



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

**Twenty Second Meeting of the AFI Satellite Network Management Committee  
(SNMC/22)  
(Lomé, Togo, 15-19 December 2014)**

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**Agenda Item 6: AFISNET band width re-engineering;**

**(Presented by the secretariat)**

**SUMMARY**

The purpose of this paper is to review and analyze the IBS leased satellite bandwidth management and in particular the conversion of the old IBS band in order to ensure a best cost effective and a more flexibility of usage.

**Reference :** Report of SNMC 17, 18,19, 20 & 21 Meetings

**1. Introduction**

The first nodes of AFISNET were implemented by using the INTELSAT Business System (IBS) techniques coupled with SCPC 64kbit/s carriers. These carriers were some time split into two carriers of 32kbits/s to ensure links from one site to two different sites. The system has been working well for years.

**2. Discussion**

**2.1** To ensure the continuity of AFS, the obsolete base band components have been gradually replaced by other modems in the framework of coordinated arrangements between ASECNA, NAMA and Ghana.

Furthermore, the new nodes basically use SCPC either 19.2kbits/s or 32Kbits/s carriers to support the AFS while using 64kbits/s for Aeronautical Mobile Service. Moreover; the AFISNET/NAFISAT-SADC2 interconnection exercise uses the same principle.

The major part of the spectrum allocated to the IBS system is currently unused.

Taking into account the evolution of VSAT technology the contract for this band should be renegotiated to ensure more flexible usage.

Thus, related to IBS carriers' bandwidth conversion, SNMC/17 meeting took Conclusion 17/10 which can be read as follow:

**“That States/Organizations coordinate to liaise with INTELSAT for the conversion of IBS initial bandwidth into lease band to be affected to each SNMC member according to its quota part.”**

**2.2** This Conclusion had not been implemented till SNMC18 and States/Organizations are always charged on unused IBS carriers while operating lease band. Therefore SNMC/18 agreed on Conclusion 18/13 as follow:

**Conclusion 18/13: Conversion of IBS Band to leased band**

***That:***

***States/organizations pursue and complete the implementation of conclusion of SNMC17/10 by adopting the following process:***

- a) IBS carrier status of stations be forwarded to ASECNA for compilation and transmission to INTELSAT; and***
- b) A Technical/financial meeting should be held by SNMC members with INTELSAT to ensure the conversion of IBS band to a leased band.***

2.3 SNMC 19 meeting discussed this issue after a communication by INTELSAT on the detailed status of AFISNET band spectrum. It was agreed that this status needs to be supplemented by updated data from States/organizations.

The meeting decided to establish a Working Group composed with a representative of each member as presented in **Appendix F** to the final report of SNMC/19.

This Group was tasked to elaborate the Technical Document for the conversion of IBS carriers into leased band to be submitted to INTELSAT.

It was agreed that the Working Group led by Ghana should expedite its assignment by end of February 2012 as stated in Conclusion 19/13 of SNMC/19:

**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.*

The Secretariat has not noted any progress in this matter.

**2.4** SNMC/20 meeting, after addressing the issues related to satellite backup for AFISNET 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. Through the following conclusion; the meeting urged Sates and Organizations to schedule with INTELSAT the conversion of the IBS band to leased band

**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.**

The examination of the status of implementation of this conclusion indicates a low pace of progress made in this regard.

Moreover it was indicated the occurrence of satellite failure for about 20 to 30 minutes in October 2013 conducting to a total unavailability of services supported by AFISNET.

SNMC/21 discussed the issue and take decision 21/14 that reads as follows:

**Decision 21/14: AFISNET bandwidth re-engineering**

**That:**

**The conversion of IBS unused carriers to leased band with INTELSAT be undertaken based on the status of unused carriers to be finalized by ASECNA by 31 of December 2013.**

It should be advisable to complete this conversion exercise.

**3. Action by the meeting**

The meeting is invited to:

- a) Take note of the information here given above
- b) Finalize the customer requirements document called upon by SNMC:20 to be submitted to the satellite Service Provider INTELSAT based on the result of the Joint Technical Evaluation and re-engineering assessment of AFISNET, and;
- c) Schedule the IBS to leased band conversion with INTELSAT and complete the implementation of conclusion 17/10 and 18/13, 19/13 of respective SNMC/17, 18 and 19 meetings.

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## APPENDIX F

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

## WORKING GROUP FOR THE CONVERSION OF IBS CARRIERS

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