

## <u>Agenda Item 1</u>: Review of the status of implementation of the Conclusion/Decision of the Sixth meeting of CNMC (CNMC/6)

1.1 Under this agenda item the meeting reviewed the status of implementation of the Conclusions/Decisions of the sixth CNMC meeting held in Lisbon, Portugal from 06 to 07 June 2016 summarized by the Secretariat (**WP02**). The summary of the status of implementation of the Conclusions and Decisions of the CNMC/7 meeting is attached at **Appendix B** to this report.

1.2 The meeting noted the progress made in the implementation of some of the Conclusions/Decisions and encouraged ANSPs to pursue their effort in an effective implementation of the outstanding conclusions and decisions.

The following conclusion was formulated:

# <u>Conclusions 7/01</u>: Implementation of the outstanding Conclusions and Decisions of CNMC/6 Meeting That;

## CNMC Administrations/Organizations endeavor to implement the outstanding Conclusions/Decisions of the Sixth and previous meetings of CNMC.

1.3 The meeting expressed its concerns on the pending deficiency encountered by the ground/ground circuit operated through CAFSAT between the Nouakchott and Casablanca centers. In the absence of Morocco, ASECNA reported to the meeting on the various actions undertaken and planned to be conducted with Morocco in order to restore the AFTN circuit between Nouakchott and Casablanca.

The meeting commended these initiatives and encouraged the two ANSPs to urge the restoration of this link. The following conclusion was formulated:

### Conclusion 7/02: Restoration of the Nouakchott Casablanca AFTN circuit

That;

ASECNA and ONDA pursue their effort and coordinate to restore the Casablanca/Nouakchott AFTN circuit and report to the current CNMC coordinator with copy to the Secretariat before 31 December 2017.

1.4 The meeting noted a good representation of members by the appointment of experts as focal points for CAFSAT Re-engineering and modernization. South Africa was strongly encouraged to nominate his focal point and members to ensure the availability of their nominees in the forthcoming activities.

The following conclusion was formulated:

### Conclusion 7/03: Focal points for CAFSAT Re-engineering and modernization

That;

- a) South Africa, endeavor to nominate the Focal Point tasked to participate in the forthcoming activities on the CAFSAT Re-engineering and modernization;
- b) CNMC members ensure the availability of Focal Points contacts (Names and e-mails addresses, phone contacts...) for the coordination of future actions;

1.5 The meeting also discussed bilateral and multilateral coordination issues encountered by the Secretariat and members and commended members to take opportunity of emerging media such as teleconferences and social media (Skype, WhatsApp....) to conduct coordination activities.

The following Decision was formulated:

## <u>Decision 7/04</u>: Coordination amongst Focal Points for CAFSAT Re-engineering and modernization That;

In order to facilitate continuous coordination, CNMC Focal Points should take opportunity of emerging media such as teleconferences and social media (Skype, WhatsApp....) to respectively organize the preparation of the CAFSAT Re-engineering project and conduct bilateral coordination activities. <u>Agenda Item 2</u>: Review the performance of CAFSAT earth stations and the operational statistics of availability for supported links

2.1 Under this agenda item the meeting reviewed and analyzed the performance of the Network through statistics of availability of CAFSAT links provided by members. In this regards ASECNA reported (**WP09**) on the performance of the Dakar and Nouakchott CAFSAT stations. The meeting noted the good performances of the circuits except:

- A decrease of the availability of the Dakar / Madrid AFTN circuit in February 2017 due to a lack of coordination between the two centers for the update of the link parameters;
- The pending shortage of the Nouakchott/ Casablanca AFTN link despite the implementation of a SCPC link since January 2017 which enabled the restoration of the ATS/DS link.

2.2 Portugal summarized (**WP03**) the performances of the Lisbon and Santa Maria CAFSAT stations under the Performance Data Collection Form (**PDCF**) adopted by CNMC for performance data collection. And take the necessary decisions to develop a comprehensive programme to enhance the availability rate.

The Performance of the Dakar, Nouakchott, Lisbon and Santa Maria stations are presented at Appendix C to this report.

2.3 The meeting recognized the effort undertaken by the two ANSPs and invited Organization to collect the performance data under the PDCF as proceeded by Portugal and periodically report on operational and technical statistics of its CAFSAT nodes.

The following conclusion was formulated:

### **Conclusion 7/05:** Effective utilization of the Performance Data Collection Form (PDCF)

That;

On the basis of the Performance Data Collection Form (PDCF) circulated by the Secretariat to the participants of CNMC/7:

- a) CNMC members take the example of best practices from Brazil and Portugal and duly regularly fill up the PDCF, assess and share the technical and operational performance of their nodes to concerned neighbors and report periodically to the current coordinator with copy to the Secretariat and annually to CNMC.
- b) The current CNMC coordinator, with the assistance of the Secretariat, develop a follow up table to be periodically updated and remind every quarter, States/Organizations that have not forwarded the PDCFs.

### Agenda Item 3: Interconnection and interoperability of CAFSAT with its neighboring networks

3.1 Under this agenda item, the meeting reviewed the status of interconnection of CAFSAT with its neighboring networks (REDDIG, AFISNET) and addressed interoperability issues.

3.2 In this regard Brazil informed the meeting (**WP06**) on successful interconnection between the REDDIG and CAFSAT networks resulting in successful test between Recife and Las Palmas.

Similar interconnection with AFISNET can be envisaged.

3.3 The meeting applauded this initiative from Brazil and encouraged further trial on networks interconnection. The following conclusion was formulated:

### <u>Conclusion 7/06:</u> Interconnection and Interoperability between Networks to support AFS

That;

DECEA (Brazil), ENAIRE (Spain) and ASECNA (Dakar):

- a) Pursue their effort to interconnect the CAFSAT network respectively with the REDDIG and AFISNET networks and complete the trials on AMHS systems;
- b) Share the results of the interconnection for inclusion in the technical requirements for CAFSAT re-engineering and modernization.

### Agenda Item 4: CAFSAT re-engineering and modernization

4.1 Under this agenda item the meeting discussed the status of implementation of phase II of the network re. The Secretariat informed the meeting (**WP04**) on the outcome of the CAFSAT Coordination Meeting, held in Canarias, from 2 to 4 November 2016. During this meeting the participants tasked by CNMC/6:

- Reviewed the Conclusions/Decisions of CNMC/6 and CNMC previous meetings related to the reengineering and modernization of the CAFSAT Network;
- Reviewed and updated the draft Terms of Reference for the re-engineering and modernization of the CAFSAT Network (Operational Requirements, Technical Specifications, operation monitoring and maintenance presented by ASECNA;
- Discussed issues on the development of a project scheme for the re-engineering and modernization of the CAFSAT Network (Modalities for Funding, Procurement, provision of satellite spectrum...);
- Updated the planning for the re-engineering and modernization of the CAFSAT Network

The minutes of the meeting is attached at Appendix D.

4.2 The meeting endorsed the outcome and called upon members to go forward for implementation.

The following decision was formulated:

## <u>Decision 7/07:</u> Endorsement of the outcome of the Coordination meeting for CAFSAT re-engineering and modernization

### That;

- c) The report of the Coordination meeting for CAFSAT re-engineering and modernization held in Canarias, Spain from 2 to 4 November 2016 is approved as attached in Appendix D.
- d) The Secretariat formally send the document to members for implementation.

4.3 The meeting was informed that Argentina (**IP02**) is developing the project for a new ACC/TWR building in Ezeiza International Airport. The project includes the full installation and commissioning of a complete new CAFSAT node is planned for second semester 2018. The current CAFSAT station is working without redundancy. The meeting was also informed by Portugal that Morocco was commissioning two new CAFSAT stations to be installed in Casablanca and Agadir.

4.4 The meeting noted the interest of the two projects and encouraged Argentina and Morocco to take into consideration the technical and operational requirements identified by the Joint Team for the CAFSAT Network re-engineering and Modernization in order to ensure future interconnectivity and interoperability between CAFSAT nodes.

The following conclusion as formulated:

## <u>Conclusion 7/08:</u> Consideration of regional and interregional coordination mechanisms for the upgrade of the CAFSAT Network

### That;

With respect to CNMC Terms of References and in order to ensure future interconnectivity and interoperability between CAFSAT nodes, Argentina and Morocco, in the conduct of their respective current projects, endeavor to take into consideration the technical and operational requirements identified by the Joint Team for the CAFSAT Network re-engineering and Modernization.

4.5 The meeting was provided by Portugal (**WP05**) with guide lines for CAFSAT Phase II modernization and re-engineering. The following generic considerations were agreed:

- CAFSAT network has been working very well since its development and installation;
- The structure of the network and the different regions involved;
- Migration from current network to CAFSAT phase II should be as smooth as possible;
- Service disruption shall be kept for a minimum;
- Migration in one ANSP shall be as independent as possible of other ANSP's;
- A centralized procurement / management it is not considered feasible due to institutional issues;
- A centralized solution would also imply that all the stations have to migrate the satellite modems at the same time that is a very difficult scenario;

4.6 The meeting discussed issues related to the migration of the CAFSAT Network from the current Intelsat Satellite IS 901 to the future IS 37 and examined the possible challenges members may encounter in the future. It was agreed that members liaise with the satellite resource provider, INTELSAT in order to be provided no later than 31 August 2017 with the relevant information on the impact of the migration from IS 901 to IS 37 in particular the possibility of frequencies change. Portugal as Coordinator of the Joint Technical Team was tasked to collect from members the relevant information in order to develop an integrated document to be considered for the re-engineering.

The following Conclusion was formulated:

### Conclusion 7/09: Follow up with INTELSAT on the migration of CAFSAT supporting satellite

### That;

#### With the assistance of the Secretariat:

- c) CNMC members liaise with the satellite resource provider, INTELSAT in order to be provided no later than 31 August 2017 with the relevant information on the impact of the migration from IS 901 to IS 37 in particular the possibility of frequencies change and coordinate through the Joint Technical Team activities for the conduct of appropriate actions to minimize service interruption;
- d) Portugal, as CAFSAT Joint Technical Team coordinator, collect from members the relevant information in order to develop an integrated document to be considered for the re-engineering.

## <u>Agenda Item 5</u>: ICAO Draft Position for the ITU World Radiocommunication Conference (WRC-19) on issues pertaining to VSATs Networks

5.1 Under this agenda item the meeting was provided (**WP11**) with a rough overview of frequency spectrum allocations for aeronautical safety services. The Secretariat also presented (**WP12**) the ICAO Draft Position for the ITU World Radiocommunication Conference (**WRC-19**) with focus on issues pertaining to VSATs Networks.

5.2 The meeting addressed the stake on the C band operated by CAFSAT network and tasked members to conduct appropriate actions aiming at sensitizing the National Authorities of Telecommunication on ICAO position for ITU WRC-19 and initiate the process of registration of their CAFSAT Stations in the ITU Main International Frequency Register (MIFR).

The following conclusions were formulated:

### Conclusion 7/10: Support to ICAO Position for ITU WRC-19

#### That;

In coordination with their CAA, CNMC members conduct the appropriate actions aiming at sensitizing the National Authorities of Telecommunication on ICAO position for ITU WRC-19 and actively attend the preparatory meetings for WRC-19 organized at national and regional levels.

## <u>Conclusion 7/11:</u> Registration of CAFSAT stations in the ITU MIFR That;

With the assistances of ICAO Regional Offices of Dakar, Lima and Nairobi, CNMC Members endeavor to initiate the process of registration of their CAFSAT Stations in the ITU Main International Frequency Register (MIFR) by providing the required data to the National Authorities of Regulation of Telecommunication.

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

6.1 Under this item the meeting analyzed the status of implementation of recommendation 6/19 of Special AFI/RAN meeting that calls for regular meetings of all AFI networks managers.

6.2 It was reported (WP10) that the AFISNET management Committee SNMC, the NAFISAT and SADC/2 supervisory bodies held their annual regular meetings 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). Issues related to the networks performance (availability, speed of the ground segment, readiness to support ATN application such as AMHS and AIDC, surveillance data exchange...) were considered by the meetings.

6.3 Regional projects taking into account the outcome of these various coordination meetings on VSAT Networks (AFISNET, SADC/2, NAFISAT, CAFSAT...) and related to aeronautical satellite communication to be implemented for ground/ground and air/ground services were identified and planned to be presented to the APIRG IIM/SG (scheduled to be held in Nairobi Kenya from 27 to 30 June 2017) and the outcome to be endorsed by the APIRG/21 meeting to be held in the last quarter of year 2017.

The meeting applauded these actions and encouraged members to share the best practices on the operation and maintenance of the VSAT networks.

The following conclusion was formulated:

<u>Conclusion 7/12:</u> Follow up of the performance of neighboring Networks That;

CAFSAT members consider the best practices shared by neighboring networks through the outcome of their Management Committees meetings.

Agenda Item 7: Review of the Terms of Reference and Working Arrangements of CNMC

7.1 Under this agenda item the meeting reviewed and adopted the Terms of Reference of CNMC presented by the Secretariat and attached at Appendix E

The following decision was formulated:

### Decision 6/14: Terms of Reference and Working Arrangements of CNMC

That;

The Terms of Reference and Working Arrangements of CNMC are adopted as presented in Appendix E.

### Agenda Item 8: Review of the draft Conclusions/Decisions of CNMC/7 Meeting

**8.1** Under this agenda item the meeting discussed, amended and approved the draft Conclusion/decisions presented by the Secretariat (**WP08**).

### Agenda Item 9: Any other business

**9.1** The meeting discussed the venue of the future session and agreed to align it with the future date and venue of SAT 23 meeting.

**9.2** The Meeting expressed its gratitude to France and to the French CAA for hosting and facilitating the holding of this meeting.