

Agenda Item 9.1 - Operation, maintenance and performance of the NAFISAT Network

(Presented by ATNS)

21st NAFISAT Supervisory Board Meeting

Seychelles, 07 to 08 October 2026

SUMMARY

This paper summarizes the operation, maintenance and performance of the NAFISAT Network.

Reference: Report

FRC Call Records

Interconnectivity between adjacent Networks

Network Availability

AFTN CCT Availability

ATS/DS CCT Availability

Yearly comparative availability

AMHS implementation

1 INTRODUCTION:

- 1.1 This report presents the operational performance and maintenance of the NAFISAT Network for the period April 2025 to March 2026. The report covers the Summary of calls reported to the FRC and availability of all services provided by the network, as these are measured against the agreed SLAs.

The robustness of the maintenance strategy implemented by the NAFISAT Supervisory Board and the service provider is reflected in the summary of trends observed throughout the reporting period and the statistics of incident reports received through the ATNS Fault Reporting Centre (FRC). The FRC is located at the Johannesburg Area Control Centre and provides a 24-hour remote service for reporting and resolution of faults. The implementation of WhatsApp to the ATNS FRC facility proved to be advantageous and makes the FRC even more accessible.

2 Discussion

- 2.1 The successful maintenance of the VSAT is made possible with the continuous training, commitment, assistance and teamwork of the NAFISAT member States and their personnel. Skills obtained by all States' participants at the ATA training continues to prove to be fruitful to ensure that the reported faults are dealt with timeously. The VSAT training is in progress for 2026/2027 financial year, and the schedule is available for nomination of members to attend the training.
- 2.2 Custom processes remain a challenge when spares and equipment are urgently needed at sites. To maintain SLAs, the service provider requests assistance when arriving at the airport for quick release of custom clearances. Swift response to the issuance of LOI's, VISAS and site access permits is still required. These factors remain a risk to quick on-site response and availability of spares.

2.3 NAFISAT FRC faults reported (Apr 2025 to March 2026)

Total: FRC= 46

	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Total
FRC	2	2	3	3	2	8	5	7	4	3	4	3	46
Corrective	2	2	3	2	0	1	3	6	1	2	2	1	25
Preventative	0	0	0	0	1	2	1	1	0	0	0	0	5
External	0	0	0	1	1	5	1	0	3	1	2	2	16

Corrective =25

Preventative =05

External =16

2.4 Yearly comparative FRC reported call totals

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026
Total	103	115	152	107	120	130	166	96	46

2.5 Trends

- 2.5.1 RFT and RF switch failures have stabilised and are now dealt with as per fault restore process.
- 2.5.2 External interference has stabilized, and no new interference cases have been reported. The **Jeddah** NAFISAT terminal is currently out of service due to external interference. Ongoing efforts are underway to establish the source of this interference. It remains crucial that regulators are approached to enforce the protection of the VSAT registered frequencies. ATNS continues to implement measures to mitigate the interference where applicable. The renovation phase will include a 5G rejection LNB to mitigate the effects of the interference.
- 2.5.3 Mains power supply at some sites are still troublesome and affects the VSAT terminals. Reliable mains supply and backup systems are critical to the correct operations of the equipment. UPS batteries are failing because of the increased discharge cycle when experiencing supply challenges. ATNS continues to replace the UPS batteries during the preventative maintenance visits where necessary.
- 2.5.4 To further mitigate and minimize the 5G interference, ATNS and Intelsat are in discussions to try and optimize the spectrum closer to the 4.2 GHz. Intelsat is analysing the available spectrum in that range and will provide feedback to ATNS.

2.6 Interoperability and interconnectivity

- 2.6.1 Seamless operations, interoperability and interconnectivity between VSAT networks in the AFI Region remains crucial and ATNS remains committed to implement the best practices as recommended by ICAO. The NAFISAT and SADC networks are fully integrated to ensure continuation of seamless operation by being fully interconnected and interoperable on the Satellite level 1.
- 2.6.2 At present interconnectivity between AFISNET and NAFISAT is achieved on level 3 through base-band equipment. Ongoing engagements with ASECNA intends to address this issue.
- 2.6.3 The links continue to be operational through the DATUM 500L series and the latest version of the DATUM M7LT modem. The multiplexers are now changed to the NETPERFORMER FAD and fully operational.
- 2.6.4 Below an indication on the status of the services to the NETPERFORMER as of March 2026.

		Network	AFTN/AMHS	ATS/DS
Khartoum/N'Djamena		U/S	U/S	U/S
Khartoum/Brazzaville		Serviceable	N/A	Serviceable through the interim solution
Addis/Niamey		serviceable	Serviceable old platform	N/A
Nairobi/Brazzaville		serviceable	Serviceable	N/A
Tripoli/Niamey		U/S	U/S	U/S
Tripoli/N'Djamena		U/S	U/S	U/S

2.6.5 The availability of these links and services is recorded as follows:

		Network	AFTN/AMHS	ATS/DS
Khartoum/N'Djamena		0%	0%	
Khartoum/Brazzaville		0%		
Addis/Niamey		99,99%	0%	
Nairobi/Brazzaville		99,99%	99%	
Tripoli/Niamey		0%	0%	0%
Tripoli/N'Djamena		0%	0%	0%
AVE		99,99%	99%	0%

The achieved availability of the operational links; i.e. level 1 and 2 are within specification above 99.9% for the sites that are connected.

2.7 Implementation of AMHS service on the NAFISAT Network

2.7.1 The migration of AFTN service to AMHS is as illustrated on the diagram. There are 7 NAFISAT member states that transferred the services from AFTN to AMHS as indicated on the table below.

2.7.2 The AFTN links that still operate on a serial protocol is a cause of concern and interfaces are obsolete. The sites that have AMHS capability need to transition as a matter of urgency to comply with the ICAO block upgrades and to benefit from the advanced features that the AMHS service offer. ATNS will engage with the relevant Authorities to facilitate these changes.

2.7.3 The central switch in Nairobi has been reported as stable since the migration to the new AMSS system in February 2026. ATNS wants to commend and thank the management and the staff in Nairobi and Johannesburg for their commitment in resolving the challenges that were affecting the messaging from SADC to the rest of the NAFISAT region.

2.7.4 The challenges experienced with loss of flight plans as well as incorrect message priorities reported to our FRC have now normalised and the training of operators seem to have been beneficial.

2.7.5 AMHS service implementation and AFTN status is currently as per below;

	NAFISAT SITE	AFTN	AMHS	Remarks
1	Djibouti	AFTN		
2	Cairo		AMHS	
3	Asmara	AFTN		
4	Addis-Ababa		AMHS	
5	Nairobi		AMHS	
6	Entebbe MMC			No Services
7	Mogadishu		AMHS	
8	Victoria	IP AFTN		IP AFTN
9	Tripolli	AFTN		
10	Jeddah		AMHS	
11	Khartoum	AFTN	AMHS	VPN (Serial AFTN - to Cairo) since war
12	Entebbe		AMHS	
13	Sanaa	AFTN		VPN (Serial AFTN to Jeddah)
14	Juba	IP AFTN		IP AFTN to JHB (Not live yet)

NAFISAT	Site Name	Site Name	Test/Config	Operational
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IP AFTN	Juba	JHB	Done	Yes
IP AFTN	Victoria	JHB	Done	Yes
IP AFTN	Victoria	Nairobi	Done	Yes
AMHS	Jeddah	Cairo	Done	Yes
AMHS	Jeddah	Khartoum	Done	No
AMHS	Nairobi	JHB	Done	Yes
AMHS	Nairobi	Entebbe	Done	Yes
AMHS	Nairobi	Plaicance	Done	Yes
AMHS	Nairobi	Addis	Done	Yes

AMHS	Nairobi	Mogadishu	Done	Yes
AMHS	JHB	Mogadishu	Done	Yes
AMHS	Cairo	Khartoum	Done	No
AMHS	Cairo	Johannesburg	Done	Yes
AMHS	Addis	Khartoum	Done	No
AMHS	Cairo	Entebbe	Done	Yes
AMHS	Entebbe	Kigali	Busy Config	No
ASECNA	Site Name	Site Name	Test/Config	Operational

AMHS	Nairobi	Brazaville	Done	Yes
AMHS	Luanda	Brazaville	Done	Yes

3 Performance of the Network

3.1 Data from April 2025 to March 2026 and is presented to the meeting for information.

3.2 Network achieved availability

NETWORK AVAILABILITY											
Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
100	100	100	99.98	99.98	99.95	99.89	99.93	100	100	100	100

Average =99.98%

3.3 Network operational availability

NETWORK AVAILABILITY											
Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
91.67	91.67	91.67	91.64	91.64	91.62	91.56	83.26	83.33	83.33	83.33	91.67

Average =88,87%

3.4 MMC AVAILABILITY

MMC AVAILABILITY											
Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
100	100	100	100	100	99.86	100	100	100	99.97	100	100

Average =99.99 %

3.5 AFTN circuit availability

AFTN CIRCUIT AVAILABILITY											
Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
64.28	64.28	64.28	64.27	64.27	64.21	64.24	64.23	64.26	64.29	64.28	64.27

Average = 64.26%

3.6 ATS/DS circuit availability

ATS/DS CIRCUIT AVAILABILITY											
Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
89.18	89.19	89.18	89.15	89.15	89.12	89.15	89.10	89.18	89.18	89.18	89.19

Average =89,16%

3.7 AMHS circuit availability - network services

AMHS CIRCUIT AVAILABILITY											
Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
58.06	58.06	58.06	58.05	58.06	58.04	58.06	58	58.6	58.6	58.6	56.6

Average = 58,05%

3.8 AMHS circuit availability - implemented services

AMHS CIRCUIT AVAILABILITY											
Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
99.99	100	100	99.98	100	99.95	100	99.89	100	99.99	100	100

Average = 99,98%

3.9 Data collected on Services

Number of voice calls recorded since April 2025 to March 2026 = 214 112

Number of Bytes transmitted since April 2025 to March 2026 = 434,273,696

3.10 Yearly comparative availabilities

Yearly Network availability

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026
Average	99,97	99,97	99,97	99,96	99,99	99,96	99,96	99,98	99,98

Average = 99,97%

Yearly AFTN availability

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026
Average	98,41	98,43	87,26	86,06	68,87	54,74	61,88	64,83	64,26

Average = 76,08%

Yearly ATS/DS availability

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026
Average	99,15	98,36	89,82	88,97	79,46	85,89	89,63	89,13	89,16

Average = 89,95%

4 Distribution of statistics

- 4.1 Distribution of network statistics is done monthly.
- 4.2 Statistics are published on the ATNS website for State Members to view. Member states receive an e-mail alert that the statistics are available on the website.
- 4.3 ATNS continues to provide the level 4 statistics as required from ICAO monthly.

5 ACTION TO BE TAKEN BY THE MEETING

- 5.1 The meeting is invited to take note of the above information. More information on specifics will be made available upon request.

- 5.2 States are requested to continue submitting the statistics recorded on the level 4 template to ATNS for the completion of the document to be sent to ICAO.
- 5.3 Relevant States are requested to assist in timeously supplying Letters of Invitation and assist with access to sites during corrective and preventative maintenance visits.
- 5.4 All States are requested to assist in resolving difficulties experienced at the respective customs for the clearing and releasing of equipment and spares
- 5.5 States are encouraged to implement AMHS services as per the ICAO block Upgrades and the network proposed design.
- 5.6 States are reminded to follow the fault reporting procedure and report all NAFISAT Network faults to the ATNS FRC on landline +27 11 928 6477 or WhatsApp +27 72 433 1531 or frcentre@atns.co.za or frcoperators@atns.co.za and to copy to the Manager Technical Support brightm@atns.co.za.