



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

**Nineteenth Meeting of the AFI Satellite Network Management Committee (SNMC/19)
(Accra, Ghana, 14-18 November 2011)**

Agenda Item 7: Review of the CNS/SG/4 Meeting Draft Conclusions related to AFISNET

(Presented by the secretariat)

SUMMARY

The purpose of this paper is to provide the meeting with the draft conclusions of AFI CNSG/SG/4 meeting related to AFISNET and call for remedial actions to clear out the deficiencies and dysfunctions.

Reference Summary of conclusions of CNS/SG/4 Meeting

Action by the meeting in paragraph 3

1. Introduction

The CNS Sub Group (CNS/SG) was set up by APIRG to ensure in a regional framework the continuing and coherent development of the AFI Regional Air Navigation Plan in the fields of aeronautical Communications, Navigation and Surveillance (CNS), including the development of CNS elements of the AFI CNS/ATM Implementation Plan in the light of new developments, in harmony with the ICAO Global Air Navigation Plan (Doc 9750) and the Regional Air Navigation Plans of AFI adjacent regions (EUR, SAM, MID, APAC).

The Terms of Reference of CNS/SG is presented in **Appendix A** ; CNS/SG meets every two years between two APIRGs sessions in conjunction with the ATM Sub Group.

2. Discussion

2.1 The last CNS/SG/4 meeting was held in Dakar, Senegal, from 24 to 29 July 2011.

The pace of participation of SNMC Member States and Organizations to this meeting was poor; only ASECNA as SNMC organization attended the meeting.

This meeting formulated 21 draft conclusions and decisions among which 14 are addressing issues related to AFISNET provided service and/or performance.

These draft conclusions which will be submitted to the forthcoming APIRG/18 meeting are presented in **Appendix B**.

2.2 CNS/SG/4 meeting took two (02) decisions respectively dealing with the establishment of a contingency plan for AFI VSAT networks operated satellites and setting up a Task Force for the development of a regional project aimed to enhancing the overall performance of AFI aeronautical VSAT.

2.3 Eight (08) conclusions were developed to address issues related to the best practices for AFI VSAT networks implementation operation and maintenance, the implementation of AFISNET and CAFSAT networks' management and control systems, the modernization of AFISNET and CAFSAT networks, the management of interconnections between aeronautical VSAT networks.

2.4 The issues addressing the AFI ATN Architecture Plan, the further investigations on the lack of flight plans and on the loss of AFTN messages in the AFI Region were also discussed and subjected to conclusions.

These issues are directly linked to the architecture and performance of AFISNET.

3. Action by the meeting

The meeting is invited to:

- a) Take note of the information here given above;
- b) Analyze the CNS/SG/4 draft conclusions that may concern all aeronautical services that operate or could operate in the future on AFISNET;
- c) Encourage SNMC members States/Organizations to implement the remaining AFS circuits and complete the restoration of AFS supported by the current failing links;
- d) Encourage SNMC members States/Organizations to increase their participation to CNS/SG forthcoming meetings.

APPENDIX A

TERMS OF REFERENCE, FUTURE WORK PROGRAMME AND COMPOSITION OF THE COMMUNICATIONS, NAVIGATION AND SURVEILLANCE SUB-GROUP (CNS/SG)

1. TERMS OF REFERENCE

- a) Ensure the continuing and coherent development of the AFI Regional Air Navigation Plan in the fields of aeronautical communications, navigation and surveillance (CNS), including the development of CNS elements of the AFI CNS/ATM Implementation Plan in the light of new developments, in harmony with the ICAO Global Air Navigation Plan (Doc 9750) and the plans for adjacent regions;
- b) Identify, review and monitor deficiencies that impede or affect the provision of efficient aeronautical telecommunications and recommend appropriate corrective action;
- c) Prepare, as necessary, CNS/ATM cost/benefit analyses for the implementation options of C, N and S elements; and
- d) Study, as necessary, institutional arrangements for the implementation of C, N and S systems in the AFI Region.

2. WORK PROGRAMME

Item	Global Plan Initiatives	Task description	Priority	Target date
		Communications		
1.	GPI-22	Follow up and monitor the implementation of VHF coverage in the AFI region in accordance with AFI/7 Rec. 5/12.	A	APIRG/18
2.	GPI-22	Update the AFI AFTN routing directory	A	APIRG/18
3.	GPI-22	In coordination with the ATS/AIS/SAR Sub-group, participate in the development of a communication infrastructure to support an AFI Central AIS Database (AFI CAD)	A	Continuing
4.	GPI-17 GPI-22	Follow-up the implementation of suitable communication bit-oriented protocols to improve AFTN performance and to facilitate the introduction of ATN applications.	A	APIRG/18
5.	GPI-17	Monitor the development, and coordinate the implementation of guidance material for service level agreements between air navigations service providers and ATN service providers	A	APIRG/18
6.	GPI-17	Review and update, if needed, the ICAO Register of AMHS managing domains and addressing information pertaining to AFI.	A	Continuing
		Navigation		
7.	GPI-21	Analyze and review the Report of the AFI GNSS Implementation Task Force.	A	Continuing
8.	GPI-21	Follow up and monitor the implementation of Phase 1 of the AFI GNSS Strategy.	A	Continuing
		Surveillance		
9.	GPI-9	Analyze and review CNS aspects of the report of the Aeronautical Surveillance Implementation Task Force.	A	APIRG/18

Item	Global Plan Initiatives	Task description	Priority	Target date
		Communications, Navigation and Surveillance – General matters		
10.	GPI-9 GPI-17 GPI-21 GPI-22	Analyze, review and monitor the implementation and operation of aeronautical communications, navigation and surveillance (CNS) systems, identify CNS deficiencies and propose measures for their elimination, as required	A	Continuing
11.	GPI-9 GPI-17 GPI-21 GPI-22	Give further consideration, as necessary, to the concept of multinational ICAO AFI air navigation facility/service addressed in the AFI/7 Report under Agenda Item 14 (AFI/7, Conclusion 10/6c).	C	Continuing
12.	GPI-9 GPI-17 GPI-21 GPI-22	In co-ordination with the ATS/AIS/SAR Sub-group, continue the evolutionary and harmonized development of the AFI CNS/ATM Systems Implementation Plan (AFI/7 Concl. 13/1).	A	Continuing
15.	GPI-9 GPI-17 GPI-21 GPI-22	In co-ordination with the ATS/AIS/SAR Sub-group, develop, as necessary, comprehensive business cases for competing CNS/ATM elements implementation options for the routing areas.	B	Continuing
16.	GPI-9 GPI-17 GPI-21 GPI-22	Co-ordinate plans developed by States, international organizations, airlines and industry for the implementation of the regional CNS/ATM systems implementation plan; and monitor CNS/ATM systems research and development, trials and demonstrations within the AFI Region and information from other regions.	B	Continuing
17.	GPI-9 GPI-17 GPI-21 GPI-22	Maintain current the database on CNS elements of CNS/ATM planning and implementation in the AFI Region.	B	Continuing
18.	GPI-9 GPI-17 GPI-21 GPI-22	Coordinate the implementation of ICAO Global Plan Initiatives pertaining to CNS and develop associated regional performance objectives.	A	Continuous
		Aeronautical Spectrum		
19.	GPI-23	Coordinate regional activities aimed at promoting ICAO position for ITU-WRC meetings, and improving aeronautical spectrum management and control in the Region.	A	Continuing

Priority:

A: High priority tasks on which work should be speeded up;

B: Medium priority tasks, on which work should be undertaken as soon as possible, but without detriment to priority A tasks; and

C: Lesser priority tasks, on which work should be undertaken as time and resources permit, but without detriment to priority A and B tasks.

3. COMPOSITION:

Algeria, Angola, Cameroon, Congo, Côte d'Ivoire, D.R. of Congo, Egypt, Eritrea, Ethiopia, Gambia, Ghana, Guinea, Kenya, Malawi, Mali, Mauritius, Morocco, Niger, Nigeria, Senegal, South Africa, Spain, Sudan, Tanzania, Tunisia, Zambia, ACAC, ASECNA, IATA, and IFALPA.

APPENDIX B



INTERNATIONAL CIVIL AVIATION ORGANIZATION

Fourth Meeting of the APIRG Communications, Navigation and Surveillance Sub-group
(CNS/SG/4)
(Dakar, Senegal, 25-29 July 2011)

SUMMARY OF DRAFT CONCLUSIONS AND DECISIONS

Draft Conc./Dec. No.	Subject
Agenda Item 4 - Aeronautical Fixed Service (AFS)	
Draft Conclusion 4/01	Need for ICAO assistance in the resolution of AFS deficiencies That the ICAO Regional Offices should explore all avenues to assist the States concerned in restoring/implementing the AFS circuits which are not operational for non-technical reasons.
Draft Decision 4/02	Contingency planning for AFI VSAT networks operated satellites That the Secretariat should obtain from the Intelsat Company disaster recovery plans for use by the AFI aeronautical VSAT networks managers as part of their contingency plans aimed at ensuring continuity of service in case of disruption or failure of the operated satellites.
Draft Conclusion 4/03	Adoption of best practices for AFI VSAT networks That the AFI States and Air Navigation Services Providers (ANSPs) operating aeronautical VSAT Networks should adopt the best practices stated at Appendix C to this report, as well as any other best practices to be developed as required.
Draft Conclusion 4/04	Implementation of AFISNET and CAFSAT networks' management and control systems That AFISNET and CAFSAT participating States and Organizations should establish common network management and control systems with shared responsibilities, and harmonize their maintenance policies in to enhance systems' availability and reliability.
Draft Conclusion 4/05	Modernization of AFISNET and CAFSAT networks That AFISNET participating States and Organizations should pursue their efforts to achieve fully modernized networks that continue to meet regionally/inter-regionally agreed performance requirements.
Draft Conclusion 4/06	Management of interconnections between aeronautical VSAT networks That the concerned States and Organizations should establish formal arrangements to improve the management of VSAT networks interconnections.
Draft Conclusion 4/07	Arrangements to ensure sustainability of NAFISAT and SADC VSAT/2 networks That, based on experience gained and available capabilities NAFISAT and SADC VSAT/2 participating States should establish administrative and funding arrangements in a timely manner to ensure that AFS requirements continue to be met.

Draft Conc./Dec. No.	Subject
Draft Decision 4/08	<p>Establishment of a Task Force for the Regional Project That a Task Force be established to address issues related to the development of a regional project aimed to enhance the overall performance of AFI aeronautical VSAT networks, and converge towards a consolidated regional ATN infrastructure, with the terms of reference shown at Appendix D to this report. The Task Force should complete its assigned work by December 2011, and report to APIRG/18 through the CNS Sub-group.</p>
Draft Conclusion 4/09	<p>Application of the concept of multinational facility/service to an integrated AFI Aeronautical Telecommunication Network (ATN) infrastructure. That the concept of multinational facility/service as defined in the Regional Air Navigation Plan (Doc 7474) is applicable to an AFI integrated IP-based regional/interregional digital communication network, including its evolution towards a consolidated AFI Aeronautical Telecommunication Network (ATN) infrastructure.</p>
Draft Conclusion 4/10	<p>AFI AMHS Implementation Strategy That APIRG adopt the AFI AHMS Strategy as described in Appendix to this report.</p>
Draft Decision 4/11	<p>Draft AFI ATN Architecture Plan That the Secretariat:</p> <ol style="list-style-type: none"> 1) should circulate to AFI States and Organizations the draft AFI ATN Architecture Plan shown at Appendix C to this report, for their final comments by 30 September 2011; and 2) accordingly finalize the draft AFI ATN Architecture for adoption by APIRG/18.
Draft Conclusion 4/12	<p>VSAT networks – Performance monitoring That the Secretariat should finalize the performance data collection forms shown at Appendix D and Appendix E to this report; and circulate the finalized forms for use by AFI States and entities operating/managing VSAT networks in order to harmonize related performance measurement methodology within and between ICAO regions.</p>
Draft Conclusion 4/13	<p>Need for further investigations on the lack of flight plans That, considering the high priority to be accorded to the issue of lack of flight plans, AFI Air Traffic Service Units (ATSUs) report and conduct investigations on missing flight plans during the period from 15 to 17 August 2011. The results of their investigations should be compiled using the form attached to the report, and communicated to the relevant ICAO Regional Offices.</p>
Draft Conclusion 4/14	<p>Investigations on the loss of AFTN messages in the AFI Region That in order to further analyze and mitigate the loss of AFTN messages, including flight plan messages in the region, AFI AFTN centres carry out a three-day survey on AFTN performance from 15 to 17 August 2011 (inclusive), using the form and model messages attached to the report. In so doing, they should:</p> <ol style="list-style-type: none"> 1) use the AFTN addresses of their ATSUs correspondents in the AFI Region; 2) provide availability of the AFTN circuit(s) involved, based on the implemented routing configuration; and 3) provide transit times. <p>Note: The results of the AFTN survey should be sent to the relevant ICAO Regional Office by 25 August 2011.</p>
Agenda Item 6 - Aeronautical Mobile Service (AMS)	

Draft Conc./Dec. No.	Subject
Draft Conclusion 4/15	Updated AFI GNSS Strategy That the AFI GNSS Strategy be revised as shown at Appendix J to this report.
Draft Conclusion 4/16	Adoption of GOLD That the GOLD be adopted for the AFI Region, in replacement of the FANS 1/A Operations Manual. Note: South Africa coordinates the maintenance of the GOLD for the AFI Region.
Agenda Item 7 - Aeronautical radio navigation service (ARNS)	
Draft Decision 4/17	Establishment of an Ad Hoc Group to finalize the Draft AFI Surveillance Strategy That an Ad Hoc Working Group be established to finalize operational inputs to the draft the AFI Surveillance Implementation Strategy shown at Appendix K to this report; and the finalized draft strategy be submitted to APIRG/18 for adoption.
Agenda Item 8 - Aeronautical Radio Frequency Spectrum issues	
Draft Conclusion 4/18	Implementation of AFI FMG Action Plan That AFI States and Organizations implement the Action Plan proposed by the AFI Frequency Management Group as shown at Appendix L to this report.
Agenda Item 9 - ICAO 37th Assembly (2010) and Twelfth Air Navigation Conference (AN/Conf/12, 2012) – CNS related issues	
Draft Conclusion 4/19	Importance of the information on aircraft equipage in air navigation system planning and implementation That, when making their decisions with respect to the planning and implementation of air navigation systems, AFI States should take due account of available and reliable data and forecast on aircraft level of equipage and capabilities.
Draft Conclusion 4/20	AFI States' registered aircraft equipage and capabilities That, AFI States should provide the ICAO Regional Offices with detailed information concerning their registered aircraft level of equipage and capabilities.
Agenda Item 10 - Future work programme and composition of the CNS/SG	
Draft Decision 4/21	Future work programme for the CNS Sub-group That the future work programme and composition of the CNS Sub-group be amended as shown at Appendix M to this report.