

INTERNATIONAL CIVIL AVIATION ORGANIZATION



**REPORT OF THE SECOND MEETING OF THE
AIRSPACE MANAGEMENT TASK FORCE (ASM/TF/2)**

(Dakar, 13 - 14 June 2002)

Prepared by the Secretary of the ASM/TF

ASM TASK FORCE SECOND MEETING REPORT

The ATS/AIS/SAR Sub-Group is a Sub-Group of the AFI Planning and Implementation Regional Group (APIRG).

Its Reports are therefore submitted to APIRG for review and action.

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of ICAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

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Agenda Item 2 : Review of ATS Airspaces Organization in the AFI Region, namely :

- Categorization of TMAs and Aerodromes
- Delineation of TMAs
- Delineation of FIRs
- Transfer of Control Points
- Criteria for the establishment of ATS routes
- Review of ATS route requirements

Agenda Item 3 : Identification of hot spots and bottlenecks where significant ATS incidents have been reported and proposed solutions.

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PART I - HISTORY OF THE MEETING

1. Duration

1.1 The Second meeting of the Airspace Management Task Force (ASM/TF/2) was convened pursuant to APIRG/12 Decision 12/24 by the International Civil Aviation Organization at the ICAO WACAF Office, Dakar, 13-14 June 2002.

2. Officers and Secretariat

2.1 Mr Lotsu Barlow Deputy Director ATS , Ghana Civil Aviation Authority was unanimously appointed as Rapporteur for the Airspace Management Task Force Meeting.

2.2 Mr. G. Baldeh, Air Traffic Management of the ICAO Dakar Regional Office, was the Secretary of the meeting. He was assisted by Messrs. A. Kharuga, and K. Brou, ROs/ATM of the ICAO Nairobi and Dakar Offices respectively, and Mr. P. Zo'o-mintoo, RO/CNS from Dakar Office.

2.3 The meeting was opened by Mr. A. Cheiffou, ICAO Regional Director of the ICAO Western and Central African Office. He emphasized the importance of the Airspace Management Task Force Meeting being organized pursuant to APIRG/12 Decision 12/24 and wished the members a fruitful deliberation with a view to further enhance the safety of air navigation in the Region.

3. Attendance

3.1 The meeting was attended by **22** experts from **10** States and **4** International Organizations namely ASECNA, IATA, IFALPA and IFATCA. The list of participants is given at **Appendix- A** to this report.

4. Working Language

4.1 The meeting was conducted in English language.

5. Agenda

5.1 The following Agenda was adopted :

Agenda Item 1 : Review of the Conclusions of the 1st Meeting of ASM/TF and Review ASM TF Terms of Reference.

Agenda Item 2 : Review of ATS Airspaces Organization in the AFI Region, namely :

- Categorization of TMAs and Aerodromes
- Delineation of TMAs
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Agenda Item 5 : Review of prohibited, restricted and danger areas.

Agenda Item 6: Implementation of 10-minute longitudinal separation.

Agenda Item 7 : Development of chart ATM1 on AFI participating areas for Part V-ATM of the AFI FASID.

Agenda Item 8 : Review of SIDs and STARs.

Agenda Item 9 : Any other business.

6. Draft Conclusions**6.1 The Task Force recorded its action in the form of draft conclusions/draft decisions:****LIST OF DRAFT CONCLUSIONS/DECISION****Conclusion 2/1: - Terms of reference of the Airspace Management Task Force :**

That the terms of reference of the ASM Task force be amended as shown in Appendix C to this report

Conclusion 2/2:- Categorization of Terminal Areas and Aerodromes**That:**

- 1) States which have not yet done so be reminded to provide the Secretariat with traffic data required for the categorization of TMAs and aerodromes no later than 30 October 2002;
- 2) IATA and ASECNA should finalize the categorization of TMAs and aerodromes based on traffic data available and to present it at the next CNS/ATM/IC -SG Meeting (CNS/ATM/IC/SG-4).

Conclusion 2/3 :- Amendment to the ICAO AFI ANP, Doc.7474 Table ATS1

That States of Ethiopia, Kenya, Seychelles, Somalia and Yemen submit to ICAO the proposal for amendment of ICAO AFI ANP-Table ATS 1 (Doc.7474) on ATS routes to include the following:

Praslin	-	Aden
ODAKA	-	Mandera
ODAKA	-	Hargeissa

Conclusion 2/4:- Implementation of RNAV Route UM114

- 1) That ICAO arrange at the earliest possible date, a co-ordination meeting between Accra, Kano and Niamey FIRs, preferably before the implementation of UM114.
- 2) That Accra implement and delegate to Kano/Lagos the portion of UM114 within its airspace at the AIRAC date of 5 September 2002.

Conclusion 2/5 :- Delineation of FIR Boundaries

That ICAO convene, as a matter of urgency, a meeting between Algeria and Tunisia to harmonize the publications in their respective AIPs on the delineation of the FIR boundaries pursuant to AFI/7 Rec 5/1, Rec 5/9 and APIRG/13 Conc. 13/26.

Conclusion 2/6 : Globalization of FIRs in the AFI Region

That to achieve globalization of FIRs in the AFI Region pursuant to AFI/7 Rec.5/1 relative to a co-operative approach to airspace management, the concerned States explore the possibility of forming functional groups of FIRs such as:

Ghana/Nigeria
 Namibia/Botswana
 RSA/Lesotho/Swaziland
 Zambia/Zimbabwe
 Mozambique/Malawi
 Indian Ocean States
 Kenya/Tanzania/Uganda
 Ethiopia/Eritrea/Djibouti

Conclusion 2/7 : - Review of AFI ATS incidents**That :**

- 1) Efforts to enhance Controller training, proficiency and work environment and ATS Staff Management must continue throughout the Region.
- 2) ASECNA (Niamey, Dakar Oceanic FIRs) Khartoum, Tripoli, Lagos, Luanda, and Kinshasa FIRs to continue to improve Staff training.
- 3) For better assessment of the situation, joint ICAO/IATA technical missions including other Organizations be encouraged to the ATS units where the highest number of incidents have occurred.
- 4) States and ATS providers (Angola, Democratic Rep. of the Congo, Libya, Sudan, ASECNA) be urged to expedite extension of VHF coverage to routes in the upper airspace , and provision of ATC services in the region.
- 5) Action be taken by all States to fully implement/improve ATS/DS links, especially between N'Djamena -Tripoli, N'Djamena-Khartoum, Accra-Lagos, Niamey-Accra.

- 6) States be urged by ICAO to establish and periodically update ATS Co-ordination procedures between all adjacent ATS units
- 7) States which have not already done so, be urged by ICAO to implement procedures for the timely investigation of ATS incidents and notification of the results in accordance with AFI/7 Rec.5/26
- 8) States, which have not already done so, to be encouraged by ICAO to implement voluntary non punitive ATS incident reporting procedures;
- 9) States be urged to implement ICAO provisions with regard to carriage and operation of pressure-altitude reporting transponders; Annex 6 Part 1, paragraph 6.19 and Annex 6, Part II paragraph 6.13.1, Annex 10, Volume IV, Doc. 8168 Volume 1, Part VIII and PANS/ATM, Doc.4444 Chapter 8 paragraph 8.5
- 10) States be urged to implement ICAO provisions with regard to carriage and operation of ACAS II in accordance with provisions of Annex 6, Apart I paragraph 6.18 and Annex 10 volume IV and Doc. 8168

Decision 2/8 : Assignment of 5-letter name codes at crossing point of ATS Routes

That members of the Task Force should assist the Secretariat in harmonizing proposals of changes to the airspace re-organization and send their results to ICAO Secretariat by 1st July 2002 to enable the Secretariat to submit the harmonized results to States for comments and necessary action as shown in **Appendix D**.

Conclusion 2/9 : ATM objectives and requirements

That air-ground and ground-ground requirements for ATS units be in conformity with Doc.003 AFI CNS/ATM Plan.

Conclusion 2/10:- Implementation of Extended VHF Coverage

That States should expedite the extension of VHF coverage within their FIRs.

Conclusion 2/11:- Publication of the Air to Air Communications Channel

That States which have not yet done so, publish in their regulations and AIPs, the air to air VHF communication channel on the frequency of 123.45MHz in accordance with ICAO Annex 10 Vol.V paragraph 4.1.3.2 and the AFI VHF Utilization Plan.

Conclusion 2/12:- Elimination of Deficiencies affecting ATS Communications

That States should eliminate deficiencies affecting ATS communications particularly AFTN, ATS/DS and AMS as shown in **Appendix E** to this Report.

Conclusion 2/13 :- Application of flexible use of airspace (FUA)

That :

- a) States be encouraged to adopt a flexible use of airspace approach to the establishment of prohibited, restricted or danger areas such that these areas are on temporary basis taking into account the needs of civil aviation; and
- b) States should constantly review the existence of prohibited, restricted or danger areas pursuant to LIM/AFI Rec.2/21 as shown in **Appendix F**.

Conclusion 2/14:- Implementation of 10-minute longitudinal separation minimum

That :

- a) States that have not already done so be invited by ICAO to urgently implement the 10-minute longitudinal separation minimum taking into cognizance the relevant requirements in APIRG/13 Conc.13/43.
- b) ICAO invites Algeria and ASECNA to implement a common 10-minute longitudinal separation minimum in selected airspaces so as to avoid confusion.

Conclusion 2/15 : Development of Chart ATM 1 (Part V-ATM of the AFI FASID)

That the proposal from the Secretariat related to SSR Code Allocation Plan (Chart ATM 1 for Part V-ATM FASID) as contained in **Appendix G** will be submitted to Task Force members for comments by 15 July 2002 and subsequently presented to the ATS/AIS/SAR Sub-Group.

Conclusion2/16:- Application of SIDs and STARs

That States be encouraged to implement the application of flexible use of airspace in establishing SIDs and STARs considering of the following:

- a) That the period immediately after take off is one of high cockpit workload, the first significant point of a standard instrument departure route which requires reference to a radio navigation facility should, if possible, be established at a distance of at least 2 nautical miles from the end of the runway;

- b) Level restrictions, if any, should be expressed in terms of minimum and/or maximum levels at which significant points are to be crossed;
- c) The designation of significant points as reporting points (compulsory or on request) should be kept to a minimum;
- d) Standard instrument departure (SIDs) and arrival routes (STARs) should be established in consultation with the users and other parties concerned.

Conclusion 2/17:- Implementation of SIDs and STARs coupled to RNAV Route structure

That States be encouraged to implement SIDs and STARs coupled to RNAV Route structure where required, in order to relieve congestion on existing single routes.

Conclusion 2/18 :- Classification of uncontrolled oceanic airspace :

That ICAO as a matter of urgency clarifies the class to be given to an uncontrolled oceanic lower airspace.

PART II - REPORT ON THE AGENDA ITEMS

Report Agenda Item1 : Review of the Conclusions of the 1st Meeting of ASM/TF and the Task Force Terms of Reference

1.1 Under this Agenda Item the Task Force noted the Terms of Reference and Work Programme which have been assigned to it pursuant to APIRG/12 Decision 12/24, which inter alia stated that:

DECISION 12/24/ ESTABLISHMENT OF AN AIRSPACE MANAGEMENT TASK FORCE

THAT AN AIRSPACE MANAGEMENT TASK FORCE BE ESTABLISHED WITH THE FOLLOWING TERMS OF REFERENCE, WORK PROGRAMME AND COMPOSITION.

Terms of Reference, work programme and composition

1.2 The Airspace Management Task Force was established within the framework of the ATS/AIS/SAR Sub-Group in order to explore ways and means of finding operational solutions to some pressing problems affecting the safety of air navigation in the region and to propose operational solutions.

Work Programme

- 1) To review the existing ATS airspaces in the AFI Region (ATS routes, TMAs, Control Zones, etc...) and to identify significant enhancements that could be made to improve safety efficiency and to propose pragmatic operational solutions in this regard;
- 2) To study problems associated with the implementation of WGS-84 coordinates of reporting points, etc...)
- 3) To review the assignment of significant points which have not been assigned five-letter name-code designators, and identify any proposed changes as appropriate;
- 4) To identify hot spots and bottlenecks where significant ATS incidents have been reported and propose solutions.

- Composition :** Algeria, Angola, Burkina Faso, Chad, Côte d'Ivoire, Democratic Republic of Congo, Egypt, Ethiopia, Eritrea, Gabon, Ghana, Kenya, Madagascar, Mali, Morocco, Niger, Nigeria, Senegal, Spain, South Africa, Togo, Tunisia, ACAC, ASECNA, IATA, IFALPA, and IFATCA.
- Rapporteur :** The Task Force will appoint its rapporteur and will submit its report to the seventh ATS/AIS/SAR Sub-Group meeting.

1.3 The meeting also reviewed the conclusions of the first meeting of the Airspace Management Task Force (ASM/TF/1) and action taken by ATS/AIS/SAR/SG, the Secretariat and States which was eventually updated by the Secretariat as per **Appendix-B**.

1.4 Noting the recent developments in the AFI region, the terms of reference and work programme of the task force has been consequently reviewed and updated by the meeting to include the following items :

- Review of prohibited, restricted and danger areas in the AFI Region;
- Implementation of 10 minute longitudinal separation minimum in the AFI Region;
- Development of chart ATM1 on AFI participating areas for Part V - ATM of the AFI FASID;
- Review of SIDs and STARs in the AFI Region.

In light of the foregoing, the meeting adopted the following conclusion.

CONCLUSION 2/1: - TERMS OF REFERENCE OF AND WORK PROGRAMME THE AIRSPACE MANAGEMENT TASK FORCE

THAT THE TERMS OF REFERENCE AND WORK PROGRAMME OF THE ASM TASK FORCE BE AMENDED AS SHOWN IN APPENDIX-C TO THIS REPORT.

Agenda Item 2 : Review of ATS Airspaces Organization in the AFI Region, namely: Delineation of TMAs and ATS Route alignment and Transfer of Control Points

2.1 Under this agenda item the meeting reviewed the various aspects related to the papers presented by the ICAO Secretariat, Algeria and IFALPA concerning the ATS airspace organization in the AFI Region.

2.2 The meeting noted that the overall plan of FIRs for the Africa/Indian Ocean Region was last reviewed by the Seventh Africa/Indian Ocean Regional Air Navigation Meeting (AFI/7 RAN Meeting) in Abuja, Nigeria, from 12 - 23 May 1997. Since then, adjustments have subsequently been made to certain FIR boundaries in accordance with agreed procedures for amendment of regional plans.

2.3 Furthermore, the meeting noted that categorization of terminal area (TMAs) and aerodromes is a key task in the AFI CNS/ATM planning process. The task, which was assigned to ASECNA and IATA in 1999 by CNS/ATM/IC/SG (Decision 2/8. Refers), has not started so far due to lack of data required from States. To this effect, the meeting framed the following conclusion:

CONCLUSION 2/2: CATEGORIZATION OF TERMINAL AREAS AND AERODROMES

THAT:

- a) **STATES WHICH HAVE NOT YET DONE SO BE REMINDED TO PROVIDE THE SECRETARIAT WITH TRAFFIC DATA REQUIRED FOR THE CATEGORIZATION OF TMAs AND AERODROMES NO LATER THAN 30 OCTOBER 2002;**
- b) **IATA AND ASECNA SHOULD FINALIZE THE CATEGORIZATION OF TMAs AND AERODROMES BASED ON TRAFFIC DATA AVAILABLE AND TO PRESENT IT AT THE NEXT CNS/ATM-SG MEETING.**

2.4 In reviewing the current plan of FIRs, the meeting noted that ICAO encourages the use of a globalization concept for the establishment of FIRs, especially in relation to upper airspace. The meeting then agreed that States give consideration to co-operative effort for introducing more efficiency in airspace management, particularly in optimizing routings and transfer points, in order to decrease pilot and controller workload and to facilitate the safe, orderly and expeditious flow of air traffic resulting in economy for airspace users (AFI/7 Rec. 5/1.)

2.5 The meeting noted the proposals from IATA for new ATS routes to be considered for inclusion in the AFI Plan after exhaustive consultations with the concerned States. In view of the this, the meeting concluded as follows :

**CONCLUSION 2/3 :- AMENDMENT TO THE ICAO AFI ANP,
DOC 7474 TABLE ATS1**

THAT STATES OF ETHIOPIA, KENYA, SEYCHELLES, SOMALIA AND YEMEN SUBMIT TO ICAO THE PROPOSAL FOR AMENDMENT OF ICAO AFI ANP-TABLE ATS1 (DOC. 7474) ON ATS ROUTES TO INCLUDE THE FOLLOWING :

**PRASLIN - ADEN
ODAKA - MANDERA
ODAKA - HARGEISSA**

2.6 The meeting identified the disharmony in the implementation of the existing RNAV route UM114 in Kano FIR and Accra FIR and recommended that the disharmony should be addressed by implementing and delegating the portion of RNAV route within ACCRA FIR to LAGOS ACC.

CONCLUSION 2/4:-IMPLEMENTATION OF RNAV ROUTE UM114

- a) **THAT ICAO ARRANGE AT THE EARLIEST POSSIBLE DATE, A COORDINATION MEETING BETWEEN ACCRA, KANO AND NIAMEY FIRs, PREFERABLY BEFORE THE IMPLEMENTATION OF UM114.**
- b) **THAT ACCRA IMPLEMENT AND DELEGATE TO LAGOS THE PORTION OF UM114 WITHIN ITS AIRSPACE AT THE AIRAC DATE OF 5 SEPTEMBER 2002.**

2.7 The meeting noted the proposal of Algeria to delete certain routes in the Alger FIR. However, the meeting recommended that the proposal from Algeria for withdrawal of certain ATS routes within its FIR be formally presented to the ATS/AIS/SAR Sub-Group through an amendment proposal. The meeting also noted that APIRG had already adopted its Conclusion 13/26 on this issue. The concerned states were also requested to pursue the implementation of APIRG/13 Conc. 13/26.

2.8 The meeting was informed that Algeria has published in its AIP, the FIR whose delineation follows Algeria's geographical boundary. It was noted that this is at variance with the existing AFI Plan and on the other hand, Tunisia has published in its AIP, the FIR whose delineation follows the existing AFI Plan. The meeting noted that Algeria and Tunisia have irreconcilable differences over the correct FIR boundaries. In view of this, the meeting concluded as follows:

CONCLUSION 2/5:-DELINEATION OF FIR BOUNDARIES

THAT ICAO CONVENE, AS A MATTER OF URGENCY, A MEETING BETWEEN ALGERIA AND TUNISIA TO HARMONIZE THE PUBLICATIONS IN THEIR RESPECTIVE AIPS ON THE DELINEATION OF THE FIR BOUNDARIES PURSUANT TO AFI/7 REC 5/1, REC 5/9 AND APIRG/13 CONC. 13/26.

2.9 In reviewing the delegation of upper Airspaces of overlapping TMAs, the meeting noted that the situation existing in Botswana, Zambia and Zimbabwe where the three airports of Livingstone, Victoria Falls and Kasane are located within 50NM of each other, with overlapping Terminal Control Areas (TMAs), which presents a major air safety problem. The meeting then recommended that the upper airspaces of the overlapping TMAs be delegated to one of the States.

2.10 The meeting noted that to achieve globalization of FIRs in the AFI Region, there is need to amalgamate some FIRs such as Kano/Accra; Windhoek/Gaborone; Harare /Lusaka; Lilongwe /Beira, Seychelles/ Antananarivo/Mauritius, Luanda/Kinshasa, Nairobi /Entebbe/Dar es salaam . Based on the foregoing, the meeting adopted the following conclusion:

CONCLUSION 2/6: GLOBALIZATION OF FIRS IN THE AFI REGION

THAT TO ACHIEVE GLOBALIZATION OF FIRS IN THE AFI REGION PURSUANT TO AFI/7 REC.5/1 RELATIVE TO A CO-OPERATIVE APPROACH TO AIRSPACE MANAGEMENT, THE CONCERNED STATES EXPLORE THE POSSIBILITY OF FORMING FUNCTIONAL GROUPS OF FIRS SUCH AS:

- a) THE EAST AFRICAN COMMUNITY UPPER AIRSPACE PROJECT**
- b) THE SADC UPPER AIRSPACE PROJECT**
- c) THE COMESA UPPER AIRSPACE PROJECT**

Agenda Item 3 : Identification of hot spots and bottlenecks where significant ATS incidents have been reported and proposed solutions.

3.1 Under this agenda item, the meeting reviewed the identification of hot spots and bottlenecks where significant ATS incidents have been reported and recalled that the reporting and analysis of incident was the subject of AFI/7 Rec. 5/26. The meeting also noted the outcome of the fifth ATS meeting of AFI ATS Incident Analysis Working Group, which was held in Nairobi from 15-16 April 2002. Based on the reports filed by pilots, it was noted that 72 incidents were reported out of 983,497 commercial movements recorded in 2001 within the AFI Region whereas 62 were reported in 2000. It was however noted that most of the incidents in 2001 were mainly attributed to the following causes which are identified as deficiencies:

- a) Controller proficiency remains the main cause of ATS incidents in the region.
- b) The lack of efficient co-ordination between ATS units (ATS/DS, AFTN).
- c) Inefficient mobile communications
- d) Inadequate airspace organization or classification in specific areas.

3.2 The meeting recalled Conclusion 12/22 of APIRG/12 Meeting concerning priority to the proficiency of air traffic controller and the uniform application of ATS proficiency assessment respectively.

3.3 The meeting adopted the following conclusion based on the recommendation of the fifth AFI ATS Incident Analysis Working Group.

CONCLUSION 2/7: - REVIEW OF AFI ATS INCIDENTS

THAT :

- 1) **EFFORTS TO ENHANCE CONTROLLER TRAINING, PROFICIENCY AND WORK ENVIRONMENT AND ATS STAFF MANAGEMENT MUST CONTINUE THROUGHOUT THE REGION.**
- 2) **ASECNA (NIAMEY, DAKAR OCEANIC) KHARTOUM, TRIPOLI, LAGOS, LUANDA, AND KINSHASA FIRS TO CONTINUE TO IMPROVE STAFF TRAINING.**
- 3) **FOR BETTER ASSESSMENT OF THE SITUATION, JOINT ICAO/IATA TECHNICAL MISSIONS INCLUDING OTHER ORGANIZATIONS BE ENCOURAGED TO THE ATS UNITS WHERE THE HIGHEST NUMBER OF INCIDENTS HAVE OCCURRED.**

- 4) STATES AND ATS PROVIDERS (ANGOLA, DRC, LIBYA, SUDAN, ASECNA) BE URGED TO EXPEDITE EXTENSION OF VHF COVERAGE TO ROUTES IN THE UPPER AIRSPACE , AND PROVISION OF ATC SERVICE IN THE REGION.
- 5) ACTION BE TAKEN BY ALL STATES TO FULLY IMPLEMENT/IMPROVE ATS/DS LINKS, ESPECIALLY BETWEEN N'DJAMENA -TRIPOLI, N'DJAMENA-KHARTOUM, ACCRA-LAGOS, NIAMEY-ACCRA.
- 6) STATES BE URGED BY ICAO TO ESTABLISH AND PERIODICALLY UPDATE ATS CO-ORDINATION PROCEDURES BETWEEN ALL ADJACENT ATS UNITS.
- 7) STATES WHICH HAVE NOT ALREADY DONE SO, BE URGED BY ICAO TO IMPLEMENT PROCEDURES FOR THE TIMELY INVESTIGATION OF ATS INCIDENTS AND NOTIFICATION OF THE RESULTS IN ACCORDANCE WITH AFI/7 REC.5/26.
- 8) STATES, WHICH HAVE NOT ALREADY DONE SO, TO BE ENCOURAGED BY ICAO TO IMPLEMENT VOLUNTARY NON PUNITIVE ATS INCIDENT REPORTING PROCEDURES.
- 9) STATES BE URGED TO IMPLEMENT ICAO PROVISIONS WITH REGARD TO CARRIAGE AND OPERATION OF PRESSURE-ALTITUDE REPORTING TRANSPONDERS; ANNEX 6 PART 1, PARAGRAPH 6.19 AND ANNEX 6, PART II PARAGRAPH 6.13.1, ANNEX 10, VOLUME IV, DOC. 8168 VOLUME 1, PART VIII AND PANS/ATM, DOC.4444 CHAPTER 8 PARAGRAPH 8.5.
- 10) STATES BE URGED TO IMPLEMENT ICAO PROVISIONS WITH REGARD TO CARRIAGE AND OPERATION OF ACAS II IN ACCORDANCE WITH PROVISIONS OF ANNEX 6, APART I PARAGRAPH 6.18 AND ANNEX 10 VOLUME IV AND DOC. 8168.

Agenda Item 4: Establishment and identification of significant reporting points in AFI Region

4.1 Under this agenda item, the meeting emphasized the need to follow the guiding principles governing the establishment and identification of significant points including transfer of control/communications points as indicated in relevant ICAO provisions (Appendix 2 of Annex 11 ATS Planning Manual reference Chapter 4 and Assembly Resolution A33-14 Appendix N).

4.2 Pursuant to APIRG Conclusion 13/40, the meeting noted that the ICAO Regional Offices of Dakar and Nairobi undertook necessary action by writing to concerned states for follow-up action on IFALPA's proposal to name airway crossing points that hitherto lacked such names, making it difficult if not impossible, for Air Traffic Controllers and Pilots alike to identify and thus determine times and place of potential conflict.

4.3 The meeting did not address the new proposal by IFALPA and it was however agreed that the Secretariat will endeavour to address the issue through correspondence in order to harmonize the new proposal with the action already undertaken by the concerned States and ICAO. Based on the foregoing the meeting formulated the following decision:

DECISION 2/8 : ASSIGNMENT OF 5-LETTER NAME CODES AT CROSSING POINT OF ATS ROUTES

THAT MEMBERS OF THE TASK FORCE SHOULD ASSIST THE SECRETARIAT IN HARMONIZING PROPOSALS OF CHANGES TO THE AIRSPACE RE-ORGANISATION AND SEND THEIR RESULTS TO ICAO SECRETARIAT BY 1ST JULY 2002 TO ENABLE THE SECRETARIAT TO SUBMIT THE HARMONIZED RESULTS TO STATES FOR COMMENTS AND NECESSARY ACTION AS SHOWN IN APPENDIX D.

4.4 The meeting also reviewed deficiencies affecting ground-ground communications in the AFI Region, as listed by the 13th meeting of the AFI Planning and Implementation Regional Group (APIRG), and other communication related issues of relevance to the provision of efficient air traffic services.

4.5 The meeting also noted that from various analyses of ATS incidents, it appears that deficiencies in aeronautical and fixed mobile communications continue to adversely affect air navigation safety and efficiency in some FIRs in the AFI Region. It was noted that in some cases, ATS conflicts were solved thanks to the current IATA in-flight broadcast procedure (IFBP) on VHF frequency 126.9Mhz. The meeting also noted that, according to the new AFI VHF utilization plan, VHF 126.9 Mhz is assigned to FIS/U and GP, and that provision has been made for an air-to-air frequency (i.e. 123.45Mhz) to support TIBA procedure. It was recalled that pursuant to ICAO Annex 11, TIBA is applicable only in airspace classes C through G, whilst IFBP may be applied in any airspace, including Class A airspace which is recommended for all international air routes in the Region, and has already been implemented for some routes/areas or portion's thereof. To this effect the meeting framed the following conclusions:

CONCLUSION 2/9 : ATM OBJECTIVES AND REQUIREMENTS

THAT AIR-GROUND AND GROUND-GROUND REQUIREMENTS FOR ATS UNITS BE IN CONFORMITY WITH DOC.003 AFI CNS/ATM PLAN.

CONCLUSION 2/10 : IMPLEMENTATION OF EXTENDED VHF COVERAGE

THAT STATES SHOULD EXPEDITE THE EXTENSION OF VHF COVERAGE WITHIN THEIR FIRS.

CONCLUSION 2/11: PUBLICATION OF THE AIR TO AIR COMMUNICATIONS CHANNEL

THAT STATES WHICH HAVE NOT YET DONE SO, PUBLISH IN THEIR REGULATIONS AND AIPS, THE AIR TO AIR VHF COMMUNICATION CHANNEL ON THE FREQUENCY OF 123.45MHZ IN ACCORDANCE WITH ICAO ANNEX 10 VOL.V PARAGRAPH 4.1.3.2 AND THE AFI VHF UTILIZATION PLAN

CONCLUSION 2/12 : ELIMINATION OF DEFICIENCIES AFFECTING ATS COMMUNICATIONS

THAT STATES SHOULD ELIMINATE DEFICIENCIES AFFECTING ATS COMMUNICATIONS PARTICULARLY AFTN, ATS/DS AND AMS AS SHOWN IN APPENDIX-E TO THIS REPORT.

Agenda Item 5: Review of prohibited, restricted and danger areas

5.1 Under this Agenda Item, the meeting reviewed the situation in the AFI Region regarding closure of airspace and outlines the associated problems arising from these situations.

5.2 As a follow-up to LIM AFI, Rec. 2/21 approved by the ICAO Council the meeting noted that the ICAO Regional Offices of Cairo, Dakar, Nairobi and Paris have addressed the concerned States by correspondence and through missions and personal contacts with the relevant authorities, as appropriate, urging them to review the need for the promulgations of prohibited, restricted and danger areas

5.3 A list of prohibited restricted and danger areas of States in the AFI Region is at Appendix-E to this paper. The meeting noted that these examples are sufficient to clearly demonstrate that the problems associated with the promulgation of prohibited, restricted and danger areas are far from being resolved and have serious impact on the safety of international civil air transport operation.

In light of the foregoing, the meeting adopted the following conclusion:

CONCLUSION 2/13 :- APPLICATION OF FLEXIBLE USE OF AIRSPACE (FUA)

THAT :

- a) **STATES BE ENCOURAGED TO ADOPT A FLEXIBLE USE OF AIRSPACE APPROACH TO THE ESTABLISHMENT OF PROHIBITED, RESTRICTED OR DANGER AREAS SUCH THAT THESE AREAS ARE ON TEMPORARY BASIS TAKING INTO THE NEEDS OF CIVIL AVIATION; AND**
- b) **STATES SHOULD CONSTANTLY REVIEW THE EXISTENCE OF PROHIBITED, RESTRICTED OR DANGER AREAS PURSUANT TO LIM/AFI REC.2/21 AS SHOWN IN APPENDIX-F TO THIS REPORT.**

Agenda Item 6: Implementation of 10 minute longitudinal separation

6.1 Under this Agenda Item the meeting reviewed the situation in the AFI Region regarding implementation of a 10 minute longitudinal separation minimum.

6.2 The meeting also noted that the ICAO Regional Offices of Dakar and Nairobi have sent follow-up letters of APIRG/13 Conclusion 13/43 to States in the AFI Region in respect of the implementation of 10 minute longitudinal separation minimum. The meeting discussed the extent to which States in the AFI Region meet the minimum requirement for implementation of the ten minute longitudinal separation minimum, and provided up-to-date information on corrective and follow-up actions to be taken before implementation.

6.3 The meeting also noted that the following FIRs/States have informed ICAO that they have implemented the 10-minute longitudinal separation in selected airspace and relevant NOTAMs issued accordingly: Algeria, Botswana, Burkina, Burundi, Cape Verde, Chad, Comoros, Congo, Côte d'Ivoire, Djibouti, Eritrea, Ethiopia, Gambia, Ghana, Guinea Bissau, Guinea, Kenya, Lesotho, Madagascar, Liberia, Malawi, Mali, Mauritania, Mozambique, Namibia, Niger, Nigeria, Reunion, Rwanda, Senegal, Seychelles, Sierra-Leone, South Africa, Swaziland, Tanzania, Tunisia, Uganda, Zambia and Zimbabwe.

6.4 The meeting also urged States where there were irregularities in the implementation of 10-minute longitudinal Separation to take steps to remove such irregularities through the publication of appropriate AICs or NOTAM. The meeting then urged the remaining States of the AFI Region to take action for the early implementation of APIRG/13 Conclusion 13/43 in terms of ICAO provision, including:

- the availability of navigation aids for frequent determination of position and speed;
- direct controller pilot communications, voice or controller pilot data link communications (CPDLC);
- the overall workload/traffic volume associated with the application of such minima;
- the adequacy of the available communications links;
- safety assessments performed specifically for a particular network of tracks or routes;
- the availability to-air-traffic control units of radar-derived information; and
- the availability of air traffic services (ATS) letters of Agreement and contingency measures.

Based on the foregoing, the following conclusion was formulated:

**CONCLUSION 2/14:- IMPLEMENTATION OF 10 MINUTE
LONGITUDINAL SEPARATION MINIMUM**

THAT :

- a) **STATES THAT HAVE NOT ALREADY DONE SO BE INVITED BY ICAO TO URGENTLY IMPLEMENT THE 10-MINUTE LONGITUDINAL SEPARATION MINIMUM TAKING INTO COGNIZANCE THE RELEVANT REQUIREMENTS IN APIRG/13 CONC.13/43.**
- b) **ICAO INVITE ALGERIA AND ASECNA TO IMPLEMENT A COMMON 10-MINUTE LONGITUDINAL SEPARATION MINIMUM IN SELECTED AIRSPACE SO AS TO AVOID CONFUSION.**

Agenda Item 7: Development of Chart ATM 1 on AFI participating areas for Part V-ATM of the AFI FASID

7.1 Under this Agenda, the meeting reviewed the draft chart of AFI participating areas for SSR Code Allotment which when approved will be included in Part V of the AFI ATM 1 FASID.

7.2 The meeting also noted that APIRG has requested the ATS Sub-group to develop a chart of the AFI participating areas for SSR Code Allotment Plan and such a chart be included in the AFI FASID Part V-ATM1.

In view of the above, the meeting adopted the following conclusions:

CONCLUSION 2/15 : DEVELOPMENT OF CHART ATM 1 (PART V-ATM OF THE AFI FASID)

THAT THE PROPOSAL FROM THE SECRETARIAT RELATED TO SSR CODE ALLOCATION PLAN (CHART ATM 1 FOR PART V-ATM FASID) AS CONTAINED IN APPENDIX-G WILL BE SUBMITTED TO TASK FORCE MEMBERS FOR COMMENTS BY 15 JULY 2002 AND SUBSEQUENTLY PRESENTED TO THE ATS/AIS/SAR SUB-GROUP.

Agenda Item 8: Review of SIDs and STARs

8.1 Under this Agenda Item, the meeting reviewed the establishment of standard departure and arrival routes, including changes that may be required with the introduction of CNS/ATM systems, with a view to developing appropriate recommendations.

8.2 The meeting then noted that standard instrument departure and arrival routes (SIDs and STARs) should be designed so as to permit aircraft to navigate along the routes without radar vectoring and reiterated AFI/7 Recommendation 5/10 which call for the Establishment of Standard Departure and Arrival Routes.

8.3 Following the review of establishment of SIDs and STARs in the AFI Region the meeting formulated the following Conclusions to ensure that States establish SIDs and STARs as contained in the Air Traffic Services Planning Manual (Doc. 9426).

CONCLUSION2/16:- APPLICATION OF SIDS AND STARS

THAT STATES BE ENCOURAGED TO IMPLEMENT THE APPLICATION OF FLEXIBLE USE OF AIRSPACE IN ESTABLISHING SIDS AND STARS CONSIDERING OF THE FOLLOWING:

- a) **THAT THE PERIOD IMMEDIATELY AFTER TAKE OFF IS ONE OF HIGH COCKPIT WORKLOAD, THE FIRST SIGNIFICANT POINT OF A STANDARD INSTRUMENT DEPARTURE ROUTE WHICH REQUIRES REFERENCE TO A RADIO NAVIGATION FACILITY SHOULD, IF POSSIBLE, BE ESTABLISHED AT A DISTANCE OF AT LEAST 2 NAUTICAL MILES FROM THE END OF THE RUNWAY;**
- b) **LEVEL RESTRICTIONS, IF ANY, SHOULD BE EXPRESSED IN TERMS OF MINIMUM AND/OR MAXIMUM LEVELS AT WHICH SIGNIFICANT POINTS ARE TO BE CROSSED;**
- c) **THE DESIGNATION OF SIGNIFICANT POINTS AS REPORTING POINTS (COMPULSORY OR ON REQUEST) SHOULD BE KEPT TO A MINIMUM;**
- d) **STANDARD INSTRUMENT DEPARTURE (SIDS) AND ARRIVAL ROUTES (STARS) SHOULD BE ESTABLISHED IN CONSULTATION WITH THE USERS AND OTHER PARTIES CONCERNED.**

**CONCLUSION 2/17:- IMPLEMENTATION OF SIDS AND STARS
COUPLED TO RNAV ROUTES
STRUCTURES**

**THAT STATES BE ENCOURAGED TO IMPLEMENT SIDS AND
STARS COUPLED TO RNAV ROUTES STRUCTURES WERE
REQUIRED, IN ORDER TO RELIEVE CONGESTION ON
EXISTING SINGLE ROUTES.**

8.4 The meeting also reviewed the current status regarding the development of SIDs and STARs of States within the Gulf of Guinea area. The meeting then called on the ICAO Regional Office concerned to arrange at the earliest possible date a co-ordination meeting between Benin, Ghana, Nigeria, Togo and ASECNA to resolve the particular situation in the Gulf of Guinea regarding SIDs and STARs. The concerned States and ASECNA agreed that this issue would be finalised in the next Informal Inter-FIR Coordination Meeting to be organized in Ghana.

Agenda Item 9: Any other business

9.1 Under this Agenda Item, the meeting raised the issue of ATS Airspace classification to be accorded to lower oceanic airspace. Suggestions were made that in order to achieve a more efficient airspace organization, it is necessary to have Class A airspace above FL145 within oceanic airspace and that ICAO should review the existing status in various States and identify the deficiencies with a view to taking remedial action.

9.2 The meeting noted that the only issue of content is contained in the AFI Supp (Doc.7030) with States in Para. 1.2.1.1, that flights shall be conducted in accordance with the instrument flight rules (even when not operating in instrument meteorological conditions) when operated above flight level 150.

**CONCLUSION 2/18 :- CLASSIFICATION OF UNCONTROLLED
OCEANIC AIRSPACE**

**THAT ICAO AS A MATTER OF URGENCY CLARIFIES THE CLASS TO BE
GIVEN TO AN UNCONTROLLED OCEANIC LOWER AIRSPACE**

APPENDIX A

LIST OF PARTICIPANTS

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APPENDIX B

List of Conclusions/Decision of the 1st ASM/TF Meeting

Number	Title
Conclusion 2/1	<p>Provision of air traffic services in the upper airspace</p> <p>That: In the upper airspace air traffic services be provided by the ACC/FIC responsible for the FIR.</p>
Conclusion 2/2	<p>Establishment and identification of significant points</p> <p>That: While establishing significant and transfer of control and communications points, States follow the guiding principals governing the establishment and identification of significant points including transfer of control/communications points as indicated in the relevant ICAO provisions (Appendix 2 of Annex 11, ATS Planning Manual Chapter 4 and Assembly 32 Resolution A-32-14 Appendix N).</p>
Conclusion 2/3	<p>ATM Improvements in the Northern AFI States</p> <p>That: The secretariat endeavours to address the deficiencies identified in the northern AFI States through correspondence and presents the comments/agreements from the States concerned to the next ATS/AIS/SAR sub-group meeting.</p>
Conclusion 2/4	<p>Review of Airspace Organization</p> <p>That: The ATS/AIS/SAR Sub-Group considers the proposed changes to the airspace organization indicated at Attachment B to the report on Agenda Item 2.</p>
Conclusion 3/1	<p>Training of Air Traffic Controllers</p> <p>That: States give priority for conducting appropriate Training/Refresher training to air traffic controllers in accordance with APIRG/12 Conclusion 12/22.</p>
Conclusion 3/2	<p>Uniform Application of ATS Proficiency Assessment and Standard Auditing Procedures</p> <p>That: States be urged to expedite action on conclusion 12/23 of the APIRG/12 meeting using the guidelines indicated at Appendix G to the report of APIRG/12.</p>

Conclusion 4/1	<p>Implementation of WGS-84 in the Region</p> <p>That: a) States which have not done so, be invited to expedite action in order to implement the WGS-84 coordinate system in the Region;</p> <p>b) ICAO be invited to assist in the transformation of the co-ordinates of the FIR boundary points in the AFI region.</p>
CONCLUSION 5/1	<p>Reduction of Longitudinal Separation</p> <p>That: a) States expedite action in order to ensure that all conditions are met in order to safely implement 10 minutes longitudinal separation in the region.</p> <p>b) The ATS/AIS/SAR sub-group, reviews the status of implementation of 10 minutes longitudinal separation in the region and list non-implementations as shortcoming/deficiency.</p>
DECISION 5/2	<p>That: The States that have not implemented the 10 minute longitudinal separation by 23 March 2000 as called for by APIRG/12 Rec.12/44, be reminded by ICAO to implement this requirement.</p>

APPENDIX C

**REVISED TERMS OF REFERENCE, WORK PROGRAMME AND
COMPOSITION OF THE AIRSPACE MANAGEMENT TASK FORCE (ASM/TF/2)****a) Terms of Reference**

To explore ways and means of finding operational solutions to some pressing problems affecting the safety of air navigation in the region and to propose remedial actions.

b) Work Programme

- i) To review the existing ATS airspaces in the AFI Region (ATS routes, TMAs, Control Zones, etc...) and to identify significant enhancements that could be made to improve safety efficiency and to propose pragmatic operational solutions in this regard;
- ii) To study problems associated with the implementation of WGS-84 coordinates of reporting points, etc...)
- iii) To review the assignment of significant points which have not been assigned five-letter name-code designators, and identify any proposed changes as appropriate;
- iv) To identify hot spots and bottlenecks where significant ATS incidents have been reported and propose solutions;
- v) Review of prohibited, restricted and danger areas in the AFI Region;
- vi) Implementation of 10 minute longitudinal separation minimum in the AFI Region;
- vii) Development of chart ATM 1 on AFI participating areas for Part V-ATM of the AFI FASID;
- viii) Review of SIDs and STARs in the AFI Region.

APPENDIX D**PROPOSED CHANGES TO THE
AIRSPACE RE-ORGANIZATION**

1. **ACCRA FIR DGAA (Ghana)**
 - a) Make Accra TMA crossing points non-CRP's at FL 245 and above
 - b) Add names to all crossings on Direct route Tamale (TLE) - Gwasero (GW)
 - c) Add names to all crossings on Direct route Accra (ACC) - Gwasero (GW)
 - d) Add names to all crossings on ATS route Lomé (LM) - Niamtougou (NT)
 - e) Add names to all crossings on ATS route Lomé (LM) - Niamey (NY)
 - f) (Re) name all FIR/UIR boundary points created by Direct/ATS routings
 - g) Delete NANGA, TCP be BIGOM

2. **ALGIERS FIR, DAAA**
 - a) Reroute UA 411 to cross UB 738 over HMB NDB, the straight to MOS VOR and delete ORA or name crossing
 - b) UA 411 with UB 738 and delete HMB NDB
 - c) Suggest to route UA 411 out of ALR VOR and not via BNA NDB, and name crossing with UB 726
 - d) On UA 31 out of ALR, name crossing with UB 726 and delete BNA as CRP
 - e) Add name to crossing UA 31 with UB 734 and delete BABOR
 - f) Add names to crossings UG 26 with UB 734, UV 508, UR 978, make these X-ings TCP's and delete BOURI
 - g) Add names to crossings UG 6 with UA 605, UG 14
 - h) Add name to crossing UG 14 with UR 34
 - i) Add names to crossings UA 411 with UR 978, UA 605, UG 14
 - j) Delete CHLAL as CRP on UB 726
 - k) Add names to crossings UR 985 with UG 859, UV 508, UG 864 and delete ZIBAN as CRP
 - l) Add names to crossings UG 864 with UV 508, UR 978, UA 605 and delete ROANE, NADJI, AMIRA, RADJA
 - m) Add name to crossing UA 605 with UV 71 and delete KRIMA
 - n) Add name to crossing UG 852 with UA/UM 614, delete RGN as CRP
 - o) Relocate RAHIL to crossing UG 852 and UM 608

 - p) Add name to crossing UM 608 and UB 727, make this crossing transfer of control Algiers/Niamey, delete RASIR, TERIN
(State indicated that codes are used as TCPs and cannot be deleted)

- q) Add names to crossing UB 727 with UM 978 and UB 730 and delete TIDOU, HINAN, OUREL
(State indicated that codes are used as TCPs and cannot be deleted)
- r) Delete ILZ on UB 727 as CRP
- s) Make Ghat transfer of control Algiers/Tripoli and delete TWARG, on route DJA-GHT (compare situation at IMN)
- t) Add names to crossing UM 608 with UR 990 and UG 864 and delete JOKKA, RIAME, MOUNA

3. ANTANANARIVO FIR, FMMM (Madagascar)

Antananarivo FIR is managed by ASECNA

- a) **Make EDAMA transfer of control point Beira/Antananarivo FIR's, delete EROPA, EGMAD**
- b) **Delete IXAGU on UB 536 as CRP**
(Note : ASECNA indicated that IXAGU cannot be deleted as it is a TMA entry/exit point for Antananarivo, that above code is to be retained as TCP)
- c) **Delete TIKAN on UR 775F**
(Note : ASECNA indicated that TIKAN will be used as on demand CRP while considering the airspace statute in this zone)
- d) **Add crossing UR 782F with UM 609 to Antananarivo FIR, name this crossing, delete ONIVE, ATOLA**
(Note: ASECNA indicated that the deletion of ATOLA requires a preliminary coordination between the ATS Authority of FIRs Seychelles and Antananarivo).
- e) **Make ANVOR (X-ing UG 661 with UR 780F) transfer of control point with Saint Denis TMA, then delete UVENA and APLEM.**
(Note: ASECNA indicated that the deletion of the UVENA point and APLEM requires a preliminary coordination between the responsible ATS of Saint-Denis TMA and of Antananarivo FIR).
- f) **Make KARAT (X-ing UA 665 with UR 401 transfer of control point with Mauritius FIR, delete AMBOD**
- g) **Delete APKOT on UA 609F**
(ASECNA indicated that this point is used as TCP, its deletion requires a preliminary coordination between the responsible ATS of the Centers of Antananarivo, Saint-Denis and Mauritius)
- h) **Add name to crossing UA 400 with direct route Mahajanga VOR- Inhambene NDB (Jeppesen charts)**
(ASECNA indicated that the new segment direct VOR Mahajanga–NDB Inhambene must be registered in the Table ATS 1 of the network of ATS routes)
- i) **Add name to crossing UA 401 with direct route Moroni VOR- RAKAT (Jeppesen charts)**
(ASECNA indicated that the new segment direct VOR Moroni–RAKAT should at first be registered in the Table ATS 1 of the network of ATS routes)
- j) **Add name to crossing UG 661 with Direct route Moroni VOR- SOKAR (Jeppesen charts), and delete TABNO and make this X-ing TCP, or reroute direct route via TABNO**
(ASECNA indicated that, for the first case, the new segment direct VOR Moroni–SOKAR should at first be registered in the Table ATS 1 of the network of ATS routes; in the second case, a coordination is necessary with the FIRs Seychelles and Dar Es Salaam for the harmonization of the TCP).

- k) **Reroute direct route DO NDB- MG VOR via NSB VOR, via ANDIL, and name crossing with UB 790**
(ASECNA indicated that the new segment direct NDB DO - VOR MG via VOR NSB and ANDIL should firstly be registered in the Table ATS 1 of the network of ATS routes)
- l) **Add names to crossings Direct route NSB VOR- St Denis VOR with UB 459, UG 661, UR 348**
(ASECNA indicated it would be preferable for this new segment, to be at first registered on the table ATS 1 of the network of ATS routes, and that its track passes via UVGET in order to decrease the creation of many CRPs)

4. **BAMA KO TMA (Mali)**

TMA BAMA KO is managed by ASECNA

- a) **245 should be controlled from the ACC/FIC responsible for the FIR.**
(ASECNA indicated that a relative to global survey of the reorganization of the airspace of the ASECNA region is ongoing)
- b) **Current CRP's under "FIR" name only**

5. **BRAZZAVILLE FIR, FCCC (Congo)**

ASECNA is the agency managing the airspace

- a) All upper airspace in Brazzaville FIR must be managed by Brazzaville ACC.
(ASECNA indicated that a relative global survey of the reorganization of the airspace of the ASECNA region is ongoing)
- b) There must be only **one** direct ATS route between Douala and Yaounde.
(ASECNA noted the proposition)
- c) Delete TI and VITLI as CRP on UR 984 or replace by one in the middle
(ASECNA noted the proposition, these points will be considered as « CRP non compulsory)
- d) Add name to crossing route FL (N'Djamena)- IRO (DRC) with UA 410, with UG 655
(ASECNA indicated that the itinerary FL (N'Djamena)–IRO (DRC) should at first be registered in the Table ATS 1 of the network of ATS routes)
- e) Delete MERON on UG 655 and UIR CRP at N 05.04.05/E 024.12.2
(ASECNA indicated that the coordinates of the new point(TCP) proposed will be verified)
- f) Add name to UIR boundary N 8 and E 020.04.0 and E 018.46.5
(ASECNA indicated that the creation of this point must be subject to a requirement of creation of ATS routes on the basis of a meaningful air traffic statistics. The creation of this point is on stand by)
- g) On route DLA-BT, add names to crossings with UR 986, UH 455, UG727
(ASECNA indicated that, considering the procedures of exploitation and the composition of the area circulation in the sector, the itinerary DLA–BT (BERBERATI) must to be used via VOR YD)
- h) Delete on same rout 2 TMA crossing CRP's
- i) Add name to crossing UH 455 with ATS route TJN-INASU-Kano
(ASECNA indicated that the creation of this new point requires a preliminary coordination

with the responsible ATS of Kano on the necessity to establish the track of ATS route TJN-INASU-KANO with coordination of the two adjacent FIRs)

6. CANARIAS FIR, GCCC

Whilst it is recognized that virtually all of the Canarias FIR is radar covered, it is still recommended that all airway crossings be given names. This is to allow aircraft data bases to have access to these names and thus provide an additional contingency redundancy, such as in case of radar outage. These named airway crossings can be made non-compulsory reporting points.

7. CASABLANCA FIR, GMMM

- a) Whilst it is recognized that virtually all of the Casablanca FIR is radar covered, it is still recommended that all airway crossings be given names. This is to allow aircraft data bases to have access to these names and thus provide an additional contingency redundancy, such as in case of radar outage. These named airway crossings can be made non-compulsory reporting points
(State indicated that most of these requirements have been done but some are still remaining to be done)

8. DAKAR FIR - Abidjan Sector, DIII (Côte d'Ivoire)

ASECNA is the agency managing the airspace.

- a) Delete ENERA on UA 560
(ASECNA noted this proposition, ENERA point could be used as “on demand CRP” and TESKI as TCP)
- b) When W1 is extended beyond SN (Accra FIR), two new crossings with UG 859 and UA 614/UM 104 are created.
(ASECNA noted the proposition that must first be approved for an insertion in the ICAO AFI Air Navigation Plan)
- c) Then delete MOLAB and GUPEX.
(The proposition has been noted by ASECNA, but the above codes are to be retained as TCPs at present)
- d) Suggest W 1 to connect at GUREL
(The proposition has been noted by ASECNA and awaits approval of the ICAO AFI Air Navigation Plan)

9. DAKAR, FIR, GOOO (Senegal)

ASECNA is the agency managing the airspace

- a) The segment ARLEM-IPEKA on UA560 to be delegated to Dakar or Abidjan by Roberts FIR.
(ASECNA indicated that it requires an agreement between the competent ATS Authorities of the FIR/UIR of Dakar, Roberts and Abidjan Sector).
- b) Delete MAURI on UB 600F *(See Canarias FIR, GCCC)*
- c) Delete KIMGA on UA 600D

- d) Delete MISKI on UM 974
- e) Delete DILPO on UR 620F
- f) Delete KOMOR on UB 600
- g) Delete LUSTI on UA 602

10. DOUALA (Cameroon)

ASECNA is the agency managing the airspace

See Brazzaville FIR.

11. HARARE FIR, FVHA (Zimbabwe)

- a) Realign airway UA 409 (Lusaka-Gabarone to run over IBRAK (crossing with UA 404 and UB 528). At this moment IBRAK will not appear on flight plans along UA 409.
- b) Add name to crossing UA 404D with UB 540, and delete BONAL
- c) At present Harare airport code similar to FIR code, FVHA

12. JOHANNESBURG FIR, FAJS (South Africa)

- a) At present Johannesburg airport code similar to FIR code, FAJS
(State indicated that this is subject to research until further decision is made)

13. KANO FIR, DNKK (Nigeria)

- a) Delete GAMTA on UG 660, position OVSAT on same route is enough
(State indicated GAMTA is a CRP only for flights at or below FL145 in lower airspace)
- b) Add names to crossings ATS route BD-JS with UV 20, with UV 15
- c) Add name to crossing UV 20 with UR 778
- d) Consider routing UA 604 via JO in stead of JS
(State has confirmed that this is in progress)

14. KHARTOUM HSSS (Sudan)

- a) At present airport code Khartoum similar to FIR code, HSSS

15. KINSHASA, FIR FZAA (Democratic Republic of Congo)

- a) Name crossing UHI and UA607.
- b) Delete UNUTU on UV30
(Note :State indicated that UNUTU cannot be deleted as it is a TMA exit point for Gbadolite)
- c) Delete DESEK, LISAT, EDIKU and INUVA from upper airspace.
(Note : That State has decided to maintain them in order to determine the entry/exit points of Mbandaka TMA)
- d) Delete TEKTI on FIR boundary FCCC and FZAA FIR's on UA 607 (compare with other routes from Bangui)

- e) Delete as CRP, DESEK, LISAT, EDIKU, INUVA, NUPON, OVRIG on Mbandaka TMA
- f) Delete CRP at N 0209.6/E 019.37.8, on UV 30 out of MBA VOR
- g) Add name to crossing MBA-KGI with ATS route BSU-LJA and delete BDE029 as CRP
- h) Add names to crossing points UA 609 with UJ 200, UV 30, ATS route BLT-KGI
- i) Delete UNUTU, TUVAB, ISDIM on Gbadolite TMA
- j) Check desirability of UBIDA as non-CRP on UA 610
- k) Change name ENUTU, too similar to UNUTU in same FIR (except if agreed to delete UNUTU)
- l) Add names to crossing points UH 1 with UR 984, UA 610, UA 607, V 48
- m) Add names to crossing points UH 10 with UR 984, UA 607, delete CRP at N 0019.6/E 02238.3
- n) Add name to crossing UB 535 with V 48, confirm TIPER is crossing UB 535 with ATS route KSA-KGI
- o) Add name to crossing UH 325 with UA 607
- p) Delete PONO, ARABA on UG 450
- q) Delete ULVAS on UA 406
- r) Delete EDLIN as CRP on UG 652

16. **KIGALI - HRYP**

- a) Add name to crossing UB532 with UB607
- b) At present Kigali airport code similar to FIR code, HRYP

17. **KINSHASA FIR (KISANGANI TMA)**

- a) Delete TUSOX on UA607
(Note : State has decided to maintain TUSOX and delete VABIS)
- b) Make ILBOK on UA613 non-CRP.
- c) Delete LOSMI on UA613
(Note : State has decided to maintain it as reporting point UH325/UA613)
- d) Delete TENKA and EDUSA on UA607 and create new CRP.
(Note : State indicated that these points would be maintained)
- e) Delete PIRVO and GALIC on UA618.
- f) Add names to crossings UH 10 with A 609F, with UA 609F
- g) Add name to crossing UB 535 with ATS route IRO-BUN
- h) Make ARMEN a CRP
- i) Delete DEDIX, EDATO, PILSI, SEROK, ULPIG, TMA boundary (route KGI-BLT), VIVRO on Kisangani TMA
- j) Add names to crossings UA 618 with UV 3, with UB 531, UH 1, ATS route BUN-IRO, UG 862
- k) Add name to crossing UB 532 with UB 607
- l) Add name to crossing ATS route BKV-KMI with UG 450, with UA 613 add name to crossing UV 3 with ATS route KGI-BKV
- m) Delete EBERA, TIPLI on Goma TMA
- n) Delete ONABA, AVGER, USDUP as CRP's due proximity of PONAL and to be named inters. UG 450/UG 655
- o) Add name to crossing UH 325 with UR 984

- p) Delete OMOXA on Kisangani TMA
- q) Delete GAMEX
- r) Add name to crossing ATS route KIN-KMI with UG 450
- s) Add name to crossing point UR 984 with Route/Radial 197 out of KGI VOR
- t) At present Kisangani airport code similar to FIR code, FIZC

18. KINSHASA FIR (Lubumbashi TMA)

- a) Give name to intersection on UG 655 ex LUB VOR 88 nm. N of RUNGO
- b) Add name to crossing UG 655 with UG 450 and delete USDUP, AVGER, ONABA (all one country)
- c) Add name to crossing H4 with UR 984
- d) Delete NUTIR on UH 4, use only EDUSA
- e) Align either UA 618 or UR 984 to create one crossing point near ONRAB/MOMAX
- f) Delete KWZ as CRP on UA 406 ex LUB VOR, VISMA OK
- g) Add name to crossing V 48 with ATS route KNG-KIN and delete XIRUD/GULAS
- h) Delete AKROS, UBOLO, TAROK, SEXER as CRP on TMA of Kananga
- i) Delete SORGU, ONESI, too close after crossing point TUSEL
- j) Add name to crossing UG 450 with route MBY-KIN and delete UNIRI/INADO
- k) Add names to crossings ATS route KNG-KIN with ATS route MBY-LJA and with UA 607, delete UDRAB
- l) Add names to crossings UA 450 with V 48 and with ATS route MBY-LJA
- m) At present Lubumbashi airport code similar to FIR code, FZQA

19. LAGOS (SUB) FIR, DNLL (Nigeria)

- a) Delete MOPAD as CRP on UA 609
(State has indicated that MOPAD is a CRP in lower airspace only (at or below FL415))
- b) Delete ONTAL on UR 984
(State has indicated that ONTAL is a CRP in lower airspace only (at or below FL145))
- c) Add name to crossing point route TYE (Cotonou) - Malabo (MBO) with UR 603
(State will propose a new route Cotonou-Malabo for inclusion in the AFI plan at ATS SG/7)
- d) Combine ONKOR and Abm OK on crossing route TYE-MBO with UG 856
(State will propose a new route Cotonou-Malabo for inclusion in the AFI plan at ATS SG/7)
- e) Give name to FIR boundary on route TYE- MBO
(State will propose a new route Cotonou-Malabo for inclusion in the AFI plan at ATS SG/7)
- f) Confirm proper name of FIR boundary on UG 856, ERAVA on Jepp, EDITO on KL/SK Chart

20. LIBREVILLE TMA (Gabon)

ASECNA is the agency managing the airspace
Same as in II Brazzaville FIR

21. **LILONGWE FIR, FWLL (Malawi)**

- a) Add names to crossings of UA 407F with UG 656 and W 601
- b) At present Blantyre airport code similar to FIR, FWCL

22. **LUANDA FIR, FNAN (Angola)**

- a) Confirm APNET and ERDAB are indeed crossing points UA 617 with UG 450 and UH 612 respectively.
- b) Confirm necessity of FIR boundary point INUGA on UG 450 (compare with no boundary point on UH 612)
- c) Route UH 600 direct from KILBI to IMTOP and delete Malanje (MA) as CRP
- d) Re-route UA 617 APRIG direct AKAZU, name ensuing crossings with UG 853 and UV 858, then
- e) Delete TIBAD and EKBOM
- f) Add name to crossing UA 611 with Direct route ARLEM-GETAP and delete ITPIK
- g) Give name to Accra-Luanda FIR boundary on route ARLEM-GETAP
- h) Add names to crossings SAA Direct route Johannesburg-Atlanta (JAINS-BOPAN) with UA 611
- i) Make EGOLI a CRP on UA 611
- j) Give name to FIR boundary Accra-Luanda and Luanda-Johannesburg on route ARLEM-Robben Island

23. **MAURITIUS FIR (Mauritius)**

At present Mauritius airport code similar to FIR code, FIMP

- a) Make ANVOR (X-ing UG 661 with UR 780F) transfer of control point with Saint Denis TMA, then delete UVENA and APLEM.

24. **NAIROBI – HKNA (Kenya)**

- a) Add name to crossing UR 611 with ATS route NV-EMAMA
- b) Add name to crossing UG 657 with same
- c) Consider adjusting FIR delineation in order to delete GETAT and ITMAR
(State indicated that above codes are still maintained as TCPs and cannot be deleted)
- d) Add name to crossing UR 611 with ATS route NV-Malindi (MLD)
- e) Delete MOBAT
- f) Delete MOKAD
(State indicated that the above code is to be retained as TCP)
- g) Delete GADLA
(State indicated that the above code is to be retained as TCP)
- h) Delete EKBAD, too close to boundary at APLOG (on UB 532 out of NV)
(State indicated that the above codes are to be retained as TCPs)
- i) Delete NAKAT or MELMO on UA 609 NV- Entebbe (NN)
(State indicated that the above codes are to be retained as TCPs in lower airspace)
- j) Delete IMLAT on ATS route NV-Malindi (MLD) (compare with UG 658 out of NV)
(State indicated that the above code is to be retained as TCP in lower airspace)
- k) Delete KAVAR on UA 609 NV-Mombasa (MOV) (compare with UB 533 out of NV)
(State indicated that the above code is to be retained as CRP in lower airspace)

- l) Delete EGNOC on ATS route NV-EMAMA (compare with UG 450 out of NV)

25. **N'DJAMENA FIR, FTTT (Chad)**

(ASECNA is the agency managing the airspace)

- a) Make SABSI a non-CRP.
(ASECNA indicated that SABSI is used as a TCP on the ATS route UR778; this point will be re-examined in order to to be utilized as a non-CRP).
- b) Delete KOBLA on UG 655F
(ASECNA indicated that the KOBLA point is also used as a Meteorological reporting point)
- c) Name CRP at N 0800/E 02004.9
(ASECNA indicated that the creation of this point must be subject to the requirement of the creation of ATS route on the basis of a meaningful air traffic statistics. The proposition of creation of this point is not accepted at present)
- d) Add name to crossing point UW 605 with route FL-FA
(ASECNA indicated that the creation of this point must be subject to the requirement of the creation of ATS route on the basis of a meaningful air traffic statistics. The proposition of creation of this point is not accepted at present)
- e) Add name to crossing point UB 736 with route FL-FA
(ASECNA indicated that the creation of this point must be subject to the requirement of the creation of ATS route on the basis of a meaningful air traffic statistics. The proposition of creation of this point is not accepted at present)
- f) Add name to crossing UG 857 with UB 736 and confirm PITRU is indeed crossing UG 85 with UM 998

26. **NIAMEY FIR, DRRR (Niger)**

(ASECNA is the agency managing the airspace)

- a) Airspace above FL 245 must be managed by the ACC.
(ASECNA indicated that a relative global survey of the reorganization of the airspace of the ASECNA region is ongoing)
- b) Delete NANGA, TCP be BIGOM.
(Note: ASECNA indicated that the suppression of NANGA and the change of BIGOM as TCP requires a preliminary coordination between the ATS Centres of Ouagadougou, Niamey and Accra. BIGOM is used currently as TCP between Abidjan ACC and Ouagadougou ACC.
- c) Name crossing UG854 and UG858.
(ASECNA indicated that this proposition has been noted, the point "ZR" will be used as non compulsory Report Point).
- d) Delete TB as CRP on UB 727
- e) Delete KILKO on UM 974
- f) Add name to crossing point UA 615 with ATS route Niamey (NY)-Agades (AS)
(ASECNA indicated that the designation of this point will be achieved after the placement of this new track of ATS route in the ICAO AFI Air Navigation Plan)
- g) Add names to crossing points D route Bamako - In Salah with UR 981, with UA 614, then delete IPOBA

(ASECNA indicated that all these new points of the crossings between the new route Bamako–In Salah and UA 614/UM104, UR 981, UR 866 can only be achieved after the placement of this new track of route in the ICAO AFI Air Navigation Plan)

IPOBA continues to be used as TCP on the ATS route UA 614/UM104 between the FIR/UIR Algiers and Niamey

- h) **Add names to all crossing points created by direct route Bobo Dioulasso-Kano**
(ASECNA indicated that, considering the applied procedures and the complexity of the composition of the air traffic circulation in this sector, it doesn't appear at the present time appropriate to create some compulsory reporting points (CRPs) along the line close to the interface with the FIR Accra.)
- i) **Add names to all crossing points created by direct route Niamey- Nouakchott**
(ASECNA indicated that, considering the complexity of the composition of the air traffic circulation in this sector, it is not feasible to examine this requirement for an optimisation of the direct itinerary Niamey – Nouakchott which is only activated during the seasonal “Haj operations”)

27. **ROBERTS FIR, GLRB (Guinea/Liberia/Sierra Leone)**

- a) Delete EBRAK as CRP on UG 433 (compare with NAMIB)
- b) Add name to crossing UB 600 with V 207
- c) Add name to crossing UG 854 with UB 727, delete AMKAX
- d) Delete AXIRO, PIMSO, ILGOT, EDBAL, KIMKA
- e) Route UG 854 to cross UR 979 over ARBAL
- f) At present Monrovia airport code similar to FIR, GLRB

28. **Tripoli FIR, HLLL**

- a) Add name to crossing H 500 with A 18
- b) Add names to crossings G 659 with V 400 and V 300
- c) Add names to crossings UL 731 with A 411, with V 400 and V 300
- d) Add name to crossing UM 727 with A 411 and delete AMWAJ
- e) Add names to crossings UW 857 with UL 731 and A 411
- f) Add name to crossing M 621 with UZ 350 and delete FARUJ
- g) Add names to crossings W 859 with UZ 350, with UM 732, A 411 and W 861
- h) Add names to crossings G 661 with G 660 and W 861
- i) Add name to crossing B 21 with G 663/UM 999
- j) Delete TWARG on route DJA-GHT and make GHT transfer of control point
- k) Add names to crossings UM 999 with UW 986, with W 853 and UG 13/UM 731
- l) Add names to crossings W 861 with UW 986, with W 858, with W 853
- m) Add names to crossings W 853 with UG 655, W 858, UW 986
- n) Add names to crossings UG 655 with V 900, G 855, A 18, W 853
- o) Add names to crossings A 18 with UW 986, W 858

29. **Tunis FIR, DTTC**

Whilst it is recognized that the Tunis FIR is virtually fully radar covered, it is still recommended that all airway crossings be given names. This to allow aircraft data bases to have access to these names and thus provide an additional contingency redundancy, such as in case of radar outage. These named airway crossings can be made non-compulsory reporting points.

30. WINDHOEK FIR, FYWH (Namibia)

- a) Delete MIDNA as a result
- b) Add names to crossings D-route GETAP (on boundary with Luanda FIR)- GBV with R 987, UA 617, A 404
- c) Delete OMATA
- d) Change name of FIR as FYWH is also used as Windhoek airport designator.

APPENDIX E

1. DEFICIENCIES IN THE AIR TRAFFIC SERVICES DIRECT SPEECH NETWORK (ATS/DS)

IDENTIFICATION		DEFICIENCIES			CORRECTIVE ACTION			
Requirements	States/facilities	Description	Date first reported	Comments	Description	Executing body	Date of completion	Priority
1	2	3	4	5	6	7	8	9
ATS Direct Speech Circuits Plan, AFI/7 Rec 9/9	Algeria Libya	Circuit Algiers/Tripoli	10/2/98		To implement LTF circuit	Algeria Libya		
	Algeria Niger	Circuit Algiers/Niamey	10/2/98	To be improved	To be improved	Algeria Niger	VSAT planned	U
	Algeria Senegal	Circuit Algiers/Dakar	1/4/98	To be improved	Project VSAT planned	Algeria ASECNA	VSAT to be implemented	A
	Angola Brasilia	Circuit Luanda/ Brasilia	"		To implement the circuit.	Angola Brazilia		
	Angola Congo	Circuit Luanda/Brazzaville	"	PSTN used via INMARSAT	To implement LTF circuit	Angola ASECNA	"	U
	Angola Ghana	Circuit Luanda/Accra	"	Inmarsat phone used from Luanda. Inmarsat also available in Accra.	To implement LTF circuit.	Angola Ghana	"	U
	Burkina Faso/ Ghana	Circuits Ouagadougou/ Accra BoboDioulasso/Accra	"	PSTN in use	To implement LTF circuit using existing VSATs in Accra and Ouagadougou To implement	Ghana ASECNA Ghana Burkina Faso	VSAT planned (Bobo)	A A

IDENTIFICATION		DEFICIENCIES			CORRECTIVE ACTION			
Requirements	States/facilities	Description	Date first reported	Comments	Description	Executing body	Date of completion	Priority
1	2	3	4	5	6	7	8	9
ATS Direct Speech Circuits Plan, AFI/7 Rec 9/9	Burundi Tanzania	Circuit Bujumbura/Da- es- salaam	"	"	VSAT being implemented.	Burundi Tanzania Kenya	"	U
	Burundi D.R of Congo	Circuit Bujumbura/ Goma	1/4/98		To implement LTF circuit	Burundi D.R of Congo		U
	Cameroon Equatorial Guinea	Circuit Douala/Bata	"		To implement LTF circuit	ASECNA Equatorial Guinea		U
	Central African Republic	Circuit Bangui/ Gbadolite	"		To implement LTF circuit	R.C.A D.R.C		U
	Chad/Nigeria	Circuit N'Djamena/ Maidouguri	"		To be improved	ASECNA		U
	Chad Sudan	Circuit N'Djamena/ Khartoum	"		To implement LTF	ASECNA Sudan		U
	Congo Ghana	Circuit Brazzaville Accra	10/2/98		On trial	ASECNA Ghana		U
	Congo Sao Tome	Circuit Brazzaville/ Sao Tome	10/2/98		VSAT to be installed	ASECNA Sao Tome		U
	Congo / Sudan	Circuit Brazzaville/ Khartoum	"		VSAT to be installed	Brazzaville Sudan		U
	Djibouti Eritrea	Circuit Djibouti/Asmara	7/6/96	To be improved	To implement LTF circuit	Djibouti Eritrea		U
	Djibouti Somalia	Circuit Djibouti/ Hargheisa	"		To implement LTF circuit	Djibouti Somalia		U

IDENTIFICATION		DEFICIENCIES			CORRECTIVE ACTION			
Requirements	States/facilities	Description	Date first reported	Comments	Description	Executing body	Date of completion	Priority
1	2	3	4	5	6	7	8	9
ATS Direct Speech Circuits Plan, AFI/7 Rec 9/9	D.R of Congo Zambia	Circuit: Lubumbashi/Ndola	23/5/97	Inmarsat phone available at Lubumbashi	" "	D.R of Congo Zambia		A
	Egypt Sudan	Circuit Cairo/Khartoum	7/6/96	-	To implement LTF circuit	Egypt Sudan		U
	Equatorial Guinea Gabon	Circuit Bata/Libreville	"		" "	ASECNA Equatorial Guinea		U
	Eritrea Ethiopia	Asmara/Addis Ababa		The circuit has been disconnected	To restore the circuit	Eritrea Ethiopia		U
	Ethiopia Djibouti	Circuit Dire Dawa/ Djibouti	"		To implement LTF circuit	Ethiopia Djibouti		U
	Kenya Tanzania	Circuit Mombasa/ Dar-es-salaam	7/6/96		To implement the circuits.	Kenya Tanzania		U
		Mombasa/ Kilimanjaro	"					U
	Ghana Togo	Accra/Niamtougou	"			Ghana ASECNA		U
	Ghana Sao Tome	Circuit Accra/ Sao Tome	"	VSAT planned	To implement LTF circuit	Ghana Sao Tome		U
	Gabon Sao Tome	Circuit Libreville/ Sao Tome	"		To implement the circuit	Gabon Sao Tome		U
Guinea-Bissau Gambia	Circuit Bissau/ Banjul	"		To implement the circuit	Bissau Gambia			

IDENTIFICATION		DEFICIENCIES			CORRECTIVE ACTION			
Requirements	States/facilities	Description	Date first reported	Comments	Description	Executing body	Date of completion	Priority
1	2	3	4	5	6	7	8	9
ATS Direct Speech Circuits Plan, AFI/7 Rec 9/9	Guinea-Bissau Guinea	Circuit Bissau/ Conakry	“		To implement the circuit	Guinea- Bissau Guinea		U
	Guinea-Bissau Senegal	Circuit Bissau/ Dakar	“		To implement the circuit	Guinea- Bissau Senegal		
	Libya Sudan	Circuit Tripoli/Khartoum	”		To implement LTF circuit	Libya Sudan	”	U
	Madagascar Mozambique	Circuit Antananarivo/Beira	”	VSAT to be implemented	Interconnection VSAT SADC&ASECNA	ASECNA Mozambique	Planned in mid term	U
	Libya Niger	Tripoli/Niamey	35069			ASECNA Libya		A
	Libya Chad	Tripoli/N’Djamena	35069			ASECNA Libya		A
	Madagascar Tanzania	Circuit Antananarivo/ Dar-es-Salaam	7/6/96		Interconnection ASECNA & SADC VSAT	ASECNA Tanzania	Planned in mid term	U
	Mali/Mali Mali/Niger	Circuit Bamako/Gao Circuit Gao/ Niamey Circuit Bamako/Mopti	“ “ “		To implement these circuits			B B B
	Mauritania Spain	Circuit Nouadhibou/ Las Palmas	7/6/96		VSAT being considered	ASECNA Spain		U
	Rwanda D.R. Congo	Circuit Kigali/Bukavu Kigali/Goma Kigali/Kinshasa	7/6/96 “ “		VSAT SADC being considered in Rwanda. It is already operatioal in D.R.Congo	D.R. Congo Rwanda		U

IDENTIFICATION		DEFICIENCIES			CORRECTIVE ACTION			
Requirements	States/facilities	Description	Date first reported	Comments	Description	Executing body	Date of completion	Priority
1	2	3	4	5	6	7	8	9
ATS Direct Speech Circuits Plan, AFI/7 Rec 9/9	Rwanda Tanzania	Circuit Kigali/ Dar-es-Salaam	7/6/96		To implement VSAT	Rwanda Tanzania		U
	Seychelles Tanzania	Circuit Seychelles/Dar-es-Salaam	"		To implement LTF circuit	Seychelles Tanzania		U
	South Africa Madagascar	Circuit Johannesburg/ Antananarivo	7/6/96		Interconnection VSAT SADC & ASECNA	South Africa ASECNA	Planned in short term	U
	Sudan Saudia Arabia	Circuit Khartoum/Jeddah	7/6/96		To implement LTF circuit	Sudan Saudia Arabia		U
	Sudan D.R of Congo	Circuit Khartoum/Kinshasa	7/6/96	Inmarsat phone available at Kinshasa	To implement LTF circuit	Sudan D.R of Congo		U
	Uganda D.R. Congo	Circuit Entebbe/Kinshasa	"		VSAT being considered	D.R. Congo Uganda		U

2. DEFICIENCIES IN THE AERONAUTICAL MOBILE SERVICE (AMS)

IDENTIFICATION			DEFICIENCIES		CORRECTIVE ACTION			
Requirements	States/Facilities	Description	Date first reported	Comments	Description	Executing body	Date of completion	Priority
1	2	3	4	5	6	7	8	9
AFI/7, Rec. 9/12	ANGOLA Luanda ACC	Inadequate VHF coverage of busy ATS routes	02/02/98		Implement remote VHF	ENANA	SVHF stations planned	U
	CONGO Brazzaville ACC	ACC/F/NW	02/02/98		ER VHF installation in progress	ASECNA	2002	U
	D.R. OF CONGO Kinshasa FIR	Inadequate VHF coverage of busy ATS routes	1/4/98		Extend VHF to all upper routes Extended VHF coverage planned	RVA		
	Kinshasa FIR	HF poor quality Selcal not available	1/4/98		Improve Installations	RVA		
	NAMIBIA Windhoek FIR	Inadequate VHF coverage	1/4/98	Additional VHF relay stations	Extend VHF coverage	Namibia		U
	NIGERIA Kano ACC	VHF coverage not adequate	02/02/98		VHF extension in progress	Nigeria		U
	NIGERIA Lagos/Murtala Muhammed	Tower VHF	1/9/99	No back-up radio	VHF extension in progress	Nigeria		U
	SENEGAL Dakar ACC	VHF extension incomplete	1/4/98		Remote VHF in test	ASECNA		A
	SOMALIA/SOMALIE Mogadishu ACC	ACC/U	02/02/98			Somalia		U
	SUDAN Khartoum FIR	Inadequate VHF coverage of busy routes	1/4/98		VSAT remotes envisaged	Sudan		U
ZIMBABWE Harare	VHF not adequate	1/9/99	Low power		Zimbabwe			

Appendix F

LIST OF PROHIBITED, RESTRICTED AND DANGER AREAS
IN THE AFI REGION

STATE/FIR	DESCRIPTION LIMITS	TYPE RESTRICTION	REMARKS
Algeria - Algiers	DAP51 : GND - UNL		
	DAP58 : GND - UNL		
	DAP60 : GND - UNL		
	DAD79 : GND - UNL		
	DAD 82 : GND - UNL		
Angola - Luanda	FNR8 : GND-FL150	A/G firing and bombing	FLTS Forbidden during activity
	FNR10 : GND-FL100	Military training flights	
	FNR11 : GND-FL100	Military training flights	
	FNR12 : GND-FL50	Military training flights	
	FNR13 : GND-FL1500 FT	Military training flights	
	FNR14 : GND-FL1500FT	Military training flights	
	FNR15 : GND-FL1500FT	Military training flights	
Benin - Cotonou	DBD 1 :GND/MSL – 4000FT	Firing and military activities	Activitated by NOTAM
Burkina Faso - Ouagadougou - Bobo-Dioulasso	DFR 1 : GND – FL240	Military activities	Activitated by NOTAM
	DFR 2 : GND – FL240	Military activities	Activitated by NOTAM
Botswana -Gaborone	FBP1 : GND-2000FT		Avoid area at all times
	FBP3 : GND-FL125		Military airfield avoid at all times
	FBP5 : GND-2500FT		Military activities
	FBR20 : 7000-FL220		Military activities
	FBR25 : 7000-FL460		Military activities
	FBR10 : GND-1000FT		National park
	FBR11 : GND-1000FT		Game reserve
	FBR12 : GND-1000FT		Game reserve
	FBR13 : GND-1000FT		National park
	FBR14 : GND-1000FT		National park
	FBR15 : GND-1000FT		National park
	FBR18: GND-FL125		Avoid area at all times
	FBR24 : GND-2000FT		Flamingo breeding ares
	FBD6 : GND31000FT		Rock blasting
FBD9 :GND 6000FT		Rock blasting	
Burundi - Bujumbura	Nil	Nil	Nil
Cameroon - Foumban - Mbandjok - N’Gaoundere Falaise -Cap Limboh	FKP 1 : GND-FL130	Parachuting	Permanent activity
	FKP 2 : GND – FL80	Parachuting	Permanent activity
	FKP 3 : GND – 6000FT :GND-10000FT	Ground and Anti-Air firings Permanent Prohibition	Activated by NOTAM
	FKP5 : GND - UNL	Permanent prohibition	Overflight of refinery is prohibited.

STATE/FIR	DESCRIPTION LIMITS	TYPE RESTRICTION	REMARKS
-Yaounde	FKP 6 : GND-FL245	Permanent prohibition	Prohibition includes aircraft on Approach/departure phases of flight.
-Bakassi	FKP 7 : GND-FL250	Permanent prohibition	
-Mike	FKP 8 : GND/MSL -FL245	Permanent prohibition	
-Kribi	FKD 4 : MSL-FL245	Permanent prohibition	Air/Ground Firings activated by NOTAM
Yaounde Zone Sud	FKR 9 : FL45-FL245		Activated by Yaounde TWR
Yaounde Zone Nord	FKR 10 : FL45-FL245		Activated by Yaounde TWR
Garoua	FKR 11 : FL60-UNL		Activated by Garoua TWR
Garoua	FKR 12 : FL60-UNL		Activated by Garoua TWR
Centrafrique - Baoli	FEP 3 : GND-1000 Metres	Permanent activity	
Sakoulou	FED 1 : GND-300 Metres	Parachuting	Activated by NOTAM
Congo- Brazzaville/Mayamaya Military base	FCP1 : GND-1000Metres	Permanent prohibition	
-Kinkala/Sud	FCP2 : GND-UNL		Activated by Air Traffic Control
M'pila/Brazzavile Mayamaya	FCP3 : GND-FL70		Presidential Zone
	FCD4 : GND-FL245	Firing Zone	Activated by NOTAM
-Pointe Noire	FCD5 : GND-3000Metres	Parachuting	Activated on every Wednesday, Thursday and Saturday between 1300-1700 UTC otherwise activated by TWR on exceptional cases.
Maya-Maya	FCD6 : GND-3000M	Parachuting	Activated on every Wednesday between 0600-1000 UTC otherwise as activated by TWR.
Biloko	FCD7 : GND-2000M	Parachuting	Activated by TWR
Kibouende	FCD8 : GND-2000M	Parachuting	Activated by TWR
	FCR9 : GND-FL245		Activated by ATC unit.
Chad – N'djamena-Farcha	FTD 2 :GND-4000M	Parachuting	Activated daily
-Massaguet		Firing	Activated by NOTAM
Cote d'Ivoire -Fetekro	DIP1 :GND-FL245		Air Firings from Monday-Friday at 0800-1800.
	DIR1 :FL100-FL245	Military aircraft training	Mon-Fri from 0800-1800 Activated by Bouake TWR
	DIR2 :FL100-FL245	Military aircraft training	Mon-Fri from 0800-1800 Activated by Bouake TWR

STATE/FIR	DESCRIPTION LIMITS	TYPE RESTRICTION	REMARKS
	DIR3 :FL100-FL245	Military aircraft training	Mon-Fri from 0800-1800 Activated by Bouake TWR
-Dobou	DIR 4 :GND-600M :GND-3500M	Parachuting Parachuting	Mon-Fri from 0700-1800 and Sat from 0700-1430 Sat from 1430-1800, Sun and Holidays from 0800-1800
-Abidjan	DID 1 :GND-600M :Above 600M	Parachuting Parachuting	Permanent day activity Activated by NOTAM with 48 hours notice.
Dem. Rep of Congo			
-Shinkolobwe	FZP1 :		Overflight Prohibited up to a certain altitude
-Mont Ngaliema	FZP2 :		Overflight Prohibited up to a certain altitude
-Nbanza-Ngungu	FZP3 :		Overflight Prohibited up to a certain altitude
-Kamina Base	FZD1 :		Overflight is subject to ATC
-Mbankana	FZD2 :		Overflight is subject to ATC
-Bukavu Kavumu	FZD3 :		Overflight is subject to ATC
-Matadi Tshimpi	FZR1 :		Overflight is subject to ATC
-Kinshasa/N'dolo	FZR2 :		Overflight is subject to ATC
-Kinshasa/N'djili	FZR3 :		Overflight is subject to ATC
-Kimbambi	FZR4 :		Overflight is subject to ATC
-Kinsembo	FZR5 :		Overflight is subject to ATC
-Likasa-Kamatunda	FZR6 :		Overflight is subject to ATC
-Kamina-Base	FZR7 :		Overflight is subject to ATC
-Kitona et Muanda	FZR8 :		Overflight is subject to ATC
-Luga	FZR9 :		Overflight is subject to ATC
-Parc Nat de Virunga	FZR10 :		Overflight is subject to ATC
-Kalemie	FZR11 :		Overflight is subject to ATC
-Kotakoli	FZR12 :		Overflight is subject to ATC
-Goma	FZR13 :		Overflight is subject to ATC
Egypt - Cairo			
	HEP 1 :GND UNL		
	HEP 2 :GND UNL		

STATE/FIR	DESCRIPTION LIMITS	TYPE RESTRICTION	REMARKS
	HEP 16 :GND UNL		
	HEP 18 :GND UNL		
	HEP 19 :GND UNL		
	HEP 20 :GND UNL		
	HED 4 :GND UNL		
	HED 5 :GND UNL		
	HED 10 :GND - FL400		
	HED 12 :GND UNL		
	HED 14 :GND – FL400		
	HED 22 :GND – 50,000		
	HED 23 :GND – FL350		
Ethiopia – Addis Ababa	HAR 1 – GND – FL290		
Eritrea - Asmara	HHP – 1 : GND - UNL		
Gabon - Libreville	FOP1 : MSL - UNL		Overflight prohibited to all aircraft
-Libreville	FOP 2 : GND/MSL-UNL		Overflight prohibited to all aircraft
-Libreville	FOP3 :GND-UNL		Overflight prohibited to all aircraft
-Ayeme	FOD4 :GND-3000M	Parachuting	Activated by Libreville and Port Gentil TWR
-Nzomo	FOD5 :GND-3000M	Parachuting	Activated by Libreville and Port Gentil TWR
-Dom-les-bam	FOD6 :GND-3000M	Parachuting	Activated by Libreville and Port Gentil TWR
-Mvengue	FOD7 :GND-FL95	Air/Ground Firing	Activated daily from 0600 – 1700 UTC
-Libreville	FOD8 :GND-3000M	Parachuting	Activated by Libreville and Port Gentil TWR
	FOD9 :GND/MSL-UNL	Firings	Activated by Libreville and Port Gentil TWR
-Le point - Denis	FOD10 :GND 3000M	Parachuting	Activated by Libreville and Port Gentil TWR
	FOD11 : FL65 - UNL	Training Flights	Activated by Libreville and Port Gentil TWR
-Mvengue	FOD12 :	Training on high and middle altitudes.	Activated daily from 0600 – 1700 UTC.
Zone A : Hors TMA Mvengue	FL105-FL500		
Zone B : Au dessus de la TMA Mvengue	FL245-FL500		
Gambia – Banjul	GBP 1 : GND-FL55		Permanent
-Kassa Kunda	GBD 1 : GND-FL55		Permanent
Ghana – Osu Castle	DGP 1 :GND-4000FT		Permanent
-Tokaradi	DGR6 : :GND-FL65	GAF Local Flying	Permanent
-Tamali Air Force Training Area	DGR7 :ALT7000FT-FL225	High level flying training	0600-1800 daily
-Tamali Air Force Training	DGR8 :GND-FL65	Low level training	0600-1830 daily

STATE/FIR	DESCRIPTION LIMITS	TYPE RESTRICTION	REMARKS
Area			
Tamale	DGR9 :GND-200FT	Parachute dropping	By NOTAM
Tamale	DGR10 :GND-2000FT	Parachute dropping	By NOTAM
Tamale	DGR11 :GND-2000FT	Parachute dropping	By NOTAM
-Bundase	DGD2 :GND-10000FT	Gun Firing	By NOTAM
-Teshie	DGD3 :GND-1200	Gun Firing	By NOTAM
-Sekondi/Takoradi	DGD4 :GND-MSL-UNL	Naval Gun firing	By NOTAM
-Tema	DGD5 :GND-MSL-UNL	Gun Firing	By NOTAM
-Guinea	R1 :FL060-FL170	Military Exercise	Activated by NOTAM and Conakry APP
	R2 :FL060-FL170	Military Exercise	Activated by NOTAM and Conakry APP
	R3 :FL060-FL170	Military Exercise	Activated by NOTAM and Conakry APP
	R4 :FL060-FL170	Military Exercise	Labe TWR
	R5 :FL060-FL170	Military Exercise	Labe TWR
	R6 :FL060-FL170	Military Exercise	Labe TWR
	R7 :FL060-FL170	Military Exercise	Labe TWR
Kenya - Nairobi	HKP 2 : GND - UNL		
	HKR 10 : GND - 45000		
	HKD 3 : GND - 29000		
	HKD29 :GND - 25000		
Liberia	R41 :GND-3000FT	OMEGA Mast	Restricted H-24
	D42 :GND-FL65	Gunnery	Activated by NOTAM and ATC
	D42 :GND-FL65	Gunnery	Activated by NOTAM and ATC
Libya - Tripoli	HLR 54 :GND - UNL		
	HLR 55 :GND - UNL		
	HLR 56 :GND – FL245		
	HLR 57 :GND - UNL		
	HLR 58 :GND - UNL		
	HLR 59 :GND - UNL		
	HLR 60 :GND - UNL		
	HLR 61 :GND - UNL		
	HLR 62 :GND - UNL		
	HLR 63 :GND - UNL		
	HLR 54 :GND - UNL		
Madagascar - Antananarivo	FMP – Antananarivo city : GND – UNL		
	FMR 24 : GND – UNL		
	FMR 25 : GND – UNL		
	FMR 27 : GND – UNL		
	FMR 29 – 34 : GND UNL		
	FMR 36 : GND – FL245		
	FMD5 : GND FL460		
	FMD 26 : GND – UNL		
	FMD 50 : GND – FL460		

STATE/FIR	DESCRIPTION LIMITS	TYPE RESTRICTION	REMARKS
Malawi - Lilongwe	FWD 1 : GND – FL230		
Mali - Bamako	GAP1 :GND – FL410	Military activites	Active daily
-Kati	GAP 3 : GND - 3000	Firings	Active daily
	GAR 2 : GND-FL30		Overflight perm is to be granted by DCA.
-Sirakoroni	GAD 2 : FL50-FL410	Flight training	Activated by NOTAM
-Sibi	GAD 3 : FL 50-FL410	Flight Training	Activated by NOTAM
-Simidji	GAD 4 : FL 50-FL410	Flight Training	Activated by NOTAM
Mauritania	GQD 1 : GND-2000M	Parachuting	Activated by NOTAM
	GQD 2 : GND-2000M	Parachuting	Activated by NOTAM
	GQD 3: GND-2000M	Parachuting	Activated by NOTAM
	GQD 4 : GND-2000M	Parachuting	Activated by NOTAM
	GQD 5 : GND-9000M	Firings	Activated by NOTAM
	GQD 6 : GND-1000M	Firings	Activated by NOTAM
	GQD 7 : GND-2000M	Firings	Activated by NOTAM
	GQR 1 : GND – 1000M		National Park
Morocco - Cassablanca	GMP02 : GND – UNL		
	GMP09 : GND – 8000FT		
	GMP10 : GND – FL200		
	GMP05 :GND – FL50		
Mauritius - Mauritius	FID5 : MSL - 40000		
Mozambique - Beira	FQR32 : GND - UNL		
	FQR33 : GND -UNL		
	FQD23 : GND - UNL		
	FQD25 : GND - UNL		
Namibia -Windhoek-	FYR131 : GND – FL240		
	FYR132-GND-FL220		
	FYR133-GND-FL220		
Niger – Anou Araren	GND – FL70		
Nigeria - Lagos	DNP1 : GND – 1500FT	Aerostat	
-Lanlate	DNP2 :GND-2000FT	Aerostat	
-Lagos	DNP3 :GND-15000FT	Aerostat	
-Abuja	DNP4 :GND-UNL	3	
	DNR1 :GND-10000FT	Helicopter Area by NAF	Pilots warned to avoid area.
	DNR2 :GND-FL100		
	DNR3 : GND – FL120	Military training	0600-1800 daily
	DND 1 : MSL-30000FT	Marine gunnery	Activated by NOTAM
	DND 2 : MSL-30000FT	Marine gunnery	Activated by NOTAM
	DND 3 : MSL-30000FT	Marine/Navy exercises	Activated by NOTAM
	DND 4 : MSL-30000FT	Marine/Navy exercises	Activated by NOTAM
	DND 5 : MSL-30000FT	Marine/Navy exercises	Activated by NOTAM
	DND 6 : MSL-30000FT	Marine/Navy exercises	Activated by NOTAM
	DND 7 : MSL-30000FT	Marine/Navy exercises	Activated by NOTAM
	DND 8 : MSL-30000FT	Marine gunnery	Activated by NOTAM
	DND 9 : MSL-30000FT	Marine gunnery	Activated by NOTAM

STATE/FIR	DESCRIPTION LIMITS	TYPE RESTRICTION	REMARKS
-Kano	DND 10 : MSL-30000FT	Air Firing Range	0700-1200 weekdays
-Lagos	DND 11: MSL-30000FT	Air Firing Range	0700-1200 weekdays
	DND 12 : GND-40000FT	Kachia Military Range	Pilots warned to avoid area
	DND 13 :GND-40000FT	Kontagora Military Range	Pilots warned to avoid area
Senegal – Thies	GOP 1 :GND-FL100	Training flights	Pilots warned to avoid area
-Thies	GOD7:Announced by NOTAM	Firing	Activated by NOTAM
-Thies	GOD 8 :GND – 1000M	Parachuting	Activated by NOTAM
Semou Djimitte	GOD 9 :GND – 1000M	Firing	ActivateH24 daily
Sangalkam	GOD 12 :GND – 400M	Parachuting	Activated by NOTAM
Niaga	GOD 13 :GND – 400M	Parachuting	Activated by NOTAM
M'baouane	GOD 14 :GND –400M	Parachuting	Activated by NOTAM
M'bour	GOD 15 :GND – 400M	Parachuting	Activated by NOTAM
Taiba	GOD 16 :GND – 400M	Parachuting	Activated by NOTAM
Tambacounda	GOD 17 :GND – 500M	Firing	Activated daily
-Botou	GOD 21 :GND – 35000M	Firing	Activated by NOTAM
	GOR6 :GND – FL195	Training flights	Activated by Dakar TWR
	GOR7 :150M-FL50	Training flights	Activated by NOTAM
	GOR8 :GND – FL40		No over flight below FL40
South Africa-hannesburg	FAR 20 : GND-UNL		
	FAR 23 : GND-FL460		
	FAR 25 : GND-UNL		
	FAR 27 : FL90-F280		
	FAR 29 : GND-UNL		
	FAR 45A : 1500 – FL460		
	FAR 45B : FL120 – FL460		
	FAR 47 : GND-UNL		
	FAR 71 : GND-FL250		
	FAR 147 : FL460		
	FAR 148 : UNL		
	FAD 26 : FL130 – FL460		
	FAD 30 : FL130 – FL280		
	FAD 53 : GND - FL390		
	FAD 143 : GND - FL460		
Sudan - Khartoum	HSP – AREA GND – UNL		
	HSP1 :GND – FL270		
	HSP7 :GND-FL280		
	HSP8 :GND-UNL		
	HSP6 :GND-UNL		
Tanzania – Dar-es-Salaam	HTP6 :GND – UNL		
Togo- Lome	DXP1 :GND-FL35		
-Lome	DXP2 :GND-FL35		
-Lome	DXP3 :GND-FL35		
	DXR1 :GND-FL400		Training Flights

STATE/FIR	DESCRIPTION LIMITS	TYPE RESTRICTION	REMARKS
	DXR2 :GND-FL400		Military training flights
-Lome	DXD1 :GND-FL140	Parachuting	Up to FL115 activated by TWR and above FL115 by NOTAM
Tunisia - Tunis	DTP3 :GND-UNL		
	DTR9 :GND-FL55-FL280		
	DTR9 :FL105-FL280		
	DTR10 :GND-FL460		
	DTR10 :A, B, C : FL130-FL280		
	DTR28 :GND-UNL		
	DTRD 5A, B :NOTAM		
	DTRD11 :MSL - UNL		
Uganda- Entebbe	HUP1 :GND-UNL		
	HUP7 :GND-UNL		
	HUD2 :GND-UNL		
	HUD3 :GND-UNL		
Zambia-Lusaka	FLP4 :GND - UNL		
	FLD23 :GND-UNL		
Zimbabwe- Harare	FVP1 :GND UNL		
	FVP2 :GND – FL290		
	VRP6 :GND – UNL		
	FVR30 :12000 UNL		
	FVR31 : GND UNL		
	FVR60 :GND UNL		

