



## INTERNATIONAL CIVIL AVIATION ORGANIZATION

Western and Central Africa Office

Sixth Meeting of the Central Atlantic FIR Satellite Network (CAFSAT) Management Committee (CNMC/6)  
(Lisbon, Portugal, 06-07 June 2016)**Agenda Item 4: CAFSAT Re-engineering and Modernization**

(Presented by the secretariat)

SUMMARY
The purpose of this paper is to review the status of the current developing or planned projects by CAFSAT States/organization to conduct the modernization of the Network and revise if necessary the roadmap for a harmonized modernization and re-engineering exercise.
<b>Action by the meeting is at paragraph 3.</b>
<b>References :</b> Terms of Reference of CNMC Report on CNMC previous reports <b>Related ICAO Strategic Objectives: A: Safety; B: Air Navigation Capacity and Efficiency</b> <b>Related ICAO Bloc 0 Modules: B0 10/PIA3-PBN En Route Trajectories; B0 25/PIA2-AIDC, B0 30/PIA2-AIM, B0 40/PIA4-Datalink and B0 105/PIA2-MET</b> <i>Note: References can be downloaded from <a href="http://www.icao.int/wacaf">www.icao.int/wacaf</a>.</i>
Related ICAO Strategic Objectives A & C.

**1. Introduction**

In the framework of its terms of reference CNMC 1<sup>st</sup> meeting agreed to undertake common harmonized actions aiming to ensuring a soft modernization and re-engineering exercise in order to guarantee the Quality of the current Services and prepare the integration of new CNS/ATM applications in the CAFSAT Network.

**2. Discussion**

2.1 Since CNMC 1<sup>st</sup> meeting the CAFSAT Network members considered that the network has been operating since a long time and recognized that actions should be taken to ensure its t modernization and re-engineering with an harmonized approach involving all the stakeholders in order to ensure seamless provision of Aeronautical fixed service (AFTN, ATS/DS) supported by the Network along the EUR/SAM corridor while interfacing with AFI for a safer Air navigation service provision.

2.2 Moreover, the various meetingz also recognized that the forthcoming implementation of CNS/ATM components with time critical or sensitive applications (Automation of ATM in the frame of ICAO New Flight Plan Format, Sharing Surveillance data, Implementation of AMHS...) may require the modernization/re-engineering of the current VSAT Networks taking into consideration the flexibility gained with the emerging technologies and bearing in mind the necessity to ensure a comprehensive safety of the data across the Networks and a costs effectiveness of the operation for the VSAT managers.

2.3 The principle of the development of a Roadmap for CAFSAT joint technical evaluation and re-engineering was first initiated and presented by and adopted by the CNMC/1<sup>st</sup> meeting through its conclusion 01/7 that reads as follows:

**Conclusion 1/07: Development of a Roadmap for CAFSAT joint technical evaluation and re-engineering**

**That:**

**In accordance with ICAO guidance materials (Annex X, Vol 1, Attachment F: Guidance material concerning reliability and availability of radio communications 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;**

2.4 During the SAT/17 meeting held in Las Palmas Spain from 18 to 20 April Spain nominated to lead the Joint Technical Team reported on the difficulties encountered to find contact person in CAFSAT States to respond to the request for comments on the reengineering preparation activities. The Secretariat reminded the meeting with the importance for each State to nominate a contact person to handle the re-engineering exercise as called upon by decision SAT/16/05 (Establishment of a Joint Technical Team for CAFSAT Network evaluation and re-engineering) and it was decided through *Decision SAT17/04: Nomination of contact persons for the joint technical team for CAFSAT evaluation and re-engineering*,

**That:**

**“SAT concerned members communicate to Spain (Team Leader) the name and the title of their designated contact person for the joint technical team for CAFSAT evaluation and re-engineering no later than end of April 2012”.**

2.5 Spain also developed a draft Document for the CAFSAT evaluation and re-engineering with an initial schedule for CAFSAT evaluation and re-engineering activities comprising two phases:

- **Phase I: Stations basebands upgrade** consisting on the replacement of the obsolete base band components of CAFSAT Nodes
- **Phase II: CAFSAT New Generation**

The draft document was endorsed as Reference Working Document (see **Appendices A & B** to this Working Paper) through Decision SAT17/05 which reads as follows:

***Decision SAT17/05: CAFSAT Reengineering Roadmap and Reference Document***

**That:**

- a) **The CAFSAT Reengineering schedule and its Reference Working Document developed by Spain are approved as presented to SAT states.**
- b) **CNMC members follow up and provided Spain with the adequate additional information for the development of the project**

2.9 On 24 May 2013 the Secretariat received an E-Mail from Spain nominee indicating his resignation as leader/chairman of the “Joint Technical Team for CAFSAT evaluation and re-engineering due to AENA’s new strategy coming from internal reorganization and constraints.

2.10 In view of the above, CNMC/4 meeting Buenos Aires, Argentina, 04-05 August 2014, formalized the establishment of the Joint Technical Team for CAFSAT evaluation and re-engineering and tasked Portugal, to take the Lead of the Team by Conclusion 4/13 which reads as follows:

**Conclusion 4/13: Future Phase of the CAFSAT modernization and re-engineering**

**That;**

- a) A Joint Technical Team (JTT) is established under the leadership of Portugal in order to conduct a comprehensive evaluation of the future technical requirements to be considered for the future phases of the CAFSAT modernization and re-engineering;**
- b) The Joint Technical Team composed with experts appointed by SAT States/Organizations will conduct its work with electronic mailing support and regularly report to the current CNMC coordinator and present his final report to next CNMC meeting.**

2.10 It is was expected that with the inputs from all States, a final roadmap that would include all CAFSAT nodes new design, equipment and configuration and a global implementation plan schedule and tasks would be developed and approved.

2.11 The last CNMC/5 meeting discussed the issues related to the future phases of modernization of CAFSAT and 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.**

2.12 On February 2016 the Secretariat received in the ICAO Regional Office in Dakar a visit from ISDEFE representative who provided the following information:

- As a result changes in the public companies of the Government of Spain, INSA (the CAFSAT supplier ) was absorbed by the company ISDEFE.
- ISDEFE has drafted a new strategic plan to be compliant with the Spanish and European regulation for government owned companies. As a result of this plan, ISDEFE will focus its activity on the strategic consultancy, giving priority to the needs of the Spanish Government.
- Impact of the new ISDEFE strategic focus on CAFSAT activities:
  - ✓ ISDEFE guarantees the compliance of all ongoing activities and commitments (current installation and test in Luanda, Azores, Lisbon)
  - ✓ **ISDEFE will discontinue future developments and new node integration, installation and testing. A company named AICOX was presented to be able to pursue these activities.**
  - ✓ ISDEFE will be able to continue providing consultancy service, studies and plans if required by ICAO or any other ATM authority

**3. Action by the meeting:**

The meeting is invited to:

- a) Take note of the above information
- b) Take note of the impact of the new ISDEFE strategic plan and focus on CAFSAT sustainability and its future development;
- c) Implement the conclusion/Decision of CNMC previous meetings calling upon members to nominate their representative to the Joint Technical Team for CAFSAT Re-engineering and modernization
- d) Discuss and amend as necessary the foreseen schedule for CAFSAT Network Modernization and re-engineering;

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## Appendix A

### ROADMAP FOR CAFSAT REENGINEERING

(Proposed by Spain)

	Roadmap Date	Item	Responsible
1	3 <sup>rd</sup> quarter 2012	Meeting of CNMC group – Reference Document	ICAO meeting invitation
2	4 <sup>th</sup> quarter 2012	States internal analysis and presentation of draft implementation schedule	CAFSAT States
3	1 <sup>st</sup> quarter 2013	Global implementation plan schedule and tasks	ICAO/CNMC Rapporteur
4	2 <sup>nd</sup> quarter 2013	Migration/Reconfiguration Start	CAFSAT States

1. Meeting of CNMC group – Reference Document

In that meeting the CNCMC should study the document point by point and link by link establishing the best technical configuration for the Network in any case. All Technical issues should be debated in that meeting between States experts on the matters

2. States internal analysis and presentation of draft implementation schedule

Each State will analyse internally the best way to accomplish with schedule and requirements approved in the CNMC meeting and will send ICAO/CNMC Rapporteur a report regarding the State status to accomplish the general schedule

3. Global implementation plan schedule and tasks

Taking into account the inputs from all States (reports) ICAO and CNMC Rapporteur will agree on a final roadmap that will include all CAFSAT nodes new design, equipment and configuration. A final draft will be send to all Sates for approval.

4. Migration/Reconfiguration Start

Following the approved plan schedule the installation/implementation will start. A CNMC meeting previous to this point would be desired

