**INTERNATIONAL CIVIL AVIATION ORGANIZATION**

**WESTERN AND CENTRAL AFRICA OFFICE**

**Third Meeting of the Central Atlantic FIR Satellite Network (CAFSAT) Management Committee (CNMC/3) (Dakar, Senegal, 15-16 July 2013)**

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**Agenda Item 4**: interconnection and interoperability of CAFSAT with its neighboring networks (AFISNET, REDDIG)

(**Presented by the secretariat**)

**SUMMARY**

The purpose of this paper is to inform the meeting of the status of the interconnection between CAFSAT with other VSAT networks.

**Reference:** Report of CNMC/02
**Related ICAO Strategic Objectives**: **A:** *Safety*; **B:** *Air Navigation Capacity and Efficiency*
**Related ASBU Bloc 0 Modules, Performance Improvement Aerias and Applications**:
**B0-FRTO/PIA3**-*PBN En Route Trajectories;*
**B0-FICE/PIA2-***AIDC,*
**B0-DATM/PIA2-***AIM,*
**B0-TBO/PIA4-***Datalink*
**B0-AMET/PIA2-***MET*
**Action by the meeting see paragraph 3**

1. **Introduction**

In order to realize the implementation of AFI, EUR, SAM and CAR planned Aeronautical Fixed Service (ATS-DS & AFTN) CAFSAT was to be interconnected with its neighboring networks (AFISNET, REDDIG). This interconnection is aiming to ensure a seamless interoperation for the provision of ground/ground communication service

2. **Discussion**

Main CAFSAT nodes are located in a transition area between, the western part of AFI region, the eastern SAM region and the southern EUR region.

The network interconnection with its neighbors had to ensure:

- Full operational applications and systems interoperability through the networks;
- End to end continuity of AFS;
- Required Quality of AFS in line with ICAO SARPs (Annex X, DOC 4444…);
- Smooth and continuous integration of CNS new components (implementation of ATN to support ground/ground application such as AIDC, AMHS)

To comply with these requirements a close coordination of interconnection operations was necessary. In this framework many regional meetings called for such coordinating operation for the integration of regional sub networks (**See WP04**).

**2.1-Integration between CAFSAT and AFISNET, - Integration between CAFSAT and REDDIG**

The two Networks are integrated thanks to the installation of a CAFSAT Network in Nouakchott and the installation of an AFISNET node in Las Palmas. The integrated network supports ATS/DS and AFTN services with available capability to support others ATN applications.

During SAT17 meetings (Las Palmas 2012), it was confirmed through Conclusion SAT17/09, the need to establish ATS/DS circuits by double hoop between Abidjan and Recife and to replace the international direct dialing (IDD) telephone calls currently used by some ACCs in CAR/SAM Region.

SAT /17 conclusion 17/09 reads as follows:

**Conclusion SAT17/09: ATS voice circuits' implementation by double hoop satellite link through the REDDIG, CAFSAT and AFISNET networks**

*That:*

*a)     Argentina, Brazil, French Guyana, Santa Maria, Senegal, South Africa, Trinidad &Tobago, Uruguay and Cote d'Ivoire confirm to the respective ICAO regional offices by the end of September 2012 their plan to implement ATS voice trials using a double hoop satellite link through the REDDIG, CAFSAT and AFISNET networks following the draft Action Plan developed by SAT/16 (Appendix D to SAT/16 report), in order to complete the pending direct circuit implementation between CAR /SAM, AFI and NAT.*

*b)     AFI SAM and NAT ANPs to be amended accordingly.*

**2.2** On April  2103, the secretariat received through the ICAO Regional office of Mexico, a request from PIARCO (Trinidad and Tobago) looking for a more cost effective solution to provide  communication for coordination with SAL, Santa Maria and Dakar, which are currently provided  through the public telecom Providers.

The request indicated also that for this same purpose France is working with Trinidad for their communication in Cayenne (French Guyana). The request indicated that several options were evaluated and discarded including a double satellite hop, due to its delay.

**2.3** In conclusion, a CAFSAT node implementation in Cayenne co-share with PIARCO (3 ground line communications) is being considered. This will allow communication between Cayenne and Dakar, Piarco and SAL, Santa Maria and Dakar through the CAFSAT NETWORK

**2.4** The secretariat provided information related to CAFSAT Technical components, CAFSAT cost (investment and recurrent ), CAFSAT upgrade  project, considerations or observation for accepting the communications from French Guyana and Trinidad and Tobago over CAFSAT, responsibility for additional hardware (and configuration) to the CAFSAT existing nodes, CAFSAT providers , CAFSAT  administration , maintenance and satellite bandwidth.

**2.5** The Secretariat also suggested that a coordinating meeting be organized between the involved parties with the facilitation of the two ICAO regional Offices. If agreement is met on the idea a provisional schedule should be drafted and brought to the approval of decision makers of the parties.

## 3.  Action by the meeting

The meeting is invited to:

a)  Take note of the information given above

b)  Encourage 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.;

c)  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.

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