



INTERNATIONAL CIVIL AVIATION ORGANIZATION

SECOND MEETING OF THE APIRG COMMUNICATIONS, NAVIGATION AND SURVEILLANCE SUB-GROUP (CNS/SG/2)

(Dakar, 22-25 May 2007)

Agenda Item 4: Aeronautical Fixed Services

Review of performance and implementation of the ATS direct speech communications (ATS/DS) in the AFI Region, and identification of deficiencies and remedial action for their elimination.

(Presented by the Secretariat)

SUMMARY

This paper reviews the implementation status of ATS/DS circuits and their performance, and identifies deficiencies and remedial solutions for their elimination.

Action by the meeting is at paragraph 3.

References :

- APIRG/15 – Report.
- CNS/SG/1 – Report.

1. Introduction

1.1 The First Meeting of APIRG Communications Sub-group (CNS/SG/1, Dakar, 7-8 April 2005) noted very low progress in the implementation of ATS/DS circuits since APIRG/14 meeting (Yaounde, Cameroon, 23-27 June 2003). This paper reviews the current implementation status and the performance of the ATS/DS links in the AFI Region, and identifies deficiencies and remedial measures for their elimination.

2. Discussion

2.1 The list of deficiencies affecting ATS/DS circuits has been updated by the Secretariat based on available data. The updated list of ATS/DS deficiencies is shown at **Appendix** to this paper.

2.2 These deficiencies comprise AFI ANP unimplemented requirements and low performance circuits in terms of availability/stability.

2.3 A number of AFI States are considering the use of the implemented or emerging VSAT networks (AFISNET, SADC1/2, CAFSAT, and NAFISAT) to solve the current deficiencies.

3. Action by the CNS Sub - group

3.1 The CNS Sub-group is invited to:

- a) Take note of the information provided in this paper;
- b) Review and update its **Appendix**;
- c) Urge States involved with the ATS/DS deficiencies to endeavour to implement available remedial solutions as a matter of urgency; and
- d) Formulate any other conclusion aiming at improving ATS/DS efficiency in the AFI Region.

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<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 implementation</i>	<i>Priority</i>
<i>Algeria</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Algiers ACC-FIC	Circuit Algiers/Tripoli			Implement LTF circuit	Algeria, Libya		
<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	To implement VSAT	Angola, Ghana		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Luanda FIC	Circuit Luanda/Brasilia	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 VSAT circuit	Angola, ASECNA		A
<i>Benin</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Cotonou APP	Circuit Cotonou/Lagos	2002	To improve maintenance		ASECNA, Ghana		A
<i>Botswana</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Francistown TWR	Circuit Francistown/Bulawayo	2002	Not implemented	Implement circuit	Botswana		A
<i>Burkina Faso</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Ouagadougou APP	Circuit Ouagadougou/Niamtougou	2002	Not implemented	Implement LTF	ASECNA, Togo		B
<i>Burundi</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bujumbura APP	Circuit Bujumbura/Goma	1998	Not implemented		Burundi, DR Congo		A
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bujumbura APP	Circuit Bujumbura/Kigali	2002	Not implemented	VSAT under consideration	Burundi, Rwanda		U

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	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bujumbura APP	Circuit Bujumbura/Kinshasa	1998	Not implemented	VSAT under consideration	Burundi, DR Congo		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bujumbura APP	Circuit Bujumbura/Dar es Salaam	1998	Not implemented	VSAT under consideration	Burundi, Tanzania		U
<i>Cameroon</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Douala APP	Circuit Douala/Bata	1998	Not implemented	To implement LTF circuit	ASECNA		A
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Douala APP	Circuit Doula/Kano	2002	Lack of availability	To improve maintenance	ASECNA, Nigeria		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Douala APP	Circuit Douala/Lagos	2002	Lack of availability	To improve maintenance	ASECNA, Nigeria		U
<i>Central African Republic</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bangui APP	Circuit Bangui/Gbadolite	1998	Not implemented	Implement LTF circuit	ASECNA, DR Congo		U
<i>Chad</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	N'Djamena APP/FIC	Circuit N'Djamena/Khartoum	1998	Not implemented	VSAT NAFISAT in project	ASECNA, Sudan		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	N'Djamena APP/FIC	Circuit N'Djamena/Tripoli	1998	Not implemented	VSAT NAFISAT in project	ASECNA, Libya		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	N'Djamena APP/FIC	Circuit N'Djamena/Maiduguri	2002	Lack of availability	Improve maintenance	ASECNA, Nigeria		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	N'Djamena APP/FIC	Circuit N'Djamena/Kano	2002	Lack of availability	Improve maintenance	ASECNA, Nigeria		U
<i>Congo</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Brazzaville APP/FIC	Circuit Brazzaville/Khartoum	1998		VSAT to be installed	ASECNA, Sudan		U

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	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
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Brazzaville APP/FIC	Circuit Brazzaville/Sao Tome	1998		VSAT to be installed	ASECNA, Sao Tome & Principe		U
<i>Dem. Rep. of Congo</i>									
	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	Gbadolite TWR	Circuit Gbadolite/Bangui	2002	Not implemented	Implement circuit	DR Congo, ASECNA		A
	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
	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/Bujumbura	2002	Not implemented	VSAT in project	DR Congo, Burundi		A
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Lubumbashi APP	Circuit Lubumbashi/Ndola	1997	Inmarsat phone available at Lubumbashi	Implement LTF circuit	DR Congo, Zambia		A
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Goma APP	Circuit Goma/Kigali	1998	Not implemented	Implement circuit	DR Congo, Rwanda		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Goma APP	Circuit Goma/Bujumbura	1998	Not implemented	Implement circuit	DR Congo, Burundi		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bukavu TWR	Circuit Bukavu/Kigali	1996	Not implemented	Implement circuit	DR Congo, Rwanda		A
<i>Djibouti</i>									
	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		U

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	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Djibouti APP	Circuit Djibouti/Hargeisa	1996	Not implemented	To implement LTF circuit	Djibouti, Somalia		U
<i>Egypt</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Cairo ACC	Circuit Cairo/Khartoum	1996	Not implemented	To implement LTF circuit. VSAT NAFISAT under in project.	Egypt, Sudan		U
<i>Equatorial Guinea</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bata APP	Circuit Bata/Douala	1996	Not implemented	To implement LTF circuit	ASECNA		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bata APP	Circuit Bata/Libreville	1996	Not implemented	Mettre en oeuvre un circuit LTF	ASECNA		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bata & Malabo APP	Circuit Bata/Malabo	2002	Not implemented	To implement LTF circuit	ASECNA		U
<i>Eritrea</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Asmara ACC	Circuit Asmara/AddisAbaba	1998	This circuit haas 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/Lagos	2002		To improve maintenance	ASECNA, Nigeria		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Libreville ACC	Circuit Libreville/Sao Tome	1996	Not implemented	VSAT being considered	ASECNA, Sao Tome & Principe		U

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	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Mombasa APP	Circuit Mombasa/Dar es Salaam	1996	Not implemented	Implement LTF 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>Liberia</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Roberts ACC/FIC	Circuit Robertsfield/Bamako	2002	Not implemented	Implement LTF circuit	Liberia, ASECNA		A
<i>Libya</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Tripoli ACC/FIC	Circuit Tripoli/N'Djamena	1998	Not implemented	VSAT NAFISAT in project	Libya, ASECNA		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Tripoli ACC/FIC	Circuit Tripoli/Algiers	1998	Not implemented	Implement LTF circuit	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		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		U
<i>Madagascar</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Antananarivo ACC/FIC	Circuit Antananarivo/Dzaoudzi	1996	Not implemented	Implement LTF circuit	ASECNA, Comoros		A
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Antananarivo ACC/FIC	Circuit Antananarivo/Beira	1996	Not implemented	Interconnection VSAT ASECNA & SADC	ASECNA, Mozambique		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Antananarivo ACC/FIC	Circuit Antananarivo/Dar es Salaam	1996	Not implemented	Interconnection VSAT ASECNA & SADC	ASECNA, Tanzania		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

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	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bamako APP	Circuit Bamako/Mopti	1996	Not implemented	Implement LTF circuit	Mali		B
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Gao APP	Circuit Gao/Mopti	2002	Not implemented	Implement LTF circuit	Mali		B
<i>Mozambique</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Beira ACC/FIC	Crcuit Beira/Antananarivo	1996	Not implemented	Interconnection VSAT ASECNA & SADC	Mozambique, ASECNA		U
<i>Niger</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Niamey ACC/FIC	Circuit Niamey/Accra	2002	Unreliable	To improve maintenance	ASECNA, Ghana		U
	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>Nigeria</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Kano ACC/FIC	Circuit Kano/Lagos	2002	Unreliable	Improve maintenance	Nigeria		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Maiduguri APP	Circuit Maiduguri/N'Djamena	2002	Unreliable	Improve maintenance	Nigeria, ASECNA		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Lagos ACC	Circuit Lagos/Libreville	2002	Unreliable	Improve maintenance	Nigeria, ASECNA		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Lagos ACC	Circuit Lagos/Douala	2002	Unreliable	Improve maintenance	Nigeria, ASECNA		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Lagos ACC	Circuit Lagos/Cotonou	2002	Unreliable	Improve maintenance	Nigeria, ASECNA		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Kano ACC/FIC	Circuit Kano/Maiduguri	2002	Unreliable	Improve maintenance	Nigeria		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 implementation</i>	<i>Priority</i>
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Kano ACC/FIC	Circuit Kano/Douala	2002	Unreliable	Improve maintenance	Nigeria, ASECNA		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Lagos ACC	Circuit Lagos/Accra	2002	Unreliable	Improve maintenance	Nigeria, Ghana		U
<i>Rwanda</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Kigali APP	Circuit Kigali Dar Salaam	1996	Not implemented	VSAT SADC operational in Dar es Salaam, also being considered in Kigali	Rwanda, Tanzania		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Kigali APP	Circuit Kigali/Goma	1996	Not implemented	Implement circuit	Rwanda, DR Congo		A
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Kigali APP	Circuit Kigali/Bujumbura	2002	Not implemented	VSAT in consideration	Rwanda, Burundi		U
	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
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Kigali APP	Circuit Kigali/Bukavu	1996	Not implemented	Implement circuit	Rwanda, DR Congo		A
<i>Sao Tome & Principe</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Sao Tome TWR	Circuit Sao Tome/Brazzaville	1998	VSAT planned	VSAT to be installed	Sao Tome & Principe, ASECNA		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Sao Tome TWR	Circuit Sao Tome/Libreville	1998	HF in use. VSAT being considered	Implement the circuit	Sao Tome & Principe, ASECNA		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Dakar ACC/FIC	Circuit Dakar/Bissau	1998	Not implemented	Implement LTF circuit	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, Tanzania		U

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<i>Somalia</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Hargeisa APP	Circuit Hargeisa/Djibouti	1998	Not implemented	Implement LTF circuit	Somalia, Djibouti		U
<i>South Africa</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Durban APP	Circuit Durban/Manzini	2002	Requirement to be confirmed	Implement LTF circuit	South Africa, Swaziland		A
<i>Sudan</i>									
	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
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Khartoum FIC	Circuit Khartoum/Jeddah	1996	Not implemented	VSAT NAFISAT in project	Sudan, Saudi Arabia		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Khartoum FIC	Circuit Khartoum/Cairo	1996	Not implemented	VSAT NAFISAT in project	Egypt, Sudan		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Khartoum FIC	Circuit Khartoum/Brazzaville	1996	Not implemented	VSAT to be installed	Sudan, ASECNA		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Khartoum FIC	Circuit Khartoum/N'djamena	1996	Not implemented	VSAT NAFISAT in project	Sudan, ASECNA		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
<i>Swaziland</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Manzini APP	Circuit Manzini/Durban	2002	Requirement to be confirmed	Implement LTF circuit	Swaziland, South Africa		A
<i>Tanzania</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Kilimanjaro APP	Circuit Kilimanjaro/Mombasa	1996	Coordination through Nairobi	Implement circuit	Kenya, Tanzania		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 implementation</i>	<i>Priority</i>
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Kilimanjaro APP	Circuit Kilimanjaro/Nairobi	2002	Not implemented	Implement circuit	Kenya, Tanzania		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Dar es Salaam ACC/FIC	Circuit Dar es Salaam/Seychelles	2002	Not implemented	Implement circuit	Tanzania, Seychelles		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Dar es Salaam ACC/FIC	Circuit Dar es Salaam/Mombasa	2000	Coordination through Nairobi	Implement circuit	Kenya, Tanzania		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Dar es Salaam ACC/FIC	Circuit Dar es Salaam/Kigali	1996	Not implemented	To implement VSAT circuit	Rwanda, Tanzania		U
	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	Burundi, Tanzania		U
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Dar es Salaam ACC/FIC	Circuit Dar es Salaam/Antananarivo	1996	Not implemented	To be implemented through interconnection of ASECNA and SADC VSAT networks	ASECNA, Tanzania		U
<i>Togo</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Niamtougou TWR	Circuit Niamtougou/Ouagadougou	2002	Not implemented	Implement LTF circuit	Togo, ASECNA		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>Zambia</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Ndola APP	Circuit Ndola/Lubumbashi	2002	Not implemented	Implement LTF circuit	Zambia, DR Congo		A
<i>Zimbabwe</i>									
	ATS Direct Speech Circuits Plan, AFI/7 Rec. 9/9	Bulawayo TWR	Circuit Bulawayo/Francistown	2002	proposal for deletion with States	Implement LTF circuit	Zimbabwe, Botswana		A
