

# INTERNATIONAL CIVIL AVIATION ORGANIZATION



## REPORT OF THE TWELFTH MEETING OF THE AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP (APIRG)

(Tunis, 21 - 25 June 1999)

Prepared by the Secretary of the APIRG

21 February 2001

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## LIST OF ABBREVIATIONS

ICAO abbreviations and acronyms are contained in ICAO PANS ABC (Doc 8400), the ICAO Lexicon (Doc 9294) and other relevant terminology material. The acronyms listed hereunder have been chosen from those which are specifically related to the activities of the APIRG and/or are most frequently found in this report in order to assist in its reading.

### **APIRG SUB-GROUPS AND OTHER REGIONAL BODIES**

<b>AOP/SG</b>	-	Aerodrome Operational Planning Sub-group
<b>MET/SG</b>	-	Meteorological Sub-group
<b>ATS/AIS/SAR/SG</b>	-	Air Traffic Services/Aeronautical Information Services/Search and Rescue Sub-group
<b>CNS/ATM/IC/SG</b>	-	Communications, Navigation, Surveillance/Air Traffic Management/ Implementation Coordination/Sub-Group
<b>COM/SG</b>	-	Communication Sub-group
<b>FASID/TF</b>	-	Facilities and Services Implementation Document Task Force
<b>TF/TF</b>	-	Traffic Forecasting Task Force
<b>LIM/AFI (COM/ MET/RAC) RAN Meeting 1988</b>	-	Limited Africa/Indian Ocean (COM/MET/RAC) Regional Air Navigation Meeting (Lomé, 12 - 27 April 1988)
<b>AFI/7 RAN Meeting</b>	-	Seventh AFI Regional Air Navigation Meeting (Abuja, 12 - 23 May 1997)

### **OTHER ABBREVIATIONS**

<b>ABAS</b>	-	Aircraft -Based Augmentation System
<b>ACAC</b>	-	Arab Civil Aviation Commission
<b>ACAS</b>	-	Airborne Collision Avoidance System
<b>ACI</b>	-	Airport Council International
<b>AFCAC</b>	-	African Civil Aviation Commission
<b>AFI/EUR</b>	-	AFI/EUR informal interface meetings
<b>AFRAA</b>	-	African Airlines Association
<b>AFTN</b>	-	Aeronautical Fixed Service Telecommunication Network
<b>AIC</b>	-	Aeronautical Information Circular
<b>AMBEX</b>	-	AFI Meteorological Bulletin Exchange
<b>ANP</b>	-	Air Navigation Plan
<b>ASECNA</b>	-	Agency for the Safety of Air Navigation in Africa and Madagascar
<b>BUFR</b>	-	Binary Universal Form of Representation for Meteorological Information

<b>EGNOS</b>	-	European Geostationary Navigation Overlay System
<b>FASID</b>	-	Facilities and Services Implementation Document
<b>GBAS</b>	-	Ground-based augmentation system
<b>GPS</b>	-	Global Positioning System
<b>IATA</b>	-	International Air Transport Association
<b>IFALPA</b>	-	International Federation of Airline Pilots Association
<b>IFATCA</b>	-	International Federation of Air Traffic Controllers' Association
<b>IFPB</b>	-	Inflight Pilot Broadcast
<b>INMARSAT</b>	-	International Maritime Satellite Organization
<b>IOACG</b>	-	Indian Ocean ATS Coordination Group
<b>ITU</b>	-	International Telecommunications Union
<b>MSAW</b>	-	Minimum Safe Altitude Warning
<b>MSS</b>	-	Mobile Satellite Service
<b>PANAFTEL</b>	-	Pan African Telecommunications Network
<b>RAFC</b>	-	Regional Area Forecast Centre
<b>RGCS</b>	-	Review of the General Concept for Separation Panel
<b>RIMS</b>	-	Reference and Integrity Monitoring System
<b>RNAV</b>	-	Area Navigation
<b>RNP</b>	-	Required Navigation Performance
<b>RSP</b>	-	Required Surveillance Performance
<b>RTSP</b>	-	Required Total System Performance
<b>SADC</b>	-	Southern Africa Development Community
<b>SADIS</b>	-	Satellite Distribution System for information relating to air navigation
<b>SAT/6</b>	-	The sixth informal meeting for the improvement of air traffic services over the South Atlantic (SAT/6 Meeting)
<b>SAT/7</b>	-	The seventh informal meeting for the improvement of air traffic services over the South Atlantic (SAT/7 Meeting)
<b>SBAS</b>	-	Satellite based augmentation systems
<b>SIGWX</b>	-	Significant Weather
<b>SITA</b>	-	International Aeronautical Telecommunications Corporation
<b>TCAS</b>	-	Traffic Alert Collision Avoidance System
<b>TCC</b>	-	TAF Collection Centre
<b>VSAT</b>	-	Very Small Aperture Terminal
<b>WAFC</b>	-	World Area Forecast Centre
<b>WAFS</b>	-	World Area Forecast System
<b>WRC</b>	-	World Radiocommunication Conference

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<b>AGENDA ITEM</b>	<b>APPENDIX</b>	<b>TITLE</b>
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## **PART I - HISTORY OF THE MEETING**



## **PART I - HISTORY OF THE MEETING**

### **1. Duration**

1.1 The twelfth meeting of the AFI Planning and Implementation Regional Group (APIRG/12) was held in the Conference room of the Abou Nawas El Mechtel Hotel in Tunis from 21 to 25 June 1999, at the kind invitation of the Republic of Tunisia.

### **2. Officers and Secretariat**

2.1 The meeting elected Mr. Mohamed Cherif of Tunisia as Chairman; Mr. George Elefteriou of Côte d'Ivoire as First Vice-Chairman and Mr. L. Phesele of Malawi as Second Vice-Chairman. The meeting extended its appreciation to Mr. Atab Bodian (Senegal) for the work APIRG has been able to accomplish during the twelve years as the Chairman of the APIRG. Mr. Z. Baliddawa the former Secretary of the Group and ICAOREP Nairobi was given a standing ovation for the outstanding work accomplished by the Group during his tenure as Secretary. Mr. Mohamed Cherif presided over all the sessions of the meeting. Para 1.1 under Agenda Item 1 also refers.

2.2 Mr. A. Cheiffou the Secretary of APIRG and ICAO Regional Director, Dakar was in full attendance. The meeting was assisted by Mr. L. Mollel, Acting ICAO Regional Director, Nairobi, Mr. C. Eigl, ICAO Regional Director, Paris, Mr. A. Zehrouni, ICAO Regional Director, Cairo and Mr. E. A. Olaniyan, ICAO Deputy Regional Director, Dakar; and the following Officers from Dakar and Nairobi Offices of ICAO:

Mr. H. H. Cisse	-	Regional Officer MET, Dakar
Mr. A. J. Kharuga	-	Regional Officer ATM, Nairobi
Mr. B. M. Sekwati	-	Regional Officer MET, Nairobi
Mr. L. W. Ndiwaita	-	Regional Officer AGA, Nairobi
Mr. D. Ramdoyal	-	Regional Officer ATM, Dakar
Mr. A. Sene	-	Regional Officer CNS, Nairobi
Mr. J.C. Waffo	-	Regional Officer AGA, Dakar
Mrs. M. Obeng	-	Regional Officer CNS, Dakar

2.3 Mr. V. Zubkov, Chief, Regional Affairs Office and Mr. H.Y. Tehrani, Senior Regional Affairs Officer from ICAO Headquarters, Montreal attended all sessions and assisted the meeting.

2.4 The discussions were conducted in English and French and the documentation was issued in both languages. Translation and simultaneous interpretation services were provided by Mr. J. Bellinga, Regional Language Officer; Dakar, Mr. Otou-N'Guini, Translator, ICAO Montreal, Miss F. Jouve, Regional Language Officer, Paris and two freelance interpreters. Mrs. P. A. Boimond-Basse, Administrative Officer, Dakar assisted the meeting on administrative matters.

2.5 The meeting was opened by the Honourable Minister of Transport of Tunisia, Mr. Houcine Chouk. He welcomed the participants to the meeting and expressed appreciation for the large turn out of delegates. He indicated that African countries are doomed to pool their resources and strengthen coordination with a view to cope with the global liberalization of air transport. He underscored that Tunisia has been able to make many achievements in the field of civil aviation which enabled it to adapt itself to the current evolution and progress in the air transport field world-wide. The Honourable Minister added that Tunisair levelling programme relates to fleet modernization, the introduction of modern management methods in compliance with international standards with respect to maintenance, safety and aircraft control, stressing that in order to alleviate the State's burden, the Tunisian private sector was involved in building infrastructure and establishing air transport enterprises.

2.6 Before that, a welcome address was delivered by Mr. A. Cheiffou, the APIRG Secretary. After thanking the Tunisian Authorities for the facilities made available to the meeting, Mr. Cheiffou underscored the historical nature of APIRG/12 Meeting held, for the first time, outside ICAO premises in the presence of four ICAO Regional Directors and the Chief, Regional Affairs Office. He then explained the role played by APIRG in planning and implementing air navigation systems in Africa, both being indispensable factors for the development of air transport in Africa and consequently, for the African economy.

2.7 Mr. Cheiffou then reviewed the tasks performed since APIRG/11 Meeting in the AGA, COM, CNS, ATM, AIS, SAR and MET fields. He concluded his address by making future prospects in the conduct of APIRG work. In this connexion, he advocated a strategy centered on implementation, financing, coordination and solidarity among stakeholders, regional and international cooperation as well as efficiency in its working methods.

2.8 Mr. M. Taieb, Director General of Civil Aviation of Tunisia also addressed the meeting and welcomed the participants.

### 3. Attendance

3.1 The meeting was attended by 123 participants from 41 States, representing 23 of the twenty-seven States members of APIRG, 14 other States located in the AFI Region as well as United Kingdom, the United States of America, the Netherlands and Observers from ACAC, ASECNA, IATA, IFALPA, and Roberts FIR.

3.2 The list of participants is given at Appendix A.

#### **4. Agenda**

The meeting adopted the following agenda :

Item 1 Election of Chairperson and Vice Chairpersons.

Item 2: Action by Air Navigation Commission (ANC) and Council on APIRG/11 Meeting report

Item 3: Review and follow-up of APIRG Conclusions and Decisions including AFI/7 RAN Meeting recommendations.

Item 4 Review of reports of APIRG sub-groups and its other subsidiary bodies

Item 5 Shortcomings and deficiencies in the Air Navigation field in the AFI Region.

Item 6: Terms of reference and working arrangements of APIRG.

Item 7: Relation with other groups, adjacent Regions and world-wide activities.

Item 8: Any other business

#### **5. Conclusions and Decisions**

5.1 The APIRG records its actions in the form of Conclusions and Decisions with the following significance:

##### **5.2 Conclusions**

5.2.1 Conclusions deal with matters which, in accordance with the Group's Terms of Reference, merit directly the attention of States or on which further action will be initiated by ICAO in accordance with established procedures.

##### **5.3 Decisions**

5.3.1 Decisions deal with matters of concern only to the APIRG and its contributory bodies.

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**PART II - REPORT ON AGENDA ITEMS**

**AGENDA ITEM 1:      ELECTION OF CHAIRPERSON  
AND VICE CHAIRPERSONS**



**PART 2 - REPORT ON THE AGENDA****Agenda Item 1: Election of Chairperson and Vice Chairpersons**

1.1 Further to para 2.1 under Part I of this report the Meeting elected its Bureau as follows:

Mr. Mohamed Cherif	-	Chairman (Tunisia)
Mr. George Elefteriou	-	First Vice-Chairman (Côte d'Ivoire)
Mr. L. Phesele	-	Second Vice-Chairman (Malawi)

**AGENDA ITEM 2: ACTION BY AIR NAVIGATION COMMISSION  
(ANC) AND COUNCIL ON APIRG/11 MEETING  
REPORT**

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**Agenda Item 2: Action by Air Navigation Commission (ANC) and Council on APIRG/11 Meeting report**

2.1 Under this agenda item the meeting noted the actions taken by the ICAO Air Navigation Commission (ANC) and Council on the report of APIRG /11 held in Nairobi from 30 March to 3 April 1998 . In this connexion, the meeting noted that the ANC and Council had reviewed the APIRG /11 report for which they expressed satisfaction and had taken specific actions on certain conclusions as shown in Appendix **B**.

2.2 The meeting noted that among the APIRG/11 conclusions on which the Council had taken specific actions, were Conclusions 11/2 (Review of States Civil Aviation Establishments) and 11/9 (Shortcomings and deficiencies in the Air Navigation field in the AFI Region). Conclusion 11/2 encouraged States to consider the establishment of autonomous civil aviation bodies with a view to increasing the efficiency of their civil aviation administration, thus better address the problem of air navigation shortcomings and deficiencies which is the subject of Conclusion 11/9.

**AGENDA ITEM 3:            REVIEW AND FOLLOW-UP OF APIRG  
CONCLUSIONS AND DECISIONS  
INCLUDING AFI/7 RAN MEETING  
RECOMMENDATIONS**

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**Agenda Item 3:      Review and follow-up of APIRG Conclusions and Decisions including AFI/7 RAN Meeting Recommendations**

3.1            The meeting reviewed action taken on APIRG Conclusions and Decisions since its eleventh meeting. It noted those on which actions had been completed and reaffirmed those which are still valid and action on them is continuing. A summary of the actions taken in respect of those Conclusions and Decisions is at Appendix C.

3.2            The meeting also reviewed the outstanding actions on recommendations of the AFI/7 RAN Meeting, Abuja, 1997 referred to it at its Eleventh meeting. It noted those, on which actions had been completed and identified those which are still valid. The list of recommendations which the meeting considered as still valid is also given at Appendix C.

**3.3      Carriage and operation of airborne collision avoidance system and pressure- Altitude reporting transponders**

3.3.1           Under this agenda item, the meeting noted that pursuant to AFI/7 RAN Meeting Recommendation 5/23, the AFI RAC Regional Supplementary Procedures (Doc. 7030) have already been amended in order to include provisions for the implementation of pressure-altitude reporting SSR transponders and the carriage and operation of ACAS II.

3.3.2           It was highlighted that as from 1 January 2000 all aircraft operating on IFR flights in the AFI Region shall be equipped with a pressure-altitude reporting SSR transponder and furthermore, all civil fixed-wing turbine-engined aircraft having a maximum take-off mass exceeding 15 000 Kg or maximum approved passenger seating configuration of more than 30 passengers shall carry and operate ACAS II.

3.3.3           The meeting was informed that the AFI/EUR interface meeting which was held in Paris, from 18 - 21 May 1999 was presented with the latest plans concerning the mandatory carriage of ACAS II in the European (EUR) Region and its potential impact on carriers from the AFI Region. It was noted that the Technical Standards Order (TSO C119b), a pre-requisite to manufacturing the equipment, had only been published in December 1998 and because of this delay, not all aircraft will be able to be equipped so as to meet the target date of 1 January 2000. To this effect, a phased implementation was deemed necessary and a transition period up to 31 March 2001 was agreed upon for the EUR Region.

3.3.4           Taking into account the implementation strategy adopted for the EUR Region, the meeting was of the view that a Task Force should be established in order to evaluate the potential problems associated with the implementation of AFI/7 RAN Meeting Recommendation 5/23 and to develop a draft aeronautical information circular (AIC) accordingly in order to assist States in the implementation process.

**DECISION 12/1: CARRIAGE AND OPERATION OF PRESSURE-ALTITUDE REPORTING SSR TRANSPONDERS AND AIRBORNE COLLISION AVOIDANCE SYSTEM (ACAS) IN THE AFI REGION**

**THAT A TASK FORCE BE ESTABLISHED IN ORDER TO EVALUATE THE POTENTIAL PROBLEMS ASSOCIATED WITH THE LACK OF IMPLEMENTATION OF PRESSURE-ALTITUDE REPORTING TRANSPONDERS AND ACAS II IN THE AFI REGION AND TO DEVELOP A DRAFT AIC IN ORDER TO ASSIST STATES WITH THE IMPLEMENTATION PROCESS. THE TERMS OF REFERENCE AND COMPOSITION OF THIS TASK FORCE ARE AS FOLLOWS :**

**1. Terms of Reference**

- a) To study the potential problems associated with the lack of implementation of AFI/7 RAN Meeting Recommendation 5/23 concerning the carriage and operation of pressure-altitude reporting SSR transponders and ACAS II in the AFI Region with effect from 1 January 2000, also taking into account implementation strategies being adopted in other regions.
- b) To develop a strategy for ACAS II in the AFI Region.
- c) To develop a draft AIC in order to assist States in a harmonized implementation process.
- d) To report to ATS/AIS/SAR/SG/6 meeting.

**2. Membership**

Morocco, Senegal, South Africa, Spain, ASECNA, IATA and IFALPA.

**CONCLUSION 12/2: PUBLICATION OF ACAS II REGULATIONS**

**THAT STATES WHICH HAVE NOT PUBLISHED THEIR REGULATIONS FOR ACAS II SHOULD DO SO AS A MATTER OF URGENCY**

**AGENDA ITEM 4:            REVIEW OF REPORTS OF APIRG  
SUB-GROUPS AND ITS OTHER  
SUBSIDIARY BODIES**

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**Agenda Item 4: Review of reports of APIRG Sub-groups and its other subsidiary bodies****4.1 Review of the report of the Aerodrome Operational Planning Sub-group (AOP/SG)****4.1.1 Introduction**

4.1.1.1 Under this Agenda Item, the APIRG reviewed the report of the third meeting of the AOP Sub-group held in Dakar during 2 to 5 March 1999. The Group was apprised of the progress made by the AOP/SG on the follow-up on Conclusions of the AFI/7 RAN Meeting, in particular the finalization of the AOP part of the AFI Air Navigation Plan (ANP), both the FASID and Basic ANP, the implementation of the ANP requirements, and the development of a data base for the shortcomings and deficiencies in the AOP field. In addition the AOP/SG discussed issues related to the Y2K date change and the expected impact of the introduction of the new larger aeroplanes (NLA).

**4.1.2 Planning of en-route alternate aerodromes**

4.1.2.1 The Group was informed that in spite of the efforts of the Secretariat, the AOP/SG has not been able to obtain the required information except for two States. Consequently APIRG/12 noted the lack of response from States and agreed that further efforts have to be made both through the Secretariat and through the Sub-group to ensure that the required information is obtained. The Group noted the reservations made by IFALPA and supported by IATA on the practical usefulness of the information in the table of en-route alternate aerodromes. The meeting was of the opinion that consultations should continue before a decision was made. In light of the above the meeting concluded as follows:

**CONCLUSION 12/3: PLANNING OF EN-ROUTE ALTERNATE AERODROMES**

**THAT ADDITIONAL CONSULTATIONS WITH STATES BY THE ICAO SECRETARIAT CONTINUE IN ORDER TO OBTAIN INFORMATION RELATED TO THE EN-ROUTE ALTERNATE AERODROMES TO MEET THE NEEDS OF EXTENDED RANGE OPERATIONS BY TWIN ENGINE AEROPLANES (ETOPS)**

**4.1.3 Table AOP 1**

4.1.3.1 APIRG noted the review made by the AOP/SG of the content of the AOP Table bearing in mind that as acknowledged by the AFI/7 RAN Meeting, the review will continue to be an ongoing task of the Sub-group. In this review, the Group noted that in addition to the minor amendments including the provision of ATIS services by some States, there was a proposal for amendment of the Table by Algeria and Tunisia to add the requirement for two new international airports. The appropriate amendment proposal will be processed by the Secretariat in accordance with ICAO established procedures. The Group took the following decision:



**DECISION 12/4: TABLE AOP**

**THAT THE TABLE AOP 1 WHEN AMENDED BE PROPOSED TO FORM PART OF THE AFI FASID NOW UNDER PREPARATION.**

**4.1.4 Review of the list of shortcomings and deficiencies in the AOP Field**

4.1.4.1 APIRG noted the concerns raised by the AOP/SG regarding the shortcomings and deficiencies which have remained uncleared for a long time mainly because of the scarcity of the required resources even though such shortcomings and deficiencies have been recognized to be impairing the safety of aircraft operations. The Group subsequently developed conclusions as outlined in Part 5 of this report.

**4.1.5 Follow-up of the AFI/7 RAN Conclusions and Recommendations**

4.1.5.1 The Group noted the efforts of the AOP/SG to monitor the implementation of the facilities and services at aerodromes. The Group noted the observation made by the AOP/SG that considerable progress had been made following the implementation of various AFI/7 RAN recommendations related to institutional issues. A lot however remains to be done as is reflected in the list of shortcomings and deficiencies.

**4.1.6 Implementation of visual aids**

4.1.6.1 The Group noted the various projects currently being implemented in a number of States. The Group also agreed that scarcity of resources was not only hindering the implementation of visual aids but also their maintenance. Further unreliable power supply was shortening their lifetime. In view of the above the Meeting concluded as follows:

**CONCLUSION 12/5 : IMPLEMENTATION OF VISUAL AIDS.**

**THAT STATES ENSURE ADEQUATE RESOURCES ARE MADE AVAILABLE SO THAT THE REQUIRED VISUAL AIDS ARE IMPLEMENTED ADEQUATELY IN ACCORDANCE WITH ANNEX 14, VOLUME I STANDARDS AND RECOMMENDED PRACTICES (SARPS).**

**4.1.7 Aerodrome equipment, installations and services.**

4.1.7.1 The Group acknowledged that in spite of the various recommendations and conclusions it had adopted, it was evident that in a number of States the implementation of Annex 14 provisions were still inadequate. The Group noted the reasons identified by the Sub-group which can only be solved through institutional strategies, regional cooperation and sound administrative and personnel management. The Group noted the draft conclusion 4/3 of the Sub-group reiterating

the AFI/7 RAN Meeting Conclusion to extend the safety oversight programme to include aerodrome installation and services and noted that the subject is under consideration by the Council.

#### 4.1.8 Aerodrome Emergency Planning

4.1.8.1 The Group acknowledged the efforts by the Regional Offices to hold workshops on this particular topic and the follow-up action with States. Yet implementation is still not adequate. In order to reach more people and more agencies, the Group agreed that workshops should be held more often within a State or a group of States. In this regard the Group concluded as follows:

##### **CONCLUSION 12/6: AERODROMES EMERGENCY PLANNING**

###### **THAT:**

- a) **STATES ESTABLISH EMERGENCY PLANS FOR ALL INTERNATIONAL AERODROMES COMMENSURATE WITH THE TYPE OF OPERATION AT THOSE AERODROMES AND INFORM THE RESPECTIVE ICAO OFFICE;**
- b) **STATES CONDUCT EXERCISES AT INTERVALS CALLED FOR IN ANNEX 14, VOLUME I, (TWO YEARS FOR A FULL SCALE EXERCISE AND ONE YEAR FOR A PARTIAL EXERCISE) AND SUBMIT REPORTS TO THE RESPECTIVE ICAO OFFICE;**
- c) **STATES KEEP THE EMERGENCY PLANS UNDER CONSTANT REVIEW IN ACCORDANCE WITH SPECIFICATIONS IN ANNEX 14, VOLUME I;**
- d) **ICAO REGIONAL OFFICES CONTINUE TO ASSIST STATES IN THE ESTABLISHMENT OF THEIR AERODROME EMERGENCY PLANS; AND**
- e) **ICAO CONTINUE TO ORGANISE AERODROME EMERGENCY PLANNING WORKSHOPS AT REGIONAL OFFICES BUT ALSO WITHIN STATES OR GROUPS OF STATES WHEN REQUESTED.**

#### 4.1.9 Impact of the new larger aeroplanes at aerodromes in the AFI Region

4.1.9.1 The group noted that even though most airlines in the AFI Region would not immediately acquire the new larger aeroplanes, States will be required to implement appropriate specifications for destination and or even alternate aerodromes. In view of the fact that the ICAO Air Navigation Commission (ANC) has a specific task to evaluate the impact of new larger aeroplanes currently the subject of a Study Group; the formulation of a task force to study the impact at aerodromes in the AFI Region as recommended by the AOP/SG was considered premature. It was

agreed that the AOP/SG with the assistance of the Secretariat, should continue to monitor closely the results of the Study Group and re-evaluate its position at a later stage.

#### **4.1.10 Year 2000 (Y2K) date change computer problem**

4.1.10.1 The Group noted that even at this late date, some States had not responded to the ICAO questionnaire and it is likely that a number of installations have components which are not Y2K compliant. The cross boarder inter-dependability of aviation requires regional coordination of strategies and plans. The Group therefore concluded as follows:

#### **CONCLUSION 12/7: YEAR 2000 (Y2K) DATE CHANGE COMPUTER PROBLEM FOR AOP MATTERS**

##### **THAT :**

- a) **THE SECRETARIAT CONTINUE ITS EFFORT TO OBTAIN FROM STATES, AS A MATTER OF URGENCY, REPLY TO THE ICAO QUESTIONNAIRE ON LEVEL OF PREPAREDNESS AND ASSIST THEM AS MUCH AS POSSIBLE.**
- b) **STATES MAKE APPROPRIATE ASSESSMENTS ON COMPLIANCE STATUS OF THEIR AERODROME SERVICES AT DESIGNATED INTERNATIONAL AND ALTERNATE AERODROMES AND PROVIDE THIS INFORMATION TO OTHER STATES, AIRSPACE USERS AND ICAO.**
- c) **STATES WHEN ACQUIRING NEW EQUIPMENT MAKE SURE THAT A CLAUSE FOR Y2K COMPLIANCE IS ADDED IN THE CONTRACT DOCUMENTS AND IS FOLLOWED UP CLOSELY DURING RECEIPT OF THE EQUIPMENT.**

## **4.2 Review of the report of the COM/SG/4 Meeting**

### **4.2.1 Introduction**

4.2.1.1 The APIRG reviewed the report of the Fourth meeting of the Communications Sub-group (COM/SG) which was held in Nairobi from 23 to 25 November 1998.

## 4.2.2 Aeronautical Fixed Service

### 4.2.2.1 Review of the status of implementation of the rationalized AFI AFTN plan

4.2.2.1.1 The Meeting reviewed the status of implementation of the main and tributary circuits of the rationalized AFI AFTN plan, and recognized that 9 of the 10 main centres were implemented and operational. The availability of the Alger/Niamey main AFTN circuit is considered to be unsatisfactory. The group noted that Algeria and ASECNA had recently reached an agreement for its improvement. The Meeting also noted that the following main AFTN circuits are still not implemented:

- Brazzaville/Johannesburg;
- Brazzaville/Nairobi, and
- Johannesburg/Nairobi.

4.2.2.1.2 The Meeting updated the data on the status of implementation and characteristics of the AFTN circuits of the rationalized plan as shown at Appendix D to the report on Agenda Item 4. The meeting was also informed that Kenya had agreed to the installation of a VSAT station of the SADC network for the implementation of the Johannesburg/Nairobi circuit.

4.2.2.1.3 After reviewing the causes that hamper the implementation of the above main AFTN circuits, the Meeting adopted the following conclusions:

#### **CONCLUSION 12/8: ALGER/NIAMEY MAIN AFTN CIRCUIT**

##### **THAT STATES CONCERNED:**

- a) **IMPROVE THE AVAILABILITY OF THE ALGER/NIAMEY MAIN AFTN CIRCUIT URGENTLY; AND**
- b) **AGREE ON A BILATERAL TECHNICAL SOLUTION INCLUDING UPGRADING THE MODULATION RATE TO A MINIMUM OF 1200 BPS.**

#### **CONCLUSION 12/9: BRAZZAVILLE/NAIROBI MAIN AFTN CIRCUIT**

**THAT KENYA AND ASECNA IMPLEMENT AS A MATTER OF URGENCY A SATELLITE AFTN CIRCUIT BRAZZAVILLE/NAIROBI.**

### 4.2.2.1.4 **Brazzaville/Johannesburg main AFTN circuit: interconnection of VSAT networks in the AFI Region**

4.2.2.1.4.1 The Meeting noted that implementation of the Brazzaville/Johannesburg main AFTN circuit was dependent on the implementation of the interconnection of the SADC and ASECNA VSAT networks. The Meeting was informed that the two concerned parties had agreed

on a technical solution but still needed to finalize institutional arrangements for its implementation. The Meeting encouraged the parties concerned to resolve the remaining difficulties.

4.2.2.1.4.2 Preoccupation was expressed with the non-implementation of the Brazzaville main AFTN centre and related AFTN circuits. ASECNA advised the meeting that alternative means were being used and that this effort should continue for the implementation of all the functions assigned to the Brazzaville centre.

4.2.2.1.4.3 The meeting formulated the following conclusion :

**CONCLUSION 12/10: VSAT NETWORKS INTERCONNECTION: AFTN AND ATS/DS CONNECTIVITY**

**THAT ASECNA AND SOUTH AFRICA PROVIDE AS A MATTER OF URGENCY**

- a) **AT BRAZZAVILLE: A SADC VSAT COMPATIBLE TERMINAL POINTED TO INTELSAT SATELLITE 604**
- b) **AT JOHANNESBURG:**
  - i) **A SATCOM ASECNA VSAT TERMINAL POINTED TO INTELSAT SATELLITE 70 ; AND**
  - ii) **A NEW SADC VSAT TERMINAL FOR ATS/DS CIRCUITS.**

*Note: 1) With the above, implementation of the following AFS requirements will be facilitated:*

*AFTN: Brazzaville/Johannesburg and Antananarivo/Johannesburg:*

*ATS/DS: 1) Brazzaville /Luanda and potentially Brazzaville/Kinshasa.*

*2) Connectivity with Indian Ocean Zone : Antananarivo/Beira, Antananarivo/Dar Es Salaam and Antananarivo/Mauritius*

4.2.2.1.4.4 In view of the increasing development of VSAT networks in the AFI Region, the meeting called on Administrations to take into account the need for interconnectivity between networks. The following conclusion was adopted :

**CONCLUSION 12/11: INTERCONNECTIVITY BETWEEN VSAT NETWORKS**

**THAT ENTITIES RESPONSIBLE FOR THE OPERATION OF SUB-REGIONAL VSAT NETWORKS BE URGED TO ENSURE THAT INTERCONNECTION BETWEEN NETWORKS ARE IMPLEMENTED EXPEDITIOUSLY SO THAT THE BENEFITS OF SUCH NETWORKS ARE EXPLORED TO THE FULL AND MAJOR SHORTCOMINGS IN THE PROVISION OF FIXED SERVICE ARE ELIMINATED.**

#### 4.2.2.1.5 **AFTN circuits availability and transit time**

4.2.2.1.5.1 The APIRG noted that the majority of the AFI AFTN circuits still do not reach the required threshold of 97% availability and that the Regional Offices still do not receive data from the majority of States. It was also recognized the need to improve the message transit time in the AFI Region, and that a higher speed of transmission should be proposed as a first step at the level of the main circuits. The Meeting developed therefore the following Conclusions:

##### **CONCLUSION 12/12: AFI AFTN CIRCUITS AVAILABILITY**

###### **THAT STATES CONCERNED:**

- a) **TAKE REMEDIAL ACTION AS A MATTER OF HIGH PRIORITY TO OVERCOME DEFICIENCIES OF MAIN AFTN CIRCUITS;**
- b) **IMPLEMENT AS A MATTER OF PRIORITY THE REMAINING CIRCUITS BY 30 MARCH 2000.**
- c) **IMPROVE AFTN CIRCUITS RELIABILITY ABOVE THE THRESHOLD OF 97%; AND**
- d) **PROVIDE REGIONAL OFFICES WITH MONTHLY AVAILABILITY DATA ON ALL MAIN AND TRIBUTARY CIRCUITS UNDER THEIR RESPONSIBILITY.**

##### **CONCLUSION 12/13: UPGRADING THE DATA RATE FOR MAIN AFTN CIRCUITS**

**THAT THE DATA RATE FOR ALL THE MAIN AFTN CIRCUITS IN THE AFI REGION BE UPGRADED TO A MINIMUM OF 1200 BPS AS SOON AS POSSIBLE.**

#### 4.2.2.1.6 **Protocols in AFI main AFTN centres**

4.2.2.1.6.1 The Meeting noted that, in relation to AFI/7 Recommendation 9/6 regarding harmonization of protocols used in the AFI AFTN main centres, the COM/SG had established a Fixed Service Task Force which was planned to meet from 25 to 26 November 1999 in Nairobi, and agreed to the inclusion of Senegal in the membership of the COM/SG Fixed Service Task Force.

#### 4.2.2.2 **Review of new AFTN requirements**

4.2.2.2.1 The Meeting reviewed several proposals for inclusion of new requirements in the rationalized AFI AFTN plan: circuits Dakar/Johannesburg, Bujumbura/Goma, Antananarivo/Saint Denis, Dzaoudzi/Saint Denis, alternate AFTN routing for Asmara COM centre, a new by-pass circuit Alger/Johannesburg and the establishment as an AFTN main centre at Kano. The APIRG was also informed of the implementation of a bilateral circuit Asmara/Cairo. The Meeting after consideration of each proposal agreed on the following Conclusions:

**CONCLUSION 12/14 : BUJUMBURA/GOMA AFTN CIRCUIT**

**THAT BUJUMBURA/GOMA AFTN CIRCUIT BE INCLUDED IN THE RATIONALIZED AFTN PLAN FOR THE AFI REGION.**

**4.2.2.3 Review of the AFI AFTN Routing Directory**

4.2.2.3.1 The Meeting was informed on the various changes made to the Aeronautical Fixed Service including all those related to the AFI AFTN Routing Directory. Taking into account the nature and volume of changes, the meeting was of the view that the current AFI AFTN Routing Directory (12th Edition dating 1995) should be reviewed in detail. In this regard, the APIRG noted that the AFI AFTN Routing Directory meeting was scheduled to be held in Nairobi from 22 to 24 November 1999.

**4.2.2.4 Approach to ATN planning in the AFI Region**

4.2.2.4.1 The Meeting recalled that the COM/SG would continue to follow- up APIRG/9 Decision 9/34 regarding planning aspects relating to the introduction of the ATN in the AFI Region and that this Sub-Group had established a Fixed Service Task Force with that mandate (COM/SG/4 Decision 4/7 refers). It was agreed that the first stage should be an educational process to familiarize AFI specialists with ATN concepts and systems. In this regard, the APIRG was informed that ICAO has developed a Special Implementation Project (SIP) for the organisation of a GNSS/ATN Seminar in Nairobi during the year 2000.

**4.2.2.5 Use of SITA network**

4.2.2.5.1 The meeting recalled existing regional policies and RAN recommendation regarding the use of SITA for the temporary implementation of AFTN circuits and backup to the AFTN. This arrangement has proved beneficial for the region. However the meeting noted that whilst in the past the use of SITA was not charged to AFTN providers, recently in several locations, SITA has introduced charges. It was noted that this was creating difficulties to some of the providers concerned.

4.2.2.5.2 The meeting was of the view that an equitable solution should be found to the charging issue which it left unresolved risks to put into question the principles so far adopted at the regional level. The meeting asked those concerned including IATA to continue the dialogue with SITA with a view to finding an equitable solution. Furthermore the matter of SITA charges is to be referred to ICAO for consideration and guidelines.

#### 4.2.2.6 Review of status of implementation of the ATS Direct Speech Circuits (ATS/DS) Plan

4.2.2.6.1 The Meeting reviewed the status of implementation of the ATS/DS circuits plan and updated it for circulation to States. The meeting was of the view that implementation of the ATS/DS Plan could be greatly enhanced by the recourse to the VSAT technology and by using other reliable communication facilities in accordance with AFI/7 Recommendation 9/8. It was also recognized that implementation of an alternative satellite telephone system at ATS units as a back-up for ATS/DS links may alleviate the negative impact on safety and efficiency of air operations arising from the non-availability of the ATS/DS circuits. The Meeting consequently adopted the following conclusions:

**CONCLUSION 12/15: IMPLEMENTATION OF THE ATS/DS CIRCUITS PLAN**

**THAT:**

- a) **STATES CONCERNED IMPLEMENT AS A MATTER OF PRIORITY THE REMAINING ATS/DS CIRCUITS BY 30 MARCH 2000, TAKING INTO ACCOUNT AFI/7 RECOMMENDATION 9/8;**
- b) **ALTERNATIVE SATELLITE TELEPHONE DIAL UP SYSTEMS BE PROVIDED TO ATS UNITS WHERE DEDICATED ATS/DS CIRCUITS ARE NOT IMPLEMENTED OR OPERATING WITH DEFICIENCY; AND**
- c) **COMMUNICATIONS VIA PORTABLE SATELLITE TELEPHONES BE SYSTEMATICALLY RECORDED.**

#### 4.2.3 Aeronautical Mobile Service

##### 4.2.3.1 VHF coverage extension in the AFI Region

4.2.3.1 The meeting reviewed the status of the implementation and new requirements for the extension of VHF coverage in the AFI Region as requested by the AFI/7 RAN Meeting. Updates on VHF extension projects in FIRs Accra, Brazzaville, Khartoum, Kano, Lusaka, Mauritius and Ndjamena were presented to the meeting. The APIRG recognized that although there has been good progress in extending VHF, some FIRs are still lagging behind in that effort and that a new approach was needed: agreements by States to host in their territory remote VHF facilities operated by adjacent States. The meeting was informed that such arrangements existed already between Morocco, Portugal and Spain. Consequently, the APIRG adopted the following conclusion:

**CONCLUSION 12/16 : VHF COVERAGE EXTENSION IN THE AFI REGION**

**THAT STATES CONCLUDE AGREEMENTS FOR HOSTING ON THEIR NATIONAL TERRITORY REMOTE VHF FACILITIES OPERATED BY ADJACENT STATES.**

4.2.3.1.2 The meeting was apprised of the need for statistics on availability of en route VHF facilities. After discussions on procedures to be used, the meeting formulated the following Conclusion:



**CONCLUSION 12/17 :AVAILABILITY OF EN ROUTE VHF FACILITIES**

**THAT STATES COLLECT STATISTICS ON AVAILABILITY OF EN ROUTE VHF FACILITIES IN JANUARY, APRIL, JULY AND OCTOBER OF EACH YEAR AND COMMUNICATE THE RESULTS TO THE ICAO REGIONAL OFFICES CONCERNED.**

**4.2.4 Review of frequency assignments in the GNSS band (1559-1610 MHz)**

4.2.4.1 The meeting reviewed the extent of fixed service assignments in the GNSS frequency band 1 559 - 1 610 MHz in some parts of the AFI Region. In the follow-up of APIRG/11 Decision 11/11, States concerned in the AFI Region that authorize such fixed service assignments were requested to provide information on existing assignments in the band 1559-1610 MHz. The meeting noted that only 6 States out of the 25 concerned replied to the ICAO questionnaire.

**4.2.5 ICAO Position for ITU-WRC**

4.2.5.1 The meeting was apprised of the draft ICAO position for the next ITU World Radiocommunication Conference (WRC-2000) which is scheduled to be held from 8 May to 2 June 2000 in Istanbul. After reviewing of the agenda items of the WRC-2000, the APIRG urged aeronautical administrations to support the ICAO position for the next ITU-WRC-2000 by implementing ICAO Assembly Resolution A32-13.

**4.3 Review of the Report of the Fifth Meeting of ATS/AIS/SAR Sub-group**

4.3.1 APIRG considered the ATS/AIS/SAR Sub-group and noted that the Sub-group taking into account its Terms of Reference and Work Programme had identified some facilities and services which had not been implemented. It was therefore necessary to re-emphasize the need for States to take urgent action in order to address these non-implementation problems. Among these, major areas of concern were:

**ATS Field**

- iv) Review of ATS airspaces (including ATS route network) in order to respond to operational requirements;
- ii) Implementation of area control service;
- iii) Need to implement the various facilities and services in the CNS plan in order to enhance Air Traffic Management;
- iv) Review/Update of the ATM operational requirements in the AFI CNS/ATM Plan (Doc.003);

- v) Implementation of WGS-84; and
- vi) The assignment of five-letter name-code designators to ATS route intersections.

4.3.2 The APIRG accordingly endorsed the following conclusions emanating from the ATS/AIS/SAR Sub-Group. It was agreed that for practical purposes the attached Table ATS 1 to the route network will be included in the appropriate parts of the AFI Basic ANP and FASID documents in accordance with established procedures for the amendments to the basic ANP and FASID as approved by the ICAO Council.

**CONCLUSION 12/18: AMENDMENT TO THE AFI ANP (DOC 7474)  
TABLE ATS 1**

**THAT ATS ROUTES INDICATED AT APPENDIX E TO THE REPORT OF  
APIRG/12 MEETING ON AGENDA ITEM 4 BE INCLUDED IN TABLE ATS 1 OF  
THE AFI AIR NAVIGATION PLAN (DOC 7474)**

**CONCLUSION 12/19: IMPLEMENTATION OF ATS ROUTES**

**THAT:**

- a) **STATES HAVE NOT DONE SO, IMPLEMENT THE ATS ROUTES INDICATED AT APPENDIX F OF THE REPORT OF APIRG/12 MEETING ON AGENDA ITEM 4, AS SOON AS POSSIBLE BUT NOT LATER THAN 2 DECEMBER 1999;**
- b) **WHENEVER NECESSARY, IMPLEMENTATION OF ATS ROUTES PASSING THROUGH CONTIGUOUS FIRs BE DISCUSSED WITHIN THE FRAMEWORK OF INFORMAL CONSULTATIONS AND MEETINGS WITH ADJACENT STATES OR ORGANIZATIONS CONCERNED IN ORDER TO COORDINATE CALCULATIONS, PROCEDURES AND SIMULTANEOUS IMPLEMENTATION DATES.**

**CONCLUSION 12/20: PROVISION OF AREA CONTROL SERVICE**

**THAT THE STATES WHICH HAVE NOT DONE SO, IMPLEMENT AS SOON AS POSSIBLE, BUT NOT LATER THAN 1 JANUARY 2000 AREA CONTROL SERVICE.**

4.3.3 Furthermore, in accordance with the Sub-Group Work Programme, the Group noted that it had identified shortcomings and deficiencies in each State. These are discussed under Agenda item 5.

4.3.4 APIRG noted that pursuant to AFI/7 Recommendation 5/27 the Sub-group developed the specimen format for uniform application of ATS proficiency assessment and standard auditing

procedures for the AFI Region. It also noted that the Sub-group had considered the human factors in their programme. The problems associated with the year 2000 date change (Y2K) and the need for the elaboration of appropriate contingency plans was also addressed. These are discussed under Agenda item 4.7.

#### 4.3.5 **Proposal to delete ATS route UB 525 from the AFI ANP**

4.3.5.1 Eritrea presented a proposal to delete ATS route UB525. It was the view of the meeting that in order to keep the integrity of the plan the present **note 3 (available subject to a military agreement)** inserted against that route in the AFI Plan and the fact that Eritrea had promulgated a NOTAM indicating the non availability of this route was adequate to advise airspace users. It was also pointed out that the inability by a State to implement a route (or route segment) is not enough justification for the deletion of that route (or route segment) from the Plan.

#### 4.3.6 **Reporting and investigation of ATS incidents**

4.3.6.1 The Group noted the reporting and investigation of ATS incidents was still a problem in the Region. The importance of having ATS incidents reported and investigated had led IATA to establish an IATA/AFI Incident Analysis Working Group (IAAIA). The Group comprises IATA member airlines, ASECNA, AFRAA, IFALPA, IFATCA and ICAO. It noted that the Group had highlighted that human factors, lack of ATS proficiency, deficiency of ATS/DS and absence of formal letters of agreements contribute to a large extent to the number of ATS incidents in the AFI Region. In this regard the meeting formulated the following conclusions:

**CONCLUSION 12/21: REPORTING AND INVESTIGATION OF ATS INCIDENTS**

**THAT STATES WHICH HAVE NOT DONE SO, EXPEDITE THE IMPLEMENTATION OF PROVISIONS RELATING TO THE REPORTING AND INVESTIGATION OF ATS INCIDENTS AS ADVOCATED BY AFI/7 RAN MEETING RECOMMENDATION 5/26.**

**CONCLUSION 12/22: ATC REFRESHER COURSES**

**THAT STATES GIVE PRIORITY TO THE PROFICIENCY OF AIR TRAFFIC CONTROLLERS BY CONDUCTING REFRESHER COURSES.**

**CONCLUSION 12/23: UNIFORM APPLICATION OF ATS PROFICIENCY ASSESSMENT AND STANDARD AUDITING PROCEDURES**

**THAT STATES WHICH HAVE NOT DONE SO, INTRODUCE AS SOON AS POSSIBLE THE ATS PROFICIENCY ASSESSMENT AND AUDITING PROCEDURES USING THE GUIDELINES AT APPENDIX G TO APIRG/12 REPORT ON AGENDA ITEM 4.**

### 4.3.7 **Establishment of an Airspace Management Task Force**

4.3.7.1 The meeting was of the view that taking into account some pressing airspace management problems (ATS route network, allocation of five-letter name-code designators, traffic on crossing tracks and other operational problems) which have a direct impact on the safety and efficiency of air navigation in the region, there was an urgent need to establish an airspace management Task Force in order to thoroughly look into the matter and propose pragmatic operational solutions. The Task Force will report to the ATS/AIS/SAR Sub-Group. The Terms of Reference, Work programme and Composition of the Task Force are as follows:

**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 AND COMPOSITION OF THE AIRSPACE MANAGEMENT TASK FORCE (ASM/TF)**

**a) Terms of Reference**

**An airspace management Task Force be established within the framework of the ATS/AIS/SAR Sub-Group in order to explore ways and means of finding operations solutions to some pressing problems affecting the safety of air navigation in the region and to propose operational solutions.**

**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 enhance safety and efficiency and to propose pragmatic operational solutions in the 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.**

**c) Composition**

**Algeria, Angola, Burkina Faso, Chad, Côte d'Ivoire, Democratic Republic of Congo, Egypt, Eritrea, Gabon, Ghana, Kenya, Madagascar, Mali, Morocco, Niger, Nigeria, Senegal, Spain, South Africa, Togo, Tunisia, ACAC, ASECNA, IATA, IFALPA, and IFATCA.**

**d) Rapporteur**

**At its first meeting the Task Force will appoint its rapporteur and will submit its report to the next ATS/AIS/SAR Sub-Group meeting.**

**4.3.8 AIS Field**

4.3.8.1 The meeting noting the concerns expressed by the ATS/AIS/SAR Sub-Group on issues relating to Trigger NOTAM promulgation, Pre-flight Information Services, publication of new AIP format, implementation of WGS84 and the publication of WAC-ICAO 1: 1 000 000 charts endorsed the following conclusions:

**CONCLUSION 12/25: DISTRIBUTION OF CRITICAL AIS INFORMATION**

**THAT THE ICAO REGIONAL OFFICES CONCERNED PURSUE THE FOLLOW-UP ACTION ON IMPLEMENTATION OF THE AFI/7 RAN MEETING RECOMMENDATIONS 12/4 (PUBLICATION OF THE AIP IN THE NEW FORMAT) AND 12/23 (PREFLIGHT INFORMATION SERVICE), CONCLUSIONS 12/9 (ACTIVATION OF DESIGNATED AREAS) AND 12/10 (USE OF TRIGGER NOTAM).**

**CONCLUSION 12/26: RESPONSIBILITY FOR THE PRODUCTION OF CHART ICAO 1:100 000**

**THAT THE ICAO REGIONAL OFFICES CONCERNED:**

- a) **CALL THE ATTENTION OF THE STATES CONCERNED TO THE FACT THAT THOSE STATES WHICH HAVE THE RESPONSIBILITY FOR THE PRODUCTION OF THE RELEVANT SHEETS OF THE WORLD AERONAUTICAL CHART - ICAO 1: 1 000 000 ARE NO LONGER IN A POSITION TO CONTINUE THE PRODUCTION OF THE FOLLOWING SHEETS: 2344-45, 2420-21, 2422, 2451, 2454-55, 2536-37, 2423, 2454-55, 2536-37, 2570, 2574, 2658, 2659-60, 2660, 2662, 2663, 2664, 2691, 2692, 2693, 2694, 2695, 2696-97, 2697, 2780-81, 2781-82, 2784-85, 2785-86, 2812-13, 2813-14, 2814-15, 2816-17, 2817-18, 2905, 2906-07, 2935, 2936, 3052, 3155-56, 3173-74, 3278, 3297.**
- b) **INITIATE CONSULTATIONS WITH STATES COVERED BY THE ABOVE-MENTIONED SHEETS WITH A VIEW TO IDENTIFYING THOSE STATES**

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**THAT COULD ACCEPT TO PRODUCE THEIR OWN SHEETS AND/OR PROVIDE ASSISTANCE TO OTHER STATES IN THIS RESPECT.**

**CONCLUSION 12/27: DISSEMINATION OF AIS PRODUCTS**

**THAT GIVEN THE DIFFICULTIES EXPERIENCED IN THE DISSEMINATION OF AIS PRODUCTS DUE TO AFTN DEFICIENCIES, STATES USE ADDITIONAL MEANS OF COMMUNICATION SUCH AS INTERNET (TCP/IP) TO MAKE AVAILABLE THE RELEVANT AIS PRODUCTS.**

**CONCLUSION 12/28: IMPLEMENTATION OF WGS-84**

**THAT STATES WHICH HAVE NOT DO SO, EXPEDITE THE IMPLEMENTATION OF WGS-84 WITHIN THEIR FIRs IN ACCORDANCE WITH ICAO PROVISIONS**

**DECISION 12/29: THE AIS AUTOMATION TASK FORCE**

**THAT THE AIS TASK FORCE ESTABLISHED PURSUANT TO APIRG/10 DECISION 10/16 EXPEDITE THEIR WORK AND REPORT TO THE ATS/AIS/SAR/SG/6 MEETING.**

**4.3.9 SAR Field**

4.3.9.1 APIRG noted that the ATS/AIS/SAR Sub-Group had reviewed the status of implementation of ICAO provisions relating to search and rescue services. It noted with concern that most of these provisions have remained unimplemented and the meeting was of the view that States should be sensitized on the urgent need to take prompt action. In this regard it formulated the following conclusion:

**CONCLUSION 12/30: PROVISION OF SEARCH AND RESCUE SERVICES**

**THAT STATES ACCORD HIGH PRIORITY FOR THE IMPLEMENTATION OF ICAO PROVISIONS IN RESPECT OF SEARCH AND RESCUE SERVICES.**

#### **4.4 Review of the Report of the Fourth Meeting of the Meteorology Sub-Group (MET/SG/4)**

##### **4.4.1 Introduction**

4.4.1.1 Under this agenda item, the APIRG reviewed the report of the MET/SG held in Nairobi from 15 to 17 March 1999.

##### **4.4.2 WAFS in the AFI Region**

4.4.2.1 The meeting noted the action taken by the Secretariat concerning the implementation of the WAFS in the AFI Region. The meeting agreed to include Table MET 7 in the AFI Facilities and Services Implementation Document (FASID) in order to reflect the authorized users of the SADIS as recommended by AFI/7 RAN Meeting - The following conclusion was adopted:

**CONCLUSION 12/31: INCLUSION OF TABLE MET 7 OF AUTHORIZED SADIS USERS IN THE AFI FASID**

**TABLE MET 7 AUTHORIZED SADIS USERS AS GIVEN IN APPENDIX H TO THIS REPORT, FOLLOWING COORDINATION WITH STATES CONCERNED AND OTHER MODIFICATIONS AS REQUIRED, BE INCLUDED IN THE AFI FASID.**

4.4.2.2 The meeting reviewed the AFI requirements for WAFS products as recommended by AFI/7 RAN Meeting which called for the development of standardized formats for Tables MET 5 and MET 6 taking into account the phased transfer of RAFCs responsibilities to the WAFC. The following conclusion was adopted:

**CONCLUSION 12/32: AFI REQUIREMENTS FOR WAFS PRODUCTS - FINAL PHASE OF WAFS**

**THAT, THE TABLES MET 5 AND MET 6 AT APPENDIX I TO THIS REPORT AND INTRODUCTORY TEXT TO PART IV - METEOROLOGY OF THE AFI ANP BE INCLUDED IN THE AFI FASID AND BASIC ANP DOCUMENTS.**

4.4.2.3 The meeting agreed to a transition plan for the transfer of responsibilities for RAFCs Dakar, Las Palmas and Nairobi to London WAFC. The following conclusion was adopted:

**CONCLUSION 12/33: AFI TRANSITION PLAN AND PROCEDURES TOWARDS THE WAFS FINAL PHASE**

**THAT THE TRANSITION PLAN AND PROCEDURES FOR TRANSFER OF RESPONSIBILITIES FROM RAFCS DAKAR, LAS PALMAS AND NAIROBI TO THE WAFC LONDON BE AS GIVEN AT APPENDIX J TO THIS REPORT.**

4.4.2.4 In order to allow the other States to provide feedback on SIGWX charts to the WAFC London, the following conclusion was also adopted:

**CONCLUSION 12/34: FEEDBACK ON SIGWX CHARTS TO LONDON WAFC**

**THAT STATES RECEIVING SIGWX FROM WAFC LONDON PROVIDE FEEDBACK ON A TIMELY MANNER TO THE WAFC ON THEIR FINDINGS ON THE ACCURACY OF THE SIGWX TEST CHARTS RECEIVED.**

4.4.2.5 The meeting considered the draft conclusion and decision of the Third Meeting of the SADIS Operations Group (SADISOPSG/3) concerning the SADIS Strategic assessment tables, study on the collection/dissemination of AIS Information on SADIS and technical and financial commitment to SADIS. The following conclusions and decisions were adopted.

**DECISION 12/35: SADIS STRATEGIC ASSESSMENT TABLES**

**THAT APIRG TASKS ITS MET SUB-GROUP TO MAINTAIN THE SADIS STRATEGIC ASSESSMENT TABLES AT APPENDIX K ON AN ANNUAL BASIS AND FORWARD THEM TO THE SADISOPSG IN TIME FOR EACH SADISOPSG MEETING.**

**CONCLUSION 12/36: STUDY ON THE COLLECTION/DISSEMINATION OF AIS INFORMATION ON THE SADIS BROADCAST CALLED FOR BY EANPG CONCLUSION 38/25.**

**THAT:**

- e) THAT THE COLLECTION/DISSEMINATION OF AIS INFORMATION ON THE SADIS WAS TECHNICALLY FEASIBLE;**
- f) THE STUDY COULD NOT BE TAKEN ANY FURTHER IN THE ABSENCE OF AN OPERATIONAL REQUIREMENT SPECIFYING THE TYPE OF AIS INFORMATION WHICH MIGHT BE COLLECTED/DISSEMINATED; AND**
- g) THE STUDY SHOULD BE DISCONTINUED PENDING THE STATEMENT OF AN OPERATIONAL REQUIREMENT BY ONE OF THE PIRGS CONCERNED.**

4.4.2.6 The meeting was of the view that the subject of collection/dissemination of AIS information should be brought to the attention of the ATS/AIS/SAR Sub-group for consideration. Therefore the following decision was adopted:

**DECISION 12/37: COLLECTION/DISSEMINATION OF AIS INFORMATION ON SADIS**

**THAT THE APIRG REFER THE SUBJECT OF COLLECTION/DISSEMINATION OF AIS INFORMATION ON SADIS TO ITS ATS/AIS/SAR SUB-GROUP FOR STUDY OF OPERATIONAL REQUIREMENTS.**



4.4.2.7 The following conclusion of the SADISOPSG on technical and financial commitment to SADIS was also adopted:

**CONCLUSION 12/38: TECHNICAL AND FINANCIAL COMMITMENT TO SADIS**

**THAT, STATES UNDER THE COVERAGE OF THE SADIS FOOTPRINT, BE ENCOURAGED TO CONSIDER IMPLEMENTATION OF THE SADIS COMPONENT OF THE AFS, AND THEIR TECHNICAL AND FINANCIAL COMMITMENT TO SADIS.**

**4.4.3 AFI Meteorological Bulletins Exchange (AMBEX) Scheme**

4.4.3.1 The meeting noted that the requirement for the exchange of METARs in the AFI Region should be given a particular attention, and to that effect the MET/SG should study the subject. The possibility of establishing one or two OPMET data bank(s) in the Region was also discussed and the following conclusion was adopted:

**CONCLUSION 12/39: OPMET DATA BANK FOR THE AFI REGION**

**THAT, IN ORDER TO IMPROVE EXCHANGES, ICAO STUDY THE POSSIBILITY OF ESTABLISHING ONE OR TWO OPMET DATA BANK(S) IN THE AFI REGION PREFERABLY WHERE TWO-WAY SADIS VSAT ARE LOCATED.**

**4.4.4 Provision of tropical cyclone and volcanic ash advisories for the Region**

4.4.4.1 In view of the need for training in the preparation and issuance of volcanic ash advisories, the meeting adopted the following conclusion:

**CONCLUSION 12/40: TRAINING IN THE PREPARATION AND ISSUANCE OF VOLCANIC ASH ADVISORIES AND SIGMETs**

**THAT, STATES CONCERNED SHOULD CONDUCT REGULAR EXERCISES IN COOPERATION WITH THEIR VAAC AT THEIR METEOROLOGICAL WATCH OFFICES (MWOS) ON THE PREPARATION AND ISSUANCE OF VOLCANIC ASH ADVISORIES AND SIGMETs IN ORDER TO KEEP THEIR AERONAUTICAL METEOROLOGICAL FORECASTERS CURRENT WITH THE PROCEDURES.**

**4.4.5 Year 2000 (Y2K) Computer problem**

4.4.5.1 The meeting agreed that the circuits such as SITA and WMO Global Telecommunications System (GTS) available for use in the AFI Region should be considered as part of the contingency arrangement for exchange of OPMET information. It was emphasized that

OPMET information should also be concentrated at the existing SADIS two-way VSAT Station in Johannesburg for uplink to WAFC London. The following conclusion was adopted:

**CONCLUSION 12/41: YEAR 2000 (Y2K) COMPUTER PROBLEM**

**THAT:**

- a) **TELECOMMUNICATIONS CIRCUITS SUCH AS SITA AND WMO GLOBAL TELECOMMUNICATIONS SYSTEM (GTS) BE PART OF THE CONTINGENCY PLANNING FOR THE Y2K COMPUTER PROBLEM FOR EXCHANGE OF OPMET.**
- b) **OPMET INFORMATION SHOULD ALSO BE CONCENTRATED AT EXISTING TWO-WAY SADIS VSAT STATION IN JOHANNESBURG (PRETORIA) FOR UPLINK TO WAFC LONDON.**

**4.4.6 ICAO Policy on Air Navigation Services Charges - Guidance to determining the cost of meteorological service**

4.4.6.1 The meeting noted that there is a need for institutional arrangements for meteorological services to benefit from revenues generated through air navigation charges. The following conclusion was adopted:

**CONCLUSION 12/42: COST RECOVERY FOR AERONAUTICAL METEOROLOGICAL SERVICES PROVIDED TO AVIATION**

**THAT, STATES HAVING DIFFICULTIES IN COST RECOVERY OF THEIR METEOROLOGICAL SERVICES PROVIDED TO AVIATION, MAKE ADEQUATE INSTITUTIONAL ARRANGEMENTS TO ENSURE THAT MET EOROLOGICAL SERVICES BENEFIT FROM THESE CHARGES. THE FUNDS SHOULD THEN BE USED TO IMPROVE AERONAUTICAL METEOROLOGICAL SERVICES.**

4.4.7 The meeting was presented with the draft MET part of the AFI ANP and FASID which will be processed in accordance with the ICAO procedures

**4.5 Review of the Report of the CNS/ATM/IC/SG/2 Meeting**

**4.5.1 Introduction**

4.5.1.1 The APIRG reviewed the report of the Second meeting of the CNS/ATM Implementation Co-ordination Sub-group (CNS/ATM/IC/SG/2) of the AFI Planning and Implementation Regional Group (APIRG) which was held in Dakar from 16 to 19 February 1999.

#### 4.5.2 **Review of the reports of ICGs and Status of implementation of the AFI CNS/ATM Plan**

4.5.2.1 Under this agenda item, the Meeting reviewed the reports of the ICG meetings of Areas of routing AR1, AR2, AR3, AR4, AR5, AR6, AR7, AR9 and AR10. These meetings were held pursuant to APIRG Conclusions 10/38 and 11/7.

4.5.2.2 The ICGs formulated amendments to the CNS/ATM Plan, which were reviewed and endorsed by the APIRG. The ICGs designated ATM Coordinators and CNS Coordinators for their area of concern. The Meeting also noted a working paper by Eritrea concerning its objection to Ethiopia being nominated as coordinator for AR3.

4.5.2.3 APIRG adopted the following Decision in respect of AR10:

**DECISION 12/43: PARTICIPATION OF AUSTRALIA, INDIA AND MALDIVES IN THE ACTIVITIES OF THE AR10 ICG**

**THAT AUSTRALIA, INDIA AND MALDIVES BE INVITED TO PARTICIPATE IN THE ACTIVITIES OF THE AR10 IMPLEMENTATION COORDINATION GROUP (AR10-ICG) FOR COORDINATION PURPOSES OF THE AFI AND ASIA/PAC CNS/ATM PLANS.**

#### 4.5.3 **Reduction of longitudinal separation in the AFI Region**

4.5.3.1 Following its review of the reports of the ICGs, APIRG agreed on the following Conclusion:

**CONCLUSION 12/44: LONGITUDINAL SEPARATION**

**THAT STATES TAKE ALL NECESSARY STEPS SO THAT UNIFORM 10 MINUTE LONGITUDINAL SEPARATION MINIMA BE APPLIED AT THE AIRAC DATE OF 23 MARCH 2000.**

#### 4.5.4 **National CNS/ATM bodies, Focal Points of contact and ICG Coordinators**

4.5.4.1 The Meeting was briefed on the role of the ICG Coordinators and on, their working procedures. The APIRG agreed that, in order to facilitate implementation and coordination, it was necessary that national CNS/ATM bodies be established in all States and that focal points of contact be designated within each national body for coordination with the relevant ICG coordinator. The meeting then formulated the following Conclusion:

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**CONCLUSION 12/45: NATIONAL CNS/ATM BODIES, FOCAL POINTS OF CONTACT AND ICG COORDINATORS**

**THAT :**

- a) **STATE AIR NAVIGATION SERVICE PROVIDERS, WHICH HAVE NOT YET DONE SO, ESTABLISH A NATIONAL CNS/ATM BODY;**
- b) **THE HEAD OF THIS BODY BE DESIGNATED AS THE FOCAL POINT OF CONTACT FOR PURPOSES OF COORDINATION WITH THE RELEVANT ICG COORDINATORS;**
- c) **IF A STATE IS ELECTED AS ICG COORDINATOR OF ONE OF THE 10 AREAS OF ROUTING IN THE AFI REGION, THE NATIONAL FOCAL POINT OF CONTACT REFERRED TO IN (B) ABOVE BE DESIGNATED AS THE ICG COORDINATOR OR APPOINTS A SUITABLE PERSON TO ACT AS AREA OF ROUTING COORDINATOR; AND**
- d) **ICAO PROVIDE TO STATES AND INTERNATIONAL ORGANIZATIONS CONCERNED WITH THE LIST OF COORDINATORS AND THEIR CONTACTS.**

*Note: The terms of reference of the ICG Coordinators are as follows: The ICG coordinator will be responsible to initiate and coordinate actions required to carry out implementation as mentioned in the worksheets among all concerned; facilitate the elimination of shortcomings and deficiencies as noted in the ICG meetings; report to the CNS/ATM sub-group on progress and eventual constraints being experienced, or on any other matters of concern; and to assist States as required.*

**4.5.5 Review and update of the CNS/ATM Implementation Plan taking into account developments since AFI/7 RAN Meeting**

4.5.5.1 The Meeting updated the AFI CNS/ATM Implementation Plan (Doc 003) based on its review of the reports of the meetings of the Implementation Coordination Groups (ICGs) for areas of routing 1, 2, 3, 4, 5, 6, 7, 9 and 10 and inputs provided by the Fifth Meeting of the ATS/AIS/SAR Sub-group (Nairobi, 5 - 9 October 1998). The following Conclusion was adopted:

**CONCLUSION 12/46: AMENDMENT TO THE AFI CNS/ATM IMPLEMENTATION PLAN DOC 003**

**THAT THE AFI CNS/ATM IMPLEMENTATION PLAN (DOC.003) BE AMENDED ON THE BASIS OF THE DOCUMENTATION REVIEWED BY APIRG/12 AND CIRCULATED TO STATES.**

#### **4.5.6 Development of the Surveillance Plan for the AFI Region**

4.5.6.1 The Meeting recalled that the AFI/7 RAN Meeting, due to time constraints, could not develop a comprehensive Aeronautical Surveillance Plan (ASP) for the AFI Region and therefore adopted Recommendation 11/1 - *Amendment to the Air Navigation Plan, Part III - Aeronautical Surveillance Plan*, requesting that APIRG completes the development of a complete surveillance plan in conformance with the AFI CNS/ATM plan.

4.5.6.2 The APIRG noted the ASP submitted by the CNS/ATM/IC Sub-group and agreed that it needed further development. It requested that it be circulated to States and concerned international organizations for their comments and the results be submitted to the CNS/ATM/IC Sub-group.

#### **4.5.7 Development of AFI GNSS Concept**

##### **4.5.7.1 Introduction**

4.5.7.1.1 The Meeting recalled that APIRG/10 decided to establish a Working Group on GNSS strategy with a mandate to draft an AFI strategy for the introduction of satellite-based augmentation systems and to make proposals for institutional arrangements for the AFI SBAS (Decision 10/43 refers).

4.5.7.1.2 The APIRG Working Group on GNSS, at its first meeting, established a Study Group composed of South Africa, ASECNA, IATA and ICAO which it tasked with conducting the necessary studies for the completion of the Working Group's mandate. A preliminary report on the study for the introduction and implementation of GNSS in the AFI Region was presented to the AFI/7 RAN Meeting which noted that the study needed further refinement and encouraged APIRG for its early completion.

4.5.7.1.3 Following the AFI/7 RAN, a request for funding of Phase II of the GNSS Study was submitted to the European Union (EU) on behalf of the AFI Region by ASECNA. The EU agreed to provide 396,000 ECU for the study. The Study Group members provided matching resources towards the project in terms of manpower, communications, travel expenses etc...

##### **4.5.7.2 GNSS Concept**

4.5.7.2.1 The Meeting was given an audiovisual presentation on the report on the GNSS Study. Copies of the Executive Summary of the report were provided to each delegation. The report addressed the following areas: review of existing facilities, traffic forecast analysis (up to year 2012), operational requirements, including an analysis of historical MET data at AFI airports, architecture systems options and cost benefit analysis. Several delegates expressed their appreciation of the work done by the GNSS Study Group.

4.5.7.2.2 The Meeting then considered a draft AFI GNSS concept and also recommendations concerning the future work in this area. The proposed strategy for the transition from conventional navigation aids to GNSS described an evolutionary approach starting from current GNSS constellations to an initial satellite-based augmentation system providing uniformly throughout the AFI Region an instrument approach capability with vertical guidance at an accuracy of 20m, NPV-1. In the longer term, this basic SBAS would evolve to provide for CAT I equivalent minima where the requirement has been identified on the basis of historical MET data analysis or traffic characteristics. In other areas GBAS would be used to provide CAT I equivalent service.

4.5.7.2.3 During the ensuing debate, discussions were held on the need or not to introduce ground based augmentation systems (GBAS) during Phase II of the draft strategy, the need to consider institutional issues related to the provision in the longer term of AFI master control centres, and finally the consideration of satellite-based augmentation systems in adjacent regions. Following clarifications on these concerns the APIRG agreed to endorse the initial concept of the AFI GNSS strategy as show at Appendix L to the report on Agenda Item 4.

#### **4.5.7.3 Test bed activities**

4.5.7.3.1 APIRG also recalled that at its Eleventh meeting it agreed to the deployment in the AFI Region of an EGNOS test bed and that it welcomed similar initiatives from other SBAS providers. The Meeting realized that this facility would be important in validating the proposed AFI GNSS strategy. Namely it will allow the validation of levels of service and differential correction algorithms specifically in the tropical and equatorial regions. In this regard, APIRG noted information on progress achieved so far towards the implementation of the test bed and on the related future work programme and working structures. It was also noted that inter-regional coordinated activity will have to continue for the duration of the test bed programme. In this connection the institutional arrangements for securing funding of the test bed with the EU through ASECNA will have to be continued. Spain offered to assist the AFI Region in the implementation of the test bed and GNSS. The offer was noted with appreciation.

4.5.7.3.2 In view of the above, APIRG adopted the following conclusions and decision:

**CONCLUSION 12/47: IMPLEMENTATION PLAN FOR THE AFI GNSS**

**THAT THE IMPLEMENTATION PLAN FOR THE AFI GNSS BE THAT AT APPENDIX L TO THE REPORT ON AGENDA ITEM 4.**

**CONCLUSION 12/48: FUNDING ARRANGEMENT FOR THE AFI EGNOS TEST BED**

**THAT ASECNA CONTINUE THE EXISTING ARRANGEMENTS WITH THE EUROPEAN UNION TO ENSURE, ON BEHALF OF THE AFI REGION, FUNDING OF THE AFI EGNOS TEST BED.**

**DECISION 12/49: FUTURE WORK OF THE AFI GNSS STUDY GROUP****THAT THE AFI GNSS STUDY GROUP BE TASKED WITH THE FOLLOWING:**

- c) CONTINUE TO CARRY OUT ALL THE ACTIVITIES ASSOCIATED WITH THE IMPLEMENTATION OF THE AFI GNSS TEST BED AND ANY OTHER TEST BED PROPOSAL CONCERNING THE AFI REGION; AND**
- d) DEVELOP AND REFINE THE IMPLEMENTATION PLAN FOR THE AFI GNSS INCLUDING ASSOCIATED INSTITUTIONAL ISSUES.**

**4.6 Review of the report of the APIRG ANP/FASID Task Force**

4.6.1 Under this agenda item the meeting recalled that the APIRG/11 meeting under Decision 11/3 established the ANP/FASID Task Force in order to review the draft AFI basic ANP and FASID documents prepared by the Secretariat on the basis of the format and content approved by the ICAO Council and to complete them for adoption by APIRG/12 and for subsequent processing according to ICAO approval procedures.

4.6.2 The meeting noted that the ANP/FASID Task Force meeting was accordingly organized in Tunis, from 18 - 19 June 1999 and examined the draft AFI Basic ANP and FASID documents prepared by the Secretariat. It was however pointed out that the two drafts would have to be completed on the basis of a new edition of the conventional AFI ANP (Doc 7474) to be published by August 1999 as well as on the reports of the APIRG/11 and APIRG/12 meetings. The meeting was also of the view that the AFI CNS/ATM implementation plan (Doc 003) be incorporated in the relevant parts of the AFI Basic ANP and FASID documents in an evolutionary manner. The need for considering the development of a new part dealing with human factors and manpower planning requirements for the basic ANP and FASID was also emphasized. It was understood that this subject is being dealt with at ICAO Headquarters with the assistance of a Secretariat study group.

4.6.3 The APIRG noted that the Task Force accordingly charged the Secretariat to complete the above documents and send them to States and international organizations concerned for comments according to established procedures for the amendment of the basic ANP and FASID. The draft AFI basic ANP and FASID documents which have been prepared by the Task Force meeting will be processed in accordance with ICAO procedures.

4.6.4 The APIRG endorsed the following draft Conclusions emanating from the ANP/FASID Task Force Meeting and it was however pointed out that for practical purposes, conclusions applicable to both the AFI basic ANP and FASID documents which have been indicated separately in the report of the Task Force meeting have been harmonized:

**CONCLUSION 12/50: ALIGNMENT OF THE PROCEDURES FOR THE AMENDMENT OF THE FASID**

**THAT THE PROCEDURE FOR THE AMENDMENT OF THE FASID AS APPROVED BY THE COUNCIL ON 26 FEBRUARY 1997 BE ALIGNED WITH THE PROCEDURE FOR THE AMENDMENT OF THE BASIC ANP APPROVED BY THE COUNCIL ON 25 FEBRUARY 1998 IN RESPECT OF THE ROLE OF INTERNATIONAL ORGANIZATIONS.**

**CONCLUSION 12/51: COMPLETION OF THE DRAFT AFI BASIC ANP AND FASID DOCUMENTS**

**THAT:**

- a) **THE SECRETARIAT WILL COMPLETE THE DRAFT AFI BASIC ANP AND FASID DOCUMENTS WITH DUE CONSIDERATION TO THE 27<sup>TH</sup> EDITION OF DOC 7474 AND THE REPORTS OF APIRG11 AND 12 MEETINGS;**
- b) **THE FINAL DRAFT AFI BASIC ANP AND FASID DOCUMENTS WILL BE SENT TO STATES AND INTERNATIONAL ORGANIZATIONS CONCERNED FOR COMMENTS ACCORDING TO THE ESTABLISHED PROCEDURE FOR THE AMENDMENT OF THE BASIC ANP AND FASID.**

**CONCLUSION 12/52: INCLUSION OF THE CONTENTS OF THE AFI CNS/ATM IMPLEMENTATION PLAN (DOC003) IN THE AFI BASIC ANP AND FASID**

**THAT THE SECRETARIAT WILL ENSURE THAT THE CONTENTS OF THE AFI CNS/ATM IMPLEMENTATION PLAN (DOC 003) BE INCORPORATED IN THE RELEVANT PARTS OF THE AFI BASIC ANP AND FASID DOCUMENTS IN AN EVOLUTIONARY MANNER.**

**CONCLUSION 12/53: DEVELOPMENT OF A NEW PART FOR BASIC ANP AND FASID DOCUMENTS DEALING WITH HUMAN FACTORS AND MANPOWER PLANNING**

**THAT THE SECRETARIAT EXPEDITES THE DEVELOPMENT OF A NEW PART TO THE AFI BASIC ANP AND FASID DEALING WITH HUMAN FACTORS AND MANPOWER PLANNING REQUIREMENTS.**

**CONCLUSION 12/54: CNS AND ATM FACILITIES IN AOP TABLES**

**THAT IN ORDER TO FACILITATE THE CONSULTATIONS OF FASID, THE REQUIREMENTS IN THE AOP TABLES CONCERNING CNS AND ATM BE ALSO INCLUDED IN PARTS IV AND V OF THE FASID AS APPROPRIATE.**



#### **4.7 : Y2K problems in the AFI Region**

4.7.1 The meeting was informed that the ICAO Regional Offices of Dakar and Nairobi in co-ordination with IATA had established an ICAO/IATA Y2K Steering Group with the objective of addressing all issues relating to the Y2K date change.

4.7.2 Among the issues addressed by the steering group were the establishment of a strategy for contingency planning and implementation and the development of a Y2K contingency planning document for the AFI Region. The AFI Plan had been presented to the global Y2K contingency plan meeting held in Paris from 3 to 4 June 1999 . The APIRG noted that the AFI document would need to be reviewed and harmonized with other regional Y2K plans and the global plan. It was also emphasized that the regional Y2K plan still has to be finalised based on the model regional Y2K plan which has been developed. The meeting noted that there was still a lot of work remaining.

4.7.3 The meeting noted that as part of the effort to expedite uniform development of National plans and the application of Regional plans six Y2K ATM consultants had been recruited. In addition they will assist States in developing their National contingency plans, letters of agreements, AIC/AIP Supplements and other related issues. Their programme calls for the consultants work to be finalized by the end of July 1999.

4.7.4 In view of the foregoing, the meeting formulated the following conclusion:

#### **CONCLUSION 12/55: Y2K CONTINGENCY PLANNING IN THE AFI REGION**

##### **THAT:**

- a) **THE METHODOLOGY FOLLOWED SO FAR TO ADDRESS THE PROBLEMS ASSOCIATED WITH THE DATE CHANGES IS ENDORSED BY APIRG;**
- b) **THE EXISTING ICAO/IATA MACHINERY CONTINUE ITS WORK WITH A VIEW TO FINALISE ALL THE REQUIRED ACTIONS AS SOON AS POSSIBLE;**
- c) **STATES EXPEDITE IMPLEMENTATION OF THE REQUIRED FACILITIES AND SERVICES RELATING TO THE PREVENTION OF PROBLEMS THAT MAY ARISE WITH COMPUTER DATES. IN THAT EFFORT, STATES TAKE INTO ACCOUNT THE AFI Y2K PLANNING DOCUMENT AND OTHER GUIDANCE MATERIALS ISSUED BY ICAO;**
- d) **THE NATIONAL Y2K UNIT EXCHANGE INFORMATION WITH REGIONAL Y2K UNIT(S) IN A TIMELY MANNER; AND**
- e) **THE REGIONAL OFFICES CONCERNED ESTABLISH THEIR Y2K REGIONAL CONTINGENCY UNITS.**

**AGENDA ITEM 5:           SHORTCOMINGS AND DEFICIENCIES IN  
THE AIR NAVIGATION FIELD IN THE AFI  
REGION**

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**Agenda Item 5: Shortcomings and deficiencies in the Air Navigation field in the AFI Region**

5.1 Under this agenda item, the meeting reviewed the list of shortcomings and deficiencies developed by the APIRG Sub-groups based on the uniform methodology for the identification, assessment and reporting of air navigation shortcomings and deficiencies approved by the council on 23 June 1998. The meeting noted that the method of validation of the information concerning shortcomings and deficiencies needed to be strengthened in order to ensure that the table is up to date at all times. To that effect, coordination with the States concerned should be established using all means of communication including electronic mail.

5.2 The meeting adopted the following conclusions:-

**CONCLUSION 12/56: INSTITUTIONAL STRATEGIES FOR ADDRESSING SHORTCOMINGS IN THE AIR NAVIGATION FIELD AT AIRPORTS IN THE AFI REGION.**

**THAT STATES WHICH HAVE NOT DONE SO CONSIDER FAVOURABLY THE FORMATION OF AUTONOMOUS AUTHORITIES AS AN INSTITUTIONAL STRATEGY TO ADDRESS SHORTCOMINGS AND DEFICIENCIES IN ACCORDANCE WITH THE AFI/7 RAN RECOMMENDATION 14/3.**

**CONCLUSION 12/57: COORDINATED APPROACH TO SOLVE PERSISTENT PROBLEMS.**

**THAT WHERE THERE ARE OBVIOUS PERSISTENT PROBLEMS ICAO COORDINATE WITH THE USERS, IATA AND IFALPA, AND THE STATE OR GROUP OF STATES CONCERNED TO DEVELOP AN APPROPRIATE STRATEGY FOR REMOVAL OF THE SHORTCOMINGS AND DEFICIENCIES**

**CONCLUSION 12/58: INTEGRATED SUB-REGIONAL APPROACH TO THE REMOVAL OF SHORTCOMINGS AND DEFICIENCIES.**

**THAT STATES CONSIDER THE USE OF SUB-REGIONAL GROUPINGS WHERE THEY EXIST TO COLLECTIVELY DEAL WITH REMOVAL OF SHORTCOMINGS.**

5.3 The APIRG noted a significant reduction (about 50%) in the number of reported cases of non-implementation of AFS requirements. With regard to the major shortcomings identified during the previous meeting, the APIRG was informed of the agreement by Kenya to provide a V-SAT station at Nairobi to implement the Johannesburg/Nairobi AFTN main circuit.

5.4 The meeting was informed that mobile frequency congestion is another deficiency affecting the operation of the aeronautical mobile service in the AFI Region and therefore formulated the following decision :

**DECISION 12/59 : HF MOBILE FREQUENCY AIR PERFORMANCE AND CONGESTION IN THE AFI REGION**

**THAT IATA AND IFALPA CONTINUE TO CARRY OUT SURVEYS ON HF FREQUENCY PERFORMANCE AND CONGESTION IN THE AFI REGION AND REPORT THE RESULTS TO THE NEXT COM/SG MEETING.**

5.5 The meeting agreed that the critical shortcomings and deficiencies should be identified separately and brought to the attention of ANC and Council for immediate action. These shortcomings and deficiencies are reflected at appendices to this report as follows :

AOP	Appendix	M
COM/CNS	Appendix	N
ATS/AIS/SAR	Appendix	O
MET	Appendix	P

**AGENDA ITEM 6:**

**TERMS OF REFERENCE AND WORKING  
ARRANGEMENTS OF THE APIRG**

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**Agenda Item 6 : Terms of reference and working arrangements of the APIRG**

6.1 The meeting was presented with a revised version of the APIRG procedural Handbook. The meeting noted that the finalized Procedural Handbook will be distributed to States and International Organizations.

The following decision was formulated :

**DECISION 12/60: APIRG PROCEDURAL HANDBOOK**

**THAT THE SECRETARIAT UPDATE THE APIRG PROCEDURAL HANDBOOK AND DISTRIBUTE IT TO STATES AND INTERNATIONAL ORGANIZATIONS.**

6.2 Subsequent to ALLPIRG/3 meeting the terms of reference of the APIRG have been amended as indicated in para 7.2 of this report.

6.3 The APIRG taking into account some pressing airspace management and CNS problems, established the task forces whose terms of references and work programmes are indicated in paragraphs 4.2 and 4.3.7 of this report.

6.4 The terms of references, work programmes and compositions of the APIRG subsidiary bodies are given at appendices as follows:

AOP	Appendix	Q
COM	Appendix	R
ATS/AIS/SAR	Appendix	S
MET	Appendix	T
CNS/ATM	Appendix	U
TF/TF	Appendix	V

**6.5 Membership to APIRG and its subsidiary bodies**

6.5.1 The Group was informed that applications had been received by the Secretary of APIRG from Eritrea and Mali prior to the meeting to be members of the Group. The meeting noted the objection of Ethiopia for the application of Eritrea. In the interest of a balanced representation of the region as a whole, the Group agreed to recommend these States for ICAO Council's consideration for membership to the Group and adopted the following conclusion.

**CONCLUSION 12/61: MEMBERSHIP OF THE APIRG**

**THAT THE ICAO COUNCIL APPROVE THE APPLICATIONS BY ERITREA AND MALI TO BE MEMBERS OF APIRG**

6.5.2 The Group agreed to a number of requests from States for membership to its subsidiary bodies and formulated the following decision:

**DECISION 12/62: MEMBERSHIP TO APIRG SUBSIDIARY BODIES****THAT;**

- a) **THE MEMBERSHIP OF THE FOLLOWING APIRG SUBSIDIARY BODIES BE INCREASED TO INCLUDE EXPERTS FROM THE FOLLOWING STATES AND INTERNATIONAL ORGANIZATION:**
- b) **AOP/S/G: ANGOLA, CAMEROON, CAPE VERDE, CONGO, THE GAMBIA, GHANA, UGANDA, ACAC AND IFALPA**
- c) **ATS/AIS/SAR/SG: ANGOLA, MALI, ACAC AND IFALPA**
- d) **COM/SG: ANGOLA, ACAC AND IFALPA**
- e) **MET/SG: THE GAMBIA**
- f) **CNS/ATM/SG: ANGOLA, THE GAMBIA, MALI, ACAC AND IFALPA**
- g) **GNSS/TF: CAMEROON, COTE D'IVOIRE, MOROCCO, NIGERIA, SPAIN AND ACAC**

6.5.3

The FASID Task Force having completed its assigned work was dissolved.

**AGENDA ITEM 7:       RELATIONS WITH OTHER GROUPS,  
ADJACENT REGIONS AND WORLD-WIDE  
ACTIVITIES**



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**Agenda Item 7: Relations with other groups, adjacent Regions and world-wide activities**

7.1 Under this agenda item the meeting was apprised of sustained co-ordination and consultations with other groups, adjacent regions and world-wide activities of the Regional Offices since the AFI/7 RAN Meeting. It was noted that all efforts were geared towards interregional co-ordination in relation to the evolutionary implementation of CNS/ATM in accordance with the AFI CNS/ATM implementation plan (Doc 003).

**7.2 Results of the Third Meeting of the ALLPIRG/3 Council Advisory Group, Follow-up actions to be taken by the APIRG.**

7.2.1 The meeting was informed of the results of the ALLPIRG/3 Meeting that had been held in Montreal from 6 to 8 April 1999 to review the progress of implementation of the ICAO CNS/ATM systems in ICAO Regions and to advise the ICAO Council on related matters as appropriate.

7.2.2 The meeting also noted that the ICAO Council had reviewed the ALLPIRG/3 Report on 11 June 1999 in the light of comments from the Air Navigation Commission, as a result, the APIRG, as well as other planning and implementation regional groups (PIRGs) were to take certain follow-up actions on the conclusions of ALLPIRG/3 as shown in Appendix W of this report.

7.2.3 In reviewing Appendix W of this report, the meeting noted those conclusions or parts thereof that needed to be noted by the APIRG with the understanding that the Secretariat will inform APIRG in due course of the results of follow-up actions that have to be taken either by the AFI States or by the Secretariat.

7.2.4 With regard to ALLPIRG/3 conclusions in Appendix W of this report that need specific follow-up action by the APIRG, the APIRG/12 agreed on the following conclusions:

**CONCLUSION 12/63: IDENTIFICATION OF MATTERS NEEDING ACTION BY ALLPIRG (ALLPIRG/3 CONCLUSION 3/3)**

**THAT THE SECRETARIAT PREPARE THE NECESSARY DOCUMENTATION FOR THE FOLLOW-UP OF ALLPIRG/3 CONCLUSION 3/3 BY APIRG. ALL MATTERS NEEDING ACTION BY ALLPIRG PARTICULARLY INTERREGIONAL ISSUES, BE BROUGHT TO THE ATTENTION OF THE ALLPIRG EXPEDITIOUSLY.**

**DECISION 12/64: ADDITION TO THE TERMS OF REFERENCE OF APIRG**

**THAT IN VIEW OF ALLPIRG/3 CONCLUSION 3/7, APPROVED BY THE ICAO COUNCIL ON 11 JUNE 1999, THE APIRG PROCEDURAL HANDBOOK BE AMENDED TO ADD THE FOLLOWING ITEM TO THE APIRG TERMS OF REFERENCE:**

**“IN FACILITATING IMPLEMENTATION OF FACILITIES AND SERVICES IDENTIFIED IN THE REGIONAL AIR NAVIGATION PLAN AND WITH DUE REGARD TO THE PRIMACY OF SAFETY, THE APIRG SHOULD TAKE INTO ACCOUNT THE COSTS AND BENEFITS OF IMPLEMENTATION OPTIONS AND THE NEED TO FACILITATE FINANCING OF PREFERRED OPTIONS. WITH REGARD TO MULTINATIONAL FACILITIES AND COOPERATIVE ACTIVITIES THE APIRG MAY WISH TO USE AN APPROPRIATE MECHANISM TO PREPARE COST/BENEFIT ANALYSES AND BUSINESS CASES, AND TO PROVIDE RELATED GUIDANCE MATERIAL IN SUPPORT OF “PROTOTYPE” SETS OF PLANNED FACILITIES AND SERVICES. AT ITS DISCRETION, THE APIRG MAY INVITE FINANCIAL INSTITUTIONS, AS REQUIRED ON A CONSULTATIVE BASIS AND AT A TIME IT CONSIDERS APPROPRIATE IN THE PLANNING PROCESS, TO PARTICIPATE IN THIS WORK.”**

**CONCLUSION 12/65: SUPPORT FOR THE ICAO POSITION AT WRC 2000**

**THAT, IN VIEW OF ALLPIRG/3 CONCLUSION 3/13, AFI STATES CONTINUE THEIR EFFORT TO PROMOTE AND DEFEND THE ICAO POLICY AT THE WORLD RADIO CONFERENCE (WRC) 2000.**

**7.3 AFI/EUR interface meeting**

7.3.1 An informal AFI/EUR co-ordination meeting was organized in the ICAO Paris Office from 18 - 21 May 1999. The meeting reviewed the CNS/ATM implementation plan within routing areas AR-6 (Iberian peninsula - Canarias) and AR-7 (North AFI Coastal and AFI/EUR interface routes). Other problems relating to the implementation of reduced vertical separation minimum (RVSM) in Europe with effect from January 2001 and its potential impact in the North AFI interface areas, the implementation of 8.33 Khz channel spacing in Europe as from October 1999, the implementation strategy for the phased implementation of ACAS II in the EUR Region and the implementation of a Haj routing network from Casablanca to Jeddah were also addressed.

## 7.4 Informal SAT co-ordination meeting

7.4.1 Pursuant to AFI/7 RAN Meeting Recommendation 5/11 significant improvement to air traffic services were noted within routing area AR-1 (Europe - South Atlantic) within the framework of informal SAT co-ordination meetings. Longitudinal separation have been reduced to from 15 to 10 minutes. The SAT Group is now working towards the implementation of a new route network in an RNP 10/50 NM lateral spacing environment. The evolutionary implementation of RVSM between FL290 and FL410 has also been planned. The above changes will call for an amendment to the AFI and SAM Air Navigation Plans (ANP) and Regional Supplementary Procedures (Doc 7030). Problems associated with the year 2000 date change problems were also addressed and contingency plans were accordingly developed.

7.4.2 The meeting noted with appreciation the pragmatic approach being taken in the Region in order to promote inter-regional co-operation with a view to harmonize procedures and implementation time-frames. It was however pointed out that the implementation of RVSM in Europe and other interface areas will have to be closely monitored and addressed within the framework of implementation co-ordination groups (ICGs) and APIRG sub-groups as appropriate. The meeting accordingly framed the following decision:

### **DECISION 12/66: IMPLEMENTATION OF RVSM**

**THAT THE PLANNING AND EVOLUTIONARY IMPLEMENTATION OF RVSM IN THE AFI REGION AND PROBLEMS ASSOCIATED WITH THE IMPLEMENTATION OF RVSM IN EUROPE AND OTHER AFI INTERFACE AREAS BE CARRIED OUT WITHIN THE FRAMEWORK OF THE IMPLEMENTATION CO-ORDINATION GROUPS (ICGs) OR APIRG SUB-GROUPS AS APPROPRIATE.**

**AGENDA ITEM 8 :      ANY OTHER BUSINESS**

**Agenda Item 8 : Any other business**

8.1 Under this agenda item the meeting took note of the tentative meeting schedule of the APIRG and its subsidiary bodies as at Appendix X, it being understood that firm dates will be advised to respective members in a timely manner.

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**SPECIFIC ACTIONS TAKEN BY THE ANC AND COUNCIL ON CONCLUSIONS OF APIRG/11**

Report Reference		Action by	Conclusion Title/Action
Concl. No.	Page	Council or ANC	
11/1	2-1	C	<p><b>Regular follow-up of the results of AFI/7 RAN Meeting and Report to APIRG</b></p> <p>Noted the conclusion and its relation to Conclusion 11/2, and requested the Secretary General to provide adequate resources (manpower and travel budget) to the regional offices for the follow-up of the conclusion.</p>
11/2	2-1	C	<p><b>Review of States' civil aviation establishments</b></p> <p>Endorsed the conclusion, requested the Secretary General to provide adequate resources (manpower and travel budget) to the regional offices for the follow-up of the conclusion and requested the APIRG to report its results to the Council in due course.</p>
11/6	2-5	C	<p><b>Facilitation of the AFI SBAS trials and demonstrations</b></p> <p>Noted the conclusion and urged AFI States designated to provide maximum facilities for the conduct of the trials.</p>
11/8	3-1	C	<p><b>Urgent implementation or improvement of COM facilities</b></p> <p>Noted the conclusion and urged States to make maximum effort to implement and improve, as appropriate, the communication facilities concerned.</p>



Report Reference		Action by	Conclusion Title/Action
Concl. No.	Page	Council or ANC	
11/9	3-2	C	<p><b>Shortcomings and deficiencies in the air navigation field in the AFI Region</b></p> <p>1) Noted the conclusion and requested States concerned to continue their efforts to resolve the shortcomings and deficiencies</p> <p>2) Requested the Secretary General to carry out an analysis of urgent cases that could be resolved by <i>ad hoc</i> approaches (SIPs and/or implementation meetings) and to inform the Council of progress made in implementing remedies to serious shortcomings and deficiencies.</p> <p>3) Requested APIRG to pursue the matter.</p>
11/10	4-1	C	<p><b>Preparatory work for the ITU WRC-99</b></p> <p>Noted the conclusion, its relationship to ALLPIRG/2, Conclusion 2/20 and the draft Assembly resolutions to be prepared.</p>
11/13	4-4	ANC	<p><b>Minimum safe altitude warning (MSAW) system</b></p> <p>Noted the conclusion.</p>
11/14	4-4	C	<p><b>Year 2000 computer date problem</b></p> <p>Noted the conclusion and urged that States take action as requested in State letter 98/37 dated 15 May 1998.</p>
11/15	5-1	C	<p><b>Membership of the APIRG</b></p> <p>Approved the membership of Angola, France and Guinea.</p>

Report Reference		Action by	Conclusion Title/Action
Concl. No.	Page	Council or ANC	
11/18	7-1	ANC	<p><b>Low-level SIGWX charts on SADIS</b></p> <p>Noted the conclusion and its relation to MIDANPIRG/4, Conclusion 4/52.</p>
11/19	7-1	ANC	<p><b>Guidelines for the selection of locations for two-way VSATs</b></p> <p>Noted the conclusion and its relation to MIDANPIRG/4, Conclusion 4/53.*</p>
11/20	7-1	C	<p><b>WAFS Area of coverage for flights between South Africa, Australia/New Zealand, Antarctica and South America</b></p> <p>Noted the conclusion and the action taken in response to APANPIRG Conclusion 8/20 to amend all relevant air navigation plans accordingly.</p>

- END -

\* Conclusion 4/53 of MIDANPIRG/4 meeting is related to guidelines for the selection of locations for two-way VSATs in Middle East Region.

**FOLLOW-UP RESPONSIBILITY ON AFI/7 RAN MEETING CONCLUSIONS AND RECOMMENDATIONS REFERRED TO APIRG**

<b>Rec. / Conc. No.</b>	<b>Title &amp; Text</b>	<b>Follow-up action</b>
Conc. 2/1	<p><b>Planning for en-route alternate aerodromes</b></p> <p>That the AFI Planning and Implementation Regional Group (APIRG) review and select en-route alternate aerodromes for inclusion in column 3 of the table with a degree of urgency. In preparation for the next APIRG meeting, States should consult their operators and provide information on current and proposed en-route alternates.</p>	Continuous.
Conc. 3/2	<p><b>Table AOP</b></p> <p>That the Table AOP attached to this report be reviewed and updated at regular intervals by the AFI Regional Planning and Implementation Group (APIRG).</p>	Continuous.
Rec. 3/4	<p><b>Implementation of physical characteristics, visual and non-visual aids at aerodromes</b></p> <p>That States study the requirements listed in Table AOP and develop in coordination with the APIRG, a plan for their implementation following consultation with the aircraft operators and other users.</p>	Continuous.

Rec. / Conc. No.	Title & Text	Follow-up action
Conc. 4/1	<p><b>Implementation of visual aids</b></p> <p>That:</p> <p>a) States ensure that adequate resources are available so the required visual aids are implemented and maintained properly at their aerodromes in accordance with Annex 14, Volume I;</p> <p>b) ICAO continue to promote and encourage, where possible, the establishment of autonomous airport authorities which, if well structured and financially independent, could contribute to the provision of much needed funds for the acquisition, installation and maintenance of visual aids at aerodromes in the region in accordance with Limited AFI (COM/MET/RAC) RAN Meeting Recommendation 10/15;</p> <p>c) ICAO, through its Technical Cooperation Bureau and regional offices, continue to provide necessary assistance to States; and</p> <p>d) The subject of implementation of visual aids be maintained on the work programme of AOP/SG of APIRG.</p>	Continuous.

Rec. / Conc. No.	Title & Text	Follow-up action
Conc. 4/6	<p><b>Rescue and fire fighting services</b></p> <p>That:</p> <p>a) the attention of States concerned be drawn to existing deficiencies in the rescue and fire fighting services at their aerodromes;</p> <p>b) States give priority to the provision of adequate rescue and fire fighting services at their international aerodromes in accordance with the provisions of Annex 14, Volume I;</p> <p>c) the regional offices continue the practice of carrying out regular reviews of the status of RFF services at international aerodromes in States in their respective areas of accreditation;</p> <p>d) States be encouraged to continue efforts on training of RFF personnel including familiarization of the types of aircraft operating at their aerodromes in consultation with aircraft operators; and</p> <p>e) this subject be maintained in the work programme of AOP/SG.</p>	Continuous.
Rec.5/1	<p><b>A co-operative approach to airspace management</b></p> <p>That States, taking into account the need for cost-effective introduction and operation of CNS/ATM systems, give consideration to co-operative efforts for introducing more efficiency in airspace management, particularly through regionalization leading to globalization of upper airspace management, in order to facilitate the safe, orderly and expeditious flow of air traffic</p>	Brought to the attention of States. Continuous

<b>Rec. / Conc. No.</b>	<b>Title &amp; Text</b>	<b>Follow-up action</b>
Rec5/2	<p><b>Contingency Planning</b></p> <p>That States which have not already done so, develop contingency plans for their area of responsibility, in coordination with adjacent States ,ICAO and interested international organizations, in order to facilitate early implementation of contingency measures should services be disrupted.</p>	Continuous.
Conc. 5/7	<p><b>Areas of application of the area navigation (RNAV) concept</b></p> <p>That States concerned identify those areas within their respective FIRs where the area navigation concept could be applied, in order to take full advantage of the navigational capability of aircraft equipped with suitable RNAV equipment to meet a specified required navigation performance (RNP).</p>	Assigned to the APIRG ATS/AIS/SAR/SG and Regional Offices for monitoring progress and coordination and report to APIRG/12. See APIRG/12-WP/9 for report.

<b>Rec. / Conc. No.</b>	<b>Title &amp; Text</b>	<b>Follow-up action</b>
Rec 5/11	<p><b>Improvements to the air navigation system in the South Atlantic</b></p> <p>That:</p> <ol style="list-style-type: none"> <li>1) to ensure continuity in the development to the air navigation system in the South Atlantic parts of the AFI and SAM Regions, States concerned and interested international organizations meet under the auspices of ICAO at least once a year in order to: <ol style="list-style-type: none"> <li>a) study, monitor and evaluate the air navigation system in the light of changing traffic characteristics and technology;</li> <li>b) co-ordinate the implementation of improvements to the air navigation system, including new CNS/ATM systems; and</li> <li>c) develop amendment proposals to the air navigation plan and regional SUPPs as required; and</li> </ol> </li> <li>2) the APIRG and all user States be kept informed of developments.</li> </ol>	<p>Implementation carried out within the framework of Informal SAT Meetings. APIRG/12-WP/9 refers.</p>

<b>Rec. / Conc. No.</b>	<b>Title &amp; Text</b>	<b>Follow-up action</b>
Conc. 5/17	<p><b>System monitoring in the required navigation performance airspace</b></p> <p>That the Africa-Indian Ocean Planning and Implementation Regional Group (APIRG) be requested to:</p> <p>a) continue to study the available options for the monitoring of horizontal navigation performance including the possible use of independently-derived global navigation satellite system-based information and select the system or combination of systems which proves to be the most effective; and</p> <p>b) develop any necessary monitoring requirements for inclusion in the AFI Regional Supplementary Procedures;</p> <p>.</p>	<p>Assigned to the APIRG ATS/AIS/SAR/SG and Regional Offices for monitoring progress and coordination and report to APIRG/12. See APIRG/12-WP/9 for report.</p>
Rec. 5/21 b)	<p><b>Provision of area control service</b></p> <p>The AFI Planning and Implementation Regional Group (APIRG) identify those routes or route segments where, based upon traffic densities or other operational assessment factors, air traffic control should be implemented.</p>	<p>To be assigned to the APIRG ATS/AIS/SAR/SG to identify. See APIRG/12-WP/9 for report.</p>



<b>Rec. / Conc. No.</b>	<b>Title &amp; Text</b>	<b>Follow-up action</b>
Rec. 5/26	<p><b>Reporting and analysis of ATS incidents</b></p> <p>That States which have not already done so to:</p> <ul style="list-style-type: none"> <li>a) implement procedures for the timely reporting of air traffic incidents;</li> <li>b) publish reporting procedures in their aeronautical information publication (AIP) and relevant ATS documents and make the Model Incident/Accident Report form available at ATS units, including those offices used for pre- and post-flight pilot briefing;</li> <li>c) establish procedures for the investigation of causes and circumstances concerning significant air traffic incidents in line with Annex 13 requirements; and</li> <li>d) emphasize, in national documentation, the need for rapid notification of the results of investigations to all parties concerned including pilots, aircraft operators, ATS units, ICAO and other affected States or Agencies.</li> </ul>	<p>Assigned to the APIRG ATS/AIS/SAR/SG and Regional Offices for monitoring (New task) under Rec 5/26 c) and coordination. See APIRG/12-WP/9 for report.</p>
Conc. 5/27	<p><b>ATS operational auditing</b></p> <ul style="list-style-type: none"> <li>a) develop standard auditing procedures to be used by States in order to assess the capability/competence of any particular ATS unit to ensure the provision of services in accordance with ICAO Standards and Recommended Practices (SARPs) and as per the provisions of the Plan; and</li> <li>b) as a matter of urgency, facilitate the implementation of uniform proficiency assessments and standards maintenance for air traffic services personnel.</li> </ul>	<p>Assigned to the APIRG ATS/AIS/SAR/SG (New task) to develop. See APIRG/12-WP/9 for report.</p>

Rec. / Conc. No.	Title & Text	Follow-up action
Rec 6/2	<p><b>Satellite-aided search and rescue</b></p> <p>That States:</p> <ol style="list-style-type: none"> <li>1) take appropriate action to reduce the number of false alarms through the COSPAS-SARSAT system on 121.5/243/406 MHZ caused by inadvertent activation of emergency transmitters and eliminate unauthorized use of those frequencies;</li> <li>2) establish a register of 406 MHZ ELTs and make available information by publishing in the aeronautical information publication as to how ELT registration information can be obtained rapidly by rescue co-ordination centres (RCCs) of other States;</li> <li>3) provide to ICAO a search and rescue (SAR) point of contact (SPOC) for inclusion in Table SAR 1 of the respective air navigation plan (ANP); and</li> <li>4) include information regarding the COSPAS-SARSAT system in the SAR plans.</li> </ol>	<p>Assigned to the APIRG ATS/AIS/SAR - SG (New task for the Sub-Group to monitor implementation of the Satellite-aided search and rescue). APIRG/12-WP/9 refers</p>
Rec 7/10	<p><b>Transition plan for the transfer of Dakar, Las Palmas and Nairobi RAFCs responsibilities to London WAFC</b></p> <p>That the APIRG develop, in co-ordination with the EANPG and the Provider States concerned, a transition plan for the transfer of RAFC responsibilities from RAFCs Dakar, Las Palmas and Nairobi to WAFC London, taking due account of the specific problems and circumstances of the AFI Region.</p>	<p>Continuous. APIRG/12-WP/11 refers.</p>

Rec. / Conc. No.	Title & Text	Follow-up action
Rec.8/4	<p><b>AFI Meteorological Bulletins Exchange (AMBEX) Scheme - Tables MET 4A and 4B</b></p> <p>That,</p> <p>a) Tables MET 4A and 4B given in Appendices D and E to the report on Agenda Item 8, replace the existing Table MET 4 of the AFI ANPP (Doc 7474); and</p> <p>b) the impact of SADIS on the AMBEX Scheme and in particular, the possible inclusion of METARs therein, be referred to APIRG for further study.</p> <p><i>Note - Tables MET 4A and 4B, together with the associated explanatory notes, will be part of the material to be transferred to Part VI - Meteorology of the AFI Facilities and Services Implementation Document (FASID) (Doc....).</i></p>	<p>See APIRG/12-WP/11 for report. Continuous. APIRG/12-WP/11 refers</p>

<b>Rec. / Conc. No.</b>	<b>Title &amp; Text</b>	<b>Follow-up action</b>
Rec.8/8	<p><b>Requirements for dissemination of WAFS products - final phase of WAFS (Table MET 5)</b></p> <p>That, ICAO</p> <ul style="list-style-type: none"> <li>a) develop a standardized format to include WAFS dissemination requirements in regional air navigation plans under the final phase of the WAFS to replace the relevant current tables in those plans;</li> <li>b) document the proposed format for consideration by all ICAO regional planning and implementation groups so that a consensus may be reached on a standardized format to be used in all ICAO regions; and</li> <li>c) develop appropriate amendments to all regional plans to include the WAFS requirements in the new format including the associated regional meteorological procedures contained in the introductory text to Part IV – Meteorology of each regional plan.</li> </ul>	Completed. APIRG/12-WP/11 refers.
Rec.8/9	<p><b>Requirements for the use of SADIS to exchange OPMET data</b></p> <p>That, in the planning of the use of SADIS in the AFI Region, full advantage of the SADIS in the exchange of OPMET data be taken.</p>	Continuous. APIRG/12-WP/4 and APIRG/12-WP/11 refer.
Rec. 9/6	<p><b>Application of circuit control protocols between AFTN main centres</b></p> <p>That APIRG review the application of circuit control protocols between AFTN main centres so as to define a uniform system of interface control.</p>	Assigned to COM/SG. APIRG/12-WP/4 refers

<b>Rec. / Conc. No.</b>	<b>Title &amp; Text</b>	<b>Follow-up action</b>
Rec. 9/11	<p><b>Actualization of the VHF Frequency utilization Plan</b></p> <p>That:</p> <ul style="list-style-type: none"><li>a) APIRG keep under review the VHF frequency utilization plan at Appendix G to the report on Agenda Item 9, so that it may correspond better to the actual frequency utilization in AFI by States; and</li><li>b) States when assigning VHF frequencies co-ordinate with ICAO Regional Offices in accordance with LIM AFI (COM/MET/RAC), 1988, Recommendation 8/3.</li></ul>	Continuous. APIRG/12-WP/4 refers

Rec. / Conc. No.	Title & Text	Follow-up action
Concl. 10/6	<p><b>GNSS implementation - Africa-Indian Ocean Region Strategy</b></p> <p>That APIRG,</p> <p>a) finalize, as a matter of urgency, the strategy for the implementation of GNSS in the Africa-Indian Ocean Region, including ground and satellite-based augmentations systems (e.g. EGNOS, WAAS), taking due account of developments in adjacent regions;</p> <p>b) undertake proper liaison with certified GNSS service providers;</p> <p>c) give further consideration to the concept of “Multinational ICAO AFI Air Navigation Facility/Service” addressed in the Report under Agenda Item 14;</p> <p>d) identify and address as appropriate, possible sources of funding to facilitate GNSS implementation in the Africa-Indian Ocean Region;</p> <p>e) identify and address, to the extent possible, institutional and legal matters related to the GNSS implementation in the region; and</p> <p>f) monitor cost benefit analyses related to GNSS implementation scenarios.</p>	Continuous. APIRG/12-WP/8 refers

Rec. / Conc. No.	Title & Text	Follow-up action
Rec. 11/1	<p><b>Amendment to the Air Navigation Plan, Part III - Aeronautical Surveillance Plan</b></p> <p>a) That the table at Appendix B to the report of Agenda Item 11 form the basis for the development of an aeronautical surveillance plan (ASP) for the AFI Region;</p> <p>b) that APIRG complete the table in conformance with the CNS/ATM systems plan; and</p> <p>c) that ICAO develop the necessary explanatory notes to the proposed table.</p>	Continuous. APIRG/12-WP/5 and WP/9 refer
Rec 12/32	<p><b>Production Responsibility for Sheets of the World Aeronautical Chart - ICAO 1:1 000 000 (FASID)</b></p> <p>That:</p> <p>c) APIRG examine the assignment of the production responsibility between the States concerned for the following sheets:</p> <p>2344-45, 2420-21, 2422, 2451, 2454-55, 2536-37, 2423, 2454-55-2536-37, 2570, 2574, 2658, 2659-60, 2660, 2662, 2663, 2664, 2691, 2692, 2693, 2694, 2695, 2696-97, 2697, 2780-81, 2781-82, 2784-85, 2785-86, 2812-13, 2813-14, 2814-15, 2816-17, 2817-18, 2905, 2906-07, 2935, 2936, 3052, 3155-56, 3173-74, 3278, 3297.</p>	Continuous. APIRG/12-WP/9

<b>Rec. / Conc. No.</b>	<b>Title &amp; Text</b>	<b>Follow-up action</b>
Rec 12/39	<p><b>Development of a Cohesive AFI Region, Air Navigation Plan concerning AIS Automation (FASID)</b></p> <p>That the AIS Task Force of the Africa planning and implementation regional group (APIRG) be tasked with the development of a cohesive air navigation plan concerning AIS automation. In the development of the detailed plan, the task force would take into due account the basic principles provided in the Air Navigation Plan (ANP) as well as method of application provided in the associated Facilities and Services Implementation Document (FASID), concerning AIS automation in the AFI Region.</p>	Continuous. APIRG/12-WP/9 and report of FASID Task Force refer.
Conc. 13/1	<p><b>Further development of the AFI CNS/ATM Implementation Plan</b></p> <p>That the APIRG continue the evolutionary development of the AFI CNS/ATM plan, taking into account the comments developed by the technical bodies of the AFI/7 RAN Meeting as well as the revised Global CNS/ATM Plan to be made available in July 1997.</p>	Continuous. APIRG/12-WP/5 and WP/9 refer.



<b>Rec. / Conc. No.</b>	<b>Title &amp; Text</b>	<b>Follow-up action</b>
Conc. 13/5	<p><b>Completion of the work by APIRG related to the AFI GNSS Strategy</b></p> <p>That the APIRG:</p> <ul style="list-style-type: none"> <li>a) further develop a GNSS strategy for the AFI Region, based on the outcome of AFI/7 and studies on augmentation scenarios;</li> <li>b) update the material on expected use of GNSS on the basis of the outcome of AFI/7;</li> <li>c) develop criteria for the approval of aircraft operations using GNSS, giving consideration to the needs of all phases of flight, for enroute navigation in oceanic areas and continental areas and for terminal area navigation;</li> <li>d) on a priority basis, consider augmentation scenarios, based on developments in other regions, including the use of GPS, GLONASS, WAAS and EGNOS; and</li> <li>e) examine the planning of early implementation of local differential stations to augment GNSS so as to provide precision approach capability.</li> </ul>	Assigned to the CNS/ATM/IC/SG using the GNSS Task Force; See APIRG/12-WP/8 for report.
Conc. 14/1	<p><b>Assessment and reporting methodology for air navigation shortcomings and deficiencies</b></p> <p>That APIRG use the methodology contained in Appendix A to the Report on Agenda Item 14 for identification, assessing, tracking and reporting of shortcomings and/or deficiencies of the air navigation systems in the AFI region.</p>	Approved methodology in use by all APIRG contributory bodies.

<b>Rec. / Conc. No.</b>	<b>Title &amp; Text</b>	<b>Follow-up action</b>
Rec.14/2	<p><b>Data bases of shortcomings and deficiencies of the air navigation systems</b></p> <p>That:</p> <ul style="list-style-type: none"><li>a) ICAO develop a data base on shortcomings and deficiencies of the air navigation systems keeping in mind its relationship to the databases used for the purposeS of planning and implementing air navigation systems;</li><li>b) States and international organizations concerned be urged to provide the necessary information to sustain a data base on shortcomings and deficiencies of the air navigation systems in the AFI Region; and</li><li>c) States and international organizations concerned be urged to provide the necessary information to sustain a data base on CNS/ATM planning and implementation through APIRG.</li></ul>	Continuous

Rec. / Conc. No.	Title & Text	Follow-up action
Rec.14/3	<p><b>Institutional strategies for addressing shortcomings in the airports and air navigation systems of the AFI Region</b></p> <p style="text-align: center;">That:</p> <p>a) States which have not yet done so should consider establishing autonomous authorities to manage their major airports and/or their air navigation facilities taking into account guidance material contained in <i>ICAO Doc 9562 - Airport Economics Manual, Doc 9161 - Manual on Route Air Navigation Facility Economics and Doc 9082/4 - Statements by the Council to contracting States on Charges for Airports and Air Navigation Services</i>;</p> <p>b) in establishing an autonomous civil aviation authority or an air navigation services authority, the roles of government, board of directors and management be clearly identified and that the authority be given adequate autonomy to operate according to sound business principles with appropriately qualified personnel;</p> <p>c) user charges be used exclusively to support civil aviation activities only;</p> <p>d) the decision to establish an authority be based on a feasibility study identifying potential improvements in efficiency and financial results to be gained therefrom and describing how these could be realized;</p> <p>e) States consider, as one of the alternatives of addressing the air navigation related deficiencies, the creation of regional and sub-regional operating agencies to jointly manage their air navigation facilities and services. This would facilitate the implementation of the CNS/ATM Systems;</p>	Continuous

Rec. / Conc. No.	Title & Text	Follow-up action
	<p>f) ICAO consider establishing a mechanism for assisting States, on request, to implement the institutional strategies proposed in this paper for addressing shortcomings in the airports and air navigation systems in the AFI Region;</p> <p>g) regular and systematic consultations be conducted with users related to operational and financial issues so as to ensure that the facilities and services provided remain fully responsive to the operational requirements and that charges are determined on the basis of fair and reasonable costs;</p> <p>h) States, with limited civil aviation activities, consider the establishment of a single autonomous civil aviation authority for major airports as well as on air navigation services instead of two separate authorities;</p> <p>i) ICAO, in co-ordination with the States, regional and sub-regional organizations make arrangements to generate the necessary political will at the highest level possible needed to sustain the implementation of the new ICAO CNS/ATM systems in the AFI Region.</p>	
Rec.14/4	<p><b>Informal Co-ordination Meetings of States to harmonize Communications Navigation Surveillance/Air Traffic Management (CNS/ATM)</b></p> <p>That States, in co-ordination with international organizations concerned convene informal meetings from time to time to ensure the harmonization of CNS/ATM implementation plans at interfaces.</p>	Continuous

Rec. / Conc. No.	Title & Text	Follow-up action
Conc. 14/5	<p><b>Co-operative approach to the implementation of air navigation services</b></p> <p>That the African (<i>AFI</i>) Planning and Implementation Regional Group (APIRG) explore ways and means, to be used by States, to develop structures to facilitate the harmonization needed to further improve the levels of service in the AFI Region taking into account the expertise of ICAO in administering regional co-operative agreements.</p>	Continuous
Rec.14/6	<p><b>Guidelines on the establishment and provision of multinational facilities or services</b></p> <p style="text-align: center;">That:</p> <p>a) the general guidelines on the establishment and provision of multinational ICAO AFI air navigation facilities and services contained in Appendix B to the report on Agenda Item 14 be incorporated in the AFI Air Navigation Plan (ANP) for use in the AFI Region; and</p> <p>b) the possibility be examined for establishing in the AFI Region, in co-operation with ICAO, multinational mechanisms for financing the implementation of civil aviation systems where required in the region taking into consideration the experience gained in other regions such as the Icelandic and Danish Joint Financing Agreements for the provision of air navigation services in the North Atlantic Region.</p>	Continuous

Rec. / Conc. No.	Title & Text	Follow-up action
Rec.14/7	<p><b>Regional human resource planning and training needs</b></p> <p>That:</p> <p>a) training needs be established on regional and sub-regional levels;</p> <p>b) priority be given to maintaining and upgrading, where required, the existing regional training infrastructures and the quality of courses offered;</p> <p>c) more emphasis be given to refresher training and to providing a working environment conducive to retaining the staff trained;</p> <p>d) States within the AFI Region be encouraged to participate in particular in the ICAO TRAINAIR Programme; and</p> <p>e) the Africa-Indian Ocean Planning and Implementation Regional Group (APIRG) be requested to give this matter its fullest attention in order to support the work of the Secretariat Study Group established to create a common framework which would facilitate human resource and training planning.</p>	Continuous
Rec.14/12	<p><b>Installation of Very Small Aperture Terminal (VSAT) stations to receive WAFS data via SADIS and International Satellite Communications System (ISCS) satellite broadcasts</b></p> <p>That States install, as a matter of urgency, VSAT stations to receive WAFS data and products via SADIS or ISCS satellite broadcasts from the world area forecast centre concerned.</p>	Continuous. APIRG/12-WP/11 refers

<b>Rec. / Conc. No.</b>	<b>Title &amp; Text</b>	<b>Follow-up action</b>
Conc. 14/13	<b>Implementation of the international airways volcano watch and the tropical cyclone warning system in the AFI Region</b>  That, APIRG monitor and co-ordinate the implementation of the international airways volcano watch and the tropical cyclone warning system and, in particular, the issuance of necessary advisory and SIGMET information for these phenomena in the AFI Region.	Continuous. APIRG/12-WP/11 refers

<b>Rec. / Conc. No.</b>	<b>Title &amp; Text</b>	<b>Follow-up action</b>
Rec. 14/20	<p><b>Means of implementation of the Aeronautical Fixed services (AFS) Circuits</b></p> <p>That:</p> <p>a) In deciding on implementation means for aeronautical fixed services, the following guidelines be followed:</p> <ul style="list-style-type: none"> <li>i. the aeronautical fixed service requirements should be implemented utilising common carriers (leased circuits) where these are cost-effective and reliable;</li> <li>ii. for most of the AFI Region, recourse should be taken to commercially available Very Small Aperture Terminal (VSAT) networks to implement AFS requirements. Ground based links would be used where offering the required degree of efficiency and reliability;</li> <li>iii. where dedicated aeronautical systems are implemented, (nationally or regionally), these must interface with the correspondents via public systems where possible; and</li> <li>iv. to minimise costs and enhance implementation, fixed service requirements should be multiplexed on single digital carriers where appropriate.</li> </ul>	Regional Offices follow-up with provider states and the COM/SG monitored. APIRG/12-WP/4 refers.



<b>Rec. / Conc. No.</b>	<b>Title &amp; Text</b>	<b>Follow-up action</b>
Rec. 14/20	<p>b) Where common carriers are provided by government agencies, States should ensure that these agencies:</p> <ul style="list-style-type: none"> <li>i. give the highest priority to the implementation and ensure the highest degree of reliability of all aeronautical circuits;</li> <li>ii. give special consideration to the reliability of trunk circuits between the Post Telephone and Telegraph (PTT) centres and airports;</li> <li>iii. ensure priority restoration of service in the event of breakdown; and</li> <li>iv. apply preferential tariffs to aeronautical and meteorological administrations.</li> </ul>	Regional Offices follow-up with provider states and the COM/SG monitored. APIRG/12-WP/4 refers.

Rec. / Conc. No.	Title & Text	Follow-up action
[LIM/AFI Rec. 10/36]	<p><b>Implementation of ATS D/S Circuits</b></p> <p>States accord special priority to the implementation of ATS direct speech (DS) circuits and should use the following priority criteria as a planning basis for the implementation of ATS/DS circuits:</p> <p><i>First Priority:</i>           ATS/DS circuits between ATS units providing service in contiguous airspace where air traffic control service is being provided or is required;</p> <p><i>Second Priority:</i>        ATS/DS circuits between an aerodrome located close to an FIR boundary and the FIC/ACC located in the adjacent FIR;</p> <p><i>Third Priority:</i>         ATS/DS circuits between adjacent FICs/ACCs providing ATS along routes where neither air traffic advisory service is provided; and</p> <p><i>Note:</i>   <i>APIRG establish and maintain detailed priority lists for implementation of individual ATS/DS circuits including target dates for the implementation of “Priority One’ circuits, bringing all changes to the attention of States concerned.</i></p>	<p>Regional Offices to follow-up with provider states and APIRG ATS/AIS/SAR/SG LIM/AFI Rec 10/36 c</p> <p>Continuous</p>

**FOLLOW-UP ACTION ON APIRG/11 MEETING CONCLUSIONS AND DECISIONS**

<b>Conc./ Dec. No.</b>	<b>TITLE &amp;Text</b>	<b>Follow-up action</b>
Conc. 11/1	<p><b>Regular follow-up of the results of AFI/7 RAN meeting and report to APIRG</b></p> <p>That the ICAO Regional Offices serving the AFI Region regularly monitor the implementation of the outcome of AFI/7 report by States through mission to States and correspondence and provide regular reports to APIRG meetings.</p>	Continuous
Conc. 11/2	<p><b>Review of States' Civil Aviation Establishments</b></p> <p>That ICAO Regional Offices serving the AFI Region continue their efforts to assist AFI States to review their civil aviation establishments making use of AFI/7 recommendations 14/3 (institutional strategies for addressing shortcomings in the airports and air navigation systems of the AFI Region) and 14/6 (guidelines on the establishment and provision of multinational facilities or services) with a view to deciding whether any improvements could be made to their resources and capabilities in order to better cope with the obligations they have to implement the various elements of the AFI ANP.</p>	Continuous
Dec. 11/3	<p><b>Preparation of the AFI Basic ANP and FASID Documents</b></p> <p>That a FASID task force be established to assist the secretariat in the development of the AFI basic ANP and FASID documents as a matter of priority. The terms of reference and composition of this task force are in Appendix N.</p>	FASID Task Force established APIRG/12-WP/22 refers
Conc. 11/4	<p><b>Implementation of AFS circuits between Dakar and Roberts FIRS</b></p> <p>That States concerned be urged to pursue their efforts towards the early implementation of the AFS circuits between Dakar and Roberts FIRS.</p>	Completed. AFS circuits between Dakar and Roberts FIRS implemented

<b>Conc./ Dec. No.</b>	<b>TITLE &amp;Text</b>	<b>Follow-up action</b>
Dec. 11/5	<p><b>Proposal for AFI EGNOS Test Bed</b></p> <p>That APIRG :</p> <p>a) accept the initiative for an EGNOS test bed in the AFI Region to conduct operational trials and demonstrations on SBAS;</p> <p>b) task the CNS/ATM/IC/SG to coordinate, as appropriate, the trials and demonstrations with the European GNSS secretariat, the AFI States to be involved for the ground elements and to document the results for consideration by APIRG/12; and</p> <p>c) accept any initiative by other SBAS providers to conduct similar trials and demonstrations with the AFI Region under similar arrangements as in b).</p>	Continuous. APIRG/12 -WP/5 and WP/8 refer
Conc. 11/6	<p><b>Facilitation of the AFI SBAS trials and demonstrations</b></p> <p>That:</p> <p>a) AFI States concerned with the AFI SBAS trials and demonstrations , facilitate to the extent practicable the importation, installation and operation of the ground elements;</p> <p>b) African airlines make arrangements to participate in the trials.</p>	Continuous. AFI States, African Airlines (AFRAA) informed accordingly
Conc. 11/7	<p><b>Participation of States at ICG meetings</b></p> <p>That:</p> <p>a) ICGs meetings be convened as a matter of priority in order to foster implementation of the AFI CNS/ATM plan; and</p> <p>b) States take the necessary steps to actively and regularly participate in ICGs meetings of the areas of routing covering their territory.</p>	Continuous. ICG meetings of relevant areas convened

<b>Conc./ Dec. No.</b>	<b>TITLE &amp;Text</b>	<b>Follow-up action</b>
Conc. 11/8	<p><b>Urgent implementation or improvement of COM facilities</b></p> <p>That States concerned, as a matter of urgency:</p> <ul style="list-style-type: none"> <li>a) implement the AFTN main circuits Brazzaville/Nairobi, Brazzaville/Johannesburg and Johannesburg/Nairobi;</li> <li>b) improve the main circuit Algiers/Niamey; and</li> <li>c) implement the ATS/DS circuits shown at Appendix <b>D</b> to the report; and</li> <li>d) extend VHF coverage as indicated at Appendix <b>D</b>.</li> </ul>	Continuous. APIRG/12-WP/4 refers
Conc. 11/9	<p><b>Shortcomings and deficiencies in the air navigation field in the AFI Region</b></p> <p>That considering the negative impact of non implementation of the air navigation plan requirements and the persistence of serious cases of shortcomings and deficiencies in several parts of the AFI Region :</p> <ul style="list-style-type: none"> <li>a) States concerned should with extreme urgency, take concrete measures to eliminate all shortcomings and deficiencies impairing the safety of aircraft operations in the region;</li> <li>b) the matter be regularly followed up by the Regional Offices; and</li> <li>c) results be brought to the attention of APIRG.</li> </ul>	Continuous. Relevant Reports of the various subgroups of APIRG refer

<b>Conc./ Dec. No.</b>	<b>TITLE &amp;Text</b>	<b>Follow-up action</b>
Conc. 11/10	<p><b>Preparatory work for the ITU WRC-99</b></p> <p>That:</p> <p>a) States' civil aviation administrations actively participate in their states' preparatory meetings for ITU WRCS using, as necessary, the <i>ICAO Handbook on radio frequency spectrum requirements for civil aviation including statement of approved ICAO policies</i>; and</p> <p>b) that States include aeronautical experts in their national delegation to the ITU WRCS.</p>	Continuous
Dec. 11/11	<p><b>Follow up of ITU WRC-97</b></p> <p>That the CNS/SG:</p> <p>a) survey fixed service assignments in the band 1 559 - 1 610 MHZ in the AFI Region; and</p> <p>a) keep under review topics of interest to civil aviation on the agenda of the ITU WRC-99 so that States may be advised on those issues.</p>	Continuous. APIRG/12-WP/4 refers
Dec. 11/12	<p><b>Information to APIRG and ICAO subsidiary bodies on developments in the new ICAO CNS/ATM systems and other air navigation fields.</b></p> <p>That the secretariat should regularly inform the APIRG and its subsidiary bodies of technical and operational developments in the new ICAO CNS/ATM systems and other air navigation fields dealing with their terms of reference as well as of relevant developments within other planning and implementation regional groups.</p>	Continuous. Reports of relevant subgroups of APIRG refer

<b>Conc./ Dec. No.</b>	<b>TITLE &amp;Text</b>	<b>Follow-up action</b>
Conc. 11/13	<p>Implementation of Minimum Safe Altitude Warning (MSAW) system</p> <p>that in view of the recognized potential for the enhancement of flight safety of the MSAW system:</p> <ul style="list-style-type: none"> <li>– States having automatic safety alert capability should, as soon as possible, utilize the features of the system;</li> <li>– States intending to install automated radar terminal system ensure that the system is fully exploited and capable of ensuring the MSAW service;</li> <li>– APIRG monitor the progress of implementation of MSAW in the AFI Region.</li> </ul>	Continuous. Renewed follow-up on State letter AN 11/1-1.24-97/91 dated 12 December 1997
Conc. 11/14	<p><b>Year 2000 computer date problem</b></p> <p>That:</p> <ul style="list-style-type: none"> <li>a) the ICAO AFI Regional Offices should again forward ICAO state letter an 13/46-97/92 dated 12 December 1997 to all AFI States, together with any additional information which has become available, and obtain replies and comments from AFI States. The replies and comments should then be referred to the APIRG or one of its appropriate sub-groups as a matter of priority for further action; and</li> <li>b) States contact their software suppliers to ascertain year 2000 computer date compatibility of their systems.</li> </ul>	Continuous. A number of meetings on the subject held to ensure adequate contingency plans in place before the Year 2000
Conc. 11/15	<p><b>Membership of the APIRG</b></p> <p>That the ICAO council approve the applications by Angola, France, and Guinea to be members of APIRG.</p>	Completed. ICAO Council approved the Conclusion

Conc./ Dec. No.	TITLE &Text	Follow-up action
Dec. 11/16	<p><b>Restructuring and membership to APIRG subsidiary bodies</b></p> <p>That;</p> <p>1) the following APIRG subsidiary bodies be established and/or continued and the membership increased to include experts from the following States:</p> <ul style="list-style-type: none"> <li>a) AOP Nigeria</li> <li>b) ATS/AIS/SAR/SG Gabon and South Africa</li> <li>c) CNS/SG South Africa</li> <li>d) CNS/ATM/IC/SG Cameroon</li> <li>e) MET/SG Ghana and United Kingdom</li> <li>f) GNSS/TF Egypt, Kenya, and Nigeria</li> </ul> <p>2) the following task forces be established with the corresponding membership:</p> <ul style="list-style-type: none"> <li>a) FASID/TF Egypt, Kenya, Nigeria, Senegal, South Africa, Spain, ASECNA, IFALPA, IATA</li> <li>b) Traffic Forecasting/TF Malawi, Nigeria, Senegal, Spain, South Africa, Tanzania, Togo, Zambia, AFRAA and IATA</li> </ul>	Completed. New structure and Task forces in place
Conc. 11/17	<p><b>Implementation co-ordination group (ICG) activities within routing areas AR-1 (EUR-SAM) and AR-2 (Atlantic Ocean AFI -NAT - SAM interface)</b></p> <p>That, taking into account the significant enhancements to air navigation services which have been achieved through informal SAT co-ordination meetings, the activities of ICGS for routing areas AR-1 and AR-2 be delegated to the informal SAT co-ordination group</p>	Continuous. APIRG/12-IP/2 refers



<b>Conc./ Dec. No.</b>	<b>TITLE &amp;Text</b>	<b>Follow-up action</b>
Conc. 11/18	<p><b>Low-level SIGWX charts on SADIS</b></p> <p>That, until such time as the SIGWX charts can be transmitted on SADIS in numerical code and it has been agreed that the transmission of such charts in T4 facsimile format should cease, low-level SIGWX charts should not be considered for inclusion on the SADIS broadcast.</p>	Completed. APIRG/12-WP/11 refers
Conc. 11/19	<p><b>Guidelines for the selection of locations for two-way VSATS</b></p> <p>That the guidelines on the selection of locations for two-way VSATs given in Appendix G to the report of the SADISOPSG/2 be used as assistance in planning for OPMET exchanges in the regions concerned.</p>	Completed. APIRG/12-WP/11 refers
Conc. 11/20	<p><b>WAFS area of coverage for flights between South Africa, Australia/New Zealand, Antarctica and South America</b></p> <p>That ICAO make arrangements to include under the WAFS new areas of coverage (Charts “J” and “K” as given in Appendix R) to meet requirements of flights between South Africa, South America, Australia/New Zealand and Antarctica.</p>	Completed. APIRG/12-WP/11 refers
Dec. 11/21	<p><b>Preparation of a transition plan for the transfer of responsibilities of Dakar, Las Palmas and Nairobi RAFCS to WAFC, London.</b></p> <p>That the MET Sub-Group develop a transition plan for the transfer of responsibilities of Dakar, Las Palmas and Nairobi RAFCS to WAFC London.</p>	Continuous. APIRG/12-WP/11 refers
Conc. 11/22	<p><b>Exchange requirements for air-reports (AIREPS) - in the AMBEX handbook</b></p> <p>That States which have not yet implemented the exchange requirements for air-reports as contained in the AMBEX handbook to do so as soon as possible.</p>	Continuous. APIRG/12-WP/11 refers

<b>Conc./ Dec. No.</b>	<b>TITLE &amp;Text</b>	<b>Follow-up action</b>
Dec. 11/23	<p><b>Submission of working and information papers for meetings of the APIRG and its subsidiary bodies to the secretary(ies)</b></p> <p>That members/observers submitting working/information papers for meetings of APIRG and its subsidiary bodies to the secretary(ies) should do so at least forty-five (45) days before the meeting failing which they can submit working papers in both English and French languages and in a format ready for reproduction to the secretariat during the meeting. Information papers will be reproduced and distributed in the language they are submitted.</p>	<p>Completed. States, International organisations informed accordingly</p>

**Status of implementation of the rationalized AFTN circuits**  
**Etat de mise en oeuvre des circuits du RSFTA rationalisé**

Explanation of the table  
 Explication du tableau

Col. N°	Explanations
1	Terminal I and Terminal II. Each circuit appears once in the Table./ <i>Terminal I et Terminal II. Chaque circuit n'apparaît qu'une fois dans le Tableau</i>
2	Category of circuit/ <i>Catégorie de circuit:</i> M - main circuit/ <i>circuit principal</i> T - tributary circuit/ <i>circuit tributaire</i> S - AFTN station circuit/ <i>circuit de station RSFTA</i>
3 and 8	Circuit type/ <i>Type de circuit:</i> NIL - not implemented/ <i>Non mis en oeuvre</i> LTT/A - landline teletypewriter, analogue (eg cable, microwave/ <i>circuit télétype terrestre, analogue (i.e. câble, faisceau hertzien)</i> ) LTT/D - landline teletypewriter, digital (eg cable, microwave/ <i>circuit télétype terrestre, numérique (i.e. câble, faisceau hertzien)</i> ) LDD/A - landline data circuit, analogue (eg cable, microwave/ <i>circuit de données terrestre, analogue (i.e. câble, faisceau hertzien)</i> ) LDD/D- landline data circuit, digital (eg cable, microwave/ <i>circuit de données terrestre, numérique (i.e. câble, faisceau hertzien)</i> ) RTT - radio teletype circuit (HF)/ <i>circuit radiotélétype (HF)</i> SAT/A/D- satellite circuit /a digital or/d digital/ <i>circuit par satellite /a analogue ou /d numérique</i>
4 and 9	Circuit signalling speed/ <i>Vitesse demodulation du circuit</i>
5 and 10	Circuit protocol / <i>Protocol de circuit</i> NONE: No protocol/ <i>Aucun protocol</i> X.25: ITU X.25 protocol/ <i>Protocol X.25 de l'UIT</i>
6 and 11	Data transfer code (syntax) ITA-2: International Telegraph Alphabet N°2/ <i>Alphabet international N°2</i> IA-5: International Alphabet N°5/ <i>Alphabet international N°5</i> CBI: Code and byte independent ( ATN compliant) / <i>Indépendant des codes et multipléts (compatible ATN)</i>
7 and 12	Aeronautical network served (AFTN or ATN)/ <i>Réseau aéronautique desservi (RSFTA ou ATN)</i>

13	Implementation target date/ <i>Date cible pour la mise en oeuvre</i>
14	Remarks/ <i>Observations</i>



Terminal I/ Terminal II	Circ. Cat./ Caté. de circ.	Current/Existant					Planned/Prévu					Target Implem. date / Date de mise en oeuvre	Remarks/ Observations
		Circuit type/ Type de circuit	Modulation rate/ Rapidité de modulation (bps)	Protocol	Code	Network / Réseau	Circuit type/ Type de circuit	Minimum Modulation rate/ Rapidité de modulation bps	Protocol	Code	Network/ Réseau		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Bangui	T	SAT/D	50	NONE	ITA-2	AFTN	SAT/D	32K	X25	ITA-2	AFTN		
Dakar	M	SAT/D	2400	X.25	ITA-2	AFTN	SAT/D	32K	X25	ITA-2	AFTN		
Douala	T	SAT/D	50	NONE	ITA-2	AFTN	SAT/D	32K	X25	ITA-2	AFTN		
Kinshasa	T	NIL					LTT/D	50	NONE	ITA-2	AFTN		
Johannesburg	M	NIL					SAT/D	1200	NONE	ITA-2	AFTN		
Libreville	T	SAT/D	50	NONE	ITA-2	AFTN	SAT/D	32K	NONE	ITA-2	AFTN		
Luanda	T	NIL					SAT/D	32K	X25	ITA-2	AFTN		
Nairobi	M	NIL					SAT/D	1200	NONE	ITA-2	AFTN		
N'Djamena	T	SAT/D	50	NONE	ITA-2	AFTN	SAT/D	32K	X25	ITA-2	AFTN		
Niamey	M	SAT/D	2400	X.25	ITA-2	AFTN	SAT/D	32K	X.25	ITA-2	AFTN		
Sao Tome	T	RTT	50	NONE	ITA-2	AFTN	SAT/D	50	NONE	ITA-2	AFTN	2000	
<b>CAIRO</b>													
Khartoum	T	SAT/A	50	NONE	ITA-2	AFTN	SAT/A	50	NONE	ITA-2	AFTN		
Nairobi	M	SAT/A	50	NONE	ITA-2	AFTN	SAT/A	1200	NONE	ITA-2	AFTN	1999	
<b>CAIRO ..../.</b>													
Tunis	M	SAT/A	100	NONE	ITA-2	AFTN	SAT/A	1200	NONE	ITA-2	AFTN		

Terminal I/ Terminal II	Circ. Cat./ Caté. de circ.	Current/Existant					Planned/Prévu					Target Implem. date / Date de mise en oeuvre	Remarks/ Observations
		Circuit type/ Type de circuit	Modulation rate/ Rapidité de modulation (bps)	Protocol	Code	Network / Réseau	Circuit type/ Type de circuit	Minimum Modulation rate/ Rapidité de modulation bps	Protocol	Code	Network/ Réseau		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
EUR(Athens)	M	SAT/A	9600	CIDIN	IA-5	AFTN	SAT/A	9600	CIDIN	IA-5	AFTN		
MID(Beirut)	M	SAT/A	50	CIDIN	IA-5	AFTN	SAT/A	1200	“	IA-5	AFTN		
MID(Jeddah)	M	SAT/A	100	CIDIN	IA-5	AFTN	SAT/A	1200	“	IA-5	AFTN		
<b>CASABLANCA</b>													
Dakar	M	LTT/A	2x75	“	ITA-2	AFTN	LTT/A	1200	NONE	ITA-2	AFTN		
Las Palmas	T	LTT/A	50	“	ITA-2	AFTN	LTT/A	50	“	ITA-2	AFTN		
EUR(Madrid)	M	SAT/A	50+1x200	“	ITA-2	AFTN	SAT/A	1200	“	ITA-2	AFTN		
<b>DAKAR</b>													
Abidjan	T	SAT/A	2400	X-25	ITA-2	AFTN	SAT/A	19.20	X-25	ITA-2	AFTN		
Bamako	T	SAT/A	75	NONE	ITA-2	AFTN	LTT/A	19.2K	X-25	ITA-2	AFTN		
Banjul	T	SAT/A	50	NONE	ITA-2	AFTN	LTT/A	75		ITA-2	AFTN		
<b>DAKAR ../..</b>													
Bissau	T	NIL					SAT/A	50	NONE	ITA-2	AFTN		
Niamey	M	SAT/A	2400	X.25	ITA-2	AFTN	SAT/D	32K	X.25	ITA-2	AFTN		

Terminal I/ Terminal II	Circ. Cat./ Caté. de circ.	Current/Existant					Planned/Prévu					Target Implem. date / Date de mise en oeuvre	Remarks/ Observations
		Circuit type/ Type de circuit	Modulation rate/ Rapidité de modulation (bps)	Protocol	Code	Network / Réseau	Circuit type/ Type de circuit	Minimum Modulation rate/ Rapidité de modulation bps	Protocol	Code	Network/ Réseau		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Nouakchott	T	LTT/A	2400	X.25	ITA-2	AFTN	LTT/A	19.2	X-25	ITA-2	AFTN		
Roberts	T	SAT/A		X.25		AFTN	SAT/D	19.2	X.25	ITA-2	AFTN		
Sal	T	SAT/A	50	NONE	ITA-2	AFTN	SAT/A	50	NONE	ITA-2	AFTN		
SAM(Brasilia)	M	LTT/A	50	“	ITA-2	AFTN	SAT/A	1200	“	ITA-2	AFTN		
<b>JOHANNESBURG</b>													
Antananarivo	T	NIL					SAT/D	19.2	“	ITA-2	AFTN		
Beira	T	SAT/D	50	“	ITA-2	AFTN	SAT/D	50	NONE	ITA-2	AFTN		
Gaborone	T	SAT/D	50	“	ITA-2	AFTN	SAT/D	50	“	ITA-2	AFTN		
Harare	T	LTT/A	50	“	ITA-2	AFTN	SAT/D	50	“	ITA-2	AFTN		
Lilongwe	T	SAT/D	50	“	ITA-2	AFTN	SAT/D	50	“	ITA-2	AFTN		
Lusaka	T	SAT/D	50	“	ITA-2	AFTN	SAT/D	50	“	ITA-2	AFTN		
Maputo	T	SAT/D	50	“	ITA-2	AFTN	SAT/D	50	“	ITA-2	AFTN		
<b>JOHANNESBURG</b>													
Maseru	T	LTT/A	50	NONE	ITA-2	AFTN	SAT/D	50	NONE	ITA-2	AFTN		
Manzini	T	LTTA/	50	“	ITA-2	AFTN	SAT/D	50	“	ITA-2	AFTN		
Nairobi	M	NIL		“			SAT/A	1200	“	ITA-2	AFTN		



Terminal I/ Terminal II	Circ. Cat./ Caté. de circ.	Current/Existant					Planned/Prévu					Target Implem. date / Date de mise en oeuvre	Remarks/ Observations
		Circuit type/ Type de circuit	Modulation rate/ Rapidité de modulation (bps)	Protocol	Code	Network / Réseau	Circuit type/ Type de circuit	Minimum Modulation rate/ Rapidité de modulation bps	Protocol	Code	Network/ Réseau		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Windhoek	T	SAT/D	50	“	ITA-2	AFTN	SAT/D	50	“	ITA-2	AFTN		
SAM (Buenos Aeres)	M	NIL					SAT/D	1200	“	ITA-2	AFTN		
<b>NAIROBI</b>													
Dar es Salaam	T	LTT/A	50	“	ITA-2	AFTN	LTT/A	50	“	ITA-2	AFTN		
Entebbe	T	LTT/A	50	“	ITA-2	AFTN	LTT/A	50	“	ITA-2	AFTN		
Mauritius	T	SAT/A	50	“	ITA-2	AFTN	SAT/A	50	“	ITA-2	AFTN		
Mogadishu	T	NIL		“		AFTN	SAT/A	50	“	ITA-2	AFTN		SITA
Seychelles	T	SAT/A	50	“	ITA-2	AFTN	SAT/A	50	NONE	ITA-2	AFTN		
ASIA (Mumbai)	M	SAT/A	50	“	ITA-2	AFTN	SAT/A	1200	“	ITA-2	AFTN		





Terminal I/ Terminal II	Circ. Cat./ Caté. de circ.	Current/Existant					Planned/Prévu					Target Implem. date / Date de mise en oeuvre	Remarks/ Observations
		Circuit type/ Type de circuit	Modulation rate/ Rapidité de modulation (bps)	Protocol	Code	Network / Réseau	Circuit type/ Type de circuit	Minimum Modulation rate/ Rapidité de modulation bps	Protocol	Code	Network/ Réseau		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Cotonou	S	LTT/A	50	NONE	ITA-2	AFTN	LTT/A	50	NONE	ITA-2	AFTN		
<b>MAURITIUS</b>													
Saint Denis	S	SAT/A	50	NONE	ITA-2	AFTN	SAT/A	50	NONE	ITA-2	AFTN		
ASIA/PAC (Brisbane)	T	SAT/A	50	“	ITA-2	AFTN	SAT/A	50	“	ITA-2	AFTN		
<b>ROBERTSFIELD Conakry</b>													
Dakar	S	SAT/A	19.2K	X25	ITA-2	AFTN	SAT/D		X25	ITA-2	AFTN		FIC at/à Conakry
Freetown	S	RTT	50	NONE	ITA-2	AFTN	SAT/D	50	NONE	ITA-2	AFTN		

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**AMENDMENT TO THE AFI ATS ROUTE NETWORK**

**List of new ATS routes including RNAV Routes to  
be added to the ICAO AFI ANP (DOC 7474)**

SERIAL NO.	ROUTE DESIGNATOR	ROUTE SEGMENT(S)	WEEKLY TRAFFIC	OBSERVATIONS REMARKS
1.	.....	Accra Bamako		
2.		Seychelles Aden		
3.		Niamey Port Harourt Libreville		
4.		Luena N'Djamena		
5.		Jos N'Djamena Jeddah		
6.		Kano Boss Nimir		
7.				

<b>SERIAL NO.</b>	<b>ROUTE DESIGNATOR</b>	<b>ROUTE SEGMENT(S)</b>	<b>WEEKLY TRAFFIC</b>	<b>OBSERVATIONS REMARKS</b>
8.		Lubumbashi Dar es Salaam		
9.		Lubumbashi Mwanza		
10.				

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**AMENDMENT TO THE AFI ATS ROUTE NETWORK**  
**ATS Routes in the ICAO AFI ANP (Doc. 7474)**  
**requiring implementation**

<b>Route Designator</b>	<b>Segment(s)</b>	<b>States</b>	<b>Observations Remarks</b>
UA145	(Paleohora) SALUN (3400N 024276)  Sidi Barrani (31636N 02556E)	Egypt Greece	Implemented by Egypt for northbound traffic only
UA293	Ibiza Required northbound	Algeria	
UA409	Tiaret Lusaka Ndola Mansa Kalemie	Somalia Congo DRC Zambia Zimbabwe	
UA411	Jerba Tripoli Benina	Libya	Implemented at variance with the Plan via: A411 - Jerba/Zawia/Tripoli/Misurata A411N - Jerba/TANLI/Mitiga/Misurata
UA451	Asmara PARIM Aden	Eritrea Ethiopia Yemen	Implemented at variance with the Plan via RAGAS
UA607	Lubumbashi Harare	Congo (DRC) Zimbabwe	
UA617	Kinshasa Windhoek	Congo (DRC) Angola Namibia	Implemented by Congo (DRC) as V20
UA618	Lubumbashi Bukavu SAGBU Malakal	Congo (DRC) Sudan	
UA620	Malakal N'djamena	Sudan	Implemented within N'Djamena FIR
UA748	(GOZO) Tripoli Mizda Cairo	Libya Egypt	



## Sharm Sheileh

Route Designator	Segment(s)	States	Observations Remarks
UA861	Lagos Garoua	Nigeria	
UA865	Menorca Algiers Cherchell	Algeria	Essential AFI long-haul requirement.
UB525	Addis Ababa Luxor	Ethiopia Sudan	
UB527	Malakal Kenana	Sudan	Implemented at variance with AFI Plan via Kenana
UB528	Livingstone Luena	Angola	
UB607	Bujumbura Goma El Obeid Dongola military reasons) Abu Simbel	Sudan Congo (DRC)  Burundi	Not implemented in Khartoum FIR (due
UB611	Malakal Nakuru LOSIN	Sudan Kenya Tanzania	
UG207	Mogadishu Karachi	Somalia	
UG465	Praslin Beira Johannesburg	Seychelles South Africa	Implemented within Antananarivo FIR (NESAM-ENDEL)
UG623	Annaba Tebessa Ghadames	Algeria Liya	Segment of the route suspended since 1980 by Libya.
UG731	Zemmouri Tiaret	Algeria	
UG855	Tripoli Ghadames B. Omar Driss	Libya	
UG979	Bordj Omar Driss Bou Saada Zemmouri	Algeria	

UL612	Goma El Dhaba	Congo (DRC) Sudan Egypt	Egypt can accept implementation via ATMUL New Valley/KATAB/DBA
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Route Designator	Segment(s)	States	Observations Remarks
UM104	Timmimoun Abidjan	Mali	RNAV Burkina Faso, Cote d'ivoire
UM220	Lodwar Abu Simbel	Kenya Sudan	RNAV
UM651	Hargeisa Praslin	Somalia	
UM665	Mauritius Mandera Addis Ababa Somalia and Sudan Khartoum	Somalia Sudan	Implemented but not as an RNAV route in Mauritius
UM725	(Sorrento) Tunis Tebessa Ghardara Timmimoun Dakar	Mali Mauritania Senegal	Implemented in Alger FIR RNAV
UM731	Cabonora OSNAR  Tunis Jerba FARES Dirkou N'djamena Beriberati Sauramo Johannesburg	Ayena Central African Republic Nigeria Congo Congo DRC Libya Botswana South Africa	
UM997	Wajir Dire Dawa Djibouti	Kenya Ethiopia	RNAV
UM994	Beni Walid ORNAT	Libya	RNAV
UM998	(Martigues) BALEN Constantine B.O. Driss Tobuk INISA	Cameroon Gabon	Implemented in Alger FIR RNAV

Route Designator	Segment(s)	States	Observations Remarks
	Maiduguri Garoua Kinshasa Luena Maun Gaborone	Nigeria Congo Congo DRC Angola Botswana	
UM999	Casablanca Errachidia El Golea Zarzaitine Sebba Sarir New Valley Luxor Jeddah	Morocco Algeria  Libya Egypt Sudan Saudi Arabia	
UR400	Abu Simbel Kassala	Sudan	
UR409	Matsapha Masvingo	Mozambique Swaziland Zimbabwe South Africa	Masvingo-Matsapha not implemented (not possible to implement in South Africa due restricted areas)
UR613	Pantelleria Lampedusa Tripoli	Libya	Implemented in Malta FIR via SARKI. Not implemented in Tripoli FIR Sahara
UR616	Pantelleria Lanpedusa Tripoli	Libya	
UR780	Mogadishu Dire Dawa Asmara	Somalia	
UR977/UM122	Agadir BULIS Bamako	Mali	Implemented but not as RNAV route
UR981/UM981	Casablanca Gao Niamey Lagos	Morocco Algeria Niger Nigeria	i) Implemented but not as RNAV route ii) Not implemented segment Casablanca Gao
UR984	Bangui/Kindu Kasama Lilongwe	Congo (DRC)  Malawi	Not implemented in Lilongwe FIRs

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<b>UR986</b>	<b>Tunis Ghadames In Amenas</b>	<b>Algeria Libya</b>	<b>Implemented in Tunis FIR Not implemented due to restriction by Libya</b>
<b>UR987</b>	<b>Windhoek Keetmanshoop Cape Town</b>	<b>Namibia South Africa</b>	<b>Windhoek/Cape Town published as W82</b>

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<b>Route Designator</b>	<b>Segment(s)</b>	<b>States</b>	<b>Observations Remarks</b>
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<b>UR991</b>	<b>ILDIR  BOPAN</b>	<b>Namibia</b>	
<b>UR995</b>	<b>Merowe Addis Ababa</b>	<b>Sudan</b>	
<b>UR996</b>	<b>Nampula Moroni ODAKA</b>	<b>Mozambique Comoros Seychelles</b>	

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**State:** .....

**Proficiency Assessment and Standards Maintenance ATS Personnel**

Evaluator .....	Alveoli	
Unit .....	Unit	
Period of Assessment .....	From .....	To .....
Evaluator's superior .....		Unit .....

Rating                  Remarks

1.	Knowledge of separation standards applicable	<input type="checkbox"/>
2.	Application of separation standards.	<input type="checkbox"/>
3.	Aircraft Performance	<input type="checkbox"/>
	Rate of Climb	<input type="checkbox"/>
	Climb speed	<input type="checkbox"/>
	Descend speed	<input type="checkbox"/>
	Cruise speed	<input type="checkbox"/>
	Optimum cruising level	<input type="checkbox"/>
	Number of engines	<input type="checkbox"/>
	Capacity	<input type="checkbox"/>
4.	Awareness of traffic situations	<input type="checkbox"/>
5.	Analysis of traffic situations	<input type="checkbox"/>
6.	Planning of traffic flow	<input type="checkbox"/>
7.	Sequencing of traffic flow	<input type="checkbox"/>

8.	Expedition of traffic flow	<input type="checkbox"/>
9.	Adjusting of traffic to changing situations:	<input type="checkbox"/>
	Radio aid Failure	<input type="checkbox"/>
	Change in flight rules	<input type="checkbox"/>
	Aerodrome closure	<input type="checkbox"/>
	Diversions	<input type="checkbox"/>
10.	Use of Local procedures:	<input type="checkbox"/>
	Selection of runways	<input type="checkbox"/>
	Noise Abatement	<input type="checkbox"/>
	Departure procedures	<input type="checkbox"/>
	Instrument Approach procedure	<input type="checkbox"/>
11.	Coordination	<input type="checkbox"/>
	Other ATC units	<input type="checkbox"/>
	Other sector units	<input type="checkbox"/>
	Transfer of traffic	<input type="checkbox"/>
	Updating of Information	<input type="checkbox"/>
	Strip marking	<input type="checkbox"/>
12.	Clearances:	<input type="checkbox"/>
	Contents	<input type="checkbox"/>
	Clarity	<input type="checkbox"/>
	Conciseness	<input type="checkbox"/>
	Expedition	<input type="checkbox"/>
	Recordings	<input type="checkbox"/>
13.	Radio Telephone:	<input type="checkbox"/>
	Call Signs	<input type="checkbox"/>
	Phraseologies	<input type="checkbox"/>
	Abbreviated procedures (eg. SIDS)	<input type="checkbox"/>
	Coverage (Range) Limitations	<input type="checkbox"/>

	Unnecessary repetitions	<input type="checkbox"/>
	Use of Correct position identification	<input type="checkbox"/>
	Clarity	<input type="checkbox"/>
	Modulation	<input type="checkbox"/>
	Speed (rate of speech)	<input type="checkbox"/>
	Diction of voice communication	<input type="checkbox"/>
	Evenness of voice communication	<input type="checkbox"/>
	Promptness of response	<input type="checkbox"/>
	Confidence of uncertainties	<input type="checkbox"/>
	Avoidance of uncertainties	<input type="checkbox"/>
	Adequacy of monitoring air ground	<input type="checkbox"/>
	Communication channels	<input type="checkbox"/>
	Courtesy in telephone communications	<input type="checkbox"/>
	Altitude in telephone communications	<input type="checkbox"/>
	Cooperativeness in telephone communications.	<input type="checkbox"/>
14.	Radio Communication failure and Alerting Service:	<input type="checkbox"/>
	Recognition to loss of Communications	<input type="checkbox"/>
	Response to loss of Communication	<input type="checkbox"/>
	Promptness of action to loss of Communications	<input type="checkbox"/>
	Use of correct emergency procedure	<input type="checkbox"/>
	Declaration of alerting phases	<input type="checkbox"/>
	Cooperation with SAR Service	<input type="checkbox"/>
	Action in performance of local operating procedures.	<input type="checkbox"/>
15.	Data Displays:	<input type="checkbox"/>
	Posting of flight date	<input type="checkbox"/>
	Updating of flight data	<input type="checkbox"/>
	Acceptance of Meteorological reports	<input type="checkbox"/>
	Use of Meteorological reports	<input type="checkbox"/>





**ATSU AND ATS OPERATIONAL AUDITING**

In order to provide service in accordance with rules and regulations, directives and instructions to meet the accepted standards and recommended practices assessment of unit efficiency is essential.

ASPECTS FOR ASSESSMENT	EVALUATOR REMARKS
1. DOCUMENTATION AVAILABLE (Current)	
ATC Instructions	.....
Unit standing Instruction	.....
AIP and supplements	.....
NOTAMs	.....
Air Navigation Regulations	.....
SAR Manuals	.....
Airport Emergency Plan	.....
Directives	.....
Personal Files (supervisory reports)	.....
Statistics	.....
Occurrence log	.....
Rosters and Roster Keys	.....
Responsibilities for amendments or originating alterations	.....
Formal procedures for keeping personnel up to date with amendments	.....
2. ORGANISATIONS	
Current unit organisational chart and writtern delegated responsibilities.	
Man-loading of positions	.....
Designated Instructors and standards offers	.....
System for Coordinating	.....
Staffing of unit	.....
Support for stores, petty cash, travel arrangements, vehicle management, stationary etc.	.....
3. PLANNING FOR QUALITY	.....
Projects the unit is engaged in	.....
Analysis of service cost versus income.	.....
Staff planning/deployment.	.....
4. STATISTICS	.....
Regular returns made.	.....
Local analysis and use of statistical returns.	.....
Filing of incidents.	.....
Note 1. There will be annual audits for every ATC unit.	.....



**TABLE MET 7 / TABLEAU MET 7  
IMPLEMENTATION OF THE SADIS IN THE AFI REGION/  
MISE EN OEUVRE DU SADIS DANS LA RÉGON AFI**

SATELLITE DISTRIBUTION SYSTEM/SYSTÈME DE DISTRIBUTION PAR SATELLITE						
State/Etat	WAFS User/ Usager WAFS	Location of VSAT/ Emplacement du VSAT	Access Approved/ Accès Approuvé	Equipment Installed/ Equipement installé	Equipment operational/ Equipement Opérationnel	Plan/ Plan
1	2	3	4	5	6	7
Benin	NMS	Cotonou	X	X	X	
Bostwana	NMS	Gaborone	X	X	X	
Burkina Faso	NMS	Ouagadougou	X	X	X	
Burundi	NMS		X			
Cameroon	NMS	Douala	X	X	X	
Chad	NMS	Ndjamena	X	X	X	
Congo	NMS	Brazzaville	X	X	X	
Côte d'Ivoire	NMS	Abidjan	X	X	X	
Equatorial Guinea	NMS	Malabo	X	X	X	
Eritrea	NMS		X			
Ethiopia	NMS	Addis Ababa	X	X	X	
Ethiopia	Ethiopian Air	Addis Ababa	X	X	X	
Gabon	NMS	Libreville	X	X	X	
Gambia	NMS	Banjul	X	X	X	
Ghana	NMS	Min. of Transports	X			
Guinea	NMS	Conakry	X	X	X	
Kenya	NMS	Nairobi	X	X	X	
Madagascar	NMS	Antananarivo	X	X	X	
Malawi	NMS		X			
Mali	NMS		X			
Mauritania	NMS		X			
Mauritius	NMS	Vacas	X	X	X	
Namibia	NMS	Windhoek	X	X	X	
Niger	NMS	Niamey	X	X	X	
Niger	NMS	Niamey	X	X	X	

SATELLITE DISTRIBUTION SYSTEM/SYSTÈME DE DISTRIBUTION PAR SATELLITE						
State/Etat	WAFS User/ Usager WAFS	Location of VSAT/ Emplacement du VSAT	Access Approved/ Accès Approuvé	Equipment Installed/ Equipement installé	Equipment operational/ Equipement Opérationnel	Plan/ Plan
1	2	3	4	5	6	7
Nigeria	NMS		X			
R.D.C	NMS	Kinshasa	X	X	X	
Senegal	ASECNA	Dakar - A/P	X	X	X	
Senegal	ASECNA	Dakar	X	X	X	
Seychelles	NMS	Victoria	X	X	X	
Sierra Leone	NMS		X			
Somalia	NMS		X			
South Africa	NMS	Pretoria	X	X	X	
South Africa	NMS	Pretoria	X	X	X	
Swaziland	NMS		X	X	X	
Tanzania	NMS	Dar-Es-Salaam	X	X	X	
Uganda	NMS	Kampala	X	X	X	
Zambia	NMS	Lusaka	X	X	X	

NMS - National MET Services/ Service Météorologique National

**TABLE MET/5 – AFI REGION REQUIREMENTS FOR WAFS PRODUCTS**  
**TABLEAU MET/5 - BESOINS EN PRODUITS DU WAFS REGION AFI**

<b>PRODUCT REQUIRED/ PRODUITS REQUIS</b>	<b>AREAS REQUIRED/ ZONES REQUISES</b>
W/T CHART/CARTES VI/T > FL 390	A, B <sub>1</sub> , E, F, G, H, I, J, EUR
“ ” “ ” FL 390	A, B <sub>1</sub> , E, F, G, H, I, J, EUR
“ ” “ ” FL 340	A, B <sub>1</sub> , E, F, G, H, I, J, EUR
“ ” “ ” FL 300	A, B <sub>1</sub> , E, F, G, H, I, J, EUR
“ ” “ ” FL 240	A, B <sub>1</sub> , E, F, G, H, I, J, EUR
“ ” “ ” FL 180	A, B <sub>1</sub> , E, F, G, H, I, J, EUR
“ ” “ ” FL 100	A, B <sub>1</sub> , E, F, G, H, I, J, EUR
“ ” “ ” FL 50	
SWL CHART /CARTE	A, B <sub>1</sub> , E, F, G, H, I, J, EUR
SWM/SWH CHART/CARTE (FL 100 - 450)	EUR
GRIB data/Données GRIB	GLOBAL/GLOBE ENTIER
WITEM and SIGWX forecasts in abbreviated plain language/WITEM et Prévisions SIGWX en langage clair abrégé	YES/OUI

*Note :* SWL charts should be provided outside the WAFS.  
 Cartes SWL devraient être fournies en dehors du WAFS

**TABLE MET 6 – RESPONSIBILITIES OF THE WORLD AREA FORECAST CENTRES**  
**TABLEAU MET 6 - ZONES DE RESPONSABILITÉ DES CENTRES MONDIAUX**  
**DE PRÉVISION DE ZONE**

WAFC	SIGWX		Upper wind and temperature/ Vent et température en altitude	
	Area of responsibility/ Zone de responsabilité	Areas of coverage of SIGWX/ Zone de couverture de SIGWX	Areas of charts coverage/ Zone de couvertures des cartes	GRIB data/ Données GRIP
London/ Londres	global*/Globe entier*	B, C, D**, E***, G, H, and K, EUR and MID (FL 100-450)	B, C, D, E, G, H, K	global/Globe entier
Washington	global*/Globe entier*	A, B <sub>1</sub> , H, J, E, G, I***, F****	A, B <sub>1</sub> , E, F, G, H, I, J	global/Globe entier

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\* For back-up purposes/Pour raison de secours.

\*\* Currently produced by RAFCs Dakar, Nairobi and New Delhi and relayed to WAFC London for uplink on SADIS/Présentement produite par les RAFC de Dakar, Nairobi et New Delhi et relayée au WAFC de Londres par liaison montante pour les besoins du SADIS.

\*\*\* Currently produced by RAFC Tokyo/Présentement produite par le RAFC de Tokyo.

\*\*\*\* Currently produced by RAFC Melbourne and relayed to WAFC London and Washington for uplink on the SADIS and the International Satellite Communications System (ISCS)/Présentement produite par le RAFC de Melbourne et relayée au WAFC de Londres et Washington par liaison montante pour les besoins du SADIS et le Système International de Communication par Satellite (ISCS).

8. **World area forecast system (WAFS)**  
(FASID Table MET5 and MET6 ; charts MET2, MET3 and MET4) [AFI/7, Rec. 8/11)  
{APIRG/12 Con. 12/-]
- 8.1 FASID Table MET 5 sets out the AFI Region requirements for WAFS products: upper wind and temperature and significant weather (SIGWX) charts, and the gridded binary (GRIB) data, and WITEM/abbreviated plain language SIGWX, to be provided by WAFC London.
- 8.2 All the WAFS products should be prepared by WAFC London for fixed valid times of 00, 06, 12 and 18 UTC.
- 8.3 The levels for which upper air and SIGWX charts are to be provided by the WAFC London and the areas to be covered by these charts and the GRIB data are indicated in Table MET 5.
- 8.4 FASID Table MET 6 sets out the WAFC responsibility for the production of SIGWX forecasts and upper wind and temperature charts for the areas of coverage indicated, and GRIB data. Each WAFC is responsible for the routine production, and dissemination by satellite broadcast, of charts for the areas of coverage listed. For back-up purposes, each WAFC should have the capability to produce SIGWX for all areas of coverage.
- Note:- The responsibilities of RAFCs Brasilia, Buenos Aires, Dakar, Las Palmas, Melbourne, Nairobi, New Delhi, Tokyo and Wellington will be progressively transferred to the WAFC London and WAFC Washington in accordance with AFI/7 Recommendation 7/10 and ASIA/PAC Air Navigation Planning and Implementation Regional Group (APANPIRG) Recommendation 7/19 and CAR/SAM Regional Planning and implementation Group (GREPECAS) Conclusion 8/24)*
- 8.5 The projection of the charts and their areas of coverage should be as indicated in Charts MET 3, 4 and 5 associated with Table MET 5; their scale should be 1:20 x 10<sup>6</sup>, true at 22.5<sup>0</sup> in the case of charts in the Mercator projection, and true at 60<sup>0</sup> in the case of charts in the polar stereo graphic projection [AFI/7 (Rec. 7/12)].
- 8.6 WAFS products should be disseminated by WAFC London using the satellite distribution system (SADIS)\* covering the reception area shown in Chart COM ... (INTELSAT 604 coverage). To fulfill the requirements of long distance flights, transmission of WAFS products should be completed not later than 11 hours before valid time.
- 8.7 The amendment service to the WAFS products issued by WAFC London should be by means of abbreviated plan language messages disseminated through SADIS.
- 8.8 Each State should make the necessary arrangements to receive and make full operational use of WAFS products issued by WAFC London. FASID Table MET 7 provides the status of authorized access by SADIS users to the satellite broadcast and location of the operational VSATS.

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\* Until 2005 WAFC London will also continue to broadcast WAFS products and amendments by HF radio facsimile.

## Appendix J to the Report on Agenda Item 4

### TRANSITION PLAN AND PROCEDURES TOWARDS THE WAFS FINAL PHASE IN THE AFI REGION

1. The transfer of responsibilities of the RAFCs to the WAFCs is the decision of the ICAO regional planning groups. When the quality and accuracy of the SIGWX is regarded as acceptable for flight planning purposes, coordination will begin for the transition of the RAFCs responsibility for SIGWX charts to the WAFCs.
2. The sequence of events to transfer the high-level WAFS SIGWX forecast (FL250 and above) and specific AFI medium-level SIGWX responsibilities from the RAFCs Dakar, Las Palmas and Nairobi to the WAFc London will be as follows:
  - a) The table below provides an indicative timetable for the production of test SIGWX forecasts, and the dates when these charts are expected to be considered operational.

CHART AREA & RESPONSIBLE WAFc	TARGET DATE TO COMMENCE PRODUCTION OF TEST CHART(S)	TARGET DATE WHEN CHART CONSIDERED OPERATIONAL
LONDON	1 July 2000	2 January 2002*

- b) The experimental SIGWX charts will be transmitted and be marked as “Test chart not for operational purposes” on the SADIS satellite broadcast.
- c) RAFCs Dakar and Nairobi are encouraged to comment about the quality and accuracy as necessary. States within a RAFC service area also wishing to comment are requested to submit their replies directly and/or through their respective RAFC for forwarding to London WAFc. Comments for the London WAFc may be sent by any of the following communications systems:
  - i) email addressed to: RPATTON@METEO.GO.UK
  - ii) FAX telephone number +44 1344 854400 ; attention MR. ; and/or
  - iii) voice telephone number +44 1344 856436
- d) An evaluation form to help to focus the comments to be received is given in Attachment to the Plan.
- e) The WAFc London will contact the respective RAFCs Dakar and Nairobi when the test begins and at suitable intervals to discuss the comments solicited.
- f) When SIGWX charts by the WAFc London for the RAFCs Dakar and Nairobi are evaluated to be of satisfactory quality and accuracy, coordination will begin for the transfer of responsibility between the RAFCs, WAFc and the ICAO Regional Offices, Dakar and Nairobi. A minimum of 120 days notification of acceptance of SIGWX responsibility is requested in order to accept the RAFCs Dakar and Nairobi SIGWX responsibilities.
- g) The test period should continue for a maximum of 6 months.
- h) In the event that the RAFCs can not agree with the WAFc that the experimental products are acceptable then ICAO would be asked to arbitrate.

\*WAFc London indicated that medium level SIGWX would be ready in the year 2003.



**SADIS STRATEGIC ASSESSMENT TABLES  
CURRENT AND PROJECTED OPMET DATA VOLUMES 1998-2002**

**ICAO REGION:  
MAIN ROUTING(S):**

**TABLE 1**

E.G. CAPSIN AND AFTN/GTS/SADIS TWO-WAY)

	<b>CURRENT 1999</b>	<b>Projected 2000</b>	<b>Projected 2001</b>	<b>Projected 2002</b>	<b>Projected 2003</b>
<b>ALPHANUMERIC OPMET DATA</b>					
Number of <b>FC bulletins</b> issued per day	82	90	95	100	100
Average number of stations per FC BULLETIN	8	8	8	8	8
Number of <b>FT bulletins</b> issued per day **	245	300	350	500	500
Average number of stations per FT bulletin	6	6	6	6	6
Number of <b>SA bulletins</b> issued per day	322	400	450	500	600
Average number of stations per SA bulletin	18	15	15	15	15
Number of <b>SP bulletins</b> issued per day	0	-	-	-	-
Number of <b>SIGMET bulletins</b> issued per day	10	15	20	25	30
(WS, WV and WC) for relevant FIRS					
<b>OTHER OPMET DATA</b>					
Number of other bulletins issued per day					
(please specify header(s))					
Average number of stations per bulletin					
<b>TOTALS</b>					
<b>Total number of OPMET bulleting per day</b>	669	805	915	1125	1230
<b>Average size of OPMET bulletin (bytes)</b>	500	500	500	500	500
<b>TOTAL ESTIMATED OPMET DATA VOLUME PER DAY (BYTES)</b>	335K	425K	457K	562.5K	615K

(\* 1 octet : 8 bits = 1 byte = 1 character)    \*\* = number of unique abbreviated header lines

## CURRENT AND PROJECTED OPMET DATA VOLUMES 1998-2002

ICAO REGION:  
MAIN ROUTING(S):

\*DEPENDS ON OUTCOME OF APIRG &amp; WAFSSG

TABLE 2

T4 FACSIMILE CHART INVENTORY	CURRENT 1999	Projected 2000	Projected 2001	Projected 2002	Projected 2003
<b>Header number/Chart name</b>					<b>NAIROBI</b>
Time of issue of chart (UTC)	0400, 1000, 1600, 2200	0400, 1000, 1600, 2200	0400, 1000, 1600, 2200	*SEE	BUFR
Average size of chart (bytes)	100K	100K	100K		
Chart type (e.g. wind/temp/SIGWX )	SIGWX	SIGWX	SIGWX	*SEE	BUFR
Chart level (FL range or medium/high level)	SWL/SWM	SWL/SWM	SWL/SWM		
Validity time of chart VT (UTC)	12.18, 00.06	12.18, 00.06	12.18, 00.06		
<b>Header number/Chart name</b>					<b>DAKAR</b>
Time of issue of chart (UTC)	0	?		*SEE	BUFR
Average size of chart (bytes)	0	?			
Chart ape (e.g. wind/temp/SIGWX)	0	?		*SEE	BUFR
Chart level (FL range or medium/high level)					
Validity time of chart VT (UTC)					
<b>TOTALS</b>					
<b>Total numbe of T4 charts issued per day</b>	4				
<b>Average size of each chart (bytes)</b>	100K				
<b>TOTAL ESTIMATED T4 CHART DATA VOLUME PER DAY (bytes)</b>	400				

(Levels: medium FL 100-250, high &gt;FL250)

(\*1 octet = 8 bits = 1 byte = 1 character)

**SADIS STRATEGIC ASSESSMENT TABLES  
CURRENT AND PROJECTED OPMET DATA VOLUMES 1998-2002**

ICAO REGION:

TABLE 3

MAIN ROUTING(S):

\*DEPENDS ON OUTCOME OF APIRG &amp; WAFSSG

BUFR SIGWX MESSAGES	CURRENT 1999	Projected 2000	Projected 2001	Projected 2002	Projected 2003
<b>WMO Header</b>			<b>*DAKAR</b>		
Time(s) of issue of data (UTC)	0			07.13, 19.01	“
Average size of message (bytes)				15k	“
Data level (e.g. FL range of low/medium/high level)				SWM/SWH	“
validity time(s) of data VT (UTC)				12.18, 00.06	“
<b>WMO Header</b>			<b>*PRETORIA</b>		
Time(s) of issue of data (UTC)	0			07.13, 19.01	“
Average size of message (bytes)				15K	“
Data level (e.g. FL range or low/medium/high level)				SWM/SWH	“
Validity time(s) of data VT (UTC)				12.18, 00.06	“
<b>WMO Header</b>			<b>*NAIROBI</b>		
Time(s) of issue of data (UTC)	0			07.13, 19.01	“
Average size of message (bytes)				15K	“
Data level (e.g. FL range or low/medium/high level)				SWM/SWH	“
Validity time(s) of data VT (UTC)				12.18, 00.06	“
<b>TOTALS</b>	0			12	36
<b>Total number of BUFR messages per day</b>	0			+12	+36
<b>Average size of each message (bytes*)</b>	0			15K	15
<b>TOTAL ESTIMATED VOLUME OF BUFR MESSAGES PER DAY (bytes)</b>	0			+180K	+540K

(\* 1 octet : 8 bits = 1 byte = 1 character) (low level&lt; FL 100 medium level: FL100-250, high level &gt; FL250)

+BY TWO-WAY VSATS

\*

## CURRENT AND PROJECTED BUFR DATA VOLUMES 1998-2002

TABLE 4

ICAO REGION:

MAIN ROUTING(S):

BUFR SIGWX MESSAGES	CURRENT 1999	Projected 2000	Projected 2001	Projected 2002	Projected 2003
<b>WMO Header</b>					
Time(s) of issue of data (UTC)					
Average size of message (byte)					
Data level (e.g. FL range of low/medium/high level)					
validity time(s) of data VT (UTC)					
<b>WMO Header</b>					
Time(s) of issue of data (UTC)					
Average size of message (bytes)					
Data level (e.g. FL range or low/medium/high level)					
Validity time(s) of data VT (UTC)					
<b>WMO Header</b>					
Time(s) of issue of data (UTC)					
Average size of message (bytes)					
Data level (e.g. FL range or low/medium/high level)					
Validity time(s) of data VT (UTC)					
<b>TOTALS</b>					
<b>Total number of BUFR messages per day</b>					
<b>Average size of each message (bytes*)</b>					
<b>TOTAL ESTIMATED VOLUME OF BUFR MESSAGES PER DAY (bytes)</b>					

(\* 1 octet : 8 bits = 1 byte = 1 character) (low level < FL 100 medium level: FL100-250, high level > FL250)

**CURRENT AND PROJECTED BUFR DATA VOLUMES 1998-2002**

(Subject to statement of an operational requirement)

ICAO REGION:

MAIN ROUTING(S):

RELEVANT NOTAMS & AIP CHARTS

AIS - (Subject to statement of an operational requirement)	CURRENT 1999	Projected 2000	Projected 2001	Projected 2002	Projected 2003
<b>ALPHANUMERIC AIS DATA (e.g. NOTAMs)</b>					
<b>Bulletin type:</b> NOTAM/ASHTAMS				NOTAM	NOTAM
Number of bulletins issued per day	NO			100	300
Average size of each bulletin (bytes*)				400	400
<b>Bulletin type:</b>	REQUIREMENT				
Number of bulletins issued per day					
Average size of each bulletin (bytes*)					
<b>CHART AIS DATA (e.g. AIP CHARTS)</b>					
<b>Header number/Chart type (e.g. AIP)</b>				AIP	AIP
Time(s) of issue of chart (UTC)				2	4
Average size of chart (bytes*)				100	100
Validity time of chart VT (UTC)	NO				
<b>Header number/Chart type (e.g. AIP)</b>					
Time(s) of issue of chart (UTC)	REQUIREMENT				
Average size of chart (bytes*)					
Validity time of chart (VT) (UTC)					
<b>TOTALS</b>					
<b>Total number of AIS bulletins per day</b>					
<b>Average size of AIS bulletins (bytes)</b>					
<b>Total number of AIS charts issued per day</b>					
<b>Average size of AIS Chart (bytes)</b>					
<b>TOTAL ESTIMATED VOLUME OF AIS DATA PER DAY (bytes)</b>				240K	520K

(\* 1 octet = 8 bits = 1 character = 1 byte)



## INITIAL CONCEPT OF THE GNSS STRATEGY FOR THE AFI REGION

### Introduction

1. The purpose of the AFI GNSS strategy is to define an evolution path for replacement of ground-based navigation aids, i.e. VOR/DME/ILS/NDB, ensuring that operational and other concerns such as positive cost-benefit are fully taken into account.
2. The AFI GNSS strategy assumes availability of a GNSS meeting the specified parameters at every phase of deployment. It does not analyse GNSS systems configuration per se nor the advantages and disadvantages of various deployment strategies.

### General Considerations

By necessity, satellite-based and ground-based navigation systems will co-exist for a period of time. Considering that the operation of a dual system is detrimental to a positive cost-benefit, users and providers will co-operate with the view of reducing the duration of the transition period as much as possible, having due regard for the following principles:

- The level of safety will not be downgraded during the transition
- GNSS-based service must, before the end of the transition period, fully meet the required parameters of accuracy, availability, integrity and continuity for all phases of flight;
- During the transition, gradually evolving levels of functionality will be available.
- Operational advantage shall be taken of the available capabilities at every step of deployment.
- Methods of application will take into full consideration safety considerations of any functional limitations;
- Users must be given sufficient advance notice to re-equip before ground-based systems are decommissioned.

### Evolving functionality\*

**Phase I (Short term), up to 2003:** *Additional ranging and health information on GPS constellation provided via GEO satellites*

- This phase will allow the use of GNSS as a primary-means of navigation for en-route and TMA, and as a supplemental-means navigation system for NPA. Existing ground infrastructure remains intact.
- An AFI GNSS test bed will be implemented to validate the objectives and differential correction algorithms of Phase II and Phase III.

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\*Dates are indicative

**Phase II (Medium term) 2003-2008:** *NPV-I, 20m vertical accuracy, will be available everywhere in the AFI Region* This will be achieved by the deployment of a network of RIM stations through the AFI Region.

1. This phase will allow for:
  - En-route phase: sufficient capability to meet en-route navigation requirements everywhere in the AFI Region; GNSS is approved as a sole-means system for en-route navigation.
  - Approach and landing phase: sufficient capability for non-precision approach and landing in the whole AFI Region.
2. During Phase II, a satellite-based augmentation system (SBAS) ground infrastructure will be put in place in the AFI Region; en-route navigation aids will be progressively withdrawn. VOR/DME and ILS will continue to be provided in terminal areas and at aerodromes.

**Phase III (Long term) 2008 onwards:** *SBAS CAT I will be available in those locations where analysis of historical MET data or traffic characteristics justifies the requirement. Other requirements will be met by ground-based augmentation system (GBAS).* This will require the deployment of additional RIMS in the AFI. It is also assumed that at least two constellations of navigation satellites will be available.

- a) During Phase III, ILS CAT I will be withdrawn. Where CAT II/III ILS requirements have been confirmed, these will remain unless technical evolution then demonstrates that the requirement can be supported by GNSS.
- b) The plan of withdrawal of ILS should ensure availability of an ILS at least within 500 NM. This reduced back-up network of ILS will remain in place as long as necessary and until sufficient level of confidence has been built on GNSS as sole-means navigation system for CAT I approach and landing operations.
3. Terminal area VOR/DME will also be progressively withdrawn during Phase III in a coordinated ILS/VOR/DME withdrawal plan, catering for the alternate availability of the two sets of facilities at different locations.

#### ***Institutional issues***

- a) Phases II and III of the AFI GNSS strategy will require the deployment of AFI specific GNSS components. In order to minimize costs associated with the deployment and operation of these components, AFI should seek cooperation agreements with systems providers in adjacent regions with a view to the joint use of GNSS components where feasible and cost-effective.
- b) Meanwhile the modalities of installation and cost-recovery of multinational facilities, essentially RIMS, in some AFI States, must be addressed without delay so that deployment can be initiated as soon as technically possible.

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**APPENDIX : SHORTCOMINGS/DEFICIENCIES IN THE AOP FIELD  
(Ref: Africa-Indian Ocean Region Air Navigation Plan )**

Identification		Shortcomings				Corrective Action			
Requirements	States/ facilities	Description	Date first reported	Status	Comments	Description	Executive body	Date of complete	Priority
Aerodrome fencing and security lighting AFI/7 Conc. 4/2 and 4/9 Annex 14 vol I, para 8.4.1 - 8.4.3	Angola/ Luanda	Perimeter fence deficient in some places. Airport surrounded by slum development.	1995	D	Unauthorized access control not possible.	Repair of fence using appropriate materials. Introduce perimeter patrols.	ENANA		U
	Benin / Cotonou	Aerodrome fence inadequate.	1998	D	Unauthorized access control not possible.	Fence to be completed	DCA		A
	Cameroon/ Douala	Aerodrome fence incomplete	1993	D	Access to manoeuvring areas by unauthorized persons.	Fence to be completed	DCA/ ADC		A
	Chad/ N'djamena	Aerodrome fence incomplete	1998	D	Access to manoeuvring areas by unauthorized persons.	Fence to be completed	DCA/ ANAT		U
	Côte d'Ivoire/ Abidjan	Aerodrome fence incomplete	1998	D	Fence under construction	Fence to be completed	SODEXA M/ANAC/ AERIA	1999	A
	Congo/ Brazzaville	Aerodrome fence inadequate	1993	D	Control of unauthorized persons in movement areas inadequate	Extensive repair of fence required	ANAC	2000	A

## Appendix M to the report on Agenda Item 5

Identification		Shortcomings				Corrective Action			
Requirements	States/ facilities	Description	Date first reported	Status	Comments	Description	Executive body	Date of complete	Priority
	D. R. of Congo/ Kinshasa	Aerodrome fence incomplete	1998	D	Access to all airside areas by unauthorized persons.	Extensive repair of fence required	RVA		A
	Gabon/ Libreville	Aerodrome fence incomplete	1999	D	Access to airside by unauthorized persons.	Complete the fence construction	SGAC/ ADL		A
	Guinea Bissau/ Bissau	Aerodrome fence inadequate	1993	D	Access to airside by unauthorized persons.	Extensive repair of fence required	ENAG		A
	Mauritania/ Nouakchott	Aerodrome fence inadequate	1996	D	Control of access by animals and unauthorized persons to airside inadequate	New concrete fence installed but not entirely adequate	SAM		A
	Niger/ Niamey	Aerodrome fence inadequate	1992	D	Fence under construction	Corrective measures not entirely adequate	DCA/ ASECNA	1999	A
	Nigeria/ Kano	Aerodrome fence inadequate	1999	D	Access to airside by stray animals and unauthorized persons	Previous efforts not effective.	FAAN	2000	A
	Nigeria/ Lagos	Aerodrome fence incomplete	1993	D	Unauthorized access to all areas.	Extensive repair of fence required. Gates required to permit access to the approach area.	FAAN	1999	A

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Identification		Shortcomings				Corrective Action			
Requirements	States/ facilities	Description	Date first reported	Status	Comments	Description	Executive body	Date of complete	Priority
	Sierra Leone/ Freetown	Fence missing over more than half of perimeter.	1993	D	Access to airside by unauthorized persons	Situation to be evaluated after civil unrest	SLAA		A
	Somalia/ Mogadishu	Aerodrome fence inadequate	1995	D	Access to airside by unauthorized persons	Extensive repair of fence	Not available		A
	Tanzania/ Dar es salaam	Aerodrome fence incomplete	1993	D	Access to airside by unauthorized persons	Repair fence using appropriate materials, repair perimeter road and enhance perimeter patrols.	DA		A
Bird hazard control and reduction AFI/7 Conc. 4/2 and 4/7 Annex 14 vol I, para 9.5.1 - 9.5.3	Angola/ Luanda	Inadequate bird hazard control	1998	D	Grain seeds available close to aircraft manoeuvring areas. Slum development close to airport.	Control measures to be implemented and monitored Land use plan for airport environs required.	ENANA		A
	Benin/ Cotonou	Inadequate bird hazard control mechanism	1998	D		Control measures to be implemented and monitored	DCA		A
	Burkina Faso/ Ouagadougou	Inadequate bird hazard control mechanism	1998	D		Control measures to be implemented and monitored	DCA		A

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Identification		Shortcomings				Corrective Action			
Requirements	States/ facilities	Description	Date first reported	Status	Comments	Description	Executive body	Date of complete	Priority
	Chad/ N'Djamena	Bird hazard control measures to continue	1996	D		Equipment to reduce number of birds now available, organization in progress	ANAT/ DCA		A
	D. R. of Congo/ Kinshasa	Inadequate bird hazard control measures	1998	D		Control measures to be implemented and monitored	RVA		A
	Gabon/ Libreville	Bird hazard control measures necessary	1996	D		Bird control measures in progress	SGAC		A
	Libya/ Benghazi	Bird hazard control measures required		S		Control measures to be implemented and monitored	NCAA		U
	Libya/ Tripoli	Bird hazard control measures required		S		Control measures to be implemented and monitored	NCAA		U
	Mali/ Bamako	Bird hazard control measures required	1998	S		Control measures to be implemented and monitored. Bird strikes to be reported to IBIS.	DNAC		U
	Sudan/ Khartoum	Bird hazard control measures required	1993	S		Control measures to be implemented and monitored	NCAA		A

**Appendix M to the report on Agenda Item 5**

Identification		Shortcomings				Corrective Action			
Requirements	States/ facilities	Description	Date first reported	Status	Comments	Description	Executive body	Date of complete	Priority
	Uganda/ Entebbe	Bird hazard control measures required	1997	D	New measures have been implemented. Airport located within bird sanctuary and surrounded by large water mass and many fishing activities	Implementation of recommendations of ornithological study showing result. To continue to monitor success rate. Report to IBIS.	Uganda CAA	Continu- ing	A
Rescue and fire fighting AFI/7 Conc.4/2 and 4/7 Annex 14 vol. I para 2.11.1- 2.11.4; and 9.2.1 - 9.2.33	Angola Luanda	Fire fighting services inadequate. Rescue services inadequate	1998	D	CAT 9 required not met. Communications and rescue equipment inadequate.	Financial investment required	ENANA		A
	D. R. of Congo/ Kinshasa	RFFS: Major improvements required	1997	D		Procure new fire vehicles and accessories. Training and recycling of personnel. Action by ICAO/UNDP in progress	RVA		U
	Liberia/ Monrovia	RFFS: inadequate	1996	D		Situation being monitored by ICAO. Action by ICAO/UNDP in progress	DCA		U
	Somalia/ Mogadishu	RFFS practically inexistent	1995	S		Establish new RFFS for Mogadishu airport	Not available.		U

## Appendix M to the report on Agenda Item 5

Identification		Shortcomings				Corrective Action			
Requirements	States/ facilities	Description	Date first reported	Status	Comments	Description	Executive body	Date of complete	Priority
	Tanzania/ Dar es salaam	RFFS: Major improvements required	1996	D	CAT 9 required not met. Vehicles, communication and rescue equipment inadequate.	Project for general overhaul of RFFS including procurement of new fire tenders and rescue tools to meet coverage required in AFI/ANP and staff training and motivation being implemented.	DA		A
	Tanzania/ Kilimanjaro	RFFS: Major improvements required	1996	D	CAT 9 required not met. Vehicles, communication and rescue equipment inadequate.	General overhaul of RFFS. Procure new fire tenders and rescue tools to meet coverage required in AFI/ANP. Training and motivation of staff.	KADCO		A
Pavement strength AFI/7 Conc. 4/4 and 4/10 Annex 14 vol I para 2.6.1-2.6.8	Angola/ Luanda	Parallel txwy to Rwy 23 required. Runway needs resurfacing.  Runway shoulders and clear-way need stabilizing. Apron uneven.	1998	D	Delays inevitable.  Aircraft vibrating at take-off and landing. FOD risks.	Development master plan and corresponding financial investment required.	ENANA		A

**Appendix M to the report on Agenda Item 5**

Identification		Shortcomings				Corrective Action			
Requirements	States/ facilities	Description	Date first reported	Status	Comments	Description	Executive body	Date of complete	Priority
	Cameroon/ Yaounde	Poor braking action when wet	1998	D	Information on runway friction characteristics not promulgated. Rubber removal procedure ongoing.	Measure friction resistance and promulgate. Rubber removal procedures required	ADC/ DCA		A
	Chad/ N'Djamena	Runway surface degraded. Heavy rubber deposits on runway	1998	D	Potholes on runway surface	Pavement rehabilitation. Rubber deposit removal	ANAT/ DCA		U A
	Congo/ Brazzaville	Bearing strength problem on runway.	1998	D		Pavement rehabilitation required.	ANAC		U
	D.R. of Congo/ Kinshasa	Rwy surface uneven and bumpy (bearing strength problem over a portion of runway). Apron surface degraded esp. P12 & P13. Apron inadequate esp. At night.	1998	D	Unevenness caused by slippage of concrete slabs and many cracks. Risk to damage of aircraft. High risk of collision of aircraft.	Pavement rehabilitation to be put in place.	RVA		U
	Guinea Bissau/ Bissau	Parking area insufficient Bearing Strength problem on apron.	1999	D		Apron expansion and pavement rehabilitation required	DCA		A

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Identification		Shortcomings				Corrective Action			
Requirements	States/ facilities	Description	Date first reported	Status	Comments	Description	Executive body	Date of complete	Priority
	Nigeria/ Kano	Severe undulations and roughness on first half of RWY06	1998	D		Pavement rehabilitation to be put in place.	FAAN		U
Emergency plan Annex 14 vol I para 9.1.1-9.1.9	Angola/ Luanda	No aerodrome emergency plan No grid map available	1995	S D	ICAO guidance material cannot be used due to language problems.	Develop an emergency plan. Conduct a full scale emergency exercise.	ENANA		A
	Democratic Rep. of Congo	Emergency plan needs updating	1997	D		Update the existing plan	RVA		A
	Equatorial Guinea/Malabo	No aerodrome emergency plan	1993	S		Draft being reviewed	ASECNA		A
	Guinea Bissau/Bissau	No aerodrome emergency plan	1993	S		Develop an airport emergency plan. Conduct full scale emergency exercise	DGAC		A
	Liberia/ Monrovia	No aerodrome emergency plan	1996	S		Develop plan. Conduct emergency exercise	DCA	1998	A
	Sao Tomé & Príncipe/ Sao Tomé	No aerodrome emergency plan	1993	S		Develop an emergency plan and conduct exercises at regular intervals	DCA		A



**Appendix M to the report on Agenda Item 5**

Identification		Shortcomings				Corrective Action			
Requirements	States/ facilities	Description	Date first reported	Status	Comments	Description	Executive body	Date of complete	Priority
	Somalia/ Mogadishu	No aerodrome emergency plan	1995	S		Develop an emergency plan. Conduct a full scale emergency exercise.	Not available.		A
Foreign objects on movement area AFI/7 Conc. 4/4 Annex 14 vol I para 2.9.1-2.9.3	Angola/ Luanda	Foreign objects on movement areas	1995	D	Potential damage to aircraft engines due to ingestion of sand.	Establish ramp safety committee. Procure pavement sweeper.	ENANA		A
	Mozambique/ Maputo	Blowing sand on taxiway	1998	D	Potential damage to aircraft engines due to ingestion of sand.	Establish sand cleaning work programme. Procure pavement sweeper if necessary.	NCAA		A
Power supply. AFI Conc 4/2 and 4/8. Annex 14 Vol 1 para 9.4.1-9.4.27	Angola/ Luanda	Primary Power supply unreliable	1995	D	Although substantial backup system in place, reliability of power supply still precarious.	Negotiate with primary power supply company for reliability	ENANA		A
	Guinea Bissau/ Bissau	Secondary power supply inadequate	1993	D		Rehabilitation of secondary power supply required	DGCA		A

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Identification		Shortcomings				Corrective Action			
Requirements	States/ facilities	Description	Date first reported	Status	Comments	Description	Executive body	Date of complete	Priority
	Kenya/ Mombasa	Mains power unreliable. Secondary power supply arrangements deficient	1999	D	Adverse effect on all lighting, navaids and communication	Negotiate with primary power supply company for reliability. Secondary power supply rehabilitation.	KAA		A
	Somalia/ Mogadishu	Power supply inadequate	1995	D			Not available.		A
	Tanzania/ Dar es salaam	Mains power supply unreliable. Secondary power supply inadequate	1996	D	Frequent major surges adversely affecting reliability of all lighting, navaids and communication	Negotiate for new mains supply. Rehabilitate secondary power supply. Establish planned maintenance programme.	DA		A
	Tanzania/ Kilimanjaro	Mains power supply inadequate. Secondary power supply inadequate	1996	D	Old and worn out cabling requiring replacement.	New mains power supply substation. Rehabilitate secondary power supply . Establish planned maintenance programme.	KADCO		A

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Identification		Shortcomings				Corrective Action			
Requirements	States/ facilities	Description	Date first reported	Status	Comments	Description	Executive body	Date of complete	Priority
Implementation of visual aids AFI/7 Conc 4/1 Annex 14 Vol I chapter 5	Angola/ Luanda	NDB approach only without DME vertical guidance. Approach, taxiway and apron lights inadequate. Threshold lights inoperative. APAPIS implemented on RWY23 only. All markings faded	1998	D  D S D D	HI/PA1 required on Rwy 25  PAPIS required on Rwys 05/23 and 25.	Rehabilitation of lighting required.  Repaint markings.	ENANA		A  A A A B
	Benin/ Cotonou	PAPIS not available	1999	S	Inadequate visual guidance to pilots	PAPIS to be installed as per AFI ANP	ASECNA		A
	Cameroon/ Yaounde	All markings faded ICAO obstacle map non available.	1998	D	Inadequate visual guidance to pilots	Markings to be repainted. Establish an ICAO obstacle map and publish.	ADC		A
	Côte d'Ivoire/ Abidjan	Approach lighting inadequate. APAPIS implemented on RWY21 only. All markings faded.	1998	D		Rehabilitation of approach lights. PAPIS required on RWY03 also as per AFI ANP. Markings to be repainted.	ASECNA/ AERIA		A

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Identification		Shortcomings				Corrective Action			
Requirements	States/ facilities	Description	Date first reported	Status	Comments	Description	Executive body	Date of complete	Priority
	Djibouti/ Djibouti	Threshold lighting inoperative, Taxiway lighting inadequate.  Runway markings not clear	1999	D	Inadequate visual guidance to pilots. Many bulbs missing.	Rehabilitate lighting system and implement planned maintenance programme. Repaint markings			A
	D.R. Congo/ Kinshasa	No RWY markings except TDZ. All other markings implemented not meeting requirements. Approach and runway edge lighting deficient.	1998	D	Inadequate visual guidance to pilots.  Many bulbs missing.	New markings to be painted in accordance with Annex 14. Lighting to be rehabilitated.	RVA		U
	Guinea Bissau/ Bissau	Lighting aids inadequate	1993	D	Inadequate visual guidance to pilots	Rehabilitation of lighting aids required	DGAC		A
	Nigeria/ Kano	Threshold and Rwy end lighting deficient (Rwy 06/24)  Taxiway edge lighting not implemented.  PAPIs require calibration. Runway markings non conspicuous.	1998  1998  1998  1999	D  S  D  D	Inadequate visual guidance to pilots   Pilots reporting misalignment	Rehabilitate airfield lighting and establish maintenance programme. Implement taxiway light as per AFI ANP. Calibrate PAPIs and NOTAM. Repaint markings	FAAN		U  B  U  B

**Appendix M to the report on Agenda Item 5**

Identification		Shortcomings				Corrective Action			
Requirements	States/ facilities	Description	Date first reported	Status	Comments	Description	Executive body	Date of complete	Priority
	Nigeria/ Lagos	Taxiway lighting inadequate and reflective markers ineffective.	1998	D	Taxiway lights required	Development plans for rehabilitation are required.	FAAN		A
		Centerline lighting at high speed turnoffs deficient and colors non standard. No approach light on 01L and 01R.	1998	D					
		Intensity of approach lighting on 19R cannot be controlled from control tower.	1998	S					
		Runway edge lighting inoperative.	1998	D	Approach lights frequently reported too bright.	Repaint markings			
		Rwy markings unclear.		D	Edge lights available in first half only				
	Nigeria/ Port Harcourt	Approach lighting 21L unreliable.	1998	D	Inadequate visual guidance to pilots	Rehabilitation of lighting aids required	FAAN		A
		Rwy edge lights on first quarter of Rwy 21 inoperative.	1998	D					
		No txwy lighting	1998	S					
		PAPIs inoperative.	1998	D					
		Runway marking unclear.		D		Markings to be repainted.			

## Appendix M to the report on Agenda Item 5

Identification		Shortcomings				Corrective Action			
Requirements	States/ facilities	Description	Date first reported	Status	Comments	Description	Executive body	Date of complete	Priority
	Rwanda/ Kigali	Approach lights inoperative, Taxiway and apron lights inadequate Runway markings unclear.	1998	D D D	Inadequate visual guidance to pilots	Rehabilitate airfield lighting system  Repaint markings	Régie des Aéroports	1999	U A B
	Sierra Leone/ Freetown	Only 50% runway edge lighting available  Markings faded	1993	D D	Inadequate visual guidance to pilots	Rehabilitate runway edge lights. Repaint markings. Revaluation of the damage caused by the war with all the lighting system.	SLAA		U B
	Somalia/ Mogadishu	VASIS not working Markings totally faded	1995	D D	Inadequate visual guidance to pilots	Revaluation of the damage caused by the war with all the system of lighting.	Not available		A
	Sudan/ Khartoum	VASIS not operational	1993	D		Implement PAPIs as per AFI ANP	NCAA		A
	Tanzania/ Dar es salaam	Approach lights partially inoperative, threshold lights inoperative and apron lights inadequate.  Runway markings unclear.	1999	D D	Pilot's visual guidance inadequate	Rehabilitate airfield lightings and establish preventive maintenance programme. Repaint markings	DA	1999	A B

**Appendix M to the report on Agenda Item 5**

Identification		Shortcomings				Corrective Action			
Requirements	States/ facilities	Description	Date first reported	Status	Comments	Description	Executive body	Date of complete	Priority
	Tanzania/ Kilimanjaro	50% of runway lights inoperative, threshold and approach lights inoperative, apron and taxiway lights inadequate. Markings faded.	1996	D	Pilot's visual guidance inadequate	Rehabilitate total airfield lighting and establish planned maintenance programme. Repaint markings.	KADCO	1999	A
				D					B
	Zambia/ Lusaka	Approach lights inoperative, taxiway lights inadequate.	1999	D	Pilot's visual guidance inadequate	Project for rehabilitation of lighting system ongoing	ZNAACL	1999	A
	Zimbabwe/ Harare	Apron lighting inadequate.  Runway markings faded.	1999	D	Project for rehabilitation of lighting system ongoing	Repaint markings	Zimbabwe CAA	1999	A
				D					B
Zimbabwe/ Victoria Falls	PAPIs not commissioned	1999	D	Pilot's visual guidance inadequate	Commission, calibrate and NOTAM	Zimbabwe CAA	1999	A	

----- E N D -----

**Shortcomings and deficiencies in the COM field**

Identification		Shortcomings and deficiencies				Corrective action			
Requirements	States/ facilities	Description	Date first reported	Imple- mentat ion Status (S,D)*	Remarks	Description	Executing body	Date of complete	Priority for action**
1	2	3	4	5	6	7	8	9	10

Notes:

\* Implementation status; i.e.S = shortcoming  
D = deficiency  
Priority and classification

\*\*\*“U” priority =**Urgent** requirements having a **direct** impact on **safety** and requiring **immediate** corrective actions.

**Urgent** requirement consisting of any physical, configuration, material, performance or procedures specification, the application of which is urgently required for air navigation safety

“A” priority =**Top priority** requirements **necessary** for air navigation **safety**.

Top priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation safety.

“B” priority =**Intermediate** requirements **necessary** for air navigation **regularity** and efficiency

Intermediate priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation, regularity and efficiency.



## 1. AFTN

Identification		Shortcomings/deficiencies				Corrective action			
Requirements	States/facilities	Description	Date first reported	Implementation status	Comments	Description	Executing body	Date of complete	Priority
1	2	3	4	5	6	7	8	9	10
Rationalized AFTN Plan AFI/7 Rec.9/7	Algeria Niger	Main circuit Alger Niamey	10/2/98	D	Unreliable	Improve performance	Algeria ASECNA		U
	Angola Congo	Circuit Brazzaville/Luanda	10/2/98	S		Implement	Angola ASECNA		A
	CONGO D.R.Congo	Circuit Brazzaville Kinshasa	10/2/98	S		Microwave project underway	ASECNA RVA		A
	CONGO South Africa	Main circuit Brazzaville Johannesburg	10/2/98	S	All traffic to/from Southern Africa is hindered	The two States have agreed to release a satellite circuit	ASECNA South Africa		U
	Ethiopia Djibouti	Circuit Addis Ababa/Djibouti	25/5/97	D	To be improved	To implement LTT circuit	Ethiopia ready Djibouti		A
	Ethiopia Sudan	Circuit Addis Ababa/Khartoum	7/6/96	S	-	"	Ethiopia ready Sudan		A
	Guinea Bissau Senegal	Circuit Dakar Bissau	10/2/98	S		To implement LTT circuit	Guinea Bissau ASECNA		A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements	States/facilities	Description	Date first reported	Implementation status	Comments	Description	Executing body	Date of complete	Priority
1	2	3	4	5	6	7	8	9	10
Rationalized AFTN Plan AFI/7 Rec.9/7	Madagascar South Africa	Circuit Antananarivo/Johannesburg	7/6/96	S	-	VSAT being implemented	ASECNA South Africa	Planned in short term	A
	Madagascar Comoros	Circuit Antananarivo/Dzaoudzi	7/6/96	S	-	To implement LTT circuit	ASECNA Comoros	Planned in mid term	A
		Circuit Antananarivo/Moroni	25/5/97	D	To be improved				
	Madagascar Mauritius	Circuit Antananarivo/Mauritius	25/5/97	D	To be improved	VSAT being implemented	Madagascar Mauritius	Planned in short term	A
	Burundi Tanzania	Circuit Bujumbura/Dar-es-salaam	7/6/96	S	To be improved	To implement LTT circuit	Burundi Tanzania	31/3/98	U
	Rwanda Tanzania	Circuit Kigali/Dar-es-salaam	7/6/96	S	-	"	Rwanda Tanzania	31/12/97	U
	Kenya Congo	Circuit Brazzaville/Nairobi	25/11/98	S		To implement VSAT	ASECNA Kenya	30/6/99	
	Kenya South Africa	Circuit Nairobi/Johannesburg	7/6/96	S	Affects all traffic to/from Southern Africa	To implement VSAT	Kenya South Africa	31/10/98	U
	Kenya Somalia	Circuit Nairobi/Mogadishu	7/6/96	S	SITA OP between FICs, LTT being considered		Kenya Somalia	-	A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements	States/facilities	Description	Date first reported	Implementation status	Comments	Description	Executing body	Date of complete	Priority
1	2	3	4	5	6	7	8	9	10
AFTN Plan, AFI/7 Rec 9/7	South Africa SAM (Argentina)	Circuit Johannesburg/ Buenos Aires	"	S	-	Leased circuit planned	South Africa Argentina	"	A
	Guinea Sierra Leone	Circuit Roberts/ Freetown	"	S	FIC in Conakry	"	Roberts FIR	"	A
	Liberia Guinea	Circuit Roberts/ Conakry	"	D	Circuit Conakry/ Freetown OP	"	Roberts FIR	"	A

## 2. ATS/DS

Identification		Shortcomings/deficiencies				Corrective action			
Requirements	States/facilities	Description	Date first reported	Implementation status	Comments	Description	Executing body	Date of completion	Priority
1	2	3	4	5	6	7	8	9	10
ATS Direct Speech Circuits Plan, AFI/7 Rec 9/9	Algeria Libya	Circuit Algiers/Tripoli	Dec. 95	S	-	To implement LTF circuit	Algeria Libya	31/10/98	U
	Algeria Niger	Circuit Alger/Niamey	10/2/98	D	To be improved	To be improved	Algeria Niger	"	U
	Algeria Senegal	Circuit Algiers/Dakar	1/4/98	S		To implement LTF circuit	Algeria ASECNA		A
	Angola Congo	Circuit Luanda/Brazzaville	"	S	PSTN used via INMARSAT	To implement LTF circuit	Angola ASECNA	"	U
	Angola D. R of Congo	Circuit Luanda/Kinshasa	"	D	To be improved	SADC VSAT being implemented	Angola D.R of Congo	"	U
	Angola Ghana	Circuit Luanda/Accra	"	S	Inmarsat phone used from Luanda. Inmarsat also available in Accra.	To implement LTF circuit using Inmarsat phone. Accra:233 21 238423	Angola Ghana	"	U
	Burundi /Tanzania	Circuit Bujumbura/ Dar-es-Salaam	"	S	"	To implement LTF circuit via Nairobi	Burundi Tanzania Kenya	"	U

Identification		Shortcomings/deficiencies				Corrective action			
Requirements	States/facilities	Description	Date first reported	Implementation status	Comments	Description	Executing body	Date of completion	Priority
1	2	3	4	5	6	7	8	9	10
	Burundi D.R of Congo	Circuit Bujumbura/ Goma	Dec. 95	S	Inmarsat phone used from Luanda. Inmarsat also available in Accra.	To implement LTF circuit	Burundi D.R of Congo	"	U
ATS Direct Speech Circuits Plan, AFI/7 Rec 9/9	Chad Sudan	Circuit N'Djamena/ Khartoum	1/4/98	S		Implement LTF	ASECNA Sudan		U
	Congo Ghana	Circuit Brazzaville Accra	10/2/98	S			ASECNA GHANA		U
	Congo D. R. of Congo	Circuit Brazzaville/ Kinshasa	"	S		New microwave to be installed	ASECNA D. R. of Congo		U
	Congo Sao Tome	Circuit Brazzaville/ Sao Tome	"	S	"	VSAT to be installed"	ASECNA Sao Tome		U
	Djibouti Eritrea	Circuit Djibouti/Asmara	7/6/96	D	To be improved	To implement LTF circuit	Djibouti Eritrea	31/10/98	U
	D.R of Congo Tanzania	Circuit Kinshasa/ Dar-es-Salaam	"	S	-	SADC VSAT being implemented	D.R of Congo Tanzania	"	U
	D.R of Congo Zambia	Circuits: Kinshasa/Lusaka Lubumbashi/Ndola	" 23/5/97	S S	- -	" "	D.R of Congo Zambia	"	U U
	Egypt Sudan	Circuit Cairo/Khartoum	7/6/96	S	-	To implement LTF circuit	Egypt Sudan	"	U
	Equatorial Guinea Gabon	Circuit Malabo/Libreville	"	S	-	"	ASECNA	"	U

Identification		Shortcomings/deficiencies				Corrective action			
Requirements	States/facilities	Description	Date first reported	Implementation status	Comments	Description	Executing body	Date of completion	Priority
1	2	3	4	5	6	7	8	9	10
	Ethiopia Sudan	Circuit Addis Ababa/ Khartoum	1/4/98	S	Ethiopia ready one way OP	To implement LTF circuit	Ethiopia Sudan		U
	Kenya Ethiopia	Circuit Nairobi/ Addis Ababa	4/3/99	S	To be improved from Nairobi	PTT in use	Kenya Ethiopia		U
	Kenya Tanzania	Circuit Nairobi/ Dar-es-salaam	“	S	“	PTT in use	Kenya Tanzania		“

Identification		Shortcomings/deficiencies				Corrective action			
Requirements	States/facilities	Description	Date first reported	Implementation status	Comments	Description	Executing body	Date of completion	Priority
1	2	3	4	5	6	7	8	9	10
ATS Direct Speech circuits Plan, AFI/7 Rec 9/9	Kenya Tanzania	Circuit Nairobi/Kilimanjaro	"	S	PTT in use		Kenya Tanzania		"
	Kenya Uganda	Circuit Nairobi/Entebbe	"	S	"		Kenya Uganda		"
	Kenya Sudan	Circuit Nairobi/Khartoum	"	S	"		Kenya Sudan		"
	Kenya Somalia	Circuit Nairobi/Mogadishu	7/6/96	D	"	To implement LTF circuit	Kenya Somalia	26/3/98	U
	Kenya	Circuit Nairobi/Mombasa	4/3/99	D	"		Kenya		U
	Kenya Seychelles	Circuit Nairobi/Seychelles	4/3/99	S	"		Kenya Seychelles		U
	Gabon Sao Tome	Circuit Libreville/Sao Tome	"	S	Gabon ready	To implement LTF circuit	ASECNA Sao Tome	31/10/98	U
	Ghana Sao Tome	Circuit Accra/Sao Tome	"	S	VSAT planned	To implement LTF circuit	Ghana Sao Tome		U
	Libya Sudan	Circuit Tripoli/Khartoum	"	S	-	To implement LTF circuit	Libya Sudan	"	U
	Madagascar Mozambique	Circuit Antananarivo/Beira	"	S	VSAT to be implemented	"	ASECNA Mozambique	Planned in mid term	U

Identification		Shortcomings/deficiencies				Corrective action			
Requirements	States/facilities	Description	Date first reported	Implementation status	Comments	Description	Executing body	Date of completion	Priority
1	2	3	4	5	6	7	8	9	10
ATS Direct Speech circuits Plan, AFI/7 Rec 9/9	Madagascar Tanzania	Circuit Antananarivo/Dar-es-Salaam	7/6/96	S	-	Interconnection ASECNA & SADC	ASECNA Tanzania	Planned in mid term	U
	Malawi Zambia	Circuit Lilongwe/Lusaka	7/6/96	D	To be improved	VSAT being implemented	Malawi Zambia	31/10/98	U
	Malawi Zimbabwe	Circuit Lilongwe/Harare	1/4/98	D	To be improved	VSAT being implemented	Malawi Zimbabwe		A
	Mauritania Spain	Circuit Nouadhibou/Las Palmas	7/6/96	S		VSAT being considered	ASECNA Spain		U
	Mozambique Tanzania	Circuit Beira/Dar-es-Salaam	1/4/98	S		VSAT being implemented	Mozambique Tanzania		A
	Rwanda D.R. Congo	Circuit Kigali/Goma	7/6/96	D	To be improved	"	D.R. Congo Rwanda		U
	Rwanda Tanzania	Circuit Kigali/Dar-es-Salaam	7/6/96	S		To implement LTF circuit via Entebbe	Rwanda Tanzania and Uganda		U
	Rwanda Uganda	Circuit Kigali/Entebbe	"	S		To implement LTF circuit	Rwanda Uganda	31/12/99	U
	Seychelles Tanzania	Circuit Seychelles/Dar-es-Salaam	"	S		"	Seychelles Tanzania	31/10/98	U
	South Africa Madagascar	Circuit Johannesburg/Antananarivo	7/6/96	S		"	South Africa ASECNA	Planned in short term	U
	Sudan Uganda	Circuit Khartoum/Entebbe	7/6/96	S		VSAT being considered	Sudan Uganda	31/12/99	U



Identification		Shortcomings/deficiencies				Corrective action			
Requirements	States/facilities	Description	Date first reported	Implementation status	Comments	Description	Executing body	Date of completion	Priority
1	2	3	4	5	6	7	8	9	10
	Sudan Saudia Arabia	Circuit Khartoum/Jeddah	7/6/96	S		To implement LTF circuit	Sudan Saudia Arabia		U
	Sudan D.R of Congo	Circuit Khartoum/Kinshasa	7/6/96	S		To implement LTF circuit	Sudan D.R of Congo		U
	Tanzania Zambia	Circuit Dar-es- Salaam/Lusaka	7/6/96	S		“	Tanzania Zambia		U
	Uganda D.R. Congo	Circuit Entebbe/Kinshasa	“	S		VSAT being considered	D.R. Congo Uganda	31/12/99	U
	Zambia Zimbabwe	Circuit Harare/Lusaka	1/4/98	D	Improve reliability	VSAT being implemented	Zambia Zimbabwe		U

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**Shortcomings/Deficiencies in the Aeronautical Mobile Service**

Identification		Shortcomings and deficiencies				Corrective action			
Requirements	States/ facilities	Description	Date first reported	Implemen- tation Status S,D*	Comments	Description	Executing body	Date of complete	Priority for action**
1	2	3	4	5	6	7	8	9	10

Notes:

\* implementation status; i.e. S = shortcoming  
D = deficiency

\*\* Priority for action to remedy the shortcoming is based on the following safety assessments:

“U” priority = **Urgent** requirements having a **direct** impact on **safety** and requiring **immediate** corrective actions.

Urgent requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is urgently required for air navigation safety.

“A” priority = **Top priority** requirements **necessary** for air navigation **safety**.

Top priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation safety.

“B” priority = **Intermediate** requirements **necessary** for air navigation **regularity and efficiency**

Intermediate priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation regularity and efficiency.

Identification		Shortcomings/Deficiencies				Corrective action			
Requirements	States/Facilities	Description	Date first reported	Implementation status	Comments	Description	Executing body	Date of completion	Priority
1	2	3	4	5	6	7	8	9	10
AFI/7, Rec. 9/12	<b>ANGOLA</b> Luanda ACC	Inadequate VHF coverage of busy ATS routes	02/02/98	S		Implement remote VHF	ENANA		U
	<b>CENTRAL AFR. REP.</b> Bangui/Mpoko	FIS/L	02/02/98	S		Implement remote VHF	ASECNA		A
	<b>CONGO</b> Brazzaville ACC	ACC/F/NW	02/02/98	S		ER VHF installation in progress	ASECNA		U
	Brazzaville	ACC/F/NE	02/02/98	S		“	”		U
	<b>D.R. OF CONGO</b> Kinshasa FIR	Inadequate VHF coverage of busy ATS routes	1/4/98	S	Install remote VHF	Extend VHF to all upper routes	RVA		U
	Kinshasa FIR	HF poor quality Selcal not available	1/4/98	D S		Improve Install	RVA		U A
	<b>GHANA</b> Accra FIR	HF unreliable in eastern part	1/4/98	D	VSAT RCAG upgrade in progress	Improve or extend VHF	Ghana		U
	Accra FIR	VHF coverage not available on busy routes	1/4/98	S		Extend VHF coverage	Ghana	New RCAG facilities via VSAT to be operation by end 1999	U

Identification		Shortcomings/Deficiencies				Corrective action			
Requirements	States/Facilities	Description	Date first reported	Implementation status	Comments	Description	Executing body	Date of completion	Priority
1	2	3	4	5	6	7	8	9	10
AFI/7, Rec. 9/12	<b>NAMIBIA</b> Windhoek FIR	Inadequate VHF coverage	1/4/98	D	Additional VHF relay stations	Extend VHF coverage	Namibia	31/07/98	U
	<b>NIGERIA</b> Kano ACC	VHF coverage not adequate	02/02/98	S		VHF extension in progress	Nigeria	Expected end by 1998-1999	U
	<b>SENEGAL</b> Dakar ACC	VHF extension incomplete	1/4/98	D		Remote VHF in test	ASECNA		A
	<b>SOMALIA/SOMALIE</b> Mogadishu ACC	ACC/U	02/02/98	S			Somalia		U
	<b>SUDAN</b> Khartoum FIR	Inadequate VHF coverage of busy routes	1/4/98	D		VSAT remotes envisaged	Sudan		U

**Explanation of the tables**

**SHORTCOMINGS/DEFICIENCIES AFFECTING THE RADIONAVIGATION AIDS**

Identification		Shortcomings and deficiencies				Corrective action			
Requirements	States/ facilities	Description	Date first reported	Imple- menta- tion Status S,D*	Comments	Description	Executing body	Date of complete	Priority for action**
1	2	3	4	5	6	7	8	9	10

Notes:

\* implementation status; i.e. S = shortcoming  
D = deficiency

\*\* Priority for action to remedy the shortcoming is based on the following safety assessments:

“U” priority = **Urgent** requirements having a **direct** impact on **safety** and requiring **immediate** corrective actions.

Urgent requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is urgently required for air navigation safety.

“A” priority = **Top priority** requirements **necessary** for air navigation **safety**.

Top priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation safety.

“B” priority = **Intermediate** requirements **necessary** for air navigation **regularity and efficiency**.

Intermediate priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation regularity and efficiency.

Identification		Shortcomings/Deficiencies				Corrective action			
Requirements	States/Facilities	Description	Date first reported	Implementation status	Comments	Description	Executing body	Date of completion	Priority
1	2	3	4	5	6	7	8	9	10
AFI/7, Rec. 10/4	<b>Algeria</b> /Touggourt	DME	15/1/98	S		Implement facility	Algeria		A
	<b>Angola</b> /Cuito Cuanavale	VOR/DME	15/01/98	S		Implement facility	Angola		U
	Angola/Huambo	VOR/DME	15/01/98	D		To repair	“		A
	Angola/Kuito	VOR/DME	15/01/98	S		Implement facility	“		A
	Angola/Luena	VOR/DME	15/01/98	S		Implement	”		U
	Angola/Saurimo	VOR/DME	15/01/98	S		“	”		U
	<b>Cameroon</b> /Foumban	VOR	15/01/98	S		Implement facility	Cameroon		U
	Cameroon/Maroua	VOR	15/01/98	S		“	Cameroon		A
	<b>Côte d’Ivoire</b> /Bouake	ILS 21	1/1/97	D		To repair	Côte d’Ivoire		A
	<b>Dem. Rep. of Congo</b> /Kalemie	VOR/DME	15/1/98	D		To repair	D.R. Congo		U
	Dem. Rep. of Congo/Kindu	VOR	15/01/98	S		Implement facility	“		U
	Dem. Rep. of Congo/Kinshasa	DME	15/1/98	D		To repair	“		A
	Dem. Rep. of Congo/Kisangani	VOR/DME	15/01/98	D		“	”		A
	Dem. Rep. of Congo/Lubumbashi	DME	15/1/98	D		“	D.R. Congo		A

Identification		Shortcomings/Deficiencies				Corrective action			
Requirements	States/Facilities	Description	Date first reported	Implementation status	Comments	Description	Executing body	Date of completion	Priority
1	2	3	4	5	6	7	8	9	10
	<b>Gambia/Banjul</b>	DME	15/01/98	D	GS u/s	To repair	Gambia		U
	<b>Guinea/Kankan</b>	VOR	15/01/98	S		Implement facility	Guinea		A
	Guinea/Labe	VOR	15/01/98	S		Implement facility	“		A
	Guinea/Nzerekore	VOR	15/01/98	S		“	”		A
	<b>Kenya/Mandera</b>	VOR/DME	15/01/98	S		Implement facility	Kenya		U
	Kenya	All nav aids frequently not available	1/4/98	D	VOR MV, GV, TV	Improve maintenance and power supply	Kenya		U
	Kenya/Mombasa	VOR/DME unreliable	1/4/98	D		“	Kenya		U
	<b>Lesotho/Maseru</b>	VOR/DME	15/01/98	D		To repair	Lesotho		A
		ILS unreliable	15/01/98	D		“	“		A
	<b>Liberia/Robertsfield</b>	ILS 04	15/01/98	S		Implement facility	Liberia		A
	<b>Libya/Benghazi</b>	ILS 33L	15/01/98	S		Implement facility	Libya		A
	Libya/Sarir	VOR/DME	15/01/98	S		“	”		U
	Libya/Tripoli	ILS 09	15/01/98	S		“	”		A

Identification		Shortcomings/Deficiencies				Corrective action			
Requirements	States/Facilities	Description	Date first reported	Implementation status	Comments	Description	Executing body	Date of completion	Priority
1	2	3	4	5	6	7	8	9	10
AFI/7, Rec. 10/4	<b>Madagascar</b> /Antsiranana	VOR	15/1/98	D		To repair	Madagascar	15/12/99	U
	Madagascar/Morondava	VOR	15/01/98	S		Implement facility	Madagascar	15/12/99	A
	Madagascar/Nosy-Be/Fascene	ILS 23	15/01/98	S		“	”	15/12/99	A
	Madagascar/Nosy-Be/Fascene	VOR/DME	15/01/98	D		To repair	Madagascar	15/12/99	A
	Madagascar/Sainte Marie	VOR	15/01/98	S		Implement facility	“	15/12/99	A
	Madagascar/Tolagnaro	VOR/DME	15/01/98	S		“	”	15/12/99	U
	Madagascar/Toliara	VOR	15/01/98	S		“	”	15/12/99	U
	<b>Mali</b> /Kayes	VOR	15/01/98	S		Implement facility	Mali		U
	Mali/Kidal	VOR	15/01/98	S		“	”		A
	Mali/Nioro	VOR	15/01/98	S		“	”		A
	Mali/Tessalit	VOR	15/01/98	S		“	”		U
	Mali/Tombouctou	ILS 07	15/01/98	S		“	”		A
	<b>Nigeria</b> /Ilorin	ILS 05	15/01/98	S		Implement facility	Nigeria	Programmed in nav aids replacement programme	A
	Nigeria/Lagos	ILS/DME 01L	15/01/98	S			Nigeria	Programmed in nav aids replacement programme	U



Identification		Shortcomings/Deficiencies				Corrective action			
Requirements	States/Facilities	Description	Date first reported	Implementation status	Comments	Description	Executing body	Date of completion	Priority
1	2	3	4	5	6	7	8	9	10
	<b>Sao Tome</b> /Sao Tome	ILS 01	15/01/98	S		Implement facility	Sao Tome		A
	<b>Somalia</b> /Hargeisa	VOR/DME	15/01/98	S		Implement facility	Somalia		U
	Somalia/Mogadishu	VOR/DME	15/01/98	S		“	”		U
	<b>Sudan</b> /Juba	ILS 13	15/01/98	S		Implement facility	Sudan		A
	Sudan/Juba	VOR/DME	15/01/98	S		“	”		U
	Sudan/Malakal	VOR/DME	15/01/98	S		“	”		U
	Sudan/Port Sudan	ILS 36	15/01/98	S		“	”		A
AFI/7, Rec. 10/4	<b>Swaziland</b> /Manzini	VOR/DME	15/01/98	D		Replace DVOR/DME	Directorate of Civil Aviation	March 1999	A
	<b>Tanzania</b> /Dar es Salaam	VOR/DME	1/4/98	D	6° error	Repair in progress. DME being replaced. DVOR/DME contract signed	Tanzania	1999	U
	Tanzania/Dodoma	VOR/DME	15/01/98	S		Implement facility	Tanzania		U
	Tanzania/Kilimanjaro	ILS 09	15/01/98	S		“	”		A
	Tanzania/Mbeya	VOR/DME	15/01/98	S		“	”		U

Identification		Shortcomings/Deficiencies				Corrective action			
Requirements	States/Facilities	Description	Date first reported	Implementation status	Comments	Description	Executing body	Date of completion	Priority
1	2	3	4	5	6	7	8	9	10
	Tanzania/Mwanza	DME	15/01/98	S		DME being installed	”	1998	U
	Tanzania/Zanzibar	VOR/DME	15/01/98	S		Implement facility	Tanzania		A
	<b>Zambia</b> /Kaoma	VOR	15/01/98	S		Implement facility	Zambia		U
	Zambia/Livingstone	ILS 10	15/01/98	S		“	”		A
	Zambia/Ndola	ILS 10L	15/01/98	S		Implement facility	Zambia		A
	Zambia/West Two	VOR	15/01/98	S		“	”		U
	<b>Zimbabwe</b> /Bulawayo	ILS 13	15/01/98	S		Implement facility	Zimbabwe		A
AFI/7, Rec. 10/4	Zimbabwe/Harare	ILS 24	15/01/98	S		“	”		A
	Zimbabwe/Victoria Falls	ILS 12	15/01/98	S		“	”		A

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**SHORTCOMINGS/DEFICIENCIES IN THE AIR TRAFFIC MANAGEMENT FIELD**  
**(Ref. Air Navigation Plan - Africa-Indian Ocean Region (Doc 7474))**  
**PART V - AIR TRAFFIC MANAGEMENT (ATM)**

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
<b>ALGERIA</b>	Alger FIR								
UA293	Route	(Ibiza) KIRLA Tiaret	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Algeria	31/12/96	A
UA865	Route	Menorca Cherchell	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Algeria	31/12/96	A
UG623	Route	(BALEN) Annaba Tebessa	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Algeria Libya	31/12/96	A
UG979	Route	B.O. Driss Bousaada Zemmouri	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Algeria	31/12/96	A
UM114	RNAV	Lagos-Ghardaia Alger	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Algeria Nigeria Niger	31/12/96	A
UM608	RNAV	El Bayadh Niamey	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Algeria Mali Niger	31/12/96	A

## APPENDIX O to the Report on Agenda Item 5

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
UM725	RNAV	(Sorrento) Tunis Tebessa Ghardaia Timmimoun Dakar	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Algeria Mali Mauritania Senegal	31/12/96	A
UM998	RNAV	(Martigues) BALEN Constantine B.O. Driss Tobuk INISA Maiduguri Garoua Kinshasa Luena Maun Gaborone	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Algeria Angola Botswana Cameroon Congo (DRC) Congo Gabon Niger Nigeria	31/12/96	A
UM999	RNAV	Casablanca Errachidia El Golea zarzaitine Sebha Sarir New Valley Luxor Jeddah	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Algeria Egypt Libya Morocco Saudi Arabia	31/12/96	A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
UR981	Route	Casablanca Marrakech BULIS Gao Niamey Lagos	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Mali Mauritania Morocco Niger Nigeria	31/12/96	A
UR986	Route	Tunis Ghadames )* segment In Amenas ) Djanet ) Kano Foumban Yaoundé France Ville	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Algeria Libya	31/12/96	A
Airspace management	P60	Prohibited area	1990	D	Non-availability of direct routing	Withdraw the prohibited area	Algeria	31/12/96	A
Provision of ATS	Five letter name code	Route crossings not identified	1998	D	Difficulties for Pilots identifying potential traffic conflicts	ICAO Regional Office concerned allocate the 5 letter name codes	Algeria	1998	A
<b>ANGOLA</b>	Luanda FIR								
UA617	Route	Kinshasa Windhoek	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Angola Congo (DRC)	31/12/96	A

## APPENDIX O to the Report on Agenda Item 5

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
UB528	Route	Livingstone Luena	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Angola Zambia	31/12/96	A
UM731	RNAV	Carbonara OSMAR Tunis Jerba FARES Dirkou N'Djamena Beriberati Saurimo Johannesburg	1996	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Angola Botswana Central Africa Republic Congo (DRC) Chad Libya Niger South Africa Zambia	31/12/96	A
UM998	RNAV	(Martigues) BALEN Constantine Bordj.O.Driss Tobuk INISA Maiduguri Garoua Kinshasa Luena Maun Gaborone	1996	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Alger Angola Botswana Congo (DRC) Congo Gabon Niger Nigeria	31/12/96	A

## APPENDIX O to the Report on Agenda Item 5

O-5

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
Provision of ATC 150 NM concept	ATC	Non-provision of ATC service 150 NM of Luanda and Huambo	1988	D	Delayed descend for arrival and steep climb for departure	Implemented as required	Angola	1998	U
<b>BOTSWANA</b>	<b>Gaborone FIR</b>								
UM731	RNAV	Johannesburg Saurimo	1990	S	Aircraft subjected to fly non- economical routes	State concerned to coordinate common implementation date	Angola Botswana South Africa Zambia	31/12/96	A
UM998	RNAV	Gaborone Luena Kinshasa	1990	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Angola Botswana Congo (DRC)	31/12/96	A
<b>BURUNDI</b>	<b>Dar es Salaam FIR</b>								
UB527	Route	Lubumbashi Kalemie Bujumbura Kigali	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Burundi Congo(DRC ) Rwanda Tanzania	31/3/99	A
UB607	Route	Bujumbura Goma El Obeid	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Burundi Congo (DRC) Sudan	31/3/99	A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
<b>CAMEROON</b>	<b>Brazzaville FIR</b>								
UM731	RNAV	Berberati Saurimo	1996	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Cameroon	17/6/99	A
UM998	RNAV	Garoua Kinshasa Douala	1996	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	17/6/99	A
UA861	Route	Lagos Garoua	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	30/12/99	A
<b>CENTRAL AFRICAN REPUBLIC</b>	<b>Brazzaville FIR</b>								
UM731	RNAV	N'Djamena Beriberati Saurimo	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Central African Republic Angola Congo (DRC)	17/6/99	A



Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
<b>CHAD</b>	N'Djamena FIR								
UM731	RNAV	Berberati N'djamena Dirkou	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation dates	Chad Central African Republic Niger	17/6/99	A
Provision of ATC 150 NM concept	ATC	Non-provision of ATC service 150 NM of N'djamena	1988	D	Delayed descend for arrival and steep climb for departure	Implemented as required	Chad	15/07/99	U
UA403	Provi-sion of ATC	Brazaville Beriberati N'djamena	1998	S	Negative impact on safety, efficiency and regularity of operations	Implement ATC	Chad Congo	2/12/99	A
UB730	Provision of ATC	N'djamena Dirkou Djanet	1998	S	Negative impact on safety, efficiency and regularity of operations	Implement ATC	Chad Niger Algeria	2/12/99	A
Provision of ATS	ATS	Efficiency of ATS	1998	D		Establish ATS operational auditing and proficiency maintenance procedures (AFI/7 Rec 5/27 refers)	Chad	9/09/99	U

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
Airspace Management	Provision of ATS	Inadequate airspace management between ATS units leading to frequent traffic incidents in the FIR boundaries between Alger, N'djamena, Tripoli, Niamey and Kano not responding to existing route structure flows	1998	D	Frequent ATS incidents in the area attributed to airspace management	Need for urgent meeting of the States concerned to address the problem of airspace management and prevalent ATS incidents in the area	Chad and adjacent States	As soon as possible	U
Letter of Agreement	-	Letter of Agreement not signed	1998	D	Non-compatible ATC Procedures	State concerned to follow-up	Chad and adjacent States	May 1999	A
Provision of effective surveillance	SSR	Need for SSR surveillance in extended TMA as expressed in the AFI CNS/ATM Plan	1988	D	Traffic density/ complexity contributing to frequent ATS incidents	Implement SSR at N'djamena	Chad	May 2000	U
<b>COMOROS</b>	Antananarivo FIR								
UR996	Route	Nampula Moroni ODAKA	1996	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Comoros Mozambique Seychelles Yemen	31/12/96	A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
Provision of ATC 150 NM concept	ATC	Non-provision of ATC service 150 NM of Moroni	1988	D	Delayed descend for arrival and steep climb for departure	Implemented as required	Comoros Madagascar	15/07/99	U
<b>CONGO</b>	Brazzaville FIR								
UM731	RNAV	Saurimo Beriberati N'Djamena	1996	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Angola Congo Congo (DRC) Central African Republic	17/6/99	A
UM998	RNAV	Kinshasa Garoua Maiduguri INISA TOBUK B.O. Driss Constantine BALEN (Martigues)	1996	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Algeria Congo Congo (DRC) Cameroon Niger Nigeria	17/6/99	A
Letters of Agreements	-	Letters of Agreement not yet signed	1998	D	non-compatible ATC procedures	State concerned to follow-up	Congo and adjacent States	1999	A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
Provision of effective surveillance	SSR	Need for SSR surveillance in extended TMA as expressed in the AFI CNS/ATM Plan	1988	D	Traffic density/complexity contributing to frequent ATS incidents	Implement SSR at Brazzaville	Congo	2000	U
<b>CONGO (DRC)</b>	Kinshasa FIR								
UA408	Route	Harare Kalemie Bujumbura Kigali Entebbe	1995	S	Aircraft subjected to fly non-economical routes	States concerned to coordinate common implementation date	Congo (DRC)	31/12/96	A
UA409	Route	Ndola Mansa Kalemie	1995	S	Aircraft subjected to fly non-economical routes	States concerned to coordinate common implementation date	Congo (DRC)	31/12/96	A
UA607	Route	N'Dola Lubumbashi Bangui	1995	S	Aircraft subjected to fly non-economical routes	States concerned to coordinate common implementation date	“	31/12/96	A
UA617	Route	Kinshasa Windhoek	1995	S	Aircraft subjected to fly non-economical routes	States concerned to coordinate common implementation date	“	31/12/96	A
UA618	Route	Lubumbashi Bukavu SAGBU Malakal	1995	S	Aircraft subjected to fly non-economical routes	States concerned to coordinate common implementation date	“	31/12/96	A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
UB527	Route	Lubumbashi Kalemie Bujumbura Kigali	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	31/12/96	A
UB607	Route	Bujumbura Goma El Obeid	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	31/12/96	A
UL612	RNAV	Goma El Dhaba (Paleohoral)	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Congo (DRC) Egypt Sudan	31/12/96	A
UM731	“	Johannesburg Saurimo Beriberati	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Angola Botswana Congo (DRC)	31/12/96	A
UR984	Route	Lilongwe Kasama Kindu Bangui	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Central African Republic Congo (DRC) Malawi	31/12/96	A
Provision of ATC 150 NM concept	ATC	Non-provision of ATC service 150 NM of Kinshasa and Lubumbashi	1995	D	Delayed descend for arrival and steep climb for departure	Implemented as required	Congo (DRC)	1998	U

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
Provision of ATS	ATS	Efficiency of ATS	1998	D		Establish ATS operational auditing and proficiency maintenance procedures (AFI/7 Rec 5/27 refers)	Congo (DRC)	Immediately	U
<b>DJIBOUTI</b>	Addis Ababa FIR								
UM997	RNAV	Wajir Dire Dawa Djibouti	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Ethiopia Kenya Djibouti	31/12/96A	A
<b>EGYPT</b>	Cairo FIR								
UM999	Route	Sebha Sarir New Valley Luxor Jeddah	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Egypt Libya Saudi Arabia	31/12/96	A
<b>ERITREA</b>									
UB525	Route	Addis Ababa ALEBA Luxor	1996	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Eritrea	31/12/96	A
<b>GABON</b>	Brazzaville								
Letters of Agreements	-	Letters of Agreement not yet signed	1998	D	non-compatible ATC procedures	State concerned to follow-up	Gabon	1999	A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
<b>GHANA</b>	Accra FIR								
Airspace Management	Provision of ATS	Inadequate airspace management between ATS units leading to frequent traffic incidents in the FIR boundaries between Roberts, Dakar and Accra FIRs not responding to existing route structure flows	1998	D	Frequent ATS incidents in the area attributed to airspace management	Need for urgent meeting of the States concerned to address the problem of airspace management and prevalent ATS incidents in the area	Ghana and adjacent States	Immediately	U

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
<b>KENYA</b>	Nairobi FIR								
UM220	RNAV	Lodwar A. Simbel	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	1999	A
UM997	RNAV	Wajir Dire Dawa Djibouti	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	31/12/96	A
Provision of ATC 150 NM concept	ATC	Non-provision of ATC service 150 NM of Mombasa	1995	D	Delayed descent for arrival and steep climb for departure	Implement as required	“	1999	U
Airspace management	P2 R10 D20	Prohibited area Restricted area Danger area	1990	D	Non-availability of direct routing	Withdraw these areas	“	1998	A
Airspace Management	Provision of ATS	Inadequate airspace management between Nairobi Approach and Wilson Airport	1998	D	Frequent ATS incidents in the area attributed to airspace management	Need for renew of ATS procedures	Kenya	1999	U
<b>LIBYA</b>	Tripoli FIR								
UA403	Route	Tripoli Sebha	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Libya	31/12/96	A



Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
UA411	Route	Jerba Tripoli Beni-Walid Benina GERFA Mersa Matruh Cairo	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	31/12/96	A
UA748	Route	(Gozo) Tripoli Mizda Cairo Sharm Sheikh	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	31/12/96	A
UG623	Route	BALEN Annuba Tebessa Ghadames	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Libya	31/12/96	A
UG855	Route	Tripoli Ghadames B. Omar Driss	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	31/12/96	A
UG864	Route	Tunis Tebessa Ghardaia Timmimoun	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	31/12/96	A
UM731	RNAV	Dirkou Jerba	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	31/12/96	A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
UM994	RNAV	Monastir Mitiga Beniwalid ORNAT	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	31/12/96	A
UM999	RNAV	Zarzaitine Sebha Sarir New Valley	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	31/12/96	A
UR616	Route	Pantelleria Lampedusa Tripoli	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	31/12/96	A
Provision of ATC 150 NM concept	ATC	Non-provision of ATC 150 NM of Tripoli	1990	S	Delayed descent for arrival and steep climb for departure	Implement as required	Libya	31/12/96	U
Airspace Management	P21 R23	Prohibited area Restricted area	1990 1990	D	Non-availability of direct routing	State concerned to withdraw these areas	“	“	A
Airspace Management	Provision of ATS	Inadequate airspace management between ATS units leading to frequent traffic incidents in the FIR boundaries between Alger, N'djamena, Tripoli and Niamey not responding to existing route structure flows	1998	D	Frequent ATS incidents in the area attributed to airspace management	Need for urgent meeting of the States concerned to address the problem of airspace management and prevalent ATS incidents in the area	Libya and adjacent States	Immediately	U

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
<b>MADAGASCAR</b>	Antananarivo FIR								
UG465	Route	Praslin Beira Johannesburg	1991	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	31/12/96	A
UR348	Route	Diego Garcia Antananarivo	1991	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	31/3/99	A
UR996	Route	Johannesburg Moroni Haima	1991	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	31/12/96	A
<b>MALAWI</b>	Lilongwe FIR								
UR984	Route	Lilongwe Kasama Kindu Bangui	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Malawi	31/12/96	A
Provision of ATC 150 NM concept	ATC	Non-provision of ATC service 150 NM of Lilongwe	1990	D	Delayed descent for arrival and steep climb for departure	Implement as required	“	1998	U



Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
UM725	RNAV	Dakar Timmimoun Ghardaia Tebessa Tunis	1991	S	Aircraft subjected to fly non-economical routes	States concerned to coordinate common implementation date	Mauritania	17/6/99	A
Provision of ATC 150 NM concept	ATC	Non-provision of ATC service 150 NM of Nouackchott Nouadhibou	1990	D	Delayed descent for arrival and steep climb for departure	Implement as required	“	25 March 1999 Lower airspace only	U
<b>MOROCCO</b>	Casablanca FIR								
UR977	Route	Agadir Bamako	1995	S	Aircraft subjected to fly non-economical routes	States concerned to coordinate common implementation date	Morocco	31/12/96	A
UR981	Route	Casablanca Marrakech BULIS	1995	S	Aircraft subjected to fly non-economical routes	States concerned to coordinate common implementation date	“	31/12/96	A
Airspace Management	ATC	Problems associated with non flight level allocations on ATS routes	1998	D	Non-standard flight level allocations contributed to ATS incidents	State concerned meet to address issues under column 3	Nigeria Morocco Mauritania Senegal Portugal	Immediately	U

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
Provision of effective surveillance	SSR	Need for SSR surveillance in extended TMA as expressed in the AFI CNS/ATM Plan	1988	S	Traffic density/complexity contributing to frequent ATS incidents	Implement SSR at Casablanca	Morocco		U
<b>MOZAMBIQUE</b>	Beira FIR								
UG465	Route	Praslin Beira Johannesburg	1990	S	Aircraft subjected to fly non-economical routes	States concerned to coordinate common implementation date	Mozambique	31/12/96	A
UR996	Route	Johannesburg Beira Moroni	1990	S	Aircraft subjected to fly non-economical routes	States concerned to coordinate common implementation date	“	31/12/96	A
Airspace Management	Provision of ATS	Inadequate airspace management between ATS units leading to frequent traffic incidents in the FIR boundaries between N'djamena, Tripoli, Niamey and Lagos not responding to existing route structure flows	1998	D	Frequent ATS incidents in the area attributed to airspace management	Need for urgent meeting of the States concerned to address the problem of airspace management and prevalent ATS incidents in the area	Mozambique and adjacent States	Immediately	U
<b>NAMIBIA</b>	Windhoek FIR								
UR987	Route	Luanda Ondangwa Windhoek Cape Town	1994	S	“	“	“	1999	A







## APPENDIX O to the Report on Agenda Item 5

O-23

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
Provision of ATC 150 NM concept	ATC	Non-provision of ATC service 150 NM of Sao Tome	1988	D	Delayed descent for arrival and steep climb for departure.	Implement as required	Sao Tome & Principe	30/12/99	U
<b>SENEGAL</b>	Dakar FIR								
UM725	RNAV	Dakar Timmimoun	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Senegal Algeria	17/6/99	A
<b>SEYCHELLES</b>	Seychelles FIR								
UR996	Route	Moroni Haima	1994	S			Seychelles	31/12/96	A
<b>SOMALIA</b>	Mogadish FIR								
UG207	Route	Mogadishu Karachi	1990	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Somalia	1999	A
UM651	RNAV	Aden Hargeissa Praslin	1990	S	“	“	“	1999	A
UM665	RNAV	Plaisance Mandera	1990	S	“	“	“	1999	A
UR996	Route	Moroni Haima	1994	S	“	“	“	1999	A

## APPENDIX O to the Report on Agenda Item 5

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
Provision of ATC 150 NM concept	ATC	Non-provision of ATC service 150 NM of Mogadishu	1994	D	Delayed descent for arrival and steep climb for departure	Implement as required	“	1998	U
<b>SOUTH AFRICA</b>	Johannesburg, Durban and Cape Town FIRs								
UG465	Route	Johannesburg Beira	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	South Africa	31/12/96	A
UM731	RNAV	Johannesburg Saurimo	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	South Africa	31/1/2/96	A
UR987	Route	Windhoek Keemaushoop Cape Town	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	South Africa	1999	A
UR996	Route	Beira Moroni	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	1999	A
<b>SUDAN</b>	Khartoum FIR								
UA618	Route	Bukavu Malakal	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Sudan	30/12/99	A

## APPENDIX O to the Report on Agenda Item 5

O-25

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
UA620	Route	Malakal N'djamena	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	30/12/99	A
UB525	Route	AddisAbaba Luxor	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	30/12/99	A
UB527	Route	Malakal Kenana	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	30/12/99	A
UB607	Route	Bujumbura Goma El Obeid New Valley El Dabha	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	30/12/99	A
UB612	Route	Malakal Nakuru LOSIN	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	30/12/99	A
UL612	RNAV	Goma El Dhaba	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	30/12/99	A
UM220	RNAV	Lodwar A. Simbel	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	30/12/99	A
UM665	RNAV	Khartoum	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date		30/12/99	A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
UR400	Route	A. Simbel Kassala	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	30/12/99	A
UR995	Route	Merowe Addis Ababa	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	“	30/12/99	A
Provision of ATS	ATC service	Provision of Area Control Service not provided to most ATS routes in the upper airspace	1998	D		State to expedite implementation process	-	1999	A
<b>SWAZILAND</b>	<b>Johannesburg FIR</b>								
UR409	Route	Masvingo Matsapha Eshowe	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	South Africa	31/12/96	A
<b>TANZANIA</b>	<b>Dar es Salaam FIR</b>								
UB527	Route	Lubumbashi Kalemie Bujumbura Kigali Juba	1990	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Tanzania Rwanda Burundi	March 1999	A
UB607	Route	Bujumbura Goma El Obeid Dongola	1994	S	“	“	Burundi Congo DRC Sudan Tanzania	March 1999	A
<b>ZAMBIA</b>	<b>Lusaka FIR</b>								
UA406	Route	Ndola Mfuwe Lilongwe	1995	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Zambia	31/12/96	A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
UA408	Route	Harare Kalemie Bujumbura	1994	S	“	“	“	31/12/96	A
UA607	Route	Lubumbashi Ndola Harare	1994	S	“	“	“	31/12/96	A
UR984	Route	Lilongwe Kasama Kindu	1994	S	“	“	“	31/12/96	A
Airspace Management	D23 P14	Danger area Prohibited area	1990	D	Non-availability of direct routings	Withdraw these areas	“	1998	A
Airspace Management	Provision of ATS	Inadequate airspace management between ATS units leading to frequent traffic incidents in the FIR boundaries between Beira Lilongwe and Harare not responding to existing route structure flows	1998	D	Frequent ATS incidents in the area attributed to airspace management	Need for urgent meeting of the States concerned to address the problem of airspace management and prevalent ATS incidents in the area	Zambia and adjacent States	Immediately	U
Provision of ATS	ATS	Efficiency of ATS	1998	D		Establish ATS operational auditing and proficiency maintenance procedures (AFI/7 Rec 5/27 refers)	Zambia	Immediately	U
		Saturation of TMS functions at peak hours	1998	D		Need to improve reorganise TMA to cope with traffic demand	-	-	-

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
<b>ZIMBABWE</b>	Harare FIR								
UA408	Route	Harare Kalemie	1994	S	Aircraft subjected to fly non- economical routes	States concerned to coordinate common implementation date	Zimbabwe Zambia	31/12/96	A
UA409	Route	Kalemie Mansa Ndola Lusaka	1994	S	Zimbabwe South Africa	“	“	31/12/96	A
UA607	Route	Harare Ndola Lubumbashi	1994	S	“	“	“	31/12/96	A
UR409	Route	Eshowe Matsapa Masvingo Lilongwe	1994	S	“	“	“	31/12/96	A
Airspace Management	D23 P14	Danger area Prohibited area	1990	D	Non-availability of direct routing	Withdraw the areas	“	1998	A
Airspace Management	Provision of ATS	Inadequate airspace management between ATS units leading to frequent traffic incidents in the FIR boundaries between Lusaka, Beira and Lilongwe not responding to existing route structure flows	1998	D	Frequent ATS incidents in the area attributed to airspace management	Need for urgent meeting of the States concerned to address the problem of airspace management and prevalent ATS incidents in the area	Zimbabwe and adjacent States	Immediately	U

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**SHORTCOMINGS/DEFICIENCIES IN THE SEARCH AND  
RESCUE SERVICES FIELD (SAR)**  
(Ref. Air Navigation Plan - Africa-Indian Ocean Region (Doc 7474))  
**PART VII - SEARCH AND RESCUE SERVICES (SAR)**

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
<b>ALGERIA</b>	Luanda FIR								
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>ANGOLA</b>									
SAR Agreements	-	-	1995	D	Delay to conduct SAR OPS	Coordination with States concerned	Angola and Adjacent States	30/6/98	A
SARSAT	ELT	406 MHz and 121.5 MHz	1997	D	Delay to conduct SAR OPS	i) Provide SPOC to ICAO ii) Implement 406/1215 MHz	Angola	30/6/98	A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>BENIN</b>									
SAR Agreements	-	-	1996	D	Delay to conduct SAR OPS	Coordinate with States concerned	Benin and adjacent States	30/12/99	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Benin	30/12/99	U
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>BOTSWANA</b>									
	Gaborone SRR								
SAR Agreements	-	-	1995	D	Delay to conduct SAR OPS	Coordination with States concerned	Botswana and Adjacent States	30/6/98	A



<b>Identification</b>		<b>Shortcomings/deficiencies</b>				<b>Corrective action</b>			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Botswana	30/6/98	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>BURKINA FASO</b>									
SAR Agreements	-	-	1995	D	Delay to conduct SAR OPS	Coordinate with States concerned	Burkina Faso and Adjacent States	30/12/99	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Burkina Faso	30/12/99	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
<b>BURUNDI</b>									
SAR Agreements	-	-	1995	D	Delay to conduct SAR OPS	Coordinate with States concerned	Burundi and Adjacent States	Cannot be determined until the current political situation in the Great Lakes area improves.	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406 MHz	Burundi	30/6/98	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>CAMEROON</b>									
SAR Agreements	-	-	1995	D	Delay to conduct SAR OPS	Coordinate with States concerned	Cameroon	30/12/99	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	Implement 406/1215 MHz	Cameroon	30/12/99	A

<b>Identification</b>		<b>Shortcomings/deficiencies</b>				<b>Corrective action</b>			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>CENTRAL AFRICAN REPUBLIC</b>									
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Lack of legal authority could delay SAR efficiency	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Central African Republic	30/12/99	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>CHAD</b>									
SAR Agreements	-	-	1991	D	Delay to conduct SAR OPS	Coordinate with States concerned	Chad and adjacent States	30/12/99	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Chad	30/6/98	A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
SAR legislation	-	Provide legal framework for the SAR Authority	1995		Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>COMOROS</b>									
SAR Agreements	-	-	1991	D	Delay to conduct SAR OPS	Coordinate with States concerned	Comoros and adjacent States	30/12/99	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	Provide SPOC to ICAO	Comoros	30/6/98	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>CONGO</b>									
SAR Agreements	-	-	1995	D	Delay to conduct SAR OPS	Coordinate with States concerned	Congo and adjacent States	30/12/99	A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Congo	30/12/99	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>CONGO (DRC)</b>									
SAR agreements	-	-	1995	D	Delay to conduct SAR Operations	Coordination with States concerned	Congo (DRC) and adjacent States	30/12/99	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR Operations	Coordination with States concerned	Congo (DRC)	30/12/99	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>CÔTE D'IVOIRE</b>									

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
SAR Agreements	-	-	1996	D	Delay to conduct SAR OPS	Coordinate with States concerned	Côte d'Ivoire and adjacent States	30/12/99	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	Provide SPOC to ICAO	Côte d'Ivoire	30/12/99	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>DJIBOUTI</b>									
SAR Agreements	-	-	1991	D	Delay to conduct SAR OPS	Coordinate with States concerned	Djibouti and adjacent States	30/6/98	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	“	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Djibouti	30/6/98	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
<b>EGYPT</b>									
SAR agreements	-	-	1995	D	Delay to conduct SAR Operations	Coordination with States concerned	Egypt and adjacent States	30/6/98	A
SARSAT	ELT	406 MHZ and 121.5 MHZ	1993	D	Delay to conduct SAR Operations	Coordination with States concerned	Egypt	“	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
<b>EQUATORIAL GUINEA</b>									
SAR Agreements	-	-	1991	D	Delay to conduct SAR OPS	Coordinate with States concerned	Equatorial Guinea and adjacent States	30/12/99	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Equatorial Guinea	30/12/99	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>ERITREA</b>									
SAR Agreements	-	-	1995	D	Delay to conduct SAR OPS	Coordination with States concerned	Eritrea and Adjacent States	Undetermined	A
SARSAT	ELT	406 MHz and 121.5 MHz	1997	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Eritrea	In progress	A



<b>Identification</b>		<b>Shortcomings/deficiencies</b>				<b>Corrective action</b>			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		In progress	A
<b>ETHIOPIA</b>									
SAR Agreements	-	-	1995	D	Delay to conduct SAR OPS	Coordinate with States concerned	Ethiopia Guinea and adjacent States	30/6/99	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		As soon as possible	A
<b>GABON</b>									
SAR Agreements	-	-	1990	D	Delay to conduct SAR OPS	Coordinate with States concerned	Gabon and adjacent States	30/12/99	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	Provide SPOC to ICAO	Gabon	30/12/99	A

<b>Identification</b>		<b>Shortcomings/deficiencies</b>				<b>Corrective action</b>			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
<b>GAMBIA</b>									
SAR Agreements	-	-	1991	D	Delay to conduct SAR OPS	Coordinate with States concerned	Gambia and adjacent States	30/12/99	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Gambia	30/12/99	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>GHANA</b>									
SAR Agreements	-	-	1994	D	Delay to conduct SAR OPS	Coordinate with States concerned	Ghana and adjacent States	30/12/99	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406 MHz	Ghana	30/12/99	A

<b>Identification</b>		<b>Shortcomings/deficiencies</b>				<b>Corrective action</b>			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>GUINEA</b>									
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	Implement 406/1215 MHz	Guinea	30/12/99	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>GUINEA BISSAU</b>									
SAR Agreements	-	-	1996	D	Delay to conduct SAR OPS	Coordinate with States concerned	Guinea Bissau and adjacent States	30/12/99	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Guinea Bissau	30/12/99	A

<b>Identification</b>		<b>Shortcomings/deficiencies</b>				<b>Corrective action</b>			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>KENYA</b>									
SAR Agreements	-	-	1996	D	Delay to conduct SAR OPS	Coordinate with States concerned	Kenya and adjacent States	30/6/98	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Kenya	30/6/98	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>LESOTHO</b>									
SAR Agreements	-	-	1996	D	Delay to conduct SAR OPS	Coordinate with States concerned	Lesotho and adjacent States	30/6/98	A

<b>Identification</b>		<b>Shortcomings/deficiencies</b>				<b>Corrective action</b>			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Lesotho	30/6/98	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>LIBERIA</b>									
SAR Agreements	-	-	1996	D	Delay to conduct SAR OPS	Coordinate with States concerned	Liberia and adjacent States	30/12/99	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Liberia	30/12/99	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
<b>LIBYA</b>									
SAR Agreements	-	-	1996	D	Delay to conduct SAR OPS	Coordinate with States concerned	Libya and adjacent States	30/6/98	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Libya	30/6/98	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>MADAGASCAR</b>									
SAR Agreements	-	-	1996	D	Delay to conduct SAR OPS	Coordinate with States concerned	Madagascar and adjacent States	30/6/98	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Madagascar	30/6/98	A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>MALAWI</b>									
SAR Agreements	-	-	1995	D	Delay to conduct SAR OPS	Coordinate with States concerned	Malawi and adjacent States	30/6/98	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Malawi	30/6/98	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>MALI</b>									
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Lack of legal authority could delay SAR efficiency	Implement 406/1215 MHz	Mali	30/12/99	A



<b>Identification</b>		<b>Shortcomings/deficiencies</b>				<b>Corrective action</b>			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>MAURITANIA</b>									
SAR agreements	-	-	1995	D	Delay to conduct SAR Operations	Coordination with States concerned	Mauratania and adjacent States	30/12/99	A
SARSAT	ELT	406 MHz and 121.5 MHz	1997	D	Delay to conduct SAR Operations	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Mauratania	30/12/99	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
<b>MAURITIUS</b>									
SAR agreements	-	-	1995	D	Delay to conduct SAR Operations	Coordination with States concerned	Mauritius and adjacent States	SAR agreements signed with Australian and French Authorities. South agreements being considered.	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR Operations	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Mauritius	30/6/98	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Implementation in progress (13/8/98)	A
<b>MOROCCO</b>									
SAR agreements	-	-	1995	D	Delay to conduct SAR Operations	Coordination with States concerned	Morocco and adjacent States	30/6/98	A

<b>Identification</b>		<b>Shortcomings/deficiencies</b>				<b>Corrective action</b>			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR Operations	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Morocco	30/6/98	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>MOZAMBIQUE</b>									
SAR agreements	-	-	1995	D	Delay to conduct SAR Operations	Coordination with States concerned	Mozambique	30/6/98	A
SARSAT	ELT	406 MHz and 121.5 MHz	1997	D	Delay to conduct SAR Operations	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	“	30/6/98	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
<b>NAMIBIA</b>									
SAR Agreements	-	-	1991	D	Delay to conduct SAR OPS	Coordination with States concerned	Namibia and Adjacent States	30/6/98	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR Operations	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Namibia	30/6/98	A
<b>NIGER</b>									
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR Operations	i)Provide SPOC to ICAO ii)Implement 406/121.5 MHz	Niger	30/12/99	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>NIGERIA</b>									
SAR Agreements	-	-	1996	D	Delay to conduct SAR OPS	Coordinate with States concerned	Nigeria and adjacent States	3rd Quarter99	A

<b>Identification</b>		<b>Shortcomings/deficiencies</b>				<b>Corrective action</b>			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR Operations	Implement 406/1215 MHz	Nigeria	30/12/99	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		30/12/99	A
<b>RWANDA</b>									
SAR Agreements	-	-	1996	D	Delay to conduct SAR OPS	Coordinate with States concerned	Rwanda and adjacent States	30/6/98	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR Operations	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Rwanda	30/6/98	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>SAO TOME</b>									

<b>Identification</b>		<b>Shortcomings/deficiencies</b>				<b>Corrective action</b>			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
SAR Agreements	-	-	1995	D	Delay to conduct SAR OPS	Coordination with States concerned	Sao Tome and Adjacent States	30/12/99	A
SARSAT	ELT	406 MHz and 121.5 MHz	1997	D	Delay to conduct SAR Operations	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Sao Tome	30/12/99	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>SENEGAL</b>									
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR Operations	Implement 406/1215 MHz	Senegal	30/12/99	A
<b>SEYCHELLES</b>									
SAR Agreements	-	-	1996	D	Delay to conduct SAR OPS	Coordinate with States concerned	Seychelles and adjacent States	30/6/98	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR Operations	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Seychelles	30/6/98	A

<b>Identification</b>		<b>Shortcomings/deficiencies</b>				<b>Corrective action</b>			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>SIERRA LEONE</b>									
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Lack of legal authority could delay SAR efficiency	Implement 406/1215 MHz	Sierra Leone	30/12/99	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>SOMALIA</b>									
SAR Agreements	-	-	1996	D	Delay to conduct SAR OPS	Coordinate with States concerned	Somalia and adjacent States	30/6/98	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Somalia	30/6/98	A

<b>Identification</b>		<b>Shortcomings/deficiencies</b>				<b>Corrective action</b>			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>SOUTH AFRICA</b>									
SAR Agreements	-	-	1996	D	Delay to conduct SAR OPS	Coordinate with States concerned	South Africa and adjacent States	30/6/98	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	South Africa	1999	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		1999	A



Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
<b>SUDAN</b>									
SAR Agreements	-	-	1995	D	Delay to conduct SAR OPS	Coordination with States concerned	Sudan and Adjacent States	30/12/99	A
SARSAT	ELT	406 MHz and 121.5 MHz	1997	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Sudan	30/12/99	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>SWAZILAND</b>									
SAR Agreements	-	-	1996	D	Delay to conduct SAR OPS	Coordinate with States concerned	Swaziland and adjacent States	30/6/98	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Swaziland	30/6/98	A

<b>Identification</b>		<b>Shortcomings/deficiencies</b>				<b>Corrective action</b>			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>TANZANIA</b>									
SAR Agreements	-	-	1996	D	Delay to conduct SAR OPS	Coordinate with States concerned	Tanzania and adjacent States	Kenya, Uganda and Tanzania June 2000 and Mozambique, Malawi, Zambia and Congo (DRC) June 2000	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Tanzania	December 1999	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Discussions going on with the Ministry	A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
<b>TOGO</b>									
SAR Agreements	-	-	1996	D	Delay to conduct SAR OPS	Coordinate with States concerned. October 1998	Togo and adjacent States	30/12/99	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Togo	30/12/99	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>TUNISIA</b>									
SAR Agreements	-	-	1996	D	Delay to conduct SAR OPS	Coordinate with States concerned	Tunisia and adjacent States	30/6/98	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A

Identification		Shortcomings/deficiencies				Corrective action			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
<b>UGANDA</b>									
SAR Agreements	-	-	1995	D	Delay to conduct SAR OPS	Coordinate with States concerned	Uganda and adjacent States	31/12/99	A
SARSAT	ELT	406 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406 MHz	Uganda	30/6/2000	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		30/11/98	A
<b>ZAMBIA</b>									
SAR Agreements	-	-	1996	D	Delay to conduct SAR OPS	Coordinate with States concerned	Zambia and adjacent States	30/6/98	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406/1215 MHz	Zambia	30/6/98	A

<b>Identification</b>		<b>Shortcomings/deficiencies</b>				<b>Corrective action</b>			
Requirements 1	States/ facilities 2	Description 3	Date first reported 4	Status 5	Comments 6	Description 7	Executing body 8	Target date for implementation 9	Priority for action 10
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation		Immediately	A
<b>ZIMBABWE</b>									
SAR Agreements	-	-	1996	D	Delay to conduct SAR OPS	Coordinate with States concerned	Zimbabwe and adjacent States	30/6/98	A
SARSAT	ELT	406 MHz and 121.5 MHz	1993	D	Delay to conduct SAR OPS	i)Provide SPOC to ICAO ii)Implement 406 MHz	Zimbabwe	30/6/98	A
SAR legislation	-	Provide legal framework for the SAR Authority	1995	D	Lack of legal authority could delay SAR efficiency	Establish SAR legislation	Zimbabwe	In progress. August 1998	A

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**SHORTCOMINGS/DEFICIENCIES IN THE AERONAUTICAL INFORMATION SERVICES (AIS)**  
**(Ref. Air Navigation Plan - Africa-Indian Ocean Region (Doc 7474))**  
**PART VIII - AERONAUTICAL INFORMATION SERVICES (AIS)**

Identification		Shortcomings/deficiencies				Corrective action			
<b>ANGOLA</b>									
WGS84	Coordinates	Accuracy of coordinates in accordance with Annexes 11 and 14	1/1/98	S	Delay in introduction of GNSS	Implement WGS-84 coordinates	Angola	1999	U
Mandatory Charts	ICAO Charts	Non-availability of the ICAO Aerodrome Chart and the ICAO Aerodrome Obstacle Chart - Type A	1990	S	Lack of charts affects safety	Publish these Charts for Luanda and Huambo	Angola	25/4/96	U
NOTAM	NOTAM	Irregular Publication of NOTAM	1990	D	Lack of NOTAM affects safety	Publish regularly	Angola	Immediate	U

Identification		Shortcomings/deficiencies				Corrective action			
<b>CAMEROON</b>									
Mandatory Charts	ICAO Charts	Non-availability of the ICAO Aerodrome Chart and the ICAO Aerodrome Obstacle Chart - Type A	1990	S	Lack of charts affects safety	Publish these Charts for Yaounde	Cameroon	17/6/99	U
<b>COMOROS</b>									
Mandatory Charts	ICAO Charts	Non-availability of the ICAO Aerodrome Obstacle Chart - Type A	1990	S	Lack of this chart affects safety	Publish this Chart for Moroni and Dzaoudzi	Comoros	31/12/98	U
NOTAM	NOTAM	Irregular Publication of NOTAM	1990	D	Lack of NOTAM affects safety	Publish regularly	Comoros	Will soon be solved	U
<b>CONGO (DRC)</b>									
Mandatory Charts	ICAO Charts	Aerodrome Charts outdated	1990	S	Non-updated charts affects safety	Publish new Charts	Congo (DRC)	25/4/96	U
NOTAM	NOTAM	Irregular Publication of NOTAM	1990	D	Lack of NOTAM affects safety	Publish regularly	Congo (DRC)	Immediate	U

Identification		Shortcomings/deficiencies				Corrective action			
<b>DJIBOUTI</b>									
Intergrated AIS package		Irregular distribution of AIS package	1/1/98	S	Non-availability of latest status of information	Distribute regularly	Djibouti	1/1/98	A
NOTAM	AIRAC	Non-adherence to AIRAC requirements	1994	D	Non-observation of AIRAC procedures affects regularity of flight operations	Data indicated in Appendix 4 of Annex 15 to be promulgated on AIRAC dates	Djibouti	Immediate	U
WGS84	Coordinates	Accuracy of coordinates in accordance with Annexes 11 and 14	1/1/98	S	Delay in introduction of GNSS	Implement WGS-84 coordinates	Eritrea	1999	U
<b>ETHIOPIA</b>									
WGS84	Addis Ababa FIR Coordinates	Accuracy of coordinates in accordance with Annexes 11 and 14	1/1/98	S	Delay in introduction of GNSS	Implementation of WGS-84 coordinates	Ethiopia	1999	U



Identification		Shortcomings/deficiencies				Corrective action			
<b>GAMBIA</b>									
Intergrated AIS package		Irregular distribution of AIS package	1/1/98	D	Non-availability of latest status of information	Distribute regularly	Gambia	1/1/98	A
<b>GUINEA</b>									
Intergrated AIS package		Irregular distribution of AIS package	1/1/98	S	Non-availability of latest status of information	Distribute regularly	Guinea	30/12/99	A
<b>GUINEA BISSAU</b>									
WGS84	Coordinates	Accuracy of coordinates in accordance with Annexes 11 and 14	1/1/98	S	Delay in introduction of GNSS	Implementation of WGS-84 coordinates	Guinea Bissau	30/12/99	U
<b>KENYA</b>									
Intergrated AIS package		Irregular distribution of AIS package	1/1/98	S	Non-availability of latest status of information	Distribute regularly	Kenya	1999	A

Identification		Shortcomings/deficiencies				Corrective action			
<b>LESOTHO</b>									
WGS84	Coordinates	Accuracy of coordinates in accordance with Annexes 11 and 14	1/1/98	S	Delay in introduction of GNSS	Implementation of WGS-84 coordinates	Lesotho	1/1/98	U
Intergrated AIS package		Irregular distribution of AIS package	1/1/98	S	Non-availability of latest status of information	Distribute regularly	Lesotho	1/1/98	A
<b>LIBYA</b>									
WGS84	Coordinates	Accuracy of coordinates in accordance with Annexes 11 and 14	1/1/98	S	Delay in introduction of GNSS	Implementation of WGS-84 coordinates	Libya	1/1/98	U
<b>MADAGASCAR</b>									
Mandatory Charts	ICAO Charts	Non-availability of the ICAO Aerodrome Obstacle Chart - Type A for Dzaoudzi and Moroni	1990	S	Lack of this chart affects safety	Publish the required Chart for Moroni and Dzaoudzi	Madagascar	25/4/96	U
<b>MALAWI</b>									

Identification		Shortcomings/deficiencies				Corrective action			
WGS84	Coordinates	Accuracy of coordinates in accordance with Annexes 11 and 14	1/1/96	S	Delay in introduction of GNSS	Implementation of WGS-84 coordinates	Malawi	1999	U
<b>MOZAMBIQUE</b>									
NOTAM	NOTAM	Irregular Publication of NOTAM	1/1/98	S	Lack of NOTAM affects safety	Publish regularly	Mozambique	Immediate	U
Intergrated AIS package		Irregular distribution of AIS package	1/1/98	S	Non-availability of latest status of information	Distribute regularly	Mozambique	1/1/98	A
<b>NAMIBIA</b>									
Mandatory Charts	ICAO Charts	Non-availability of ICAO Aerodrome Chart for Keetmanshoop and Windhoek	1979	S	Lack of these charts affects safety	Publish the required Charts	Namibia	1999	U
NOTAM	NOTAM	Irregular Publication of NOTAM	1979	D	Lack of NOTAM affects safety	Publish regularly	Namibia	Immediate	U

Identification		Shortcomings/deficiencies				Corrective action			
<b>RWANDA</b>									
WGS84	Coordinates	Accuracy of coordinates in accordance with Annexes 11 and 14	1/1/98	S	Delay in introduction of GNSS	Implementation of WGS-84 coordinates	Rwanda	1/1/98	U
Mandatory Charts	ICAO Aerodrome Chart  ICAO Aerodrome Obstacle Chart type A	Non-availability of ICAO Aerodrome Chart and Aerodrome Obstacle Chart - Type A	1979	S	Lack of these charts affects safety	Publish the two Charts for Kigali	Rwanda	25/4/96	U
<b>SAO TOME</b>									
WGS84	Coordinates	Accuracy of coordinates in accordance with Annexes 11 and 14	1/1/98	S	Delay in introduction of GNSS	Implement WGS-84 coordinates	Sao Tome	30/12/99	U
NOTAM	NOTAM	Irregular Publication of NOTAM	1991	D	Lack of NOTAM affects safety	Publish regularly	Sao Tome	Immediate	U

Identification		Shortcomings/deficiencies				Corrective action			
<b>SIERA LEONE</b>									
NOTAM	NOTAM	Irregular Publication of NOTAM	1979	D	Lack of NOTAM affects safety	Publish regularly	Roberts FIR	Immediate	U
<b>SOMALIA</b>									
WGS84	Coordinates	Accuracy of coordinates in accordance with Annexes 11 and 14	1/1/98	S	Delay in introduction of GNSS	Implementation of WGS-84 coordinates	Somalia	1/1/98	U
Mandatory Charts	ICAO Aerodrome Chart ICAO Aerodrome Obstacle Chart type A ICAO Instrument Approach Chart	Non-availability of ICAO mandatory Charts for Hargeissa Kismayu Mogadishu	1990	S	Lack of these charts affects safety	Publish the three Charts as required	Somalia	25/4/96	U

Identification		Shortcomings/deficiencies				Corrective action			
<b>SUDAN</b>									
WGS84	Coordinates	Accuracy of coordinates in accordance with Annexes 11 and 14	1/1/98	S	Delay in introduction of GNSS	Implement WGS-84 coordinates	Sudan	30/12/99	U
Mandatory Charts	ICAO Charts	Non-availability of ICAO Aerodrome Chart for Khartoum	1990	S	Lack of this chart affects safety	Publish the required Chart	Sudan	30/12/99	U
<b>SWAZILAND</b>									
WGS84	Coordinates	Accuracy of coordinates in accordance with Annexes 11 and 14	1/1/98	S	Delay in introduction of GNSS	Implementation of WGS-84 coordinates	Swaziland	1/1/98	U
Mandatory Charts	ICAO Chart	Non-availability of ICAO Aerodrome Obstacle Chart type A for Matsapha	1991	S	Lack of this chart affects safety	Publish the required Chart	Swaziland	25/4/96	U

Identification		Shortcomings/deficiencies				Corrective action			
NOTAM	AIRAC	Non-adherence to AIRAC requirements	1991	D	Non-observation of AIRAC procedures affects regularity of flight operations	Data indicated in Appendix 3 of Annex 15 to be promulgated on AIRAC dates	Swaziland	Immediate	U
<b>UGANDA</b>									
WGS84	Coordinates	Accuracy of coordinates in accordance with Annexes 11 and 14	1/1/98	S	Delay in introduction of GNSS	Implementation of WGS-84 coordinates	Uganda	30/6/99	U
<b>ZAMBIA</b>									
WGS84	Coordinates	Accuracy of coordinates in accordance with Annexes 11 and 14	1/1/98	S	Delay in introduction of GNSS	Implementation of WGS-84 coordinates	Zambia	1/1/98	U
Intergrated AIS package		Irregular distribution of AIS package	1/1/98	D	Non-availability of latest status of information	Distribute regularly	Zambia	1/1/98	A

Identification		Shortcomings/deficiencies				Corrective action			
<b>ZIMBABWE</b>									
WGS84	Coordinates	Accuracy of coordinates in accordance with Annexes 11 and 14	1/1/98	S	Delay in introduction of GNSS	Implementation of WGS-84 coordinates	Zimbabwe	30/9/98	U
Intergrated AIS package		Irregular distribution of AIS package	1/1/98	S	Non-availability of latest status of information	Distribute regularly	Zimbabwe	August 1998	A

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**Shortcomings/Deficiencies in the Meteorology Field**  
**(REF. Air Navigation Plan - Africa-Indian Ocean region (Doc 7474))**  
**Part IV - Meteorology (MET)**

Identification		Shortcomings/deficiencies				Corrective action				
Requirements	States/facilities	Description	Date first reported	Status	Comments	Description	Executing body	Date of completion	Priority	
Implementation of MET facilities and services - AFI/7 Rec. 14/10	Angola/Luanda 4 de Fevereiro	Exchange of OPMET deficient - Problems of institutional aspect	1996	ID	Advice given through correspondence and mission	Reorganize MET Services for autonomous management	Angola	-	U	
Implementation of MET facilities and services - AFI/7 Rec. 14/10	Botswana/Selibe airport	No MET Station	1992	NI	Advice given through correspondence and mission	Constructed MET station at Selibe	Botswana	1998	U	
Implementation of MET facilities and services - AFI/7 Rec. 14/10	The Gambia/Banjul - Yundum Intl.	Wind measurement unreliable	1994	ID	Advice given through correspondence	Installation of reliable wind equipment	The Gambia	1999	A	
Implementation of MET facilities and services - AFI/7 Rec. 14/10	Guinea Bissau/Bissau Oswaldo V.	No MET Services due to civil war								
Implementation of MET facilities and services AFI/7 Rec.14/10	Lesotho/Maseru Moshoeshoe 1	1) Siting of the observatory in an unsuitable location	1993	ID	Advice given through missions	Identify a suitable location	Lesotho	-	U	
		2) Anemometer on RWY 04 has been unserviceable for many months	1997	ID	Advice given through missions	Instal a new sensor with displays at appropriate ATC and MET positions	Lesotho	-	U	
All provisions contained in the ANP	Liberia/Roberts Intl.	No MET Services due to civil war								U

Identification		Shortcomings/deficiencies				Corrective action			
Requirements	States/facilities	Description	Date first reported	Status	Comments	Description	Executing body	Date of completion	Priority
Implementation of MET facilities and services AFI/7 Rec.14/10	Swaziland/ Manzini Matsapha Airport	windsensor height about 30 meters above aerodrome elevation	1993	ID	Advice given through missions	Lower the height of the wind sensor to recommended WMO/ICAO standards	Swaziland	-	A

**TERMS OF REFERENCE, WORK PROGRAMME AND COMPOSITION  
OF THE AERODROME OPERATIONAL PLANNING SUB-GROUP (AOP/SG)**

**1. Terms of reference**

**a) In the field of aerodrome operational planning:**

To keep under review the adequacy of the requirements contained in the ICAO Regional Air Navigation Plan taking into account changes to aircraft operations, new operational requirements and/or technological developments and propose amendments as required.

**b) In the field of aerodrome services:**

To identify, assess and track critical shortcomings and deficiencies in the provisions of aerodrome installations, equipment and services with priority to:

- i) aerodrome power supply;
- ii) visual aids;
- iii) rescue and fire fighting;
- iv) aerodrome fencing;
- v) bird hazards;
- vi) aerodrome emergency planning; and
- vii) pavement surface condition.

**2. Work Programme:**

<b>No.</b>	<b>Task description</b>	<b>Priority</b>	<b>Target Date</b>
1	Review at each AOP/SG meeting the content of the Table AOP 1 and where necessary, after coordination with users and operators, introduce the respective changes through the established procedures. (AFI/7 RAN Meeting Conc. 3/2. )	A	Continuing
2	Develop a data base on shortcomings and deficiencies in the AOP field including their safety assessment according to the ICAO approved procedures and at each AOP/SG meeting, review and update the data base and identify requirements for possible technical cooperation. (AFI/7 RAN Meeting Concs. 14/1 and 14/2 and Rec. 14/3)	A	Continuing
3	Review the severity of the bird hazard and the status of implementation of appropriate bird hazard reduction measures in the Region .(AFI/7 RAN Meeting Conc. 4/7)	A	Continuing
4	Review States efforts to allocate the necessary resources to ensure the establishment of preventive maintenance at their aerodromes in order to provide adequate maintenance of facilities , installations and services. (AFI/7 RAN Meeting Conc. 4/10)	A	APIRG/13

No.	Task description	Priority	Target Date
5	Review the need and monitor the measurement and reporting by States of the surface condition and unevenness on movement areas at aerodromes in the AFI Region. (AFI/7 RAN Meeting Rec. 4/4)	B	APIRG/13
6	Review the provision of rescue and fire fighting services and emergency planning at international aerodromes in the AFI Region and monitor the switch over to the use of environmentally friendly materials for fire fighting. (AFI/7 RAN Meeting Conc. 4/6)	A	APIRG/13
7	Review and monitor the development and implementation of guidelines and procedures for surface movement guidance and control systems at complex airports and during low visibility conditions. (Input to CNS/ATM planning process)	C	APIRG/14
8	Review, assess and provide guidance on the impact of the operations of the new larger aeroplanes at aerodromes in the AFI Region.	B	APIRG/14
9	Review and monitor the implementation of new approach and landing systems in order to ensure smooth transition and optimization of the performance of the systems implemented. (Input to CNS/ATM planning process)	A	APIRG/13
10	Monitor the progress in the implementation of the common geographical reference system (WGS-84) and the publication of coordinates of significant points with required degree of accuracy in the AFI Region. (AFI/7 RAN Meeting Recs. 12/28 and 12/29)	A	APIRG/13
11	Review and monitor the status of implementation of visual aids in the AFI Region and of provision of resources for ensuring preventive maintenance, human factors and progress in technology development in order to achieve increased safety and capacity. (AFI/7 RAN Meeting Conc. 4/1, Rec. 14/7)	A	APIRG/13
12*	Review and monitor the traffic growth in the AFI Region in order to develop appropriate guidance for the development of planning criteria.	B	APIRG/13
13	Monitor the implementation of the measures by States in the AFI Region to deal with the Y2K problem for airport services	A	DEC 99
14	Monitor the work being conducted by the ICAO Air Navigation Commission on the impact of new larger aeroplanes at aerodromes and assess the particular circumstances pertaining to the aerodromes in the AFI Region.	B	APIRG/14
15	Taking into account human factors, study problems and make specific recommendation related to AOP personnel, with a view to ensuring the best services (AFI/7 RAN Meeting, Rec. 14/7)	A	Continuing

Priority:

- A High priority tasks, on which work should be speeded up;
  - B Medium priority tasks, on which work should be undertaken as soon as possible, but without detriment to priority A tasks;
  - C Lesser priority tasks, on which work should be undertaken as time and resources permit, but without detriment to priority A and B tasks.
- \* This task will be a subject of coordination with the Traffic Forecasting Task Force.

**3. Composition:**

Angola, Algeria, Burkina Faso, Cameroun, Cape Verde, Congo, Côte d'Ivoire, Egypt, Gambia, Ghana, Guinea, Kenya, Malawi, Morocco, Nigeria, Senegal, South Africa, Togo, Tunisia, Uganda, Zambia, ACAC, ACI, ASECNA, IATA and IFALPA.

**FUTURE Work programme for the COM Sub-group**

<b>Item</b>	<b>Task description</b>	<b>Priority</b>	<b>Target date</b>
1	Analyse, review and monitor shortcomings and deficiencies in the operation of the aeronautical fixed service, the aeronautical mobile service and the radio nav aids.	A	continuing
2	Monitor the performance and implementation of the AFTN and propose corrective measures, as required	A	continuing
3	Follow-up the implementation programme of the ATS/DS circuits and propose corrective measures, as required	A	continuing
4	Update the AFI AFTN Routing Directory	A	continuing
5	Follow-up the interconnection of VSAT networks in the AFI Region	A	APIRG/13
6	Review the application of circuit control protocols between AFTN main centres so as to define a uniform system of interface control (AFI/7 Rec. 9/6)	B	APIRG/13
7	Draft, in co-ordination with the ATS/SAR/AIS Sub-group, a plan for the extension of VHF coverage in the AFI region along all ATS routes shown in Table ATS-1 (AFI/7 Rec. 5/12)	B	APIRG/13
8	Analyse and review the report of the AFS Task Force on the transition from the AFTN to the ATN.	B	APIRG/13
9	Review of the survey of HF congestion in the AFI region by IATA & IFALPA	B	APIRG/13
10	Review and update the VHF frequency utilization plan (AFI/7 Rec. 9/11)	A	APIRG/13
11	Analyse and review the report of the AFS Task Force on the AFTN network configuration	B	APIRG/13
12	Follow-up the upgrading modulation rate for main AFTN circuits.	B	APIRG/13
13	Evaluate results of survey of frequency assignments in the GNSS band (1559-1610 MHz).	B	APIRG/13

Item	Task description	Priority	Target date
14	Follow-up of IFALPA proposals for VHF coverage	B	APIRG/13
15	Review the impact of the implementation of 8.33 kHz VHF channel in the EUR Region on the EUR/AFI interface area	A	APIRG/13
16	Address human factors issues in the COM field	B	Continuous
17	Review use of SITA network for AFTN traffic and make appropriate recommendations	B	APIRG/13

Priority:

- A High priority tasks on which work should be speeded up;
- B Medium priority tasks, on which work should be undertaken as soon as possible, but without detriment to priority A tasks;
- C Lesser priority tasks, on which work should be undertaken as time and resources permit, but without detriment to priority A and B tasks.

**Composition:** Algeria, Congo, Côte d'Ivoire, D.R. of Congo, Egypt, Ethiopia, Guinea, Kenya, Malawi, Morocco, Niger, Nigeria, South Africa, Spain, Tunisia, Zambia, ASECNA, IATA, IFALPA

**TERMS OF REFERENCE, WORK PROGRAMME AND COMPOSITION OF THE  
ATS/AIS/SAR SUB/GROUP**

**1. Terms of Reference**

- a) To identify State by State, those specific shortcomings and problems that constitute major obstacles to the provision of efficient Air Traffic Management, Aeronautical Information Services and Search and Rescue Services and recommend specific measures to eliminate them.
- b) To keep under review, the adequacy of requirements in the Air Traffic Management, Aeronautical Information Services and Search and Rescue fields, taking into account, *inter alia* changes to aircraft operations and new operational requirements or technological developments.

**2. Work Programme**

No.	Task Description	Priority	Target Date
1	Analyse the operational implications of the introduction of ICAO CNS/ATM Systems in the fields of ATS, SAR and AIS/MAP and propose any required actions with a view to ensuring their smooth integration in the operational environment.	A	APIRG/12
2	Taking into account Human Factors, study problems and make specific recommendations related to ATS and AIS personnel, with a view to ensure the best services to users. (AFI/7 Rec 14/7)	B	APIRG/12
3	Study the requirements for civil/military coordination procedures including the promotion of the implementation of the concepts of joint use of airspace, free flight, flexible tracks etc. and in addition consider reducing and/or eliminating prohibited, restricted and danger areas. (AFI/7 Rec 5/3)	A	APIRG/12
*4	Determine the framework within which air traffic data collection statistical analysis and forecasting should be carried out.	C	APIRG/12
5	Review the requirements and monitor the programme of implementation of area control service. (AFI/7 Rec 5/21)	A	APIRG/12
6	Review the existing ATS route network (including RNAV routes) on a systematic basis with a view to achieving an optimum flow of air traffic while keeping flight distances of individual flights to a minimum. (AFI/7 Rec 5/8)	A	APIRG/12
7	Consider problems and make specific recommendations relating to ATS interface routes with other regions.	A	Continuing
8	Monitor achievements and progress in the implementation of RNAV/RNP, RSP and RTSP in the AFI Region and provide recommendations in the light of acquired experience	A	APIRG/12
9	Monitor developments in SSR planning criteria and review the allocation of SSR codes in the region to ensure there is no duplication with adjacent regions. (AFI/7 Rec 5/20)	A	Continuing
10	Review the ATS requirements for navigation. (AFI/7 Rec 10/4)	A	APIRG/12



No.	Task Description	Priority	Target Date
11	Review of ATS requirements for communication including extension of VHF coverage. (AFI/7 Rec 5/13, Rec 5/12 and LIM AFI Rec 10/36)	A	APIRG/12
12	Identify the ATS requirements for Surveillance (RADAR, ADS, Voice etc.) (AFI/7 Rec 11/1)	A	APIRG/12
13	Carry out studies and develop recommendations aimed at facilitating in an effective way the existing Contingency plans ,reduce air traffic incidents, implementation of ACAS, ATIS, pressure-altitude reporting transponders, Digital Flight Information Service (D-FIS) RVSM, MSAW/CFIT, COSPAS/SARSAT and safety oversight programs in the AFI Region.	A	Continuing
14	Develop standard auditing and proficiency maintenance procedures to be used by States to assess the capability/competence of any ATS unit as well as monitor the implementation of uniform proficiency assessment for ATS personnel. (AFI/7 Conc 5/27)	B	Continuing
15	Review the requirements and monitor the implementation of Search and Rescue Services.	B	Continuing
16	Review the requirements and monitor the implementation of AIS and MAP services	B	Continuing
17	Analyse, review and monitor shortcomings and deficiencies in the fields of ATS, AIS/MAP and SAR	A	Continuing

Priority:

- A High priority tasks, on which work should be speeded up;
- B Medium priority tasks, on which work should be undertaken as soon as possible, but without detriment to priority A tasks;
- C Lesser priority tasks, on which work should be undertaken as time and resources permit, but without detriment to priority A and B tasks.

\* This task will be a subject of coordination with the Traffic Forecasting Task Force.

**3. Composition:**

Algeria, Burkina Faso, Cameroon, Congo, Congo (DRC), Côte d'Ivoire, Egypt, Ethiopia, France, Gabon, Guinea, Kenya, Madagascar, Malawi, Mauritania, Morocco, Niger, Nigeria, Senegal, Spain, South Africa, Sudan, Tanzania, Togo, Tunisia, Zambia, ASECNA, IATA and IFATCA.

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**Terms of Reference, Work programme and composition  
of the Meteorology Sub-Group (MET/SG)**

**1. Terms of Reference**

1. To keep under review, the adequacy of meteorological facilities and services to meet new technological developments in the air navigation field and make proposals as appropriate for implementation by States to APIRG.
2. To identify, State by State, those specific deficiencies and shortcomings that constitute major obstacle to the provision of efficient and reliable meteorological facilities and services to meet the requirements of air navigation in the AFI Region and recommend specific measures to eliminate them.

**2. Work Programme**

No.	Task description	Priority	Target Date
1	Establish and maintain detailed lists, State by State of the specific shortcomings of facilities for the provision of atmospheric measurements pertaining to surface wind, pressure, visibility/runway visual range, cloud base, temperature and dew point temperature considered critical for flight safety	A	Continuing
2	Monitor the exchange of OPMET information through the AMBEX scheme in the AFI Region and between the AFI and ASIA/PACIFIC and EUR Regions	A	Continuing
3	Plan for the introduction of efficient inter-regional OPMET exchanges in coordination with the COM Sub-group as required	B	APIRG/13
4	Study the possibility of including other OPMET information in the AMBEX Scheme in addition to the exchanges of TAFs and AIREPs	B	APIRG/13
5	Study the impact of SADIS on the AMBEX Scheme and in particular the possible inclusion of METARS (AFI/7 Rec.8/4 b)	A	Continuing
6	Monitor the degree of implementation of very small aperture terminals (VSATs) for the reception of WAFS products (AFI/7 Rec. 14/12)	B	Continuing
7	Review and determine the necessary OPMET exchanges through the two-way VSAT SADIS stations in the AFI Region	A	Continuing
8	Monitor the quality of WAFS low level significant weather charts in the AFI Region, provide feed back to WAFC, London as appropriate	B	APIRG//13

No.	Task description	Priority	Target Date
9	Monitor the implementation of regional procedures for the issuance of volcanic ash and tropical cyclone advisories (AFI/7 Rec. 7/3 and 7/4)	B	Continuing
10	Review on a continuing basis the contents of Tables MET 1A and 1B and Tables MET 2 and MET 2A to ensure their validity in light of operational requirements and develop proposals to update them if necessary.	B	Continuing
11	Review the meteorological procedures in the introductory text to Part IV - Meteorology of the AFI Regional Plan FASID, as well as Meteorological related issues in other sections of the Plan and relevant regional supplementary Meteorology procedures (SUPPs) in the Doc 7030, in the light of procedures employed in other regions and develop amendment proposals as appropriate, coordinating where necessary with other APIRG Sub-Groups.	A	Continuing
12	Monitor developments in the CNS/ATM Systems with regard to meteorological requirements in the AFI Region.	B	Continuous

Priority:

- A High priority tasks on which work should be speeded up;
- B Medium priority tasks, on which work should be undertaken as soon as possible, but without detriment to priority A tasks;
- C Lesser priority tasks, on which work should be undertaken as time and resources permit, but without detriment to priority and A and B tasks.

3. **Composition**

Algeria, Burkina Faso, Cameroon, Congo, Côte d'Ivoire, Egypt, Ethiopia, France, The Gambia, Ghana, Guinea, Kenya, Morocco, Niger, Nigeria, Senegal, Spain, Tunisia, United Kingdom, Zambia, ASECNA and IATA.

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**FUTURE WORK PROGRAMME OF THE  
AFI CNS/ATM IMPLEMENTATION CO-ORDINATION SUB-GROUP**

Item	Task description	Priority	Target date
1	Continue the evolutionary development of the AFI CNS/ATM Implementation Plan (AFI/7 Concl. 13/1)	A	Continuing
2	Identify requirements for digital flight information service (D-FIS) and develop appropriate implementation worksheets for the concerned areas of routing (AFI/7 Concl. 13/1)	A	APIRG/13
3	Develop comprehensive business cases for competing CNS/ATM Implementation options for the Routing Areas.	A	Continuing
4	Co-ordinate plans developed by States, international organizations, airlines, and industry for the implementation of the regional CNS/ATM systems implementation plan	A	Continuing
5	Update on a regular basis, Chapter 2 and the tables of Volume II of the Global Plan	B	Continuing
6	Advise on the Egyptian initiative for a multi mission satellite based system dedicated to CNS/ATM services.	B	APIRG/13
7	Monitor the research and development, trials and demonstrations within the AFI Region and information from other regions	B	Continuing
8	Give further consideration to the concept of "Multinational ICAO AFI Air Navigation Facility/Service" addressed in the AFI/7 Report under Agenda Item 14; (AFI/7, Concl. 10/6c)	C	
9	Identify and address as appropriate, possible sources of funding to facilitate GNSS implementation in the Africa-Indian Ocean Region (AFI/7, Concl. 10/6d)	B	APIRG/13
10	Develop criteria for the approval of aircraft operations using GNSS, giving consideration to the needs of all phases of flight, for en route navigation in oceanic areas and continental areas and for terminal area navigation (AFI/7, Concl. 13/5c)	A	APIRG/13
11	Establish and maintain current a data base on CNS/ATM planning and implementation in the AFI Region	B	
12	Examine the planning of early implementation of local differential status to augment GNSS so as to provide precision approach capability, (AFI7 Concl. 13/5e)	B	

Item	Task description	Priority	Target date
13	Continue the development of the draft AFI Aeronautical Surveillance Plan	A	APIRG/13
14	Identify and address, to the extent possible, institutional and legal matters related to the GNSS implementation in the Region (AFI/7, Concl. 10/6 e)	B	APIRG/13

Priority:

- A High priority tasks on which work should be speeded up;
- B Medium priority tasks, on which work should be undertaken as soon as possible, but without detriment to priority A tasks;
- C Lesser priority tasks, on which work should be undertaken as time and resources permit, but without detriment to priority A and B tasks.

**Composition:** Algeria, Botswana, Cameroon, Cape Verde, Côte d'Ivoire, Congo, D.R. of Congo, Egypt, Ethiopia, Gabon, Ghana, Guinea, Kenya, Lesotho, Mauritania, Morocco, Nigeria, Niger, Senegal, Seychelles, South Africa, Spain, Tunisia, Tanzania, Zambia, ASECNA, IATA, IFATCA.

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**TERMS OF REFERENCE, WORK PROGRAMME AND COMPOSITION  
OF THE TRAFFIC FORECASTING TASK FORCE (TF/TF)**

**1. Terms of Reference:**

- a) Identify the data source (air traffic control centres or ATS units) and the data requirements for the development of medium-term (3 to 5 years) and long-term (6 to 20 years) forecasts of air traffic for the AFI Region.
- b) Develop medium and long-term passenger, freight and total aircraft movement forecasts for AFI Region, to support the air navigation systems planning including CNS/ATM implementation taking into consideration that:
  - i) the forecasts should be developed using a methodology which links passenger and freight demand with aircraft movement forecasts directly and in a consistent manner;
  - ii) The forecasts should cover traffic flows as contained in Doc 003.
- c) Assist in the development of cost/benefit analyses for the implementation of CNS/ATM systems components, as required.

**2. Work Programme**

Secretariat to prepare drafts for consideration by the Task Force in time for APIRG/12.

**Composition:** Six experts have been designated by the following member States as follows:

Malawi	(Economist)
Nigeria	(Information/Statistics - will submit Economist)
Senegal	(Statistician)
South Africa	(1 Economist, 1 Statistician)
Tanzania	(Economist/Statistician)
Togo	(Business and Finance)

**APPENDIX W - PROPOSED FOLLOW-UP ON CONCLUSIONS DEVELOPED BY  
ALLPIRG/3 MEETING**

Not Available Electronically

**TENTATIVE MEETING SCHEDULE FOR APIRG AND ITS SUBSIDIARY BODIES**

YEAR	1999				2000				2001			
	Quarter				Quarter				Quarter			
	1	2	3	4	1	2	3	4	1	2	3	4
APIRG/13									D			
AOP/SG								N				
ATS/AIS/SAR/SG						D						
CNS/ATM/IC/SG									N			
COM/SG						D						D
MET/SG								D				
TF/TF					N						D	
ASM/TF			X									
ACAS/TF			X									
AIS/AUTOMATION/ TF					X							
COM/TF				N								

D = DAKAR

N = NAIROBI

X = TO BE DETERMINED

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