



*International Civil Aviation Organization*

**FIRST MEETING OF THE INTEGRATED REGIONAL TELECOMMUNICATION  
INFRASTRUCTURE (IRTI/TF/1)  
(Pretoria, South Africa, 24-28 June 2013)**

**Agenda Item 4:      Development of a Regional Project on an Integrated Aeronautical  
Telecommunication Infrastructure**

**REVIEW OF THE OUTCOME OF APIRG/18 ON VSAT RELATED ISSUES**

*(Presented by the Secretariat)*

**SUMMARY**

This working paper presents the Task Force with the outcome of APIRG/18 (Kampala, Uganda, 27-30 March 2013) on aeronautical VSAT networks, for reference and guidance when addressing its assigned mandate.

**Reference:**

- APIRG/18 Report

**1. INTRODUCTION**

1.1 This working paper reviews the outcome of APIRG/18 Meeting which was held in Kampala, Uganda, from 27 to 30 March 2013, with emphasis on issues related to aeronautical VSAT networks.

2.1 The **Appendix** to this working paper provides APIRG/18 Conclusions and Decisions pertaining to aeronautical VSAT networks.

**2. DISCUSSION**

*Joint Meetings of the AFI Aeronautical VSAT Network Managers*

2.1 APIRG/18 Meeting noted that, as a follow up to ICAO Special AFI RAN/08 Recommendation 6/19, the First Joint Meeting of the AFI Aeronautical VSAT Network Managers (AFI VSAT/1) was held in Kwa-Zulu Natal, South Africa, from 13 to 15 June 2011, at the kind invitation of the Air Traffic and Navigation Services Company Limited of South Africa (ATNS); and the Second Joint Meeting of the AFI Aeronautical VSAT Network Managers (AFI VSAT/2) was held in Douala, Cameroon, from 28 February to 1 March 2012, at the kind invitation of ASECNA.

### *VSAT networks challenges*

2.2 APIRG/18 Meeting identified a number of challenges to be addressed to ensure that the existing aeronautical VSAT networks remain technically and financially sustainable, and continue to operate satisfactory meeting performance requirements and operational objectives. These include maintenance capabilities, modernization of network components, sustainability of funding arrangements and related cost-recovery mechanisms, as well as integration of networks as recommended by the Fifth meeting of All Planning and Implementation Regional Groups (ALLPIRG/5, 2006). ALLPIRG/5 particularly requested PIRGs to work towards integrated regional/interregional digital communication networks, with a centralized operational control and preferably based on the Internet Protocol (IP) (Conclusion 5/16 refers). In this connection, the Fourth Meeting of Directors-General of Civil Aviation (DGCA/4, 2010) accordingly called upon the African Civil Aviation Commission (AFCAC), ICAO and other relevant institutions, including financial institutions, to support the implementation of such integrated programme in the AFI Region, in order to enhance the region's air navigation infrastructure.

### *VSAT networks – Best practices*

2.3 The Group noted the analysis of various elements of existing VSAT networks (AFISNET, CAFSAT, NAFISAT and SADC VSAT2) such as system architecture, operations, performance assessment methods, working arrangements, interconnection with other networks, and development plans, against an initial set of relevant best practices, based on ICAO Standards and Recommended Practices (SARPs) and guidance material, as well as industry best practices. APIRG/18 Meeting approved these best practices to be reviewed by the Task Force, and requested VSAT Network Managers using legacy practices to develop transition plans towards the implementation of these agreed best practices in order to achieve the required harmonization and interoperability. (*Conclusions 18/24, 18/25 and 18/26*).

2.4 With respect to the sustainability of the NAFISAT and SADC networks, the meeting was informed that funding from airlines will come to an end in 2014 and 2015 respectively. The meeting urged States to put in place administrative and financial arrangements to sustain the networks in the future. (*Conclusion 18/27 and Decision 18/29*).

### *VSAT networks – Performance monitoring*

2.5 APIRG/18 Meeting recalled that, as part of its work on the harmonization of implementation activities relating to the use of VSAT networks, and pursuant to Conclusion 5/17 of the ALLPIRG/5 meeting, ICAO had developed minimum performance targets for VSAT networks in support of aeronautical ground-ground communications. These minimum performance targets were endorsed by ICAO SP AFI RAN (2008). The Meeting agreed to a monitoring methodology developed by the South Atlantic Informal Group (SAT), which is based on the use of Performance Data Collection Forms (PDCF's). The Secretariat was requested to finalize these forms and circulate them to the States and entities responsible for the planning and implementation of VSAT networks to ensure harmonization of

performance measurement methodology within and between ICAO regions.

*Outcome of WRC-12 - VSAT C-Band protection*

2.6 APIRG/18 Meeting considered the critical role of VSAT technology in the provision of all air navigation services in the AFI region and other ICAO regions, and recalled Recommendation 724 (WRC-2007) - Use by civil aviation of frequency allocations on a primary basis to the fixed-satellite service, which calls on administrations, particularly in developing countries and in countries with remote and rural areas to:

- Recognize the importance of VSAT operations to the modernization of civil aviation telecommunications systems;
- Encourage the implementation of VSAT systems that could support both aeronautical and other communication requirements; and
- Expedite, to the maximum extent possible and as necessary, the authorization process to enable aeronautical communications using VSAT technology.

2.7 APIRG/18 Meeting noted further work that was carried out through the AFI Frequency Management Group (FMG), regional workshops, WRC-12 preparatory meetings and the Aeronautical Communications Panel (ACP) Working Group on Frequency Spectrum issues, towards an international protection of the C-band (3.400-4.200 MHz) and the synergy developed between ICAO, regional organizations (ASECNA, ATU, IATA) and AFI States in preparation for, and at ITU WRC-12, which contributed to Resolution 154 (WRC-12)<sup>2</sup>. (*Conclusion 18/30*).

### **3. CONCLUSION**

3.1 The Task Force is invited to:

- a) take note of the information provided in this working paper; for reference and guidance as required; and
- b) provide comments as necessary.

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**APPENDIX**

CONC/DEC. NO. STRATEGIC OBJECTIVE*	TITLE OF CONCLUSION	TEXT OF CONCLUSION
1	2	3
Conclusion 18/19 C	AFI AMHS Implementation Strategy	That AFI States adopt and implement the AHMS Strategy shown at <a href="#">Appendix 3.4A</a> to the report.
Conclusion 18/20 C	AFI ATN architecture plan	That AFI States implement the AFI ATN Architecture Plan shown at <a href="#">Appendix 3.4C</a> to the report.
Conclusion 18/24 A, C	Contingency Planning for AFI VSAT/VSAT Networks Operations	That, AFI aeronautical VSAT network managers develop contingency plans in coordination with their space segment provider (Intelsat) to ensure continuity of service in case of disruption or failure of their operated satellites.
Conclusion 18/25 A, C	Adoption of best practices for AFI VSAT Networks	That the AFI States and Air Navigation Services Providers (ANSPs) operating aeronautical VSAT Networks adopt the best practices stated at <a href="#">Appendix 3.4G</a> to the report, as well as any other best practices to be developed or adopted by APIRG.
Conclusion 18/26 A, C	Modernization of VSAT Networks	That AFI States and Organizations adopt and implement strategies to modernize network continue to meet regionally/inter-regionally agreed performance requirements.
Conclusion 18/27 C	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.
Decision 18/28 C	Establishment of A Task Force for The AFI Aeronautical VSAT Networks 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 <a href="#">Appendix 3.4H</a> to the report.
Decision 18/29 C	Multinational facility/service for an integrated AFI aeronautical telecommunication network (ATN) infrastructure.	That the AFI integrated IP-based regional/interregional digital communication network be established as a multinational facility/service as defined in the Regional Air Navigation Plan (Doc 7474), that embraces a consolidated AFI Aeronautical Telecommunication Network (ATN) infrastructure.
Conclusion 18/30 C	Implementation of resolution COM6/24 (WRC-12)	That, considering the critical role of VSAT technology in the provision of air navigation services within the AFI Region and its adjacent ICAO regions, AFI States support the implementation of Resolution COM6/24 (WRC-12) aimed at securing international protection of aeronautical frequency spectrum, by participating in related studies, surveys and meetings as may be organized under the coordination of ICAO.

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