



**INTERNATIONAL CIVIL AVIATION ORGANIZATION
FOURTEENTH MEETING OF THE
AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP**

(Yaounde, 23 - 27 June 2003)

Agenda Item 5.2: Deficiencies in the CNS field

(Presented by the Secretariat)

SUMMARY

This paper discusses the latest lists of deficiencies affecting the Aeronautical Fixed Service, Aeronautical Mobile Service and Radio navigation Service in the AFI Region.

Action by the meeting is at paragraph 3.

References:

- COM/SG/6 Report
- APIRG/13 Report

1. Introduction

1.1 The COM/SG/6 Meeting made an in-depth analysis of the lists of deficiencies affecting the operation of the Aeronautical Fixed Service (AFS), the Aeronautical Mobile Service (AMS) and Aeronautical Radionavigation Service (ARNS) as updated by the Secretariat on receipt of information from States, relevant International Organisations and Reports of ICAO missions to States.

2 Discussion

2.1 Review of deficiencies in the Aeronautical Fixed Service

2.1.1 AFTN

2.1.1.1 The COM/SG/6 reviewed and updated the list of deficiencies affecting AFTN circuits in the Region. Two (2) main circuits (Algiers/Niamey and Brazzaville/Nairobi) and one (1) entry/exit circuit (Johannesburg/SAM) are not yet implemented. The circuit Mauritius/Brisbane still fulfills the requirement for an entry/exit circuit between AFI and ASIA/PAC, pending the implementation of the circuit Johannesburg/ASIA/PAC.

2.1.1.2 Of the main circuits already implemented, the following do not meet the requirement for a minimum transmission speed of 1200 bps: Addis Ababa/Niamey, Addis Ababa/Nairobi, Cairo/Nairobi, Casablanca/Dakar and Nairobi/Johannesburg. Since the majority of tributary circuits have been upgraded to 1200 bps or more, there is a negative impact on the transit time of messages in the AFTN network.

2.1.1.4 The COM/SG/6 meeting formulated Draft Conclusions regarding these main circuits and a number of AFTN tributary circuits yet to be implemented (**WP/5 refers**).

2.1.1.5 The updated list of deficiencies in the AFTN field is shown at **Appendix A** to this working paper. The following draft Conclusion was formulated:

DRAFT CONCLUSION 6/14 : ELIMINATION OF AFTN DEFICIENCIES

That, as a matter of urgency, States/Organizations mentioned in the list of AFTN deficiencies at Appendix A to this working paper should implement available technical solutions for the elimination of reported deficiencies.

2.1.2 ATS/DS

2.1.2.1 The COM/SG/6 noted that 3 States have not implemented any of 10 required ATs/DS circuits. Out of a total of 205 ATs/DS circuits required in the AFI air navigation plan (ANP), there are 54 non-implemented circuits, or 26.6% of the required circuits.

2.1.2.2 The COM/SG/6 therefore updated the list of ATs/DS deficiencies in the AFI Region as shown in **Appendix B** to this working paper. The following draft Conclusion was formulated:

DRAFT CONCLUSION 6/15 : ELIMINATION OF ATs/DS DEFICIENCIES

That, as a matter of urgency, States mentioned in the list of ATs/DS deficiencies at Appendix 4E to this part of the report should implement available solutions for the elimination of reported deficiencies.

2.3 Review of deficiencies in the Aeronautical Mobile Service

2.3.1 The COM/SG/6 reviewed the implementation and performance of the aeronautical mobile service in the AFI Region, and identified deficiencies still to be resolved in this field. The updated list of AMS deficiencies is shown at **Appendix C** to this working paper. The following draft Conclusion was formulated:

DRAFT CONCLUSION 6/17 : ELIMINATION OF AMS DEFICIENCIES

That, as a matter of urgency, States mentioned in the list of AMS deficiencies at Appendix C to this part of the report should implement available solutions for the elimination of reported deficiencies.

2.4 Aeronautical Radionavigation Service

2.4.1 The COM/SG/6 noted that 37 radio navigation facilities required in the AFI air navigation plan are still to be implemented - most of them being intended for en-route operations. It also pointed out situations where unimplemented or unserviceable ARNS facilities tend to be reported in the list of deficiencies on a nearly permanent basis.

2.4.2 The following draft Conclusion was formulated accordingly:

Draft Conclusion 6/19: Elimination of ARNS deficiencies

That, as a matter of urgency:

- a) **States mentioned in the list of deficiencies in aeronautical radio navigation service (ARNS) at Appendix D to this working paper should implement available solutions for the elimination of reported deficiencies; and**
- b) **The Secretariat examine with States concerned cases where radio navigation aids required in the AFI ANP have not yet been implemented and tend to permanently be reported in the list of deficiencies.**

2.5 Progress in alleviation of deficiencies.

2.5.1 The following table gives an idea of the progress achieved in eliminating deficiencies in the CNS field since APIRG/11 (1998).

	Number of Deficiencies			
APIRG Meetings	AFTN	ATS/DS	AMS	ARNS
APIRG/11 (1998)	31	59	19	75
APIRG/12 (1999)	20	45	14	64
APIRG/13 (2001)	14	53	14	60
APIRG/14 (2003)	11	50	9	42

2.5.2 It shows that, though tangible efforts have been made by States since APIRG/13, there is still a lot to be done in the alleviation of CNS deficiencies in the AFI Region.

3. Action by the Meeting

3.1 The APIRG/14 Meeting is invited to:

- a) take note of the information contained in this working paper; and
- b) adopt the Draft Conclusions 6/14, 6/15, 6/17 and 6/19 reiterating APIRG Conclusions related to the elimination of CNS deficiencies.

List of AFTN Deficiencies

<i>StateName</i>	<i>Requirements</i>	<i>Facilities or Services</i>	<i>Description of Deficiency</i>	<i>Date first reported</i>	<i>Comments on Deficiency</i>	<i>Description of Corrective action</i>	<i>Executing Body</i>	<i>Target date for implement</i>	<i>Priority</i>
<i>Algeria</i>									
	AFTN Plan, AFI Rec. 9/7	Algiers AFTN Centre	Main circuit Algiers/Niamey	1998	Unreliable	VSAT being implemented	Algeria, ASECNA	2002	U
<i>Angola</i>									
	AFTN Plan, AFI Rec. 9/7	Luanda AFTN centre	Circuit Luanda/Brazzaville	1998	Not implemented	To implement VSAT	Angola, ASECNA		U
<i>Burundi</i>									
	AFTN Plan, AFI Rec. 9/7	Bujumbura AFTN Centre	Circuit Bujumbura/Johannesburg	2002	Not implemented	VSAT being implemented	Burundi, South	2003	U
<i>Congo</i>									
	AFTN Plan, AFI Rec. 9/7	Brazzaville AFTN centre	Circuit Brazzaville/Luanda	1998	Not implemented	To implement VSAT	ASECNA, Angola		A
	AFTN Plan, AFI Rec. 9/7	Brazzaville AFTN centre	Main circuit Brazzaville/Nairobi	1998	Not implemented	Implementation through public data networks in discussion	ASECNA, Kenya		U
	AFTN Plan, AFI Rec. 9/7	Brazzaville AFTN centre	Circuit Brazzaville/Sao Tome	1998	Not implemented	VSAT to be installed at Sao Tome by Ghana CAA	ASECNA, Sao Tome & Principe, Ghana	2003	U
<i>Equatorial Guinea</i>									
	AFTN Plan, AFI Rec. 9/7	Malabo AFTN centre	Circuit Malabo/Bata	2001	Bata has no AFTN connection	VSAT planned	ASECNA	2003	U
<i>Eritrea</i>									
	AFTN Plan, AFI Rec. 9/7	Asmara AFTN centre	Circuit Asmara/Addis Ababa	1998	The circuit has been disconnected	To be restored	Eritrea, Ethiopia		U

<i>StateName</i>	<i>Requirements</i>	<i>Facilities or Services</i>	<i>Description of Deficiency</i>	<i>Date first reported</i>	<i>Comments on Deficiency</i>	<i>Description of Corrective action</i>	<i>Executing Body</i>	<i>Target date for implement</i>	<i>Priority</i>
<i>Ethiopia</i>									
	AFTN Plan, AFI Rec. 9/7	Addis Ababa AFTN centre	Circuit Addis Ababa/Asmara	1998	This circuit has been disconnected	To be restored	Ethiopia, Eritrea		U
	AFTN Plan, AFI Rec. 9/7	Addis Ababa AFTN centre	Circuit Addis Ababa/Khartoum	1996	Not implemented	VSAT NAFISAT in project	Ethiopia, Sudan		A
<i>Guinea Bissau</i>									
	AFTN Plan, AFI Rec. 9/7	Bissau AFTN centre	Circuit Bissau/Dakar	1998	Not implemented	VSAT planned	ASECNA, Guinea Bissau		U
<i>Kenya</i>									
	AFTN Plan, AFI Rec. 9/7	Nairobi AFTN centre	Main circuit Nairobi/Brazzaville	1998	Not implemented	Implementation through public data networks in discussion	Kenya, ASECNA		U
<i>Niger</i>									
	AFTN Plan, AFI Rec. 9/7	Niamey AFTN centre	Main circuit Niamey/Algiers	1998	Unreliable	VSAT being implemented	ASECNA, Algeria	2002	U
<i>Rwanda</i>									
	AFTN Plan, AFI Rec. 9/7	Kigali AFTN centre	Circuit Kigali/Johannesburg	2002	Not implemented	VSAT being considered	Rwanda, South	June 2003	U
<i>Sao Tome & Principe</i>									
	AFTN Plan, AFI Rec. 9/7	Sao Tome AFTN centre	Circuit Sao Tome/Brazzaville	1998	Not implemented	VSAT to be installed at Sao Tome by Ghana CAA	Sao Tome & Principe, ASECNA, Ghana	2003	U
<i>Senegal</i>									
	AFTN Plan, AFI Rec. 9/7	Dakar AFTN centre	Circuit Dakar/Bissau	1998	Not implemented	VSAT planned	ASECNA, Guinea Bissau		U

<i>StateName</i>	<i>Requirements</i>	<i>Facilities or Services</i>	<i>Description of Deficiency</i>	<i>Date first reported</i>	<i>Comments on Deficiency</i>	<i>Description of Corrective action</i>	<i>Executing Body</i>	<i>Target date for implement</i>	<i>Priority</i>
<i>South Africa</i>									
	AFTN Plan, AFI Rec. 9/7	Johannesburg AFTN centre	Inter-regional circuit Johannesburg/SAM (Buenos Aires)	1996	Not implemented	CAFSAT VSAT being implemented in Johannesburg	South Africa, Argentina	2003	U
	AFTN Plan, AFI Rec. 9/7	Johannesburg AFTN centre	Inter-regional circuit Johannesburg/ASIA/PAC (Australia)	2002	Not implemented	Awaiting designation of entry/exit point in ASIA/PAC	South Africa, Australia		U
	AFTN Plan, AFI Rec. 9/7	Johannesburg AFTN centre	Circuit Johannesburg/Bujumbura	2002	Not implemented	VSAT being implemented	South Africa,	2003	U
	AFTN Plan, AFI Rec. 9/7	Johannesburg AFTN centre	Circuit Johannesburg/Kigali	2002	Not implemented	VSAT being considered.	South Africa,		U
<i>Sudan</i>									
	AFTN Plan, AFI Rec. 9/7	Khartoum AFTN centre	Circuit Khartoum/Addis Ababa	1996	Not implemented	VSAT NAFISAT in project	Ethiopia, Sudan		A

List of ATS/DS Deficiencies

<i>StateName</i>	<i>Requirements</i>	<i>Facilities or Services</i>	<i>Description of Deficiency</i>	<i>Date first reported</i>	<i>Comments on Deficiency</i>	<i>Description of Corrective action</i>	<i>Executing Body</i>	<i>Target date for implement</i>	<i>Priority</i>
<i>Algeria</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Algiers ACC-FIC	Circuit Algiers/Dakar	1998	PSTN in use	VSAT being implemented	Algeria, ASECNA	2002	A
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Algiers ACC-FIC	Circuit	1998	To be improved	VSAT being implemented	Algeria, ASECNA	2002	U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Algiers ACC-FIC	Circuit Algiers/Tripoli			Implement LTF circuit	Algeria, Libya		U
<i>Angola</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Luanda FIC	Circuit Luanda/Accra	1998	Inmarsat phone used from Luanda. Inmarsat Phone also available in Accra	VSAT under consideration	Angola, Ghana		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Luanda FIC	Circuit Luanda/Atlantico	1998	Not implemented	Implement circuit	Angola, Brazil		A
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Luanda FIC	Circuit Luanda/Brazzaville	1998	PSTN used via Inmarsat	To implement LTF circuit	Angola, ASECNA		A
<i>Botswana</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Francistown TWR	Circuit Francistown/Bulawayo	2002	Proposal for deletion with States		Botswana,		A
<i>Burkina Faso</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bobo Dioulasso	Circuit Bobo Dioulasso/Accra	1998	PSTN in use	VSAT planned by ASECNA	ASECNA, Ghana	2002	A
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Ouagadougou APP	Circuit Ouagadougou/Accra	1998	PSTN in use	To implement LTF circuit using existing VSATs in Accra and Ougadougou. Digitalization of VSAT in progress at Accra.	ASECNA, Ghana	2003	A

<i>Burundi</i>	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Ouagadougou APP	Circuit Ouagadougou/Niamtougou	2002	Not implemented	VSAT planned by Ghana CAA at Niamtougou	ASECNA, Togo, Ghana		B
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bujumbura APP	Circuit Bujumbura/Dar es Salaam	1998	Not implemented	VSAT being implemented at Bujumbura	Burundi, Tanzania	2003	U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bujumbura APP	Circuit Bujumbura/Goma	1998	Not implemented		Burundi, DR Congo		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bujumbura APP	Circuit Bujumbura/Kigali	2002	Not implemented	VSAT under consideration	Burundi, Rwanda		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bujumbura APP	Circuit Bujumbura/Kinshasa	1998	Not implemented	VSAT being implemented at Bujumbura	Burundi, DR Congo	2003	U
<i>Cameroon</i>	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Douala APP	Circuit Douala/Bata	1998	Not implemented	VSAT planned at Bata	ASECNA		A
<i>Central African Republic</i>	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bangui APP	Circuit Bangui/Gbadolite	1998	Not implemented	Could be implemented via Brazzaville if a circuit Kinshasa/Gbadolite	ASECNA, DR Congo		A
<i>Chad</i>	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	N'Djamena APP/FIC	Circuit N'Djamena/Khartoum	1998	Not implemented	PSTN proposed by ASECNA.	ASECNA, Sudan		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	N'Djamena APP/FIC	Circuit N'Djamena/Tripoli	1998	Not implemented	PSTN and Satphone proposed by ASECNA	ASECNA, Libya		U
<i>Congo</i>	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Brazzaville APP/FIC	Circuit Brazzaville/Khartoum	1998	Not implemented	VSAT AFISNET proposed by ASECNA	ASECNA, Sudan		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Brazzaville APP/FIC	Circuit Brazzaville/Luanda	1998	PSTN used via Inmarsat phone	To implement LTF circuit	Angola, ASECNA		U

<i>StateName</i>	<i>Requirements</i>	<i>Facilities or Services</i>	<i>Description of Deficiency</i>	<i>Date first reported</i>	<i>Comments on Deficiency</i>	<i>Description of Corrective action</i>	<i>Executing Body</i>	<i>Target date for implement</i>	<i>Priority</i>
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Brazzaville APP/FIC	Circuit Brazzaville/Sao Tome	1998	Not implemented	VSAT to be installed by Ghana CAA at Sao Tome	ASECNA, Sao Tome & Principe, Ghana	2003	U
<i>Dem. Rep. of Congo</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bukavu TWR	Circuit Bukavu/Kigali	1996	Not implemented		DR Congo, Rwanda		A
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Gbadolite TWR	Circuit Gbadolite/Bangui	2002	Not implemented	Could be implemented via Brazzaville if a circuit Kinshasa/Gbadolite	DR Congo, ASECNA		A
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Goma APP	Circuit Goma/Bujumbura	1998	Not implemented		DR Congo, Burundi		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Goma APP	Circuit Goma/Kigali	1998	Not implemented		DR Congo, Rwanda		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Kinshasa FIC	Circuit Kinshasa/Bujumbura	2002	Not implemented	VSAT being implemented in Bujumbura	DR Congo, Burundi	2003	A
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Kinshasa FIC	Circuit Kinshasa/Entebbe	1996	Not implemented	VSAT NAFISAT in project	DR Congo, Uganda		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Kinshasa FIC	Circuit Kinshasa/Khartoum	1996	Inmarsat phone available at Kinshasa	VSAT NAFISAT in project	DR Congo, Sudan		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Kinshasa FIC	Circuit Kinshasa/Kigali	1996	Not implemented	VSAT SADC operational in Kinshasa, also in project in Rwanda	DR Congo, Rwanda		U
<i>Djibouti</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Djibouti APP	Circuit Djibouti/Hargeisa	1996	Not implemented	To implement LTF circuit	Djibouti, Somalia		B
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Djibouti APP	Circuit Djibouti/Dire Dawa	1996	Not implemented	To implement LTF circuit	Djibouti, Ethiopia		A

<i>StateName</i>	<i>Requirements</i>	<i>Facilities or Services</i>	<i>Description of Deficiency</i>	<i>Date first reported</i>	<i>Comments on Deficiency</i>	<i>Description of Corrective action</i>	<i>Executing Body</i>	<i>Target date for implement</i>	<i>Priority</i>
<i>Egypt</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Cairo ACC	Circuit Cairo/Khartoum	1996	Not implemented	LTF circuit via PTTs proposed by Egypt until VSAT NAFISAT implemented.	Egypt, Sudan		U
<i>Equatorial Guinea</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bata & Malabo APP	Circuit Bata/Malabo	2002	Not implemented	VSAT planned	ASECNA		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bata APP	Circuit Bata/Douala	1996	Not implemented	VSAT planned	ASECNA		A
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bata APP	Circuit Bata/Libreville	1996	Not implemented	VSAT planned	ASECNA		U
<i>Eritrea</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Asmara ACC	Circuit Asmara/AddisAbaba	1998	This circuit has been disconnected	To be restored	Eritrea, Ethiopia		U
<i>Ethiopia</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Addis Ababa ACC/FIC	Circuit Addis Ababa/Asmara	1998	This circuit has been disconnected	To be restored	Ethiopia, Eritrea		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Dire Dawa TWR	Circuit Dire Dawa/Djibouti	1996	Not implemented	Implement LTF circuit	Ethiopia, Djibouti		U
<i>Gabon</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Libreville ACC	Circuit Libreville/Bata	1996	Not implemented	VSAT planned at Bata	ASECNA		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Libreville ACC	Circuit Libreville/Sao Tome	1996	Not implemented	VSAT to be installed by Ghana CAA at Sao Tome	ASECNA, Sao Tome & Principe, Ghana	2003	U
<i>Gambia</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Banjul APP	Circuit Banjul/Bissau	1996	Not implemented	VSAT being considered	Gambia/Guinea Bissau		U

<i>StateName</i>	<i>Requirements</i>	<i>Facilities or Services</i>	<i>Description of Deficiency</i>	<i>Date first reported</i>	<i>Comments on Deficiency</i>	<i>Description of Corrective action</i>	<i>Executing Body</i>	<i>Target date for implement</i>	<i>Priority</i>
<i>Ghana</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Accra APP/FIC	Circuit Accra/Bobo Dioulasso	1998	PSTN in use	VSAT planned at Bobo Dioulasso	Ghana, ASECNA		A
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Accra APP/FIC	Circuit Accra/Lome	2002		VSAT planned	Ghana, ASECNA	2003	U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Accra APP/FIC	Circuit Accra/Luanda	1998	Inmarsat phone used from Luanda. Inmarsat also available in Accra	VSAT under consideration	Ghana, Angola		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Accra APP/FIC	Circuit Accra/Niamtougou	2002	Not implemented	VSAT planned at Niamtougou by Ghana CAA	Ghana, Togo		B
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Accra APP/FIC	Circuit Accra/Ougadougou	1998	PSTN in use	Implement LTF circuit using existing VSATs in Accra and Ouagadougou	Ghana, ASECNA	2003	A
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Accra APP/FIC	Circuit Accra/Sao Tome	1996	Not implemented	VSAT planned at Sao Tome by Ghana CAA	Ghana, Sao Tome & Principe	2003	U
<i>Guinea</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Conakry APP	Circuit Conakry/Bissau	1996	Not implemented	Implement LTF circuit	Guinea, Guinea Bissau		U
<i>Guinea Bissau</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bissau APP	Circuit Bissau/Banjul	1996	Not implemented	VSAT being considered	Gambia, Guinea Bissau		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bissau APP	Circuit Bissau/Conakry	1996	Not implemented	Implement LTF circuit	Guinea, Guinea Bissau		U

<i>StateName</i>	<i>Requirements</i>	<i>Facilities or Services</i>	<i>Description of Deficiency</i>	<i>Date first reported</i>	<i>Comments on Deficiency</i>	<i>Description of Corrective action</i>	<i>Executing Body</i>	<i>Target date for implement</i>	<i>Priority</i>
<i>Kenya</i>	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bissau APP	Circuit Bissau/Dakar	1996	Not implemented	VSAT being considered	ASECNA, Guinea Bissau		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Mombasa APP	Circuit Mombasa/Dar es Salaam	1996	Unreliable	Improve the circuit	Kenya, Tanzania		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Mombasa APP	Circuit Mombasa/Kilimanjaro	1996	Not implemented	Implement LTF circuit	Kenya, Tanzania		U
<i>Libya</i>	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Tripoli ACC/FIC	Circuit Tripoli/Algiers	1998	Not implemented	Implement LTF circuit. Algiers to contact PTT Libya.	Libya, Algeria		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Tripoli ACC/FIC	Circuit Tripoli/Khartoum	1998	Not implemented	VSAT NAFISAT in project.	Libya, Sudan	2003	U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Tripoli ACC/FIC	Circuit Tripoli/Niamey	1998	Not implemented	Implement LTF circuit.	Libya, ASECNA	2003	U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Tripoli ACC/FIC	Circuit Tripoli/N'Djamena	1998	Not implemented	VSAT NAFISAT in project. PSTN and Satphone proposed by ASECNA	Libya, ASECNA	2003	U
<i>Mali</i>	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bamako APP	Circuit Bamako/Gao	1996	Not implemented	Implement LTF circuit	Mali		B
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bamako APP	Circuit Bamako/Mopti	1996	Not implemented	Implement LTF circuit	Mali		B

<i>StateName</i>	<i>Requirements</i>	<i>Facilities or Services</i>	<i>Description of Deficiency</i>	<i>Date first reported</i>	<i>Comments on Deficiency</i>	<i>Description of Corrective action</i>	<i>Executing Body</i>	<i>Target date for implement</i>	<i>Priority</i>
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Gao APP	Circuit Gao/Mopti	2002	Not implemented	Implement LTF circuit	Mali		B
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Gao APP	Circuit Gao/Niamey	1996	Not implemented	Implement LTF circuit	Mali, ASECNA		B
<i>Niger</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Niamey ACC/FIC	Circuit Niamey/Algiers	1998	To be implemented	VSAT being considered at Algiers	ASECNA, Algeria	2002	U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	niamey ACC/FIC	Circuit Niamey/Gao	2002	Not implemented	Implement LTF circuit	ASECNA, Mali		B
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Niamey ACC/FIC	Circuit Niamey/Tripoli	1998	Not implemented	Implement LTF circuit	ASECNA, Libya		U
<i>Rwanda</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Kigali APP	Circuit Kigali/Bujumbura	2002	Not implemented	VSAT in consideration	Rwanda, Burundi	June 2003	U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Kigali APP	Circuit Kigali/Bukavu	1996	Not implemented		Rwanda, DR Congo		A
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Kigali APP	Circuit Kigali Dar es Salaam	1996	Not implemented	VSAT SADC operational in Dar es Salaam, also being considered in Kigali	Rwanda, Tanzania	June 2003	U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Kigali APP	Circuit Kigali/Goma	1996	Not implemented		Rwanda, DR Congo		A
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Kigali APP	Circuit Kigali/Kinshasa	1996	Not implemented	VSAT SADC operational in Kinshasa, also in project in Kigali	Rwanda, DR Congo		U

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<i>Sao Tome & Principe</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Sao Tome TWR	Circuit Sao Tome/Accra	1998	Not implemented	VSAT to be installed at Sao Tome by Ghana CAA	Sao Tome & Principe, Ghana	2003	U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Sao Tome TWR	Circuit Sao Tome/Brazzaville	1998	Not implemented	VSAT to be installed at Sao Tome by Ghana CAA	Sao Tome & Principe, ASECNA, Ghana	2003	U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Sao Tome TWR	Circuit Sao Tome/Libreville	1998	Not implemented	VSAT to be installed at Sao Tome by Ghana CAA	Sao Tome & Principe, ASECNA, Ghana	2003	U
<i>Senegal</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Dakar ACC/FIC	Circuit Dakar/Algiers	1998	PSTN in use	VSAT planned	ASECNA, Algeria	2002	A
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Dakar ACC/FIC	Circuit Dakar/Bissau	1998	Not implemented	VSAT being considered	ASECNA, Guinea Bissau		U
<i>Seychelles</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Seychelles ACC/FIC	Circuit Seychelles/Dar es Salaam	1998	Not implemented	Implement LTF circuit	Seychelles,		U
<i>Somalia</i>									
	ATS Direct Speech Circuit s Plan, AFI/7 Rec. 9/9	Hargeisa APP	Circuit Hargeisa/Djibouti	1998	Not implemented	Implement LTF circuit	Somalia, Djibouti		B
<i>South Africa</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Durban APP	Circuit Durban/Manzini	2002	Requirement to be confirmed	South Africa agrees to deletion of circuit from Plan	South Africa, Swaziland		A

<i>StateName</i>	<i>Requirements</i>	<i>Facilities or Services</i>	<i>Description of Deficiency</i>	<i>Date first reported</i>	<i>Comments on Deficiency</i>	<i>Description of Corrective action</i>	<i>Executing Body</i>	<i>Target date for implement</i>	<i>Priority</i>
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Johannesburg ACC/FIC	Circuit Johannesburg/Brasilia	1998	Not implemented	CAFSAT VSAT to be implemented in Johannesburg	South Africa, Brasil	2003	U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Johannesburg ACC/FIC	Circuit Johannesburg/Ezeiza	1998	Not implemented	CAFSAT VSAT to be implemented in Johannesburg. Circuit to be switched through	South Africa, Argentina	2003	U
<i>Sudan</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Khartoum FIC	Circuit Khartoum/Brazzaville	1996	Not implemented	VSAT AFISNET proposed by ASECNA	Sudan, ASECNA		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Khartoum FIC	Circuit Khartoum/Cairo	1996	Not implemented	LTF circuit via PTTs proposed by Egypt until implementat ion of VSAT NAFISAT	Egypt, Sudan	2003	U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Khartoum FIC	Circuit Khartoum/Jeddah	1996	Not implemented	LTF circuit planned	Sudan, Saudi Arabia	2003	U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Khartoum FIC	Circuit Khartoum/Kinshasa	1996	Not implemented	VSAT NAFISAT in project	Sudan, DR Congo		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Khartoum FIC	Circuit Khartoum/N'djamena	1996	Not implemented	VSAT NAFISAT in project. PSTN proposed by ASECNA	Sudan, ASECNA		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Khartoum FIC	Circuit Khartoum/Tripoli	1996	Not implemented	VSAT NAFISAT in project	Sudan, Libya		U
<i>Swaziland</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Manzini APP	Circuit Manzini/Durban	2002	Requirement to be confirmed	South Africa agrees to deletion of circuit from Plan	Swaziland, South Africa		A

<i>StateName</i>	<i>Requirements</i>	<i>Facilities or Services</i>	<i>Description of Deficiency</i>	<i>Date first reported</i>	<i>Comments on Deficiency</i>	<i>Description of Corrective action</i>	<i>Executing Body</i>	<i>Target date for implement</i>	<i>Priority</i>
<i>Tanzania</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Dar es Salaam ACC/FIC	Circuit Dar es Salaam/Bujumbura	1996	Not implemented	VSAT being implemented at Bujumbura	Burundi, Tanzania	Dec 2003	U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Dar es Salaam ACC/FIC	Circuit Dar es Salaam/Kigali	1996	Not implemented	VSAT being considered	Rwanda, Tanzania	Dec 2003	U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Dar es Salaam ACC/FIC	Circuit Dar es Salaam/Seychelles	2002	Not implemented	PSTN used.VSAT being considered.	Tanzania,	Dec 2004	U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Kilimanjaro APP	Circuit Kilimanjaro/Mombasa	1996	Coordination through Nairobi	Implement circuit	Kenya, Tanzania	Dec 2003	U
<i>Togo</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Lome APP	Circuit Lome/Accra	2002	Unreliable		ASECNA, Ghana	2003	U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Lome APP	Circuit Lome/Niamtougou	2002	Not implemented	VSAT planned at Niamtougou by Ghana CAA	Togo, Ghana		B
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Niamtougou TWR	Circuit Niamtougou/Accra	1996	Not implemented	VSAT planned at Niamtougou by Ghana CAA	Togo, Ghana		B
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Niamtougou TWR	Circuit Niamtougou/Ouagadougou	2002	Not implemented	VSAT planned at Niamtougou by Ghana CAA	Togo, ASECNA, Ghana		B
<i>Uganda</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Entebbe ACC/FIC	Circuit Entebbe/Kinshasa	1996	Not implemented	VSAT NAFISAT in project	DR Congo, Uganda		U
<i>Zimbabwe</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bulawayo TWR	Circuit Bulawayo Francistown	2002	Proposal for deletion with States		Zimbabwe,		A

List of AMS Deficiencies

<i>StateName</i>	<i>Requirements</i>	<i>Facilities or Services</i>	<i>Description of Deficiency</i>	<i>Date first reported</i>	<i>Comments on Deficiency</i>	<i>Description of Corrective action</i>	<i>Executing Body</i>	<i>Target date for implement</i>	<i>Priority</i>
<i>Angola</i>									
	AMS AFI/7 Rec. 9/12	Luanda ACC	Inadequate VHF coverage of busy ATS routes	1998	Implement remote VHF stations	5 VHF stations to be installed by the end of 2001	ENANA		U
<i>Congo</i>									
	AMS AFI/7 Rec. 9/12	Brazzaville ACC	Inadequate VHF coverage of busy ATS routes	1998		ER VHF installation in progress	ASECNA		U
<i>Dem. Rep. of Congo</i>									
	AMS AFI/7 Rec. 9/12	Kinshasa FIR	Inadequate VHF coverage of busy ATS routes	1998		Extend VHF to all upper routes. Extended VHF coverage planned.	DR Congo		U
	AMS AFI/7 Rec. 9/12	Kinshasa FIR	HF poor quality. Selcal not available	1998		Improve installations	DR Congo		U
<i>Malawi</i>									
	AMS AFI/7 Rec. 9/12	FIR Lilongwe	VHF coverage incomplete	2001	Install additional VHF relay stations	Extend VHF	Malawi		U
<i>Mozambique</i>									
	AMS AFI/7 Rec. 9/12	Beira FIR	VHF coverage incomplete	2002	Install additional VHF relay stations	Extend VHF	Mozambique		U
<i>Nigeria</i>									
	AMS AFI/7 Rec. 9/12	Lagos TWR	No back-up radio	1998		To implement back-up radio	Nigeria	28/11/2002	U

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<i>Somalia</i>									
	AMS AFI/7 Rec. 9/12	Mogadishu ACC	Lack of VHF coverage of busy ATS routes	1998		Install VHF relays	Somalia		U
<i>Sudan</i>									
	AMS AFI/7 Rec. 9/12	Khartoum FIR	Inadequate VHF coverage of busy ATS routes	1998		VSAT remote VHF stations in tests	Sudan		U

List of Nav aids Deficiencies

<i>StateName</i>	<i>Requirements</i>	<i>Facilities or Services</i>	<i>Description of Deficiency</i>	<i>Date first reported</i>	<i>Comments on Deficiency</i>	<i>Description of Corrective action</i>	<i>Executing Body</i>	<i>Target date for implement</i>	<i>Priority</i>
<i>Angola</i>									
	Nav aids AFI/7, Rec. 10/4	Cuito Cuanavale	VOR/DME	1998		Implement facility	ENANA	2001	U
	Nav aids AFI/7, Rec. 10/4	Huambo	VOR/DME	1998		To repair	ENANA	2001	A
	Nav aids AFI/7, Rec. 10/4	Kuito	VOR/DME	1998		Implement facility	ENANA	2001	A
	Nav aids AFI/7, Rec. 10/4	Luen a	VOR/DME	1998		Implement facility	ENANA	2001	U
	Nav aids AFI/7, Rec. 10/4	Saurimo	VOR/DME	1998		Implement facility	ENANA	2001	U
<i>Cameroon</i>									
	Nav aids AFI/7, Rec. 10/4	Foumban	VOR	1998	Not implemented	Implement facility	Cameroon		U
	Nav aids AFI/7, Rec. 10/4	Maroua	VOR	1998	Not implemented	Implement facility	Cameroon		U
<i>Dem. Rep. of Congo</i>									
	Nav aids AFI/7, Rec. 10/4	Kalemie	VOR/DME	1998	Unserviceable	To repair	DR Congo		U
	Nav aids AFI/7, Rec. 10/4	Kindu	VOR	1998	Unserviceable	To repair	DR Congo		U
	Nav aids AFI/7, Rec. 10/4	Kisangani	VOR/DME	1998	Unserviceable	To repair	DR Congo		A
<i>Equatorial Guinea</i>									
	Nav aids AFI/7, Rec. 10/4	Malabo	ILS RWY 05	2001	Equipment at site	To implement	ASECNA		U

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<i>Ethiopia</i>									
	Nav aids AFI/7, Rec. 10/4	Mekele	VOR/DME	2002	Not implemented	To implement	Ethiopia		A
<i>Guinea</i>									
	Nav aids AFI/7, Rec. 10/4	Kankan	VOR	1998	Not implemented	Implement facility	Guinea		A
	Nav aids AFI/7, Rec. 10/4	Labe	VOR	1998	Not implemented	Implement facility	Guinea		A
	Nav aids AFI/7, Rec. 10/4	Nzerekore	VOR	1998	Not implemented	Implement facility	Guinea		A
<i>Kenya</i>									
	Nav aids AFI/7, Rec. 10/4	Mandera	VOR/DME	1998	Not implemented	Implement facility	Kenya		U
<i>Lesotho</i>									
	Nav aids AFI/7, Rec. 10/4	Maseru	VOR/DME	2002	Not implemented	To implement	Lesotho		U
<i>Liberia</i>									
	Nav aids AFI/7, Rec. 10/4	Robertsfield	ILS 04	1998	Not implemented	Implement facility	Liberia		A
<i>Libya</i>									
	Nav aids AFI/7, Rec. 10/4	Sarir	VOR/DME	1998	Not implemented	Implement facility	Libya		U
<i>Madagascar</i>									
	Nav aids AFI/7, Rec. 10/4	Antsiranana	VOR	1998	Unserviceable	To repair	Madagascar		U
	Nav aids AFI/7, Rec. 10/4	Maintirano	VOR	2002	Unserviceable	To repair	Madagascar		U

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	Nav aids AFI/7, Rec. 10/4	Morondava	VOR	1998	Not implemented	Implement facility	Madagascar		U
	Nav aids AFI/7, Rec. 10/4	Nosy-Be/Fascene	VOR/DME	1998	Unserviceable	To repair	Madagascar		A
	Nav aids AFI/7, Rec. 10/4	Sainte Marie	VOR	1998	Not implemented	Implement facility	Madagascar		A
	Nav aids AFI/7, Rec. 10/4	Tolagnaro	VOR/DME	1998	Not implemented	Implement facility	Madagascar		U
	Nav aids AFI/7, Rec. 10/4	Toliara	VOR	1998	Not implemented	Implement facility	Madagascar		U
<i>Mali</i>									
	Nav aids AFI/7, Rec. 10/4	Kayes	VOR	1998	Not implemented	Implement facility	Mali		U
	Nav aids AFI/7, Rec. 10/4	Tessalit	VOR	1998	Not implemented	Implement facility	Mali, ASECNA		U
	Nav aids AFI/7, Rec. 10/4	Tombouctou	VOR/DME	2002	Not implemented	Implement facility	Mali		A
<i>Sao Tome & Principe</i>									
	Nav aids AFI/7, Rec. 10/4	Sao Tome	ILS 01	1998	Not implemented	Implement facility	Sao Tome & Principe		A
<i>Sierra Leone</i>									
	Nav aids AFI/7, Rec. 10/4	Freetown/Lungi	ILS	1999	Unserviceable	To repair	Sierra Leone	28/11/2002	U
	Nav aids AFI/7, Rec. 10/4	Freetown/Lungi	VOR/DME	1999	Unserviceable	To repair	Sierra Leone	28/11/2002	U
<i>Somalia</i>									
	Nav aids AFI/7, Rec. 10/4	Hargeisa	VOR/DME	1998	Not implemented	Implement facility	Somalia		U
	Nav aids AFI/7, Rec. 10/4	Mogadishu	VOR/DME	1998	Not implemented	Implement facility	Somalia		U

<i>StateName</i>	<i>Requirements</i>	<i>Facilities or Services</i>	<i>Description of Deficiency</i>	<i>Date first reported</i>	<i>Comments on Deficiency</i>	<i>Description of Corrective action</i>	<i>Executing Body</i>	<i>Target date for implement</i>	<i>Priority</i>
<i>Sudan</i>									
	Nav aids AFI/7, Rec. 10/4	Geneina	VOR	1998	Not implemented	Implement facility	Sudan		U
	Nav aids AFI/7, Rec. 10/4	Juba	ILS 13	1998	Not implemented	Implement facility	Sudan		A
	Nav aids AFI/7, Rec. 10/4	Karina	VOR/DME	1998	Not implemented	Implement facility	Sudan		U
	Nav aids AFI/7, Rec. 10/4	Khartoum	ILS 18	2002	Unserviceable	Repair facility	Sudan		U
<i>Tanzania</i>									
	Nav aids AFI/7, Rec. 10/4	Dodoma	VOR/DME	1998	Not implemented	Implement facility	Tanzania	31/12/2005	U
	Nav aids AFI/7, Rec. 10/4	Kilimanjaro	ILS 09	1998	Not implemented	Implement facility. Installation started.	Tanzania	June 2003	A
	Nav aids AFI/7, Rec. 10/4	Mbeya	VOR/DME	1998	Not implemented	Implement facility	Tanzania	June 2006	U
	Nav aids AFI/7, Rec. 10/4	Mwanza	DME	1998	Not implemented	Implement facility	Tanzania	June 2005	U
	Nav aids AFI/7, Rec. 10/4	Zanzibar	VOR/DME	1998	Not implemented	Implement facility	Tanzania	June 2004	A
<i>Zambia</i>									
	Nav aids AFI/7, Rec. 10/4	Mongu	VOR	1998	Not implemented	Implement facility	Zambia		U
	Nav aids AFI/7, Rec. 10/4	Solwezi	VOR	1998	Not implemented	Implement facility	Zambia		U