INTERNATIONAL CIVIL AVIATION ORGANIZATION
WESTERN AND CENTRAL AFRICAN OFFICE

TWENTIETH MEETING OF AFI SATELLITE NETWORK MANAGEMENT COMMITTEE (SNMC/20)

REPORT

Abuja, Nigeria, 08-12 October 2012

Table of Contents **Page**

Agenda Item 1:   Follow up Conclusions and Decisions of SNMC/19
Agenda Item 2:   Review of AFISNET operational and technical statistics of availability
Agenda Item 3:   Implementation of Special AFIRAN meeting recommendations 6/18 and 6/19
Agenda Item 4:   Interconnection and interoperability of AFISNET with its neighbouring networks (CAFSAT, NAFISAT, SADC2)
Agenda Item 5:   Outcome of ITU WRC-12 pertaining to VSATs Networks and preparation of WRC-15
Agenda Item 6:   AFISNET band width re-engineering;
Agenda Item 7:   Review of the APIRG/18 conclusion related to AFISNET
Agenda Item 8:   Required Communication Performance of AMS supported by AFISNET
Agenda Item 9:   Review of the Term of reference and Work Programme of SNMC
Agenda Item 10: Review of the Draft Conclusions/Decisions of SNMC/20
Agenda Item 11: Any other business

Appendices

A.   List of participants
B.   Follow up SNMC/19 Conclusions
C.   Focal Points to follow up SNM Conclusions/Decisions
D.   Outstanding deficiencies (October 2012)
E.   Timescale of AFISNET Audit
F.   Terms of Reference for SNMC
G.   Template for SNMC future venue

PART I – HISTORY OF THE MEETING

1.   Introduction

1.1   The Twentieth Meeting of the AFI Satellite Network Management Committee (**SNMC/20)** was held in the **REIZ CONTINENTAL HOTEL** in **Abuja,** Nigeria from 08 to 12 October 2012, at the kind invitation of **N**igeria **A**irspace **M**anagement **A**gency **(NAMA)**.

1.2   The meeting was opened by **Engr Ifeanyi Nwankwo**, Director, Safety engineering Services representing **Engr Mazi N.N Udoh** the NAMA MD/CE. He welcomed the participants and underlined that the birth of AFISNET in the early nineties brought about a paradigm shift from the inefficient terrestrial based communication systems with its attendant drawbacks to the current robust satellite communication system that has impacted positively on the safety of member state's Airspace.

1.3   He noted that the entire network needs to be critically ex-rayed to explore new frontiers in satellite Communication schemes in order to harness the advantages of greater efficiency and cost effectiveness and urge the meeting to pursue the network re-engineering process more vigorously.
He wished the meeting successful deliberations and declared it opened.

2.   Officer and Secretariat

2.1   The meeting elected as Chairman, Mr. **Emma O. Anasi,** General Manager electronic communications, of Nigeria Airspace Management Agency (**NAMA**). He was assisted by **Engr Bolamiran Akinrinbido**, Project Coordinator, NAMA.

2.2   Mr. **François-Xavier SALAMBANGA**, Regional Officer Communication Navigation and Surveillance ICAO Regional Office Western and Central Africa, served as Secretary of the meeting and therefore prepared the working and information papers to be presented accordingly.

3.   Attendance

3.1   The meeting was attended by Fifty two (**52**) participants from seven (07) States (Algeria, Angola, Egypt, Ghana, Kenya, Nigeria and South Africa) and seven (**07)** Regional Air Navigation Service Providers (**ASECNA, ATNS, ENANA, ENNA, GCAA, NAMA, Roberts FIR)**. Two (**02**) Satellite Service Providers (MANSC General satellite-Egypt, NIGCOMSAT-Nigeria) attended the meeting.

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

4.   Working Language

4.1   The meeting was conducted in the English language.

5.   Agenda

5.1   The following Agenda was adopted**:**

Agenda Item 1: Follow up Conclusions and Decisions of SNMC/19

Agenda Item 2: Review of AFISNET operational and technical statistics of availability

> 2.1 Statistics of availability of the links supported by AFISNET.

> 2.2 AFISNET performance (*Stations MTBF and MTTR performance, Turnaround time's statistics)*

Agenda Item 3: Implementation of Special AFIRAN meeting recommendations 6/18 and 6/19

> 3.1 Status of implementation of SP/AFI/RAN *Conclusion 6/18: AFISNET Technical Evaluation and re-engineering*

> 3.2 Status of implementation of SP/AFI/RAN *Conclusion 6/19: Planning, implementation and operation of very small aperture terminal (VSAT) networks in the AFI Region*

Agenda Item 4: Interconnection and interoperability of AFISNET with its neighboring networks (CAFSAT, NAFISAT, SADC2)

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

Agenda Item 6: AFISNET band width re-engineering;

Agenda Item 7: Review of the APIRG/18 conclusion related to AFISNET

Agenda Item 8: Required Communication Performance of AMS supported by AFISNET

Agenda Item 9: Review of the Term of reference and Work Programme of SNMC

Agenda Item 10: Review of the Draft Conclusions/Decisions of SNMC/20

Agenda Item 11: Any other business

6.   Summary of Conclusions

<u>**Agenda Item 1**</u>**: Follow up on SNMC/19 Conclusions**

<u>**Conclusion 20/01**</u>**: Implementation of SNMC/19 outstanding conclusions**

That:

SNMC member States/Organizations are urged to implement the outstanding Conclusions/Decisions of SNMC previous meetings including those related to SNMC/19's as presented in **Appendix B** and to undertake corrective actions in order to:

a) Restore and stabilize the AFISNET operational/technical reliability and availability as required;
b) Provide adequate resources to ensure maintenance personnel exchange and training;
c) Improve the maintenance coordination and monitoring procedures by bilateral and multilateral maintenance personnel exchange

<u>**Decision 20/02**</u>: **Finalization of the common training programme for AFISNET maintenance personnel**

That:

a) A Task Force is established to finalize not later than **end of July 2013**, the draft training programme developed by Ghana for AFISNET maintenance personnel based on the common facilities and the provision of ICAO Training Manual for Air Traffic Safety Electronics Personnel (ATSEP), Doc 7192-AN/857 Part E-2.
b) Ghana coordinates the work of the Task Force and report for circulation and consolidation among SNMC members with copy to ICAO WACAF Regional Office.

<u>**Conclusion 20/03**</u>: **Development of training plans for Maintenance personnel**

That:

a) SNMC States/Organizations develop and implement short, medium and long term training plans for maintenance personnel taking into consideration the provision of the common training programme and the training capability existing in the Region;
b) The status of implementation of the short term training will be reported to next SNMC 21th meeting.

<u>**Conclusion 20/04:**</u> **Licenses for AFISNET Maintenance Personnel**

That:

SNMC Sates/Organizations undertake a harmonized study for a possible issuance of licenses to AFISNET Maintenance Personnel based on the successful implementation of the training programme and plans and subsequently ensure attractive position and conditions with regard to the responsibility and accountability required from the licensed personnel.

<u>**Decision 20/05**</u>: **Development of a calibration centre for AFISNET Test Equipments**

That:

In accordance with Decisions 18/02 of SNMC/18 and 19/04 0f SNMC/19

a)   ASECNA tasked as Team leader by SNMC/19 pursue its effort in the development of the study for the implementation of the regional calibration centre called upon by SNMC /18 and 19 meetings;

b)   SNMC members that have not done so, provide/complete an exhaustive list of tests equipments for the development of a data base and the finalization of the feasibility studies by end of January 2013 and;

c)   ICAO continues to support the implementation process;

Decision 20/06: **Nomination of Focal point to follow up SNMC conclusions/decisions**

That:

a) The nominated Focal Points as per **Appendix C**, forward to the current SNMC Coordinator (**NAMA**) a quarterly report on the status of implementation of the conclusions/decisions of SNMC 20;

b) The current coordinator (NAMA) circulate amongst SNMC members a consolidated quarterly report on the status of implementation of the conclusions/decisions of SNMC 20;

c) The electronic medium should be used for data exchange and reporting.

Agenda Item 2: Review of AFISNET operational and technical statistics of availability

Conclusion 20/07: Improvement of AFS (ATS/DS &AFTN) circuits

That:

As a matter of urgency concerned SNMC States conduct immediate collaborative actions aiming to investigating on the current failing AFS circuits and clear out the deficiencies reported to SNMC and attached in **Appendix D.**

Decision 20/08: Mitigation of missing Flight Plans

That:

a) Local Study Groups comprising technical and operational personal be established by each SNMC member not later than end of December 2012, in order to assess the technical and operational causes of missing flight plans, propose and undertake actions for their mitigation;

b) The outcome of the local assessment should be shared with concerned centres for collaborative remedial actions;

c) The current coordinators (NAMA) aggregate the reports of the local Study Groups and report to next SNMC meeting.

Conclusion 20/09: Automation of AFISNET operational Performance assessment

That:

In accordance with APIRG/18 deliberations (APIRG/18 Report § 3.4.28) adopting the Performance Data Collection Form (**PDCF**),

1) States/Organizations endeavour to:
   a) Participate in the development of a comprehensive database for AFS-AFTN statistics management and monitoring in the AFI Region;
   b) Fill the Excel PDCF document and other relevant forms and report to the regional Office

2) ICAO assist States/Organization in the automation of AFISNET Performance assessment

Conclusion 20/10: **Automation of AFISNET Four Levels Performance Assessment system**

That:
   a) As a matter of urgency ASECNA circulate the model of Four Levels Performance Assessment principle for consideration by SNMC Administrations/Organizations;
   b) In order to ensure a common performance evaluation exercise an automated network Performance Assessment system development be initiated by ASECNA and presented to next SNMC meeting.

Agenda Item 3: **Implementation of Special AFIRAN meeting recommendations 6/18 and 6/19**

3.1-Status of implementation of SP/AFI/RAN Recommendation 6/18: AFISNET Technical Evaluation and re-engineering

Decision 20/11: Terms of reference Action plan and timescale of the Audit of AFISNET

That:
a)   The revised terms of reference, the action plan and the timescale of the AFISNET audit, be adopted as per **Appendix E**
b)   ICAO continues to coordinate the implementation process of the audit and launch the request for proposals for the audit to be completed within the timescale.

Conclusion 20/12: High level SNMC Administration meeting

That:

SNMC States/Organizations convene as soon as possible under the auspices of ICAO, a high level Administration heads meeting in order to agree on the funding mechanism for the implementation of Recommendation 6/18 of SP AFI RAN.

3.2-Status of implementation of SP/AFI/RAN Recommendation 6/19: Planning, implementation and operation of very small aperture terminal (VSAT) networks in the AFI Region

Conclusion 20/13: Participation of SNMC members in the meeting of the Task Force on the Development of a Regional Project on an AFI Integrated Aeronautical Telecommunication Infrastructure

That:

SNMC members endeavour to implement the Conclusion/Decisions derived from the outcome of the meetings of the Task Force for the AFI Aeronautical VSAT Networks Regional Project and actively participate in the future meetings of the Task Force for the development of an AFI Regional integrated aeronautical telecommunication infrastructure

Agenda Item 4: Interconnection and interoperability of AFISNET with its neighbouring networks (CAFSAT, NAFISAT, SADC2)

Conclusion 20/14: Completion of the interconnection process between AFISNET and its neighbouring networks

That:
   a) States/Organizations pursue the interconnection process between AFISNET and the neighbouring networks in order to achieve the remaining AFS circuits required for ATM operation in particular:
   b) ASECNA and ATNS to continue their technical cooperation to assist the concerned States to establish via the interconnection between AFISNET and NAFISAT/SADC 2 the Moroni/Victoria, Moroni / Dar-Es-Salam, Alger/Tripoli, Pointe Noire/ Luanda links and stabilize the following circuits: Brazzaville/Kinshasa, Luanda/Brazzaville;
   c) ASECNA, ENNA and French DGAC to complete the establishment of the link between Algiers and Aix.
   d) ICAO continue to assist the concerned stakeholders with guidance and technical coordination meetings aiming to meeting agreement on cost effectiveness solutions for the implementation of the interconnection.

Conclusion 20/15: Bilateral agreement covering the interconnections between AFISNET and SADC/2 and NAFISAT

That:

ATNS and ASECNA continue further discussions to finalise and endorse the bilateral agreement covering the interconnections between AFISNET and SADC/2 / NAFISAT and assist other SNMC members if needed, to conclude similar agreements aiming to ensuring a quality of service level supported by the links.

Conclusion 20/16: AFISNET in ICAO Aviation System Block Upgrades (ASBU) context

That:

SNMC States/Organizations endeavour to prepare and participate in the 12th Air Navigation Conference (Montreal, 10-30 November 2012) and take into account the ASBU concept and methodology to better conduct the AFISNET modernization exercise.

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

Conclusion 20/17: Implementation of Resolution 154 (COM 6/24)- WRC-12 and preparation of WRC-15

That:

SNMC Sates/Organizations endeavour to:

a) Appropriate and promote the outcome on issues of WRC-12 related to the provision of spectrum for civil aviation;
b) Actively participate in the studies called upon by Resolution 154 (COM6/24)-WRC 12 through the activities of AFI/FMG, ACP WG F meetings and ATU regional meetings;
c) Strengthen their collaboration with their National Authority of Regulation of Telecommunication and other stakeholders involved in the usage of aeronautical spectrum in order to agree on Collaborative Decision Making (CDM) in support to the forthcoming ICAO position for the future WRC-15/16

Agenda Item 6: AFISNET band width re-engineering;

Conclusion 20/18: Satellite back up and AFISNET band width re-engineering

That:

SNMC Sates/Organizations:

a) Develop customer requirements to be submitted to the satellite Service Provider INTELSAT and that will address the feasibility of technical solutions to be deployed in case of satellite failure and;
b) Schedule with INTELSAT the conversion of the IBS band to leased band and complete the implementation of conclusion 17/10 and 18/13, 19/13 of respective SNMC/17, 18 and 19 meetings.

Agenda Item 7: Review of the APIRG/18 conclusion related to AFISNET

Conclusion 20/19: Review of the APIRG/18 conclusion related to AFISNET

That:

SNMC Sates/Organizations:
a) Implement APIRG/18 Conclusions 18/24, 18/25 & 18/26 related respectively to:
1. Contingency Planning for AFI VSAT Networks Operations
2. Best practices for AFI VSAT Networks
3. Modernization of AFI VSAT Networks
b) Rise in their pace of participation to CNS/SG and APIRG forthcoming meetings.

Agenda Item 8: Required Communication Performance of AMS supported by AFISNET

Conclusion 20/20: Required Communication Performance of AMS supported by AFISNET

That:

When re-engineering AFISNET, States/Organizations take advantage of the benefit provided by Required Communication Performance (**RCP**) concept for the reinforcement of the Quality of Service of aeronautical mobile communication within SNMC airspace.

Agenda Item 9: Review of the
 Term of reference and Work Programme of SNMC

Decision 20/21: Term of reference and Work Programme of SNMC

That:

The revised Terms of Reference of SNMC is adopted as presented at **Appendix F**

PART II: REPORT ON AGENDA ITEMS

Agenda Item 1: Follow up on SNMC/19 Conclusions

1.1   Under this agenda item the meeting reviewed the status of implementation of the SNMC /19 nineteen (**19**) Conclusions and Decisions. Some conclusions were noted to be completely or partially implemented while others need to be implemented or updated. The status of implementation of SNMC/19 conclusions is presented in **Appendix B.** The following conclusion was formulated:

Conclusion 20/01: Implementation of SNMC/19 outstanding conclusions

That:

SNMC member States/Organizations are urged to implement the outstanding Conclusions/Decisions of SNMC previous meetings including those related to SNMC/19's as presented in *Appendix B* and to undertake corrective actions in order to:

  a) **Restore and stabilize the AFISNET operational/technical reliability and availability as required;**

  b) **Provide adequate resources to ensure maintenance personnel exchange and training;**

  c) **Improve the maintenance coordination and monitoring procedures by bilateral and multilateral maintenance personnel exchange**

1.2   The meeting was informed on the on-going actions taken by Administrations/Organizations in the matter of training programmes for maintenance Personnel.

In this regard Ghana Civil Aviation Authority which was tasked by SNMC/19 to develop a training programme for AFISNET maintenance personnel based on the common facilities and the provision of ICAO Training Manual for Air Traffic Safety Electronics Personnel (**ATSEP**), *Doc 7192-AN/857 Part E-2 Version 2011*, reported on the progress achieved in this matter. The meeting noted the efforts undertaken by Ghana and decided to establish a Task Force coordinated by Ghana, aiming to finalizing the programme.

The following Decision was formulated.

Decision 20/02: Finalization of the common training programme for AFISNET maintenance personnel

That:

a) **A Task Force is established to finalize not later than end of July 2013, the draft training programme developed by Ghana for AFISNET maintenance personnel based on the common facilities and the provision of ICAO Training Manual for Air Traffic Safety Electronics Personnel (ATSEP), Doc 7192-AN/857 Part E-2.**

b) **Ghana coordinate the work of the Task Force and report for circulation and consolidation among SNMC members with copy to ICAO WACAF Regional Office.**

1.3   The meeting also discussed on training plans to be established by Administration/Organizations in order to enhance the technical competence of Maintenance personnel. It was agreed that in the framework of the enhancement of the competence of maintenance personnel Administration/Organizations should develop and implement short, medium and long terms training plans and report the status of implementation to future SNMC meetings.The following conclusion was formulated.

Conclusion 20/03: Development of training plans for Maintenance personnel

That:

c) **SNMC States/Organizations develop and implement short, medium and long term training plans for maintenance personnel taking into consideration the provision of the common training programme and the training capability existing in the Region;**

d) **The status of implementation of the short term training will be reported to next SNMC 21th meeting.**

1.4   The meeting examined the issue related to opportunity and condition for issuing licences to AFISNET Maintenance Personnel and acknowledged that the study undertaken by Ghana Civil Aviation Authority for the development of a training programme takes into consideration the licencing requirements and process.

1.5   The meeting agreed that the solution of this issue should be found in combination with those related to the development of the common training programme and the harmonized training plans. The meeting also noted the need to ensure an attractive position for licenced maintenance personnel. The following conclusion was formulated.

Conclusion 20/04: Licenses for AFISNET Maintenance Personnel

That:

SNMC Sates/Organizations undertake a harmonized study for a possible issuance of licenses to AFISNET Maintenance Personnel based on the successful implementation of the training programme and plans and subsequently ensure attractive position and conditions with regard to the responsibility and accountability required from the licensed personnel.

1.6   The meeting reviewed the status of implementation of SNMC Decisions 18/02 and 19/04 calling upon for the establishment of a calibration centre for AFISNET Test Equipments and tasking ASECNA to propose a project and host the centre.
It was noted that progress was made by ASECNA in collecting the row material to justify the relevance of such a centre, building partnerships to take benefit of similar existing centres in Europe. However, the meeting noted that the list of test equipments established by SNMC organizations needed to be completed, taking into consideration the entire test equipments used for the maintenance of other equipments such as conventional Nav'Aids, Radiocommunications, Surveillances Radar systems. The meeting encouraged ASECNA to pursue its effort in the development of the project and called ICAO to continue supporting the development of the Centre. The following Decision was formulated.

<u>Decision 20/05</u>: **Development of a calibration centre for AFISNET Test Equipments**

That:

In accordance with Decisions 18/02 of SNMC/18 and 19/04 0f SNMC/19

a)   ASECNA tasked as Team leader by SNMC/19 pursue its effort in the development of the study for the implementation of the regional calibration centre called upon by SNMC /18 and 19 meetings;

b)   SNMC members that have not done so, provide/complete an exhaustive list of tests equipments for the development of a data base and the finalization of the feasibility studies by end of January 2013 and;

c)   ICAO continue to support the implementation process;

1.7   The meeting discussed in length on the low pace of implementation of the conclusions and decisions of SNMC previous meetings and noted in particular that conclusions/decisions pertaining to the mitigation of deficiencies should be implemented in a timely manner.

1.8   It was recognized that the lack of focal points to follow up the implementation of these conclusion was one of the reason of the lack of coordination. The meeting therefore agreed on the need for each administration/organization to designate a focal point in this matter. The following decision was formulated.

<u>Decision 20/06</u>: **Nomination of Focal point to follow up SNMC conclusions/decisions**

That:

a) **The nominated Focal Points as per *Appendix C*, forward to the current SNMC Coordinator (NAMA) a quarterly report on the status of implementation of the conclusions/decisions of SNMC 20;**

b) **The current coordinator (NAMA) circulate amongst SNMC members a consolidated quarterly report on the status of implementation of the conclusions/decisions of SNMC 20;**

c) **The electronic medium should be used for data exchange and reporting.**

Agenda Item 2: Review of AFISNET operational and technical statistics of availability

2.1   Under this agenda item the meeting reviewed the operational and technical statistics of availability of the network presented by ASECNA, ATNS and GCAA. The meeting recognized the progress made by States/Organizations in addressing some deficiencies. However the meeting noted some remaining dysfunctions as summarized up in **Appendix D** and agreed on the need to reinforce technical and operational co-operation between COM Centres. The meeting urged concerned SNMC COM centres to take the appropriate measures to clear out these dysfunctions affecting the Aeronautical Fixed Service circuits (AFTN & ATS DS). The following conclusion was formulated.

Conclusion 20/07: Improvement of AFS (ATS/DS &AFTN) circuits

That:

As a matter of urgency concerned SNMC States conduct immediate collaborative actions aiming to investigating on the current failing AFS circuits and clear out the deficiencies reported to SNMC and attached in *Appendix D*.

2.2   The meeting examined the issue related to missing flight plans and noted that although this item was brought to the attention of regional meetings and to APIRG's the pace of mitigation of missing flight plans remains low.
The meeting agreed on the usefulness of a local monitoring of missing flight plans by ATCs and the sharing of the results between concerned COM centres. It was therefore decided that each SNMC centres should establish a Local Study Group compose with operational and technical nominated personnel that will assess in detail the operational and technical causes of missing flight plans.
The following decision was formulated.

Decision 20/08: Mitigation of missing Flight Plans

That:

a) **Local Study Groups comprising technical and operational personal be established by each SNMC member not later than end of December 2012, in order to assess the technical and operational causes of missing flight plans, propose and undertake actions for their mitigation;**

b) **The outcome of the local assessment should be shared with concerned centres for collaborative remedial actions;**

c) **The current coordinators (NAMA) aggregate the reports of the local Study Groups and report to next SNMC meeting.**

2.3   The Secretariat Reported to the meeting the adoption of the Performance Data Collection Form (PDCF) by APIRG/18 meeting. It was noted by the meeting the need for the development of a comprehensive database for AFS-AFTN statistics management and monitoring. At this aim, the filling of the Excel PDCF document will facilitate the data collection for the automation;

The following conclusion was formulated.

Conclusion 20/09: Automation of AFISNET operational Performance assessment

That:

In accordance with APIRG/18 deliberations (APIRG/18 Report § 3.4.28) adopting the Performance Data Collection Form (PDCF),
1) States/Organizations endeavour to:
  a) **Participate in the development of a comprehensive database for AFS-AFTN statistics management and monitoring in the AFI Region;**
  b) **Fill the Excel PDCF document and other relevant forms and report to the regional Office**

2) ICAO assist States/Organization in the automation of AFISNET Performance assessment

2.4   The meeting discussed the status of implementation of the automation of AFISNET Performance by the Four Level Assessment system as proposed by SNMC/19. It was noted that all SNMC members were not provided with the draft document that should be circulated by ASECNA. The meeting encouraged ASECNA to circulate, as a matter of urgency, the model of Four Levels Performance Assessment principle for consideration by SNMC Administrations/Organizations and task ASECNA to develop, an automated network Performance Assessment system to be submitted to next SNMC meeting.

The following conclusion was formulated.

Conclusion 20/10: Automation of AFISNET Four Levels Performance Assessment system

That:
  a) **As a matter of urgency ASECNA circulate the model of Four Levels Performance Assessment principle for consideration by SNMC Administrations/Organizations;**
  b) **In order to ensure a common performance evaluation exercise an automated network Performance Assessment system development be initiated by ASECNA and presented to next SNMC meeting.**

Agenda Item 3: **Implementation of Special AFIRAN meeting recommendations 6/18 and 6/19**

3.1-Status of implementation of SP/AFI/RAN Recommendation 6/18: AFISNET Technical Evaluation and re-engineering

3.1.1   The secretariat reported to the meeting the on-going actions taken since last SNM/19 meeting held in November 2011 in Accra. The meeting established an ad'hoc technical group comprising representatives of each SNMC administration with the mandate to examining the document on the Technical Specifications for the external audit of AFISNET.
The ad'hoc group revised the terms of reference, the action plan and the time scale of the audit of AFISNET and confirmed the need of ICAO support in the coordination of the implementation of the audit process.
The following decision was formulated.

Decision 20/11: Terms of reference Action plan and timescale of the Audit of AFISNET

That:
a)   **The revised terms of reference, the action plan and the timescale of the AFISNET audit, be adopted as per *Appendix E***
b)   **ICAO continue to coordinate the implementation process of the audit and launch the request for proposals for the audit to be completed within the timescale.**

3.1.2   The meeting also considered that the funding of the audit will need the commitment of the decision makers and proposed that a High Level meeting be convened in order to agree on the funding mechanism.
The following conclusion was formulated

Conclusion 20/12: High level SNMC Administration meeting

That:

SNMC States/Organizations convene as soon as possible under the auspices of ICAO, a high level Administration heads meeting in order to agree on the funding mechanism for the implementation of Recommendation 6/18 of SP AFI RAN.

3.2-Status of implementation of SP/AFI/RAN Recommendation 6/19: Planning, implementation and operation of very small aperture terminal (VSAT) networks in the AFI Region

3.2.1   The Secretariat reported to the meeting the outcome of the meetings of the Task Force on the Development of a Regional Project on an AFI Integrated Aeronautical Telecommunication Infrastructure. The participants were encouraged to implement the Conclusion/Decisions derived from the outcome of these meetings and to attend the forthcoming coordination meetings.
The following conclusion was formulated.

Conclusion 20/13: Participation of SNMC members in the meeting of the Task Force on the Development of a Regional Project on an AFI Integrated Aeronautical Telecommunication Infrastructure

That:

SNMC members endeavour to implement the Conclusion/Decisions derived from the outcome of the meetings of the Task Force for the AFI Aeronautical VSAT Networks Regional Project and actively participate in the future meetings of the Task Force for the development of an AFI Regional integrated aeronautical telecommunication infrastructure

Agenda Item 4: Interconnection and interoperability of AFISNET with its neighbouring networks (CAFSAT, NAFISAT, SADC2)

4.1   The meeting reviewed the status of implementation of the interconnexion between AFISNET and its neighbouring networks. SNMC members were encouraged to complete the interconnection process between AFISNET and its neighbouring networks in order to implement AFS circuits that can be recommended for a safer ATM operation.
The following conclusion was formulated.

Conclusion 20/14: Completion of the interconnection process between AFISNET and its neighbouring networks

That:
   a) **States/Organizations pursue the interconnection process between AFISNET and the neighbouring networks in order to achieve the remaining AFS circuits required for ATM operation in particular:**
   b) **ASECNA and ATNS continue their technical cooperation to assist the concerned States to establish via the interconnection between AFISNET and NAFISAT/SADC 2 the Moroni/Victoria, Moroni / Dar-Es-Salam, Alger/Tripoli, Pointe Noire/ Luanda links and stabilize the following circuits: Brazzaville/Kinshasa, Luanda/Brazzaville;**
   c) **ASECNA, ENNA and French DGAC complete the establishment of the link between Algiers and Aix.**
   d) **ICAO continue to assist the concerned stakeholders with guidance and technical coordination meetings aiming to meeting agreement on cost effectiveness solutions for the implementation of the interconnection.**

4.2   The meeting noted that ASECNA and ATNS were committed in the development of a bilateral agreement covering the interconnections between AFISNET and SADC/2 / NAFISAT. The meeting encouraged the two parts to continue further discussions to finalise and endorse the document and assist other SNMC members if needed to conclude similar agreements aiming to ensuring a quality of service level supported by the links.
The following conclusion was formulated.

Conclusion 20/15: Bilateral agreement covering the interconnections between AFISNET and SADC/2 and NAFISAT

That:

ATNS and ASECNA continue further discussions to finalise and endorse the bilateral agreement covering the interconnections between AFISNET and SADC/2 / NAFISAT and assist other SNMC members if needed, to conclude similar agreements aiming to ensuring a quality of service level supported by the links.

4.3   The secretariat reported to the meeting on the outcome of the workshop on ICAO **A**viation **S**ystem **B**lock **U**pgrades (**ASBU**) held in Dakar from 16 to 20 July 2012. The meeting noted that the 12th Air Navigation Conference to be held in Montreal from 10 to 30 November will adopt the ASBU concept. The meeting therefore invited SNMC Administration and Organizations to endeavour to prepare and participate in the 12th Air Navigation Conference and to take into account the ASBU concept and methodology for the future development of AFISNET.

The following conclusion was formulated.

Conclusion 20/16: AFISNET in ICAO Aviation System Block Upgrades (ASBU) context

That:

SNMC States/Organizations endeavour to prepare and participate in the 12th Air Navigation Conference (Montreal, 10-30 November 2012) and take into account the ASBU concept and methodology to better conduct the AFISNET modernization exercise.

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

5.1   The meeting was informed on the main outcomes of ITU World Radiocommunication Conference (ITU-WRC-12) which was held in Geneva during the first quarter of year 2012.
The meeting noted satisfactory that position ICAO on issue related to the provision of frequency spectrum for civil Aviation was considered by the Conference.

5.2   The Secretariat and the Rapporteur of the AFI Frequency Management Group provided the meeting with all the details of the actions undertaken for the submission on the draft resolution aiming to ensuring the protection of the 34.4-4.2Ghz operated by Aeronautical VSAT (including AFISNET) in Region 1.
Resolution 154 (COM 6/24)-WRC-12 and the following actions taken after the Conference were presented to the meeting as well as the issue related to the preparation of WRC 15.

5.3   The meeting recognized the efforts deployed by the stakeholders during the Conference to reach positive results and called upon SNMC members to promote the outcome on issues of WRC-12 related to the provision of spectrum for civil aviation, participate in related futures activities and strengthen their collaboration with theirs National Authorities of Regulation of Telecommunication to ensure their support.
The following conclusion was formulated.

Conclusion 20/17: Implementation of Resolution 154 (COM 6/24)- WRC-12   and preparation of WRC-15

That:

SNMC Sates/Organizations endeavour to:

a) **Appropriate and promote the outcome on issues of WRC-12 related to the provision of spectrum for civil aviation;**
b) **Actively participate in the studies called upon by Resolution 154 (COM6/24)-WRC 12 through the activities of AFI/FMG, ACP WG F meetings and ATU regional meetings;**

c) **Strengthen their collaboration with their National Authority of Regulation of Telecommunication and other stakeholders involved in the usage of aeronautical spectrum in order to agree on Collaborative Decision Making (CDM) in support to the forthcoming ICAO position for the future WRC-15/16**

Agenda Item 6: AFISNET band width re-engineering;

6.1   The meeting discussed the issue related to the remedial measures to be taken by the satellite provider in case of satellite failure. It was recognized the relevance of this concern and the meeting agreed on the need to develop a customer requirements document to be submitted to the satellite Service Provider INTELSAT and that will address the feasibility of technical solutions to be deployed in case of satellite failure.

6.2   The meeting also considered the issue related to the conversion from IBS to leased band addressed by conclusions 17/10 and 18/13, 19/13 of respective SNMC/17, 18 and 19 meetings. It was noted that no progress was made in the implementation of these conclusions. The meeting urged Sates and Organizations to schedule with INTELSAT the conversion of the IBS band to leased band.
The following conclusion was formulated.

Conclusion 20/18: Satellite back up and AFISNET band width re-engineering

That:

SNMC Sates/Organizations:

a) **Develop customer requirements to be submitted to the satellite Service Provider INTELSAT and that will address the feasibility of technical solutions to be deployed in case of satellite failure and;**
b) **Schedule with INTELSAT the conversion of the IBS band to leased band and complete the implementation of conclusion 17/10 and 18/13, 19/13 of respective SNMC/17, 18 and 19 meetings.**

Agenda Item 7: Review of the APIRG/18 conclusion related to AFISNET

7.1   The meeting reviewed the conclusions and decisions of APIRG 18 meeting which was held in Kampala, Uganda from 27 to 30 March 2012.
The meeting noted that APIRG addressed various issues on aeronautical VSAT networks amongst which Conclusions 18/24, 18/25 & 18/26 related respectively to, contingency Planning for AFI VSAT Networks Operations, best practices for AFI VSAT Networks, modernization of AFI VSAT Networks.

7.2   Issues directly linked to the architecture and performance of AFISNET, addressing the AFI ATN Architecture Plan, the further investigations on the lack of flight plans and the loss of AFTN messages in the AFI Region were also considered.
The meeting invited SNMC members to continue aligning the network operation and monitoring with APIRG conclusions and decisions.
The following conclusion was formulated.

Conclusion 20/19: Review of the APIRG/18 conclusion related to AFISNET

That:

SNMC Sates/Organizations:
a) Implement APIRG/18 Conclusions 18/24, 18/25 & 18/26 related respectively to:
    4. **Contingency Planning for AFI VSAT Networks Operations**
    5. **Best practices for AFI VSAT Networks**
    6. **Modernization of AFI VSAT Networks**
b) Increase their pace of participation to CNS/SG and APIRG forthcoming meetings.

Agenda Item 8: **Required Communication Performance (RCP) of AMS supported by AFISNET**

8.1   The meeting was reminded on the guidance materials on Required Communication Performance (RCP) which may apply on the Aeronautical Mobile Service (AMS) operated on both CPDLC data link and voice supported by AFISNET through extended VHF coverage.

8.2   It was recognized that with the adoption of the GOLD document by APIRG 18 the implementation of this concept may improve the Quality of Service of aeronautical mobile communication within SNMC airspace.
The meeting suggested that this concept be taken into consideration when re-engineering AFISNET.
The following conclusion was formulated.

Conclusion 20/20: Required Communication Performance (RCP) of AMS supported by AFISNET

That:

When re-engineering AFISNET States/Organizations take advantage of the benefit provided by RCP concept for the reinforcement of the Quality of Service of aeronautical mobile communication within SNMC airspace.

Agenda Item 9: Review of the Term of reference and Work Programme of SNMC

9.1   The meeting reviewed and adopted the Term of Reference and Form of Agreement of SNMC as presented in **Appendix F**
The following decision was formulated:

Decision 20/21: Term of reference and Work Programme of SNMC

That:

The revised Terms of Reference of SNMC is adopted as presented at Appendix F

Agenda Item 10: Any other business

10.1 **Upcoming events**

10.1.1 Under this agenda item the secretariat briefed the meeting on the upcoming mayor events (***APIRG/19 preceded by the relevant Tasks Forces of CNS/SG ANC12th; Workshop on ASBU Methodology; Regular meetings by Regional Offices to be held...***) and encouraged members to participate in the preparation and the holding of these meetings.

10.1.2 Since its inception, SNMC meetings were hosted by States/Organizations successively without any formal schedule. In view of the continuous development of its work programme, SNMC/18 agreed on the schedule of future meetings over the next six (06) years presented in **Appendix G.**

10.1.3 Based on this the meeting welcomed the offer of the Roberts FIR to host the next SNMC/21 meeting. The secretariat will coordinate with Roberts FIR on the precise venue and dates, and SNMC members will be notified in due course.

10.1.4 The meeting expressed its gratitude to Nigeria Airspace Management for the assistance and the arrangement undertaken to facilitate the entry and safe stay of the delegates in Nigeria as well as the facilities deployed during the meeting.

APPENDIX A

LIST OF PARTICIPANTS

S/N	STATE/ ORGANIZATION	NAME	FONCTION	ADDRESS	TELEPHONE/FAX/ E-Mail
1.	ASECNA	Sougue Bissa	Aeronautical Telecommunication Manager	ASECNA B P 3144 Dakar, Senegal	souguebis@asecna.org; sougue@voila.fr
2.	ASECNA	Sibitang Mingo Aladjou	Aeronautical Telecommunication Engineer	ASECNA B P 3144 Dakar, Senegal	0021774936867; sibitangd@hotmail.com; sibitangmingoala@asecna.org
3.	ASECNA	Mbaye Papa Mouhamadou	Aeronautical Telecommunication Technician	ASECNA B P 3144 Dakar, Senegal	mbayepap@gmail.com; mbayepap@asecna.org
4.	NANSC, Egypt	Ibrahim H. M. Eissa	NANSC General Satellite Manager	NANSC, Cairo international Airport Street, Cargo Village Road, Cairo, Egypt	002-01222371262; Ibrahim_eissa@hotmail.com
5.	ENANA-EP	Mbunga Siku	Engineering Department. Advisor	ENANA-EP, Aeroporto 4 DE Feveireiro/Luanda-Angola.	+244912204365, msiku@enana-ao.com
6.	ENANA-EP	Antonio B. Pereira	Head of CNS Department	ENANA-EP, Aeroporto 4 DE Feveireiro/ Luanda-Angola.	+244912204365; apereira@enana-ao.com; borgesabp@gmail.com
7.	ENNA-ALGERIA	Kecita Karim	Head of Technical Service	ENNA, BPgo DEB, Algeries – Algeria	+213661930238, karim-kecita@enna.dz

8.	KCAA, Kenya	W. N. Omolo	Chief Technical Officer	P. O. Box 30163-00100 NRB	+254733892062 ; womolo@kcaa.or.ke
9.	ROBERTS FIR	Matho N. Gomou	Senior Radio Engineer	ROBERTS, Liberia	mathokenyanta@yahoo.fr
10.	ROBERTS FIR	Doe, Jackson E.	Technician	ROBERTS, Liberia	doejacksonjr@gmail.com
11.	NCAA, Nigeria	Oiku E. Atagamen		NCAA, Abuja	atagamen@yahoo.com
12.	GCAA, Ghana	Tefutor Isaiah Kofi	Electronic Engineer	P.M.B KIA, Accra - Ghana	istefutor@yahoo.com
13.	GCAA, Ghana	Francis K. A. Yeboah	SATCOM Engineer	P. M. B. Airport Accra	fkaysat@yahoo.com
14.	ATNS, South-Africa	Leon Nel	Senior Systems Engineer	Eastgate Office Park, Bruma, Johannesburg, SA	leonn@atns.co.za
15.	ATNS, South-Africa	Makaya Mamogale	Systems Engineer	Eastgate Office Park, Bruma, Johannesburg, SA	makayam@atns.co.za
16.	ATNS, South-Africa	Rui Pinto	MTS: Regional Services	Eastgate Office Park, Bruma, Johannesburg, SA	ruip@atns.co.za
17.	NAMA, Nigeria	Emma O. Anasi	GM Electronics Comms	NAMA HQ	nigslitters@yahoo.com
18.	NAMA, Nigeria	Egwim C. U.	AGM EC	NAMA HQ	07040991746; egwimc@yahoo.com
19.	NAMA, Nigeria	Otitolaye J. A.	AGM EC	NAMA HQ	omolegf@yahoo.com
20.	NAMA, Nigeria	Anidugbe O. A.	System Analyst	NAMA HQ	08031978260
21.	NAMA, Nigeria	Ahmed Ibrahim	Satellite Comunication	NAMA, Kano	08058947030
22.	NAMA, Nigeria	Sule Babayo	Air Traffic Safety Engineer	NAMA, Maiduguri	08035387800
23.	NAMA, Nigeria	Akpah George A.	Air Traffic Safety Engineer	NAMA, Abuja	07060782888
24.	NAMA, Nigeria	Kumaludden Al Hussain	Air Traffic Safety Engineer	NAMA, Abuja	08035880934

25.	NAMA, Nigeria	Onusi O. S. (Mrs.)	Ag. ICT Manager	ICT Department, NAMA HQ	sonusi@namahqtr.net
26.	NAMA, Nigeria	Dr. Uwem Akangson	Director, Human Resources	NAMA, HQ,	08023129201; uakangson@as.com
27.	NAMA, Nigeria	Clara Aliche (Mrs.)	Director of Finance & Account	NAMA HQ	08023629023; alicheclara@yahoo.com
28.	NAMA, Nigeria	Paul Oki	Company Sec.	NAMA HQ	08060176100; oki_paul@yahoo.com
29.	NAMA, Nigeria	A. Gbem (Mrs.)	Legal Adviser	NAMA HQ	07036741590; aagbem@yahoo.com
30.	MOCOM,	Asin M. C.	Managing Director		08033025524; info@moco
31.	NAMA, Nigeria	Bola Akinrinbido	Project Coordinator	NAMA HQ	bolabido24@gmail.com
32.	NAMA, Nigeria	Abdulaziz Maiwada	AGM, SATCOM	NAMA, Abuja	08057625745; maiwadaabdulaziz@yahoo.com
33.	NAMA, Nigeria	Yohana Iliya	AGM, SATCOM	NAMA, Abuja	iliyaclear@hotmail.com
34.	NAMA, Nigeria	Sule Bitrus T.	Electronic Comms	NAMA, Abuja	08033896760; tsausule@yahoo.com
35.	NAMA, Nigeria	Sule Noah	AGM Logistic & Transport	NAMA HQ	08055096165; sulenoa@yahoo.com
36.	NAMA, Nigeria	Adeniran Emmanuel	NETCOM Manager, ICT	NAMA HQ	eadeniran@namahqtr.net
37.	NAMA, Nigeria	Ojar J. Opah	Gen. Sec., NAAE	NAMA, HQ	08033287148; oj_opah@yahoo.co.uk
38.	NAMA, Nigeria	Chinwe Ani	AGM Protocol	NAMA HQ	chinweani@yahoo.com
39.	NAMA, Nigeria	Aibangbee Ernest	ICT, NAMA	NAMA HQ	eaibangbee@namahqtr.net

40.	NAMA, Nigeria	Olayinka Abayomi	ICT, NAMA	NAMA HQ	aolayinka@namahqtr.net
41.	NAMA, Nigeria	Abubakar a. B.	Liason, NAMA	NAMA, Abuja	
42.	NAMA, Nigeria	Usman Lawal	ICT, NAMA	NAMA, Abuja	Usmal001@yahoo.com
43.	NAMA, Nigeria	Aseghiemhe Festus	SURVEILLANCE, NAMA	NAMA, Abuja	festyasegh@yahoo.com
44.	NAMA, Nigeria	Bello Isiaka	L/T, NAMA	NAMA HQ	08051953447
45.	NAMA, Nigeria	Alice H. Eku	Protocol Officer, NAMA	NAMA, Abuja	hunyieku@yahoo.com
46.	NEMA, Nigeria	Navy Capt. Baratuaipri Iyalla		8, Ademola Adetokunbo Str., Maitama, Abuja	Iyallabee2@yahoo.com
47.	NIGCOMSAT, Nigeria	Adetayo Sode		5, Persian Close, Maitama Abuja	tayos@nigcomsat.net
48.	NIGCOMSAT, Nigeria	Ibiye Memberr	Senior Manager Client Relations	NIGCOMSAT Ltd, Yar'Dua Expressway, Abuja	i.memberr@nigcomsat.net
49.	NIMET, Nigeria	Osague Collins	Manager	Weather Forecst Office, Abuja – Airport	Metosa3@yahoo.com
50.	NEMA, Nigeria	Ogundare Bamidele	Control Officer	8, Ademola Adetokunbo Crescent, Maitama, Abuja	08033717667; yinkalo2007@yahoo.com
51.	NEMA, Nigeria	Shehu Abdulwaliyu	Control Officer	8, Ademola Adetokunbo Crescent, Maitama, Abuja	08063182295; shemad25@yahoo.com
52.	ICAO, Dakar	François Salambanga	Regional Officer CNS	ICAO, WACAF – Dakar	fsalambanga@dakar.icao.int

APPENDIX B

Status of Conclusions related to SNMC/ 19 Meeting

Conclusions	Implementation Status	Remarks
Conclusion 19/01: Implementation of SNMC/18 outstanding conclusions That: SNMC member States/Organizations are urged to implement SNMC/18 outstanding conclusions presented in **Appendix B** and pertaining to corrective actions to be undertaken in order to: a) Restore and stabilize the AFISNET reliability and availability as required; b) Improve maintenance coordination and monitoring procedures.	a) Still valid b) Still valid	States/Organizations to report on recent and current developments
Conclusion 19/02: Maintenance Personnel exchange and Training That: SNMC States/Organizations should reinforce their bilateral and multilateral maintenance personnel exchange and training including language proficiency by developing short, medium and long term training plans taking into consideration the existing training capability in the Region.	Still valid	States to report
Decision 19/03: Development of a training programme for maintenance personnel That: **a)** The current SNMC coordinators (Ghana) coordinate the development before 31 December 2012, of a consolidated training programme for AFISNET maintenance personnel. **b)** This programme be based on the common	Still valid	a) Ghana to report c) Coordination done with INTELSAT

facilities and the provision of ICAO Training Manual for Air Traffic Safety Electronics Personnel (ATSEP), Doc 7192-AN/857 Part E-2 version 2011 c) ICAO WACAF Regional Office coordinate the organization of workshops and seminars by ground and space segment facilities industry;		
Decision 19/04: Development of a calibration centre for AFISNET Test Equipments That: In accordance with Decision 18/02 of SNMC/18 a) ASECNA host the calibration centre called upon by SNMC /18, conduct as Team leader of the technical Team feasibility studies including a cost benefit analysis to be validated by states/organizations and; b) ICAO continue to support the implementation process;	On going	b) Technical specifications under development by ASECNA c) Coordination made between secretariat and ASECNA
Decision 19/05: Follow up of the status of implementation of SNMC conclusions That: a) States/Organizations nominate and transmit to the secretariat before 31 December 2011 Focal Points in charge of the quarterly reporting of the status of implementation of SNMC conclusions and decisions; b) The electronic media be used by Focal Points for data exchange and reporting to the acting SNMC coordinator	Not implemented	Focal points to be nominated by SNMC 20

Decision 19/06: **Performance Data Collection Form (PDCF)** That: In accordance with ICAO guidelines on Performance of Very Small Aperture Terminals and based on the draft conclusion of CNS/SG 4th meeting (*Conclusions 4/04, 4/06 and 4/12*) SNMC members States adopt the **P**erformance **D**ata **C**ollection **F**orm (**PDCF**) as attached in **Appendix D** in order to harmonize related performance measurement methodology within and between AFI satellite based aeronautical networks.	Form adopted by APIRG	States/Organizations to report on the usage of the Form
Conclusion 19/07: **Four Levels Performance Assessment** That: a) SNMC Administrations/Organizations take advantage of the four levels Performance Assessment principle and develop a common network Performance Assessment system in order to ensure a common performance evaluation exercise and; b) ASECNA circulate its current model by the end of December 2011 and give any necessary assistance to SNMC members	Not implemented	States/Organization (ASECNA) to report
Conclusion 19/08: **Upgrade of AFISNET nodes** That: AFISNET States/Organizations pursue the upgrade of their AFISNET nodes to improve the availability and the reliability of the network in support to CNS/ATM provisions in line with the new ICAO ASBU concept	Ongoing in the framework of the Joint Technical Team for AFISNET Evaluation and Re engineering	States/Organization to report

Conclusion 19/09: Terms of Reference Action Plan and Timescale of the Audit of AFISNET That: a) The Action Plan and the Timescale of the AFISNET audit are adopted as per **Appendixes E** b) The Audit be conducted before the end of July 2012; c) ICAO continue to coordinate the implementation process of the audit	Partially implemented	The coordination process is achieved by ICAO A low pace of response received from the stakeholders NAMA and GCAA comments on the technical document awaited
Conclusion 19/10: Funding mechanism for AFISNET audit That: a) A State/Organization be appointed to pre-finance the audit cost in order to carry out the audit as soon as possible; b) States/Organizations make the necessary provision in their budgets to support the shared cost of the audit and pay their shared cost as soon as possible; c) ICAO coordinate the funding mechanism	Not implemented Still valid	
Conclusion 19/11: Request for proposals That: a) ASECNA draft the Request for Proposals document to be circulated amongst the Joint Technical Team for comments and finalization through E-exchanges; b) The Request for Proposals be launched on 1st February 2012	Not implemented action delayed due to lack of feedback	
Conclusion 19/12: AFISNET Administrative Heads Meeting That: ICAO organize a high level meeting of AFISNET Administrative Heads before the end of January	Not implemented	ICAO was waiting for the completion of the technical document received on July

2012 in order to validate and sign a MoU dealing with the different issues (sharing rule, funding, tender conditions, signing of the contract)		
Conclusion 19/13: AFISNET Bandwidth re-engineering That: The Working Group on IBS carrier conversion established by SNMC 19 expedite its assignment and report to the coordinator with copy to the secretariat by end of February 2012		Ghana to report as current coordinator
Conclusion 19/14: Protection of C band for VSAT operation That: AFISNET States/Organizations a) Support the ongoing process undertaken by AFI/FMG and ICAO ACP/WG/F for the protection of the **3.4-4.2 GHz** VSAT downlink band, through a follow up and a lobbing towards their National Telecommunication Regulation Authority; b) Take the appropriate measures to participate in the World Radiocommunication Conference (WRC-12) to support ICAO position including the protection of the 3.4-4.2 GHz band in order to sustain the safe operation of AFI VSAT satellite networks c) ICAO ensure, for the preparation of WRC 12, the necessary coordination arrangements with the other regions operating C Band aeronautical VSATs Networks	Implemented and still valid	See Report on the outcome of ITU WRC-12
Conclusion 19/15: Implementation of CNS/SG/4 conclusions related to AFISNET That:		States/Organizations to Report on

AFISNET States/Organizations endeavour to implement the conclusions and decisions of CNS/SG/4 related to AFISNET		
Conclusion 19/16: Integration of AFISNET with other AFI regional networks That: a) AFISNET States/Organizations pursue their technical cooperation to ensure a seamless interconnection between AFISNET and its neighbouring networks (CAFSAT, NAFISAT, SADC/2); **b)** ASECNA and ATNS continue their collaboration to satisfy the operational requirements on Aeronautical Fixed Services in particular, the ATS/DS circuits aiming to ensure the coordination between Moroni and Victoria, Moroni and Dar Es Salam centers.		ASECNA and ATNS to report
Conclusion 19/17: ICAO Aviation System Block Upgrades concept and Required Communication Performance for AFISNET That: In accordance with ICAO guidance material provided in the Global Air Navigation Plan (Doc 9750) and Manual on Required Performance (Doc 9869), AFISNET States/Organizations take advantage of ICAO **A**viation **S**ystem **B**lock **U**pgrades (**ASBU** and **R**equired) **C**ommunication **P**erformance (**RCP**) concepts to continuously improve the network performance to sustain the current communication network (**Block 0**) in the frame of the future ATM systems requirements.	Still valid	

Decision 19/18: Adoption of the SNMC Form of Agreement That: The SNMC Terms of Reference and Form of Agreement are adopted as attached in **Appendix G**	Implemented	
Conclusion 19/19: MoUs between ASECNA and ATNS to cover network interconnectivity operation That: ATNS and ASECNA establish MoUs that will govern interconnected VSAT Networks operation and maintenance.		ASECNA and ATNS to Report on

APPENDIX C

Focal Points to follow up SNM Conclusions/Decisions

Organisation	Name	Function	Phone & E-Mails
ASECNA	**Bissa SOUGUE**	**Aeronautical Telecommunication manager**	**Phone : +221 77 654 23 55,** **+221 33 869 5749** **Fax : +221338207495** **souguebis@asecna.org, sougue@voila.fr**
	Mingo Aladjou SIBITANG	**Chargé d'Activités Exploitation des Télécommunications**	**+221 77 493 68 67** **sibitangd@hotmail.com**
GCAA	**Tefutor Isaiah Kofi**	**Electronic Engineer**	+233244221092 **istefutor@yahoo.com** **itefutor@gcaa.com.gh**
	Francis K.A Yeboah	**SATCOM Engineer**	+233544127959 +233208127959 **fkaysat@yahoo.com**
NAMA	**Emma O. ANASI**	**General Manager electronics comms**	**Phone : +2348055096234** **+234 8063979294** **nigslitters@yahoo.com**
	Bolamiran AKINRINBIDO	**Project coordinator**	+234 80 8075602221 **Bolabido24@gmail.com**
Roberts FIR	**Matho Nianga Gomou**	**Chief of Engineering Department**	**mathokenyanta@yahoo.fr** **mngomou@robertsfir.org** **+ 231 886 591 129**
	Buya Mansaray	**Senior technician**	**bs_mansaray@hotmail.com** **bmansaray@robertsfir.org** **+ 231 880 814 278**

Appendix D

Current AFS dysfunctions on AFISNET (October 2012)

Circuit		Service	Performances		
Terminal I	Terminal II		Average Availability	Comments	Futures actions
Accra	Brazzaville	ATS/DS	92.4%		
	Kano	ATS/DS	1%		
	Lagos	ATS/DS	92.4		
	Lome	ATS/DS	92.7		
	Luanda	ATS/DS	87.8		
Accra	Lome	AFTN	81.2%		
	Luanda	AFTN	77.8%		
	Ouagadougou	AFTN	89.3%		
	Sao Tome	AFTN	51.4%		
Brazzaville	Antanarivo	AFTN	88%		
	Dakar	AFTN	94%		
	Johannesburg	AFTN	87%		
	Kano	AFTN	43%		
	Kinshasa	AFTN	o%		
	Luanda	AFTN	6%		
	Niamey	AFTN	93%		
Dakar	Antananarivo	AFTN	91%		
	Bamako	AFTN	92%		
	Bissau	AFTN	95%		
	Brazzaville	AFTN	94%		
	Conakry	AFTN	95%		
	Libreville	AFTN	93%		
	Nouakchott	AFTN	94%		
	Niamey	AFTN	90%		
Niamey	Accra	AFTN	96%		
	Brazzaville	AFTN	86%		
	Dakar	AFTN	90%		
	Kano	AFTN	86%		
	Lome	AFTN	94%		
	N'Djamena	AFTN	94%		
	Nouakchott	AFTN	96%		

APPENDIX E

Action Plan and Timescale for the Audit of AFISNET

N°	TASKS	ACTORS	DATE	REMARKS
1	**Validation of the Terms of reference**	**SNMC 20**	**10/10/ 2012**	**In order to keep the objective of the first quarter of 2012,the Terms of Reference were adopted by SNMC/20 meeting**
2	**Validation of the funding mechanism**	**MEMBER STATES**	**Nov. 2012**	**Individual Administrations/organiz ation to fund**
3	**Validation of the Planning - Gantt Chart**	**MEMBER STATES**	**Nov. 2012**	
4	**Request for proposals**	**AFISNET core members under the coordination of ICAO**	**1/1/13-15/2/13**	**Each state to advertise the call for tender in its country**
5	**Opening and evaluation of the Proposals**	**Joint technical Team ICAO**	**1/3/13-08/3/13**	**ICAO to coordinate Participation of AFISNET Team**
6	**Award, negotiation and signing of the contract**	**ICAO on behalf of member States**	**2 weeks after evaluation (23/3-6/4/13)**	
7	**Implementation of the Audit and supervision of the contract**	**Consultant with Team members and ICAO to oversight**	**23/4/-22/7/13**	**On site starting meeting and results review meeting to be convened by ICAO**

APPENDIX F

Terms of Reference of the Satellite Network Management Committee (SNMC)

1.   Mandate of the Satellite Network Management Committee

1.1   Decide on the network concept and topology in accordance with the relevant ATM operation requirements and based on ICAO SARPs and guidance materials.

1.2   Ensure the continued operation of the AFISNET network, meeting the CNS/ATM plan requirements of the AFI /MID /EUR Regions while taking into consideration CNS/ATM plans of adjacent regions, and including approval of deployment plans and/or extension plans.

1.3   Decide on type and levels of service to be provided, and monitor the performance of the Network providers (facilities and leased band) to ensure that service delivery meets the Required Service Performance Level (RSPL) and the Required Communication Performance criteria previously pre-determined when applicable,   in accordance with the Manual of Required Communication Performance (RCP Doc. 9869).

1.4   Ensure that participating States/Organizations provide statistics on the Network Performance, and investigate service delivery complaints from users.

1.5   Review and take the appropriate actions to clear the service dysfunctions within the RSPL /RCP defined criteria in line with ATM PBN and SMS requirements.

1.6   Monitor the harmonization of the implementation of facilities and services and, where necessary, ensure interregional connectivity, taking due account of cost/benefit analysis, business case development and financing issues:
- Study the extension of the network to other countries.
- Propose the network integration and interoperability with other neighboring networks

1.7   Monitor and   harmonize the Network   maintenance operation and management by defining a cooperation methodology between network centers in with regard with to:
- Maintenance personnel team training and exchange, redeployment if necessary of a technical assistance team or personnel;
- spare parts exchange, fault location/repairs, and turnaround time
- Development and modernization of AFISNET after a Joint Technical Evaluation and Re-engineering team assessment.

1.8   Review and adopt the annual follow up on the meeting conclusions and update the future work programme.

1.9   The report of the Satellite Network Management Committee is to be addressed to SNMC members States/organizations

2. Composition and organization of the Committee

2.1   Members
The Satellite Network Management Committee (**SNMC**) is composed of core member States/Organizations hosting/operating AFISNET nodes namely:

- **NAMA (Nigeria)**
- **ASECNA (17 membres States)**
- **Roberts FIRs (Liberia, Sierra Leone, Guinea)**
- **GCAA (Ghana)**

2.2   Observers
Observers as composed below can participate in SNMC meetings when invited but shall have no voting rights:

- Air Navigation Service Providers (**ATNS**-South Africa, **ENANA-**Angola, **ENNA-**Algeria, DCA-Mauritius FIR; **GCAA**-The Gambia, - **ENASA**-Sao Tome & Principe, **AENA**-Spain, **DGAC**-France, **RVA-** DRC…);
- AFISNET   SATCOM Facilities Providers;
- Satellite Spectrum Providers (e.g. **INTELSAT**);
- National Frequency Regulators;
- Airline Associations (**IATA**);
- Maintenance Personnel Association (**IFATSEA**);
- Neighboring Networks Committees (**CAFSAT, NAFISAT& SADC/2…**).

- Air navigation equipment manufacturers.
- Search & Rescue agencies.

2.3   The Chair of the Committee shall be elected from among the Committee members every year. The chairman will normally be from the host organization for the given year. The chairman's mandate shall not exceed one year, unless under exceptional conditions, no meeting takes place the following year. In that case, the Chairman shall have his mandate extended by default until the next SNMC meeting is held.

2.4   ICAO shall be the Secretary of the Committee.

2.5   To ensure that the Committee functions optimally, the designated representatives of Air Navigation Service Providers should have experience in the provision of air navigation infrastructure and services. Advisors may accompany the member organization's Representative.

3. Participation of International Organizations

Apart from those listed in paragraph 2, the Committee may invite representatives of appropriate regional and international organizations (**ATU, ITU, EUROCONTROL, SITA**...) to attend meetings in the capacity of observer.

4. Establishment and Dissolution of Contributory Bodies

4.1   In order to assist in its work, the Committee may establish bodies, e.g. task forces, charged with preparatory work on specific issues. Representation on such contributory bodies should be by specialists in the fields concerned and who are familiar with the issues under consideration.

4.2   The establishment and work of contributory bodies shall be governed by the following provisions:

a) A contributory body shall only be formed when it has been clearly identified that it is likely to make a substantial contribution to the resolution of an issue in question.

b) A contributory body shall be given clear and concise terms of reference describing its task and an expected target date for its completion.

c) The composition of a contributory body shall be such that, although intended to be as small as possible, all participating States and any organization deemed to be able to make valid contributions shall be given an opportunity to participate in it.

d) A contributory body shall be dissolved as soon as it has either completed its assigned task or it has become apparent that work on the subject in question cannot be usefully continued.

5. **Working arrangements**

5.1   The Committee's ordinary meetings will be hosted by one of the member States\Organizations and held at least once a year;

5.2   The Committee can hold, in case of absolute necessity, extraordinary meetings to clear out urgent problems that may be a threat to the service provided by the network;

5.3   Invitation letters to meetings will be issued by the Secretariat in coordination with the hosting State/Organization.

5.4   Decisions shall be reached by consensus.

5.3   Two-thirds of members shall constitute a quorum and, where a quorum is not achieved, decisions will be reached through correspondence under the coordination of the Chairman.

APPENDIX G

Template for SNMC future venue

SNMC Meeting	Year	Hosting State/Organization	Remarks
SNMC/19	**2011**	**Ghana**	**Completed**
SNMC/20	**2012**	**Nigeria**	**Completed**
SNMC/21	2013	Roberts FIR	**Coming up**
SNMC/22	2014	ASECNA	
SNMC/23	2015	Ghana	
SNMC/24	2016	Nigeria	
SNMC/25	2017	Roberts FIR	