



**INTERNATIONAL CIVIL AVIATION ORGANIZATION**  
**SIXTH MEETING OF THE APIRG COMMUNICATIONS SUB-GROUP**  
**(COM/SG/6)**

(Nairobi, 24 - 26 September 2002)

**Agenda Item 4: Aeronautical Fixed Service (AFS)**

Update on the North Eastern AFI VSAT network (NAFISAT)

(Presented by the Secretariat)

**SUMMARY**

This paper reports on the follow-up of APIRG/13 Conclusion 13/15, which called for the establishment of a VSAT network in the northeastern part of the AFI region.

Action by the Meeting is at paragraph 3.

Reference:

APIRG/13 Report.

**1. Introduction**

1.1 At its thirteenth meeting, APIRG adopted Conclusion 13/15 calling on the States in the North Eastern part of the AFI Region to establish a VSAT network to cater for AFS requirements.

1.2 In September 2001, an informal ATM/CNS coordination meeting on the area covered by Djibouti, Eritrea, Ethiopia, Kenya, Somalia, Sudan and Uganda discussed, *inter-alia*, the implementation of APIRG/13 Conclusion 13/15.

1.3 The meeting noted APIRG Conclusion 13/15 and expressed its support for the development of a sub-regional VSAT network. ICAO was requested to consult concerned States on their acceptance in principle to participate in the envisaged VSAT network. The meeting agreed to establish a working group composed of Kenya, IATA and ICAO to develop project documentation for the VSAT network. The meeting further agreed to name the proposed VSAT network as the "North Eastern AFI VSAT network (NAFISAT)". The meeting requested that the results of the Working Group be presented at a future meeting involving all States concerned.

**2. Discussion**

2.1 The Working Group on the NAFISAT held its first meeting on 22 January 2002.

2.1.1 The Working Group noted that all States identified in APIRG Conclusion 13/15 had agreed in principle to participate in the NAFISAT.

2.1.2. The Meeting took note of the comments provided by some of the States. ASECNA on behalf of Chad stressed the need for interoperability of the envisaged VSAT network with the existing

networks (AFISNET and SADC). Libya advised that it was in the final stages of establishing a domestic VSAT system on Intelsat satellite at 359° E. Sudan advised also of the planned commissioning of a domestic VSAT system in January 2002, and offered States to join their network.

2.1.3. The Caretaker CAA of Somalia agreed in principle to participate but advised that it could not commit the State of Somalia.

2.1.4. Because of their direct interaction with above NAFISAT States, the Meeting agreed to solicit the Democratic Republic of Congo, India, Rwanda, Saudi Arabia, Seychelles, Tanzania and Yemen to participate in the network.

2.1.5. The Meeting developed the operational requirements of the proposed network with a view to implementing the AFTN and ATS/DS plans in the area covered. The network should also permit easy transition to the aeronautical telecommunication network (ATN). The Meeting then developed the traffic matrix showing the AFTN and ATS/DS requirements to be supported. Further requirements that need to be accommodated are domestic requirements for VHF extension and future ATN connectivity requirements.

2.1.6. The Meeting reviewed the technical characteristics of the existing VSAT networks and then developed the following requirements for the proposed VSAT network. The NAFISAT should:

- a) be able to establish direct connections, as required, between any two nodes;
- b) be a hub-less network;
- c) be based on frame relay technology;
- d) be a scalable network (i.e. additional nodes should be added without disturbing existing connections);
- e) optimise the use of ground equipment and space segment resources;
- f) use single carrier per node; and
- g) rely on multiple destinations per carrier access techniques.

2.1.7. The Meeting recognized that the first step in the development of the NAFISAT was for each CAA to obtain from its national Telecommunication Regulator or Intelsat Signatory an authorization to operate VSATs at airports. IATA proposed to the Meeting an institutional arrangement. IATA would engage the services of a consultant to assist the NAFISAT Working Group in defining and refining as required:

- a. The detailed System Concept with a view to ensure the best cost-benefit ratio maximizing system availability;
- b. Technical specifications for the system paying attention to System Bandwidth and interface issues.
- c. System costing and charging;
- d. Institutional issues, mainly in what concerns relation between IATA/ICAO and the participating entities.

2.1.8. The Meeting welcomed the proposal and noted that some States might opt to fund directly all their cost of participating in the network.

2.2 The second meeting of the Working Group was held on 5 September 2002 and reviewed the feasibility study and the institutional arrangements. The meeting noted the participation of Seychelles and Tanzania in the NAFISAT, and agreed that the results were mature and should be presented to States concerned as soon as possible. A meeting of States is being planned before the end of 2002.

2.3 The informal ATM/CNS coordination meeting between DR Congo, Ethiopia, Kenya, Rwanda, Sudan, Tanzania and Uganda, held in Kampala from 9 to 13 September 2002, noted that the introduction of VSAT technology in the Region had tremendously improved communication between adjacent ATS authorities. The meeting underscored the need to ensure compatibility of these systems. The meeting requested the States concerned with the NAFISAT give support to its implementation with expediency.

### **3. Action required**

3.1 The COM Sub-group is invited to note the information provided herein and the progress achieved in the implementation of APIRG conclusion 13/15.

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