International Civil Aviation Organization **CNS/SG/4 - IP/06**
Western and Central African Office

Fourth Meeting of the APIRG Communications, Navigation and Surveillance Sub-group (CNS/SG/4)

(Dakar, Senegal, 25 – 29 July 2011)

Agenda Item 4: Aeronautical Fixed Service (AFS)

Performance of AFTN circuits in WACAF area

(Presented by the secretariat)

SUMMARY
The purpose of this paper is to review the performances of AFTN in WACAF region.
Action by the meeting is at paragraph 3.
References : Reports on AFI RAN/6 &7 Meetings; Reports on APIRG/17 Meeting *Note: References can be downloaded from www.icao.int/wacaf.* The information contained in this paper comes primarily from inputs from some WACAF States/Organizations (***ASECNA; GCAA –Ghana; NAMA-Nigeria; Roberts FIR; GCAA-The Gambia, DRC and Morocco***).
Related ICAO Strategic Objective **A**: ***Safety*** and C: ***Environmental Protection and Sustainable*** Development of Air Transport.

1. Introduction

1.1 The AFI RAN/6 meeting recommended that States operating AFTN arrange for the monthly recording of circuits performance charts and for the exchange of completed forms between the stations concerned with copy to relevant ICAO Regional Office. The AFI/7 RAN meeting endorsed this recommendation. APIRG/16 under its Decision 16/12 tasked ICAO Regional Offices in Dakar and Nairobi to coordinate the conduct of regional surveys on AFS performance in order to ascertain that AFTN and ATS/DS continue to meet agreed performance requirements.

1.2 This task was achieved through regular states letters from regional Offices reminding Administrations and Organizations to implement this Decision. .

2. Discussion

2.1 **Status of implementation of AFTN circuits in AFI WACAF sub region**

2.1.1Since the last CNS/SG and , APIRG meetings, WACAF States /Organizations have been implementing the pending AFI rationalized AFS-AFTN circuits by interconnecting sub satellite based regional networks (AFISNET, CAFSAT, NAFISAT and SADC2).
The remaining AFI planned AFTN circuits have been newly realized through satellite based technology to comply with the regional Plan.

2.1.2 Moreover in the aim to satisfying ATM new requirements involving new organization of airspace, bilateral circuits have been realized and were submitted to last APIRG meeting for consideration by the AFI Com chart
So the rationalized AFI Plan achievement is now about to be completed as shown in Appendix A.

2.2 Performances of AFTN

2.2.1 The performance of AFTN within WACAF does not comply everywhere with ICAO Annex X Vol 2 requirements.
The availability charts of the AFTN main circuits are hereto attached in **Appendix A for year 2009 and Appendix B for year 2010**. When reviewing the performance of the circuits supported by the main AFI centers, one can note important improvement for the performance of the Niamey AFTN main center from year 2009 to 2010.
In the other hand, the Performance of Dakar main center has decreased from year 2019 to year 2010 while the performance of Brazzaville main center is facing a weak availability rate under the recommended value of 97% (AFI/7, Rec. 9/3).
It is advisable that the result of correctives action undertaken by States /Organizations since then be available in order to update these performances statistics.

2.2.2 The new flight plan format, the requirements of RVSM space management and the automation of flight data processing including flight plan, the automation of AIS including NOTAM messages, the implementation of ATN components, recommend that States/Organizations continue their efforts to increase AFS AFTN performance in particular for those current failing circuits.

2.2.3 Due to the difficulties faced by the Regional Offices to collect the AFTN statistics from States APIRG/17 meeting under its Conclusion 17/14 and 17/15 called for the establishment of a regional Data Base for the collection of AFTN statistics data and the automation of their analysis. These conclusions 17/15 read as follows:

CONCLUSION 17/14: AFTN MONTHLY STATISTICAL DATA

That, States which have not done so, follow up on and implement **Recommendation 9/4 of AFI/7 (*Performance of AFTN Circuits*)** and **Decision 16/12 of APIRG/16 (*Follow up of the performances of the aeronautical fixed service*)** by forwarding to the Regional Offices the AFTN Monthly Statistics (missing flight plans status, transit time statistics).

CONCLUSION 17/15: DEVELOPMENT OF AN AFTN DATABASE

That:
a) States provide AFTN centers with statistics software for the automation of AFTN data collection; and
b) ICAO develops a secured data base to facilitate web-based electronic compilation of AFTN statistical data collection and monitoring.

2.2.4 The implementation of AMHS will require the automation of AFS data collection and monitoring.
For the transition period it should be advisable to automate the collection of AFTN statistics data through AFI AFS circuits. These data will feed the AFTN/AMHS gateway.

3. Action by the meeting:

3.1 The meeting is invited to:

a) Take note of the above information

b) Urge States/Organization to:

1. Ensure that AFTN performance meets the operational availability rate of 97% as stated by recommendation 9./3 of AFI/RAN /7 meeting.

2. Implement APIRG 17 Conclusion 17/14and 17/15, calling for the automation of the collection and analysis of AFTN statistics data automation in the framework of ATSMH implementation in AFI region and meanwhile;

3. Continue to forward to IXCAO regional Office the monthly AFTN statistics data

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APPEDIX A

Status of AFTN Circuits implementation in WACAF area

StateName	*Requirements*	*Facilities or Services*	*Description of Deficiency*	*Date first reported*	*Comments on Deficiency*	*Description of Corrective action*	*Executing Body*	*Target date for implementation*	*Priority*
Algeria									
	AFTN Plan, AFI Rec. 9/7	Algiers AFTN Centre	Main circuit Algiers/Niamey	1998	Unreliable	Implemented	Algeria, ASECNA		U
Congo									
	AFTN Plan, AFI Rec. 9/7	Brazzaville AFTN centre	Circuit Brazzaville/Luanda	1998	Not implemented	Implemented	ASECNA, Angola		A
	AFTN Plan, AFI Rec. 9/7	Brazzaville AFTN centre	Main circuit Brazzaville/Johannesburg	1998	All traffic to/from Southern Africa is hindered	Implemented	ASECNA, South Africa		U
	AFTN Plan, AFI Rec. 9/7	Brazzaville AFTN centre	Main circuit Brazzaville/Nairobi	1998	VSAT circuit and 50-baud leased circuit being discussed.	Implemented	ASECNA, Kenya		U
	AFTN Plan, AFI Rec. 9/7	Brazzaville AFTN centre	Circuit Brazzaville/Sao Tome	1998	VSAT planned	Implemented	ASECNA, Sao Tome & Principe		U
Equatorial Guinea									
	AFTN Plan, AFI Rec. 9/7	Malabo AFTN centre	Circuit Malabo/Bata	2001	Bata has no AFTN connection	Implemented	ASECNA	2003	U
Madagascar									

StateName	*Requirements*	*Facilities or Services*	*Description of Deficiency*	*Date first reported*	*Comments on Deficiency*	*Description of Corrective action*	*Executing Body*	*Target date for implementation*	*Priority*
	AFTN Plan, AFI Rec. 9/7	**Antananarivo AFTN centre**	**Circuit Antananarivo/Dzaoudzi**	**1996**	**Not implemented**	**Implemented**	**ASECNA, Comoros**		**A**
	AFTN Plan, AFI Rec. 9/7	**Antananarivo AFTN centre**	**Circuit Antananarivo/Johannesburg**	**2002**	**Not implemented**	**Implemented**	**ASECNA, South Africa**		**U**
Niger									
	AFTN Plan, AFI Rec. 9/7	**Niamey AFTN centre**	**Main circuit Niamey/Algiers**	**1998**	**Unreliable**	**Implemented**	**ASECNA, Algeria**	**2002**	**U**
Sao Tome & Principe									
	AFTN Plan, AFI Rec. 9/7	**Sao Tome AFTN centre**	**Circuit Sao Tome/Brazzaville**	**1998**	**VSAT planned**	**Implemented**	**Sao Tome & Principe, ASECNA**		**U**
Senegal									
	AFTN Plan, AFI Rec. 9/7	**Dakar AFTN centre**	**Circuit Dakar/Bissau**	**1998**	**Not implemented**	**Implemented**	**ASECNA, Guinea Bissau**		**U**
South Africa									
	AFTN Plan, AFI Rec. 9/7	**Johannesburg AFTN centre**	**Main circuit Johannesburg/Brazzaville**	**1998**	**All traffic to/from Southern Africa is hindered**	**Implemented**	**South Africa, ASECNA**		**U**
	AFTN Plan, AFI Rec. 9/7	**Johannesburg AFTN centre**	**Circuit Johannesburg/Antananarivo**	**2002**	**Not implemented**	**Implemented**	**South Africa, ASECNA**		**U**

AFTN Performance for year 2009 **APPENDIX B1**

AFTN Circuits Availability for year 2009

Brazzaville AFTN Main Center

Liaison	Implementation Date	Support	Speed	Jan.	Feb.	Mar.	Apr.	Mai	Jun.	Juil.	Aout	Sept.	Oct.	Nov.	Déc.	Min	Max	Aver.
DAKAR	96	AFISNET		98	99	99	99	96	99	98	97	94	100	Data not available	Data not available	94	100	98
NIAMEY	94	AFISNET		95	99	98	99	98	98	50	100	98	98			50	100	93
NDJAMENA	27/03/95	AFISNET		98	97	99	97	91	95	52	98	99	96			52	99	92
LIBREVILLE	194	AFISNET		83	99	100	96	99	65	100	99	88	100			65	100	93
DOUALA	24 /02/95	AFISNET		97	94	100	98	98	100	99	99	100	98			94	100	98
BANGUI	06/95	AFISNET		93	97	99	95	89	97	95	100	99	83			83	100	95
MALABO		AFISNET		100	96	89	95	98	96	83	95	100	97			83	100	95
JOBURG	11/02	AFISNET		99	100	100	100	99	100	94	89	100	98			89	100	98
KANO	10/94	AFISNET		0	0	3	0	0	0	0	0	0	0			-	3	0
ACCRA	94	AFISNET		22	91	77	80	98	0	97	94	100	0			-	100	66
PTE NOIRE	98	AFISNET		99	97	99	99	100	100	81	99	76	99			76	100	95
SAO TOME	08	AFISNET		100	98	92	99	100	100	87	100	98	93			87	100	97
ANTANANARIVO	09	AFISNET		100	99	97	100	100	23	74	100	100	40			23	100	83
KINSHASA	01/88	FH		73	100	100	99	89	100	71	12	7	0			-	100	65
NAIROBI	09	AFISNET/NA FISAT		100	100	91	96	100		100	100	100	100			91	100	98
LUANDA	09	AFISNET/NA FISAT		100	100	50	0	0	0	0	0	0	0			-	100	25

AFTN Circuits Availability for year 2009 **APPENDIX B1**

Dakar AFTN Main Center

Link	Implementation date	Support	Speed	Jan	Féb	Mar	Aprl	Mai	Jun.	Jui.	Aug	Sept	Oct	Nov	Dec	Min	Max	Aver.
CASA		CAFSAT		100	100	100	100	100	100	100	100	100	100		100	100	100	100
BAMAKO	20/07 89	AFISNET		95	89	96	99	99	99	99	96	97	96		99	89	99	97
BANJUL	07 /84	LS		100	98	97	98	99	100	100	100	100	98		98	97	100	99
LAS-PALMAS	01	CAFSAT		100	100	99	100	100	77	98	100	90	100		100	77	100	97
BISSAU	06	CAFSAT		98	99	96	100	98	100	96	70	99	100		100	70	100	96
NKTT	98	AFISNET		96	99	100	99	98	94	99	95	95	98		100	94	100	97
SAL		CAFSAT		100	100	100	100	100	100	99	100	100	100		100	99	100	100
ROBERTS	14 /11/98	AFISNET		99	97	96	98	100	99	100	100	98	100		96	96	100	99
ABIDJAN	97	AFISNET		93	98	100	99	99	100	100	99	97	98		98	93	100	98
NIAMEY	97	AFISNET		98	99	98	98	100	97	99	99	99	98		99	97	100	98
JOBURG	17 /08/99	SADC2/AFISNET		99	100	100	100	100	98	99	73	99	100		100	73	100	97
BRAZZA	97	AFISNET		96	97	98	98	95	98	99	96	91	98		98	91	99	97
RIO	01	CAFSAT		100	100	100	100	100	100	100	96	98	100		100	96	100	99
TANA	97	AFISNET		99	100	100	100	100	100	97	98	99	98		100	97	100	99
LIBREVILLE	97	AFISNET		98	100	99	100	100	58	96	99	100	100		100	58	100	95

AFTN Circuits Availability for year 2009 **APPENDIX B1**

Niamey AFTN Main Center

Link	Implementation date	Support	Speed	Jan.	Féb.	Mar.	Apr.	Mai	Jun.	Jui.	Aug.	Sept.	Oct.	Nov.	Dec.	Min	Max	Aver.
ABIDJAN	96	AFISNET		98	100	99	98	100	97	99	100	99	100	96	96	96	100	98
ACCRA	94	AFISNET		100	99	100	100	97	91	94	93	98	98	97	96	91	100	97
ADDIS	09	AFISNET /NAFISAT		100	100	100	100	93	98	100	94	97	100	91	95	91	100	97
ALGER	06	AFISNET		100	100	100	100	100	99	98	100	100	100	100	100	98	100	100
BAMAKO	97	AFISNET		79,3	46	Data not Available										46	79	62
BRAZZA	94	AFISNET		90,3	98	97	97	96	88	56	100	97	99	100	98	56	100	93
COTNOU	97	AFISNET		99	100	100	99	100	98	99	100	100	100	93	96	93	100	99
DAKAR	96	AFISNET		98	98	98	98	99	97	99	98	98	97	97	99	97	99	98
KANO	12/ 94	AFISNET		100	100	100	92	98	99	98	97	99	97	99	97	92	100	98
LOME	98	AFISNET		100	100	99	98	97	98	98	99	100	100	99	99	97	100	99
NDJAMENA	03/95	AFISNET		100	99	99	98	97	98	97	98	99	99	99	99	97	100	98
NOUAKCHOTT	08	AFISNET		100	100	99	100	100	98	99	100	99	100	100	100	98	100	100
OUAGADOUGOU	98	AFISNET		100	100	95	100	100	98	99	100	100	100	100	100	95	100	99
TRIPOLI	09	AFISNET /NAFISAT		Data not Available											100	100	100	100

AFTN Performance for year 2010 **APPENDIX B2**

Brazzaville AFTN Main Center

Liaison	Date mise en service	Support	Prot	Janv.	Fev.	Mars	Avr.	Mai	Juin	Juil.	Aout	Sept.	Oct.	Nov.	Déc.	Min	Max	Moy
DKR	1996	AFISNET	X25	98,48	97,91	75,23	95,7	96,92	100	100	99,53	85,15	92,41	84,35	71,8	71,8	100	91
NY	1994	AFISNET	X25	99,68	96,53	93,28	99,63	99,67	86,48	86,48	100	98,41	99,87	100	97,67	86,48	100	96
NDJ	27-mars-95	AFISNET	X25	99,27	99,75	75,81	0	4,01	99,22	99,22	100	98,53	99,61	100	99,78	0	100	81
LBV	1994	AFISNET	X25	99,38	90,63	73,05	38,47	99,05	98,03	98,03	88,57	97,45	98,99	97,05	98,4	38,47	99,38	90
DLA	24 Fev. 95	AFISNET	X25	100	88	100	99,78	98,12	99,37	99,37	90,56	70,94	46,65	64,91	89,88	46,65	100	87
BGG	Juin 1995	AFISNET	X25	92,71	100	92,71	0	59,41	100	100	98,16	94,01	98,12	99,9	98,22	0	100	86
MBO		AFISNET	X25	99,39	100	75,81	47,7	97,26	100	100	95,89	93,26	95,34	87,39	98,01	47,7	100	91
JOBRG	nov-02	AFISNET	V24	0	91	100	100	100	82,85	79,81	100	93,87	97,76	37	76,42	0	100	80
KNO	Oct. 1994	AFISNET	V25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ACC		AFISNET	V24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PNR		AFISNET	X25	100	100	95,98	99,44	100	96,67	96,67	100	97,29	99,71	90,56	96,72	90,56	100	98
STM		AFISNET	V24	41,17	37,93	0	66,74	99,52	76,46	76,46	100	89,83	98,41	99,41	31,43	0	100	68
ANTA		AFISNET	V24	99,09	86,15	100	100	96,71	82,85	82,85	98,72	77,34	61,83	58,54	58,95	58,54	100	84
KIN	Jan. 1988	FH		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NAIROBI		NO		100	100	100	100	100	100	100	99,26	99,61	99,87	100	97,71	97,71	100	100
LUANDA				0	0	0	0	0	0	0	0	0	0	0	0	0	0	
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AFTN Performance for year 2010 **APPENDIX B2**

Dakar AFTN Main Center

Liaison	Date mise en service	Support	Débit	Janv	Fév	Mars	Avril	Mai	Juin	Juillet	Aout	Sept	Oct	Nov	Déc	Min	Max	Moy
CASA		CAFSAT		100	100	100	99,79	98,89	99,93	100	100	99,81	100	99,92	100	98,89	100	100
BAMAKO	20 Juil. 89	AFISNET		94,42	88,62	93,32	98,97	97,57	95,22	97,18	90,41	97,32	87,86	83,47	87,86	83,47	98,97	93
BANJUL	JUIL. 1984	LS		99,42	97,99	96,48	99,55	97,39	99,93	100	96,84	80,65	94,1	95,93	94,1	80,65	100	96
LAS-PALMAS		CAFSAT		98,84	99,94	99,14	99,5	99,87	99,34	99,68	99,59	99,53	99,91	100	99,91	98,84	100	100
BISSAU		CAFSAT		99,8	99,18	98,1	99,6	99,75	98,76	100	67,53	72,74	90,27	95,71	90,27	67,53	100	93
NKTT		AFISNET		95,71	99,29	99,47	91,64	99,6	88,9	96,4	96,76	79,91	94,51	70,06	94,51	70,06	99,6	92
SAL		CAFSAT		100	100	99,92	99,63	99,87	99,93	100	100	97,77	98,25	100	98,25	97,77	100	99
CONAKRY	14 Nov.1998	AFISNET		95,21	97,39	98,06	99,47	99,42	98,48	99,56	96,19	76,01	95,83	97,41	95,83	76,01	99,56	96
ABIDJAN	1997	AFISNET		90,88	98,21	98,71	99,52	94,9	99,63	99,63	95,34	76,53	94,37	88,07	94,37	76,53	99,63	94
NIAMEY	1997	AFISNET		89,69	98,58	82,93	99,58	99,87	**96,38**	97,38	99,45	93,28	90,45	88,63	90,45	82,93	99,87	94
JOBURG	17 Août 1999	CAFSAT		90,39	100	99,39	98,04	99,87	99,93	100	100	99,81	100	100	100	90,39	100	99
BRAZZA	1997	AFISNET		97,21	96,62	71,19	98,2	96,72	98,68	99,76	99,15	83,35	92,63	93,56	92,63	71,19	99,76	93
RIO		CAFSAT		100	100	100	99,68	99,87	99,93	100	99,87	99,58	96,12	99,7	96,12	96,12	100	99
TANA	1997	AFISNET		99,56	100	98,12	99,5	99,7	98,67	99,63	99,7	24,04	63,07	25,24	63,07	24,04	100	81
LIBREVILLE	1997	AFISNET		99,51	99,71	99,71	99,2	99,87	97,88	96,8	75,6	73,45	90,63	77,47	90,63	73,45	99,87	92
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Niamey AFTN Main Center

Liaison	Date mise en service	Support	Débit	Janv.	Fev.	Mars	Avr.	Mai	Juin	Juil.	Aout	Sept.	Oct.	Nov.	Déc.	Min	Max	Moy
ABIDJAN	1997			90,39	58,57	76,93	83,9	98,03	97,97	95,86	100	99,24	96,93	98,55	100	58,57	100	91
ACCRA				98,63	97,69	99,1	97,09	91,32	94,39	95,28	98,5	99,12	97,42	96,34	98,96	91,32	99,12	97
ADDIS	2 Oct. 92	LS/PTT		97,15	92,47	81,19	89,06	93,74	89	92,33	93,86	88,38	83,29	89,07	97,84	81,19	97,84	91
ALGER		SAT		100	99,85	100	100	100	98,23	93,71	100	100	100	98,45	100	93,71	100	99
BRAZZA	1994			98,99	96,13	92,25	99,47	99,09	94,5	95,96	99,84	98,61	99,72	99,56	99,83	92,25	99,84	98
COTNOU				99,24	99,81	96,57	99,78	99,46	97,25	95,96	99,55	98,37	99,82	99,93	98,63	95,96	99,93	99
DAKAR	1997			90,43	82,78	78,67	98,4	99,38	94,43	94,95	99,89	93,52	89,15	88,16	90,86	78,67	99,89	92
KANO	Déc. 1994			90,46	93,66	73,69	99,11	98	87,78	92,5	99,17	92,71	94	73,11	78,71	73,11	99,17	89
LAGOS				100	96,22	97,88	100	100	**41,62**	95,72	100	93,5	98,84	98,6	100	41,62	100	94
LOME				98,82	99,85	98,7	98,21	99,35	96,31	96,24	98,71	94,59	95,8	98,97	99,64	94,59	99,85	98
NDJAMENA	Mars. 1995			98,22	97,47	93,77	93,34	93,99	93,23	89,78	95,31	88,03	97,4	85,1	94,33	85,1	98,22	93
NOUAKCHOTT				86,35	98,02	99,89	98,81	99,61	97,18	95	96,39	98,45	96,43	96,01	99,13	86,35	99,89	97
OUAGA				99,84	99,67	97,29	99,32	99,14	96,63	95,03	99,68	97,97	98,21	99,8	99,23	95,03	99,84	98
TRIPOLI				100	99,85	99,97	100	100	97,86	96,25	99,84	96,85	98,67	99,87	100	96,25	100	99
																		95,35