

APIRG/18 Meeting Report
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APPENDIX 3.4G

VSAT NETWORKS BEST PRACTICES

	Best practices	Guidance material	Network compliance status			
			AFISNET	CAFSAT	NAFISAT	SADC
1. Year of completion			1995	TBC	2008	2007
2. Period of Inception			TBC	TBC	TBC	TBC
3. Membership	N/A					
4. Satellite used	Contingency planning required to ensure continuity of service in case of disruption or failure of operated satellite States shall provide the degree of facility reliability and availability consistent with their operational requirement.	ICAO, Annex 11 – Air Traffic Services, Section 2.30 ICAO, Annex 10, Volume I, Section 2.5 and Attachment F ICAO, Doc 9859 - Safety Management Manual.	No	No	No	No
5. Transponder (Up/Down)	Contingency planning required to ensure continuity of service in case of disruption or failure of operated satellite States shall provide the degree of facility reliability and availability consistent with their operational requirement.	ICAO, Annex 11 – Air Traffic Services ICAO, Annex 10, Volume I, Section 2.5 and Attachment F ICAO, Doc 9859 - Safety Management Manual.	No	No	No	No
6. Frequency band	In accordance with ITU Radio Regulations	ITU, Radio regulations	Yes	Yes	Yes	Yes
7. Topology	Meshed network		Yes	Yes	Yes	Yes
8. Satellite access method	Multiple Frequency – Time Division Multiple Access (MF-TDMA)	ICAO, Annex 10, Aeronautical Telecommunications, Volume III	Yes	No	Yes	Yes

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			AFISNET	CAFSAT	NAFISAT	SADC
		ICAO, Doc 9776, Manual on VHF Digital Link Mode 2 ICAO, Doc 9805, Manual on VHF Digital Link Mode 3				
9. Lease Bandwidth	Available bandwidth should accommodate current and future services	ICAO, Annex 10, Aeronautical Telecommunications, Volume II ICAO, Annex 11, Air Traffic Services ICAO, Doc 4444 – PANS/ATM ICAO, Doc 9880- Detailed Technical Specifications on ATN ICAO, Doc 7474 (ANP/FASID)	Yes	Yes	Yes	Yes
10. Administrative arrangements	States commitment should be formalized and documented, including delegation of operational, technical and financial authority (as applicable).	ICAO, Doc 7474 (ANP/FASID) – Guidelines for multinational facility/service	No	No	Yes	Yes
11. Technical arrangements (Maintenance Management)	Network control centre (NCC) should be implemented for all networks.	ICAO, ALLPIRG/5, Conclusion 5/16	No	No	Yes	Yes
12. Network control centre (NCC)	Network control centre (NCC) should be implemented for all networks. Dedicated Engineering Service Channels recommended	ICAO, ALLPIRG/5, Conclusion 5/16	No	No	Yes	Yes
13. Dedicated engineering service channel	A dedicated service channel is recommended to facilitate coordination of maintenance	ICAO Annex 10, Volume I, Attachment F	Yes	Yes	No	No

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			AFISNET	CAFSAT	NAFISAT	SADC
	between networks' stations					
14. Services supported	Aeronautical fixed services (AFTN, ATS/DS) Aeronautical mobile service (AMS) – Extended VHF radio coverage Aeronautical Telecommunication Network (ATN) applications (AMHS, AIDC)	ICAO, Annex 10, Aeronautical Telecommunications, Volume II ICAO, Annex 11, Air Traffic Services ICAO, Doc 4444 – PANS/ATM ICAO, Doc 9880-Detailed Technical Specifications on ATN ICAO, Doc 7474 (ANP/FASID)	Yes	Yes	Yes	Yes
15. New Services to be supported	To be defined.		N/A	N/A	N/A	N/A
16. Funding mechanism for the networks	Sustainable funding mechanism required for all networks.	ICAO, Doc 9082 – Policies on user charges	Yes	Yes	No	No
17. Connectivity (internal connectivity and interconnections with other networks)	Full connectivity required within and between all the networks ICAO to address all the identified non-technical issues.	ICAO, Doc 7474 – Air Navigation Plan (FASID) Connectivity Matrices for ATS/DS and AFTN AFI AFTN Routing Directory	No	No	No	No
18. Management of interconnections	Formal agreements recommended to address interconnection issues	ICAO Annex 10, Aeronautical Telecommunications, Vol.II, Paras. 2.4.1 and 2.4.4	No	No	No	No
19. Base band transmission protocols	Use of standardised bit-oriented protocols Internet Protocol Suite (IPS) recommended X25 to be discontinued	ICAO, Annex 10, Aeronautical Telecommunications, Volume III ICAO, Doc 9896 – Manual on ATN using IPS Standards and Protocols AFI/7 - Recommendation 9/6 APIRG Conclusion 13/10 APIRG Conclusion 16/13 APIRG				

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			AFISNET	CAFSAT	NAFISA T	SADC
		Conclusion 16/14				
20. Transmission speed	AFTN main circuits: 1200 bauds ATN circuits: 9.6 Kbps ATN backbone circuits: 64 Kbps	APIRG Conclusion 12/13 APIRG ATN/TF/2 Report	Yes	Yes	Yes	Yes
21. AFTN circuit availability	Circuit availability should be monitored and provided to ICAO Regional Office on monthly basis. Minimum requirement is: 97%	ICAO, Doc 7474, ANP (AFI/7 Recommendations 9/3 and 9/4)	Yes	Yes	Yes	Yes
22. Message transit times	Message transit times should be monitored and provided quarterly to ensure that operational requirements are met.	ICAO, Annex 11, Air Traffic Services, Chapter 6 ICAO, Doc 8259, Manual on the Planning and Engineering of AFTN APIRG Conclusion 12/13	No	No	No	No
23. AFTN circuit loading	Performance evaluation of AFTN circuits is required on the basis of statistics collected for a period of minimum three days at the interval of six months from 23 to 25 April and October. These include traffic volume, traffic statistics and circuit occupancy, which are needed to assess the suitability of the modulation rate of AFTN circuits.	ICAO, Doc 8259, Manual on the Planning and Engineering of AFTN	No	No	No	No

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