



INTERNATIONAL CIVIL AVIATION ORGANIZATION
ELEVENTH MEETING OF THE NAFISAT SUPERVISORY COMMITTEE
(NAIROBI, KENYA, 10-11 OCTOBER 2016)

Agenda item 10(a) Operation, maintenance and performance of NAFISAT Network

(Presented by ATNS)

SUMMARY	
This paper summarizes the operation, maintenance and performance of the NAFISAT Network.	
References:	Report FRC Call Records Interconnectivity between adjacent Networks Network Availability AFTN cct Availability ATS/DS cct Availability Four level report to ICAO Yearly comparative availability
Action to be taken by the Meeting is at para 6	

1 Introduction

Operation and maintenance of the Network

1.1 The ATNS Fault Reporting Center continues to provide a 24 hr service. The summary of the calls are given for the period April 2015 to March 2016.

2 Discussion

2.1 The successful maintenance of the system is achieved through the continuous training, commitment and assistance of member States. The interaction of ATNS staff and local trained Engineers had a positive and beneficial result in terms of minimizing the corrective maintenance trips as well as shortening the outage times of the systems, ensuring the SLA is met. Training on the upgraded equipment will resume in August 2016 after the course content development is concluded.

2.2 Occurrences reported to FRC:

Total: FRC = 159

NAFISAT FRC faults reported (Apr 2015 to March 2016)

	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Total
FRC	11	13	15	19	10	11	8	15	16	16	13	12	159
Corrective	9	8	10	13	4	6	5	9	8	2	7	8	99
Preventative	0	0	0	2	0	2	1	1	0	1	0	0	7
External	2	5	5	4	6	3	2	5	8	3	6	4	53

Corrective – 99
Preventative – 7
External – 53

2.3 Yearly comparative FRC reported call totals

Year	2009	2010	2011	2012	2013	2014	2015
Total	90	65	72	81	109	156	200

2.4 The following critical units have been replenished and capacity increased in the stores to mitigate long outages during the extension period of the network :

- Multiplexers
- RFT units
- IDUs

2.5 Increase in failures of the following non critical units were experienced :

- RF switches
- UPS

The UPS units will be replaced where applicable during the upgrade. All RF switches are scheduled to be replaced.

2.6 The obtaining of LOI's, VISAS and customs processes remain a risk and a separate paper will be presented for discussion. The letter to member States was delayed to include the new upgraded equipment.

Interoperability

2.7 Seamless operations, interoperability and interconnectivity between VSAT networks in the AFI Region remains crucial and ATNS remains committed to the best practices. At present co-operation between ASECNA and ATNS ensures interoperability of the networks. To provide continued connectivity with AFISNET the specification and design of the NAFISAT and SADC VSAT II network upgrade was developed to make provision for the retention of the current technical interface solution with AFISNET.

2.7 ATNS attended the latest SNMC conference held in Ghana in February 2016 and presented a working paper addressing the NAFISAT upgrade and the current interconnections. It was mentioned that ATNS is experiencing problems with some of the connections, particularly in respect of the N'Djamena, Niamey and Brazzaville circuits. ASECNA has indicated in their upgrade plans that all AFISNET Memotec equipment will be replaced by NetPerformer devices.”

	Availability
NAFISAT - SADC interconnectivity	99.99%
NAFISAT - AFISNET interconnectivity	99.65%

3 Performance of the Network

3.1 Data was collated from April 2016 to March 2017 and is presented to the meeting for information.

PRESENTATION

3.2 Network availability

NETWORK AVAILABILITY											
Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
100	99.33	99.98	99.99	100	99.98	99.98	99.97	99.98	99.99	100	99.99

Average = 99.93%

Sana'a outage between April and July 2015. Ave 97.86%

3.3 AFTN circuit availability

AFTN CIRCUIT AVAILABILITY											
Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
98.57	81.14	96.26	97.77	98.84	99.97	99.99	99.64	99.45	99.91	99.89	99.99

Average = 97.62%

3.4 ATS/DS circuit availability

ATS/DS CIRCUIT AVAILABILITY											
Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
95.00	85.83	86.41	91.68	100	99.96	99.98	99.93	99.96	99.99	100	99.94

Average = 96.56%

3.5 Yearly comparative availabilities

Yearly Network availability

Year	2009	2010	2011	2012	2013	2014	2015	2016
Average	99.74	99.96	99.98	99.88	99.84	99.97	99.97	99.93

Yearly AFTN availability

Year	2009	2010	2011	2012	2013	2014	2015	2016
Average	97.80	99.48	99.33	99.86	99.69	96.58	97.41	97.62

Yearly ATS/DS availability

Year	2009	2010	2011	2012	2013	2014	2015	2016
Average	98.41	99.94	99.96	99.83	99.75	97.37	97.68	96.56

4 Four level reporting structure as proposed by ICAO

4.1 ATNS provides the level 4 statistics as required from ICAO on a monthly basis. This is a comprehensive document where space segment, IDU, ODU and end user equipment statistics are collected. Below is an extract of this document:

ES/NO Level	
Addis-Ababa	10
Asmara	10.9
Cairo	11.6
Djibouti	8.3
Entebbe	10.5
Jeddah	10.3
Khartoum	12
MMC	12.9
Mogadishu	11.2
Nairobi	10.9
Sana'a	11.3
Tripoli	12.6
Victoria	10.6

TX Level dBm	
Addis-Ababa	36
Asmara	35
Cairo	39
Djibouti	35
Entebbe	36
Jeddah	35
Khartoum	39
MMC	34
Mogadishu	34
Nairobi	35
Sana'a	36
Tripoli	35
Victoria	34

4.2 Level four stats templates for ATIS/DS and AFTN services were distributed to all NAFISAT States. ATNS would like to express gratitude to the States that are submitting those stats on a regular basis. Unfortunately feedback with regards to end user outages remains a challenge.

4.3 Currently the statistics for NAFISAT are recorded and extracted on the ATNS MMS against the four levels and level 4 stats submissions from States are captured and included in the report.

5 Distribution of statistics

5.1 Distribution of statistics is done on a monthly basis.

5.2 Statistics are published on the ATNS website (<http://www.atns.co.za/vsat-ivsatt>) monthly for State Members to view. Member states receive an e-mail alert that the statistics are available on the website.

6 Action to be taken by the Meeting

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

6.2 States are requested to submit the statistics recorded on the template to ATNS for the completion of the document to be sent to ICAO.

6.3 States are requested to assist in resolving difficulties experienced at the respective customs for the clearing and releasing of equipment and spares.

6.4 States are urged to report all NAFISAT network faults to the ATNS FRC on +27 11 928 6477 or frc@atns.co.za and to copy to the Manager ruip@atns.co.za.

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