INTERNATIONAL CIVIL AVIATION ORGANIZATION

WESTERN AND CENTRAL AFRICAN OFFICE

REPORT OF THE FIRST MEETING OF THE SAT 14 TASK FORCE FOR IMPROVEMENT OF AIR TRAFFIC CONTROL IN THE SOUTH ATLANTIC (SAT/14-TF/1)

(Sal, Cape Verde, 10 - 12 June 2009)

TABLE OF CONTENTS

History of the meeting

1 Introduction

1.1 The first meeting of the SAT/14 Task Force (SAT/14-TF/1) was held at the Sal Oceanic Control Center, Sal, Cape Verde from 10th to 12th June 2009, at the kind invitation of Cape Verde. The meeting was supported by the Airports and Air Navigation Safety Agency (ASA), Cape Verde.

1.2 The meeting was opened by Mr. Mario Paixiao Lopes, Chairman of the Board of Directors of ASA, on behalf of the Host State, conjointly with the SAT FIT4 meeting. He welcomed the delegates and emphasized the fact that the FIT/4 and SAT 14 T/F1 meetings occurred in a painful context of the history of civil aviation in the South Atlantic area, due to the accident involving the Air France AF 447 Aircraft, on 31st May 2009. In this regard the meeting observed one minute of silence to express its solidarity to the families of the victims. Mr. Lopes recalled also that ASA is celebrating its 25th anniversary, and marking the achievements made by the company in the civil aviation field during these 25 years. He therefore emphasized the need for continuing close relations and co-ordination among States to improve safety over the South Atlantic. He wished the participants a productive and successful meeting that would yield good results for the benefit of aeronautical activities in the SAT region.

2. Officers and Secretariat

2.1 The meeting nominated Mr. Harry Roberts, (ATNS, South Africa), as its moderator.

2.2 Mr. Sadou MARAFA, Regional Officer, Air Traffic Management of the ICAO WACAF Office, acted as the Secretary of the meeting.

3. Attendance

3.1 The meeting was attended by 41 participants from nine (9) ICAO contracting States namely, Brazil, Cape Verde, Cote d'Ivoire, Ghana, Mauritania, Portugal, South Africa, Senegal, and Spain, and 4 International/Interregional Organizations (ASECNA, IATA, SATMA and SITA).

3.2 The list of participants and their contact addresses is at **Appendix A** to this report.

4. Working languages

4.1 The meeting was conducted in the English language and its relevant documentation was
presented in this language.

5. Agenda of the meeting

5.1 The meeting adopted the following agenda:

Agenda Item 1: Review of SAT/14 Report
Review of the report of SATFIT4 meeting

Agenda Item 2: **Review of Migration Plan Working Group (MG/WG) Report**

Agenda Item 3: **Flight plan availability in the South Atlantic**

Agenda Item 4: **Implementation of AORRA Phase 2**

Agenda Item 5: **Improvement of the airspace structure in the EUR/SAM Corridor**

- **a) Analysis of the current operational situation**
- **b) Implementation of RNP/4**

Agenda Item 6: **Review of Contingency Plans for the EUR/SAM Corridor**

Agenda Item 7: **Any other business**

6. Conclusions and Decisions of the meeting

SUMMARY LIST OF CONCLUSIONS AND DECISIONS

Agenda Item 2: **Review of Migration Plan Working Group (MG/WG) Report**

Conclusion SAT14TF1/01 **Establishment of a CAFSAT Management Committee**

That:

1) a CAFSAT Management Committee be established based on the experience gained with AFISNET, NAFISAT and SADC VSAT networks; and
2) the CAFSAT Management Committee participate in the joint meetings recommended by Special AFI RAN 2008 under its Recommendation 6/19.
3) CAFSAT Management committee Terms of Reference to be reviewed by SAT 15

Agenda Item 3: **Flight plan availability in the South Atlantic**

Conclusion SAT14TF1/02 **Flight plan availability in the South Atlantic**

That:

1) SAT ACCs concerned continue to take the appropriate measures including exchange, investigation on flight plan availability and coordinated survey to solve the problem of lack of flight plans;
2) IATA and ANSPs remind airlines of the need to ensure correct flight plan addressing; and
3) the AFI AFTN Routing Directory be amended to include Nouakchott/Las Palmas and Nouakchott/Casablanca circuits.

Conclusion SAT14TF1/03 **Commitment for ICAO New Flight Plan**

That:

1) Effective **15 November 2012**, all SAT States:
   a. Accept and disseminate 'NEW' FPLs only; and
   b. Implement the new FPL system in order to ensure a seamless and timely transition with no loss of service. If this cannot be agreed to then it is preferable to set a minimum transition period; and

2) In the unlikely event that an ANSP does not implement, the concerned State shall notify the fact in part 1 of its AIP as a 'significant difference' to the PANS-ATM as described under Annex 15, 4.1.2-c, prior to November 15, 2012.
3) ICAO Regional Offices monitor the implementation of the ICAO New Flight Plan in the SAT Region

Conclusion SAT14TF1/04 **Transition to the new ICAO flight plan**

That

1. SAT States adopt the ICAO Special RAN AFI/08 Recommendation 6/5, requesting States to coordinate their transition to the new ICAO flight plan and follow the checklist in the Performance Framework Form in **Appendix D** to this report in order to ensure harmonization and orderliness in their transition to the new flight plan by 15 November 2012.
2. the SAT ATM Working Group work programme be amended to include activities related to the transition to the ICAO New Flight Plan (**see Appendix E)**

Agenda Item: 4. Implementation of AORRA phase II

Conclusion SAT14TF1/05 **Implementation of AORRA Phases 3 and 4**

That

1. Recognizing the significant benefits expected from the implementation of AORRA and accepting that the ARMA is at present developing the RVSM POSC which is considering current airspace configuration, the result of the POSC will be distributed to States concerned with AORRA for their review when conducting their own safety assessment as stipulated by the ICAO SMS.
2. States concerned with the implementation of phase 3 and 4 complete implementation not later than end **April 2010**

Conclusion SAT14TF1/06 **Direct transitions to/from AORRA (Phase II) airspace**

That the ICAO Regional Offices facilitate coordination, publication and implementation by Angola, Ghana, Sao Tome and Principe, ASECNA and Roberts FIR the direct transitions to/from AORRA airspace proposed in **Appendix F**, subject to further amendments as necessary

Conclusion SAT14TF1/07 **Suspension of fixed routes within the AORRA airspace**

That **a**ll States and ANSPs concerned suspend all fixed routes within the AORRA airspace in order to optimize the benefits expected from random routing operations in the South Atlantic at a common AIRAC cycle date. The date is to be determined by States concerned in coordination with ICAO.

Agenda Item 5: Improvement of the airspace structure in the EUR/SAM Corridor
a) Analysis of the current operational situation
b) Implementation of RNP/4

Decision SAT14TF1/01 **SATMA Studies publication**

That SATMA publishes on the SATMA website by the end of June 2009 the content of the power-point presentations pertaining to:

- Air Traffic statistics of the EUR-SAM Corridor during 2008 (comparative 2007-2008) and Air Traffic evolution since 2004;
- Analysis of air traffic evolution in the EUR-SAM Corridor during the world economical crisis; and
- "Double Unidirectionality" post-implementation collision risk assessment (EUR/SAM Corridor)

Conclusion SAT14TF1/08 **LHD Monitoring**

That

a) The LHD focal point be identified and communicated to SATMA by 1st July 2009;
b) The LHD Monitoring Team commences its activities by 1st July 2009; and
c) The LHD Monitoring Team reviews and endorses its draft Terms Of Reference as contained in **Appendix G**

Conclusion SAT14TF1/09 **SATMA Assessment**

That States apply mitigating actions in order to reduce operational coordination errors affecting operational risk.

Conclusion SAT14TF1/10 **Improvement of the coordination procedures in the EUR/SAM Corridor**

That

a) States concerned review procedures in their LOP/LOAs to ensure the inclusion of procedures relating to the transfer of control of flights at the relevant FIR boundaries.
b) States conclude this review and make necessary amendments by 30th September 2009
c) States must ensure compatibility of electronic data exchange systems

Conclusion SAT14TF1/11 **Implementation of RNP/4 in the EUR/SAM Corridor**

That EUR/SAM Corridor States and ANSPs

1. Agree on a need for a RNP 4-30/30NM implementation strategy, using available guidance material;
2. Develop a transition plan from the current RNP10 with 10 minutes longitudinal spacing and 50NM lateral spacing; and
3. Adopt an ADS-C updating rate consistent with RNP4 operations.

Agenda Item 6:	**Review of Contingency Plans for the EUR/SAM Corridor**
Conclusion SAT14TF1/12	**Contingency Plans for the EUR/SAM Corridor** That States concerned (Brazil, Cape Verde, Senegal and Spain) implement the agreed to contingency plan as reflected in **Appendix H**
Agenda Item 7:	**Any other business**
Decision SAT14TF1/02	**Next SAT Meeting** Portugal will host SAT 15 during March or April 2010. Venue and date to be confirmed.

Summary of Discussions

Agenda Item 1: Review of SAT/14 Report
Review of the report of SATFIT4 meeting

1.1 The Secretariat presented the status of implementation of Conclusions emanating from the fourteenth meeting for the improvement of air traffic control in the South Atlantic (SAT/14), which was held in Montevideo, Uruguay, from 7 to 9 May 2008. The meeting reviewed and noted the actions taken by SAT Members and the Secretariat on the said Conclusions.The status of implementation of these Conclusions is shown at **Appendix B** to this report. Those that are on going or still valid should be reviewed at the next SAT15 meeting.

1.2 The outcome of the SAT/FIT/4 meeting held from 08 to 09 June 2009 at the same venue as the present meeting was reviewed and the relevant Conclusions (see **Appendix C** to this report) were endorsed by the SAT/14/TF/1 meeting.

Agenda Item 2: Review of Migration Plan Working Group (MG/WG) Report

2.1 The meeting was reminded that SAT 14 Meeting, held in Montevideo, Uruguay 7-9 May 2008 established the Migration Plan Working Group with the aim of coordinating all aspects related to the migration of services from Satellite IS 801, which was to be removed from orbit in October 2008.

2.2 The migration of CAFSAT onto IS 910 Transponder 36/36 was successfully implemented by SAT Air Navigation Service Providers, in close cooperation with INSA and INTELSAT, without major communication interruptions. The meeting congratulated States concerned for this successful achievement.

2.3 The meeting's attention was also drawn to Recommendation 6/19 of the SP AFI/ RAN 08 Meeting, which states:

Recommendation 6/19 - Planning, implementation and operation of very small Aperture terminal (VSAT) networks in the AFI Region

> *That all entities involved with planning, implementation and operation of VSAT networks in the AFI Region hold regular joint meetings under the auspices of ICAO regional offices for the purpose of harmonization and eventual realization of a seamless AFI communication network supporting all present and future CNS systems.*

2.4 The CAFSAT Migration Working Group at its meeting held in Madrid, Spain, from 2 to 3 July 2008, adopted Conclusion 1/7 of the CAFSAT Migration Plan Working Group Meeting, calling for the establishment of a management committee based on the AFI Satellite Network Management Committee model. This would facilitate the representation of CAFSAT in the joint meetings recommended by SP AFI RAN 2008 under its Recommendation 6/19 cited here above.

2.5 In view of the above, as the Migration Plan Working Group (MP/WG) had accomplished its task with success, the meeting considered the MP/WG as terminated and adopted the following Conclusion:

Conclusion SAT14TF1/01: Establishment of a CAFSAT Management Committee

That:

1) **a CAFSAT Management Committee be established based on the experience gained with AFISNET, NAFISAT and SADC VSAT networks; and**

2) **the CAFSAT Management Committee members participate in the joint meetings recommended by Special AFI RAN 2008 under its Recommendation 6/19.**

3) **CAFSAT Management Committee Terms of Reference be reviewed by SAT 15**

Agenda Item 3: Flight plan availability in the South Atlantic;

3.1 Based on statistics provided by ASECNA concerning performance of the AFTN circuits in the Dakar centre, it was noted that the various AFTN circuits generally performed well and met the ICAO requirement of 97% availability. Nevertheless, problems of lack of flight plans and transit time of AFTN messages continue to be experienced in many centres.

3.2 Due to the importance of the availability of flight plans in the Flight Data Processing System (FDPS) functionality of the ADS/CPDLC systems, in-depth investigations must be conducted in order to identify, correct and solve the problem of lack of flight plans as soon as possible.

3.3 The meeting noted with concern the situation in Nouakchott (Mauritania) where the problem of lack of flight plans has been experienced daily since the implementation of the UTA due to message routing procedures.

3.4 Having in mind the above, the meeting agreed to the following Conclusion to address the issue:

Conclusion SAT14TF1/02: Flight plan availability in the South Atlantic

That:

1) **SAT ACCs concerned continue to take the appropriate measures including exchange, investigation of flight plan availability and coordinated survey to solve the problem of lack of flight plans;**

2) **IATA and ANSPs remind airlines of the need to ensure correct flight plan addressing; and**

3) **the AFI AFTN Routing Directory be amended to include Nouakchott/Las Palmas and Nouakchott/Casablanca circuits**

3.5 The meeting considered the status of the implementation of the ICAO New Flight Plan in the SAT region, and was reminded that, as per ICAO provisions, the effective date for the changes in the Filed Flight Plan (FPL) is 15 November 2012.

3.6 It was also recalled that the Special RAN AFI/08 meeting examined the issue with regard to the AFI region and adopted its Recommendation 6/5, requesting States to coordinate their transition to the new ICAO flight plan and follow the checklist in the relevant Performance Framework Form in order to ensure harmonization and orderliness in their transition to the new flight plan by 15 November 2012.

3.7 The meeting recognized the benefit expected from the implementation the new ICAO Flight Plan and agreed to amend the work programme of the SAT ATM Working Group to include tasks related to its transition.

3.8 The Task Force therefore agreed to the following Conclusions

Conclusion SAT14TF1/03: Commitment for ICAO New Flight Plan

That:

1) **Effective 15 November 2012, all SAT States:**
   a. **Accept and disseminate 'NEW' FPLs only; and**
   b. **Implement the new FPL system in order to ensure a seamless and timely transition with no loss of service. If this cannot be agreed to then it is preferable to set a minimum transition period; and**

2) **In the unlikely event that an ANSP does not implement, the concerned State shall notify the fact in part 1 of its AIP as a 'significant difference' to the PANS-ATM as described under Annex 15, 4.1.2-c, prior to November 15, 2012.**

3) **ICAO Regional Offices monitor the implementation of the new ICAO Flight Plan in the SAT Region**

Conclusion SAT14TF1/04: Transition to the new ICAO flight plan

That

1) **SAT States adopt the ICAO Special RAN AFI/08 Recommendation 6/5, requesting States to coordinate their transition to the new ICAO flight plan and follow the checklist in the Performance Framework Form in Appendix D to this report in order to ensure harmonization and orderliness in their transition to the new flight plan by 15 November 2012.**

2) **SAT ATM Working Group work programme be amended to include activities related to the transition to the new ICAO Flight Plan (see Appendix E)**

Agenda Item 4: Implementation of AORRA phase 2

4.1 The meeting was apprised that AORRA Phase II was successfully implemented on 9 April 2009 by Angola, Brazil, Ghana and ASECNA. Users expressed their appreciation of this important initiative in the South Atlantic.

4.2 Moving toward the implementation of AORRA Phases 3 to 4, the issue of safety assessment as a prerequisite to any major change was raised by some States, and in the case of the AORRA Airspace the question arose as to which structure should carry it out (i.e. SATMA or ARMA).

4.3 It was recalled that any safety assessment shall be carried out under the individual responsibility of each State concerned and that SATMA and ARMA are only dealing with the EUR-SAM corridor and AFI RVSM respectively.

4.4 The meeting was of the view that the experience gained with the implementation of phase I and II should allow States to go forward and implement phase III and IV in the required safety conditions.

4.5 The Task force therefore formulated the following Conclusion:

Conclusion SAT14TF1/05: Implementation of AORRA Phases 3 and 4

That

1) **Recognizing the significant benefits expected from the implementation of AORRA and accepting that the ARMA is at present developing the RVSM POSC which is considering current airspace configuration, the result of the POSC will be distributed to States concerned with AORRA for their review when conducting their own safety assessment as stipulated by the ICAO SMS.**

2) **States concerned with the implementation of phase 3 and 4 complete implementation no later than end April 2010.**

4.6 The meeting considered the need expressed by IATA for additional direct route transitions that are required from waypoints on the existing Airway structure to discrete Latitude/Longitude waypoints on the new AORRA northern and eastern boundaries, in order to optimize random routing benefits.

4.7 The meeting agreed to the idea but called for a sound coordination between entities concerned with the issue. The following Conclusion was adopted in this sense:

Conclusion SAT14TF1/06: Direct transitions to/from AORRA (Phase II) airspace

That the ICAO Regional Offices facilitate coordination, publication and implementation by Angola, Ghana, Sao Tome and Principe, ASECNA and Roberts FIR the direct transitions to/from AORRA airspace proposed in Appendix F, subject to further amendments as necessary.

4.8 Considering the status to be allocated to existing ATS routes within the AORRA airspace, the meeting retained that all routes within the said airspace be suspended in order to allow full random routing operations and remove any misunderstanding of the application. These routes may be reactivated in case of emergency situation. On this particular point, the following Conclusion was formulated:

Conclusion SAT14TF1/07: Suspension of fixed routes within the AORRA airspace

That all States and ANSPs concerned suspend all fixed routes within the AORRA airspace in order to optimize the benefits expected from random routing operations in the South Atlantic at a common AIRAC cycle date. The date is to be determined by States concerned in coordination with ICAO.

Agenda Item 5: Improvement of the airspace structure in the EUR/SAM Corridor

a) Analysis of the current operational situation

b) Implementation of RNP/4

5.1 Under this Agenda item, with regard to part **a) Analysis of the current operational situation**, SATMA made power point presentations on various studies covering the following five working papers:

1) WP4: Air Traffic statistics of the EUR-SAM Corridor during 2008 (comparative 2007-2008) and Air Traffic evolution since 2004

2) WP5: Analysis of air traffic evolution in the EUR-SAM Corridor during the world economical crisis

3) WP6: "Double Unidirectionality" post-implementation collision risk assessment (EUR/SAM Corridor)

4) WP7: LHDs Monitoring Team

5) WP8: Proposal of new coordination procedures between adjacent ACC´s to reduce and prevent LHDs due to operational errors

5.2 Data from the presentations made by SATMA relating to Air Traffic movements along the EUR-SAM Corridor could be summarized as follows:

- The Air Traffic figures for 2008 show a global increase of 5%, however this increase is clearly attributable to a huge increase during the months of January and February; a progressive reduction of air traffic movements was detectable from the month of September.
- Only two ATS routes show a positive increase, UN866 (27%) and UN857 (19%). UN873 is still the most congested route. The traffic distribution in the two unidirectional routes UN741 and UN866 is very similar, 24% and 23% respectively.
- The evolution of air traffic figures for the period 2004 - 2008 shows a significant increase of 31.8% with a daily traffic average of 73 movements during 2004 rising to a maximum of 96 movements during 2008.

5.3 The influence of the world economic crisis is discernable through comparison of air traffic figures for the period October 2008 – April 2009 with the same period during 2007/2008 which show , despite the increase during 2008, a clear down turn of -16%. The key elements of this high decrease in traffic flows are as follows:

a) UN857 is the only route without traffic decreases. Although here traffic values are still low, there is a tendency towards an increase: 10.9% of total traffic during 2008 and 13.0% in 2009.
b) UN873 remained the most demanded route but its percentage of use is seen to be decreasing (37.4%).
c) The average number of flights per day is also decreasing. The average number of daily flights before the global crisis was 103, currently this average is 87.
d) Despite this global decrease, the peak hours remain very similar, i.e. 36 aircraft per hour in 2008 and 34 aircraft per hour in 2009 as the maximum peaks.
e) There is a clear drop in traffic at all main airports within the EUR-SAM Corridor.

5.4 The meeting was presented with the post-implementation collision risk assessment made for the EUR/SAM Corridor in order to analyse safety after the change in the routing structure, which took place on 5th July 2007 (routes UN-741 and UN-866, previously bidirectional, became unidirectional).

The study assesses the lateral and vertical collision risk in the Corridor, where RNP10 and RVSM are implemented, with data of traffic between FL290 and FL410 collected during the first year of operation, from 10th July 2007 to 10th July 2008. This assessment was made in six different locations along the Corridor, covering the four UIRs. The locations are:

- Canaries: boundary between the Canaries UIR and the SAL OCEANIC UIR
- SAL1: Route UR-976/UA-602
- SAL2: Boundary between SAL OCEANIC UIR and DAKAR OCEANIC UIR
- DAKAR1: Route UL-435
- DAKAR2: Boundary between DAKAR OCEANIC UIR and ATLANTIC FIR
  RECIFE: Route UL-375/UL-695

The assessment did not however consider the reduction of collision risk that would result with the use of ADS.

Lateral collision risk values obtained

The collision risk values obtained for the period 2008 - 2018, in different locations, are as shown in the following sections.

Locations	Lateral Collision Risk 2008	Lateral Collision Risk 2018
Canaries	$2.1289*10^{-9}$	$4.5961*10^{-9}$
SAL 1	$2.0055*10^{-9}$	$4.3296*10^{-9}$
SAL 2	$2.4510*10^{-9}$	$5.2915*10^{-9}$
Dakar 1	$1.9075*10^{-9}$	$4.1182*10^{-9}$
Dakar 2	$1.6749*10^{-9}$	$3.6160*10^{-9}$
ATL - Recife	$1.7024*10^{-9}$	$3.6752*10^{-9}$

Lateral collision risk is below the $TLS = 5\times10^{-9}$ with the current traffic flow and it is estimated that, considering 8% as the annual traffic growth rate, it will continue to be laterally safe until 2017. According to these results, the TLS would be exceeded in 2018. Nevertheless, it must be taken into account that conservative assumptions have been made.

Comparing these results with those obtained for the pre-implementation safety assessment, it can be seen that the new values are higher. This is due to the traffic growth in the Corridor (higher than expected).

Technical Vertical Collision Risk

The technical vertical collision risk values obtained for the period 2008 - 2018 in different locations, are as summarized in the following sections.

Locations	Technical Vertical Collision Risk 2008	Technical Vertical Collision Risk 2018
Canaries	$0.2725*10^{-9}$	$0.5883*10^{-9}$
SAL 1	$0.1337*10^{-9}$	$0.2887*10^{-9}$
SAL 2	$0.1488*10^{-9}$	$0.3212*10^{-9}$
Dakar 1	$0.1822*10^{-9}$	$0.3935*10^{-9}$
Dakar 2	$0.1776*10^{-9}$	$0.3835*10^{-9}$
ATL - Recife	$0.1633*10^{-9}$	$0.3527*10^{-9}$

It can be seen that the estimates of the technical vertical risk are below the technical TLS even for 2018, the values obtained in all the locations being similar.

Comparing these results with those obtained for the pre-implementation safety assessment, it can be seen that the new values are higher. This is due to the traffic growth in the Corridor (higher than expected).

Total Vertical Collision Risk

The total vertical risk is the sum of the technical risk and the risks due to large height deviations involving whole numbers of flight levels (for climbing, descending and level-flight aircraft) and the risk due to large height deviations not involving whole numbers of flight levels. The relevant information is only provided by Recife, and some hypothesis would be required to estimate it in the case of SAL and Dakar. For this reason, collision risk has been calculated first in Recife.

The vertical risk due to large height deviations in Atlantic-Recife UIR would be 1.0535×10^{-6} and its contribution to the risk in the whole Corridor would be 2.252×10^{-7}. These results are much higher than the TLS

Nevertheless, it is important to remark that all the deviation reports received were due to coordination error and not related to RVSM operations. If these coordination errors are not taken into account, the total vertical risk would be equal to the technical vertical risk and hence comply with the TLS.

With these results of DOUBLE UNIDIRECTIONALITY post-implementation safety assessment presented by SATMA applying a collision risk model to available data, the meeting noted that:

a) Lateral and Vertical technical collision risk values are below the TLS in all UIRs.

b) Following other RMA criteria (since Operational coordination errors may not imply RVSM Deviation they have not been taken into account), the total vertical risk comply with the TLS.

c) In order to eliminate detected operational coordination errors, proper corrective action should be implemented.

5.5 The meeting therefore agreed to the following Decision:

Decision SAT14TF1/01: SATMA Studies publication

That SATMA publishes on the SATMA website by the end of June 2009 the content of the power-point presentations pertaining to:

- **Air Traffic statistics of the EUR-SAM Corridor during 2008 (comparative 2007-2008) and Air Traffic evolution since 2004**
- **Analysis of air traffic evolution in the EUR-SAM Corridor during the world economical crisis**
- **"Double Unidirectionality" post-implementation collision risk assessment (EUR/SAM Corridor)**

5.6 SATMA presented also a report on Large Height deviations occurring in the EUR/SAM Corridor. During the period July 2007-July 2008 a total of 43 LHD reports were received by SATMA, the totality of these 43 deviations were caused by errors in operational coordination between adjacent ACC´s. The most common operational error, accounting for 83.7% of the LHD reports, was "entry into airspace at incorrect flight level", (lack of revision of the cleared flight level to the next ACC), the rest of operational errors, 16.3%, were caused by "lack of transmission of aircraft estimates (flight data) to the next ACC".

5.7 It was pointed out that probably not all LHD´s had been reported. With a view to ensuring better monitoring and reporting of all possible LHD´s, the meeting agreed to the nomination by each SAT ACC of a "focal point" who will act as an interface with SATMA on the issue and be responsible for sending all LHD monthly reports, and any other report related to LHD's. With a coordinator designated by SATMA, these focal points will form the team which will monitor LHD in the EUR-SAM Corridor. The following Conclusion was therefore adopted by the Task Force:

Conclusion SAT14TF1/08: LHD Monitoring

That

a) The LHD focal point for each SAT ACC be identified and communicated to SATMA by 1st July 2009

b) The LHD Monitoring Team commences its activities by 1st July 2009

c) The LHD Monitoring Team reviews and endorses its draft Terms Of Reference as contained in Appendix G

5.8 It was noted that all reported LHD's in the EUR-SAM Corridor for the period July 2007-July 2008 are due to "operational errors in the coordination between ATC units". The most common errors are lack of revision of the cleared FL to the next ACC and lack of transmission of the estimate to the next ACC. These operational errors are not associated with recent operational developments such as implementation of RVSM or unidirectional routes.

5.9 The meeting was of the view that States should enhance the prevention of these operational errors generally related to communications, phraseology, supervision, etc., by implementing relevant general recommendations as well as specific operational coordination procedures to be agreed to between ACCs in the EUR-SAM Corridor. In this regard the meeting adopted the following two Conclusions:

Conclusion SAT14TF1/09: SATMA Assessment

That States apply mitigating actions in order to reduce operational coordination errors affecting operational risk

.

Conclusion SAT14TF1/10: Improvement of the coordination procedures in the EUR/SAM Corridor

That

a) States concerned review procedures in their LOP/LOAs to ensure the inclusion of procedures relating to the transfer of control of flights at the relevant FIR boundaries.

b) States conclude this review and make necessary amendments by 30th September 2009.

c) States must ensure compatibility of electronic data exchange systems.

5.10 Under the second part of this agenda item (Implementation of RNP/4), the meeting recalled the benefits expected from the implementation of RNP4 with 30/30 NM longitudinal/lateral separation, in the EUR-SAM Corridor. It recalled also the relevant provisions of ICAO Annex 11 pertaining to the implementation of RNP 4 with 30/30 NM longitudinal/lateral separation, for guidance and reference.

5.11 However the meeting deemed it necessary that a study/assessment be conducted on the transition from the current RNP10 with 10 minutes longitudinal spacing and 50NM lateral spacing to RNP4 30/30 NM in order to assess the safety of the operations as well as the expected economical advantages.

5.12 It was recalled and emphasized that the implementation of ADS-C/ CPDLC is a prerequisite for RNP 4 operations. In the same sense, ACCs will have to harmonize their ADS-C/ CPDLC procedures in order to optimize the operational benefits expected.

The meeting therefore adopted the following Conclusion:

Conclusion SAT14TF1/11: Implementation of RNP/4 in the EUR/SAM Corridor

That EUR/SAM Corridor States and ANSPs

1. **Agree on a need for a RNP 4-30/30NM implementation strategy, using available guidance material;**
2. **Develop a transition plan from the current RNP10 with 10 minutes longitudinal spacing and 50NM lateral spacing; and**
3. **Adopt an ADS-C updating rate consistent with RNP4 operations.**

Agenda Item 6: Review of Contingency Plans for the EUR/SAM Corridor

6.1 On this subject matter the meeting committed a drafting Group comprising Brazil, Cape Verde, Senegal and Spain to review the Guidelines for the Preparation of a Contingency Plan for the EUR/SAM Corridor. The drafting group presented its report to the Task Force which endorsed the Contingency Plan for the EUR/SAM Corridor as shown at **Appendix H** to this report. Hence the Conclusion:

Conclusion SAT14TF1/12: Contingency Plans for the EUR/SAM Corridor

That States concerned (Brazil, Cape Verde, Senegal and Spain) implement the agreed to contingency plan as reflected in Appendix H to this report

6.2 The meeting agreed also on the following dates for the publication and effectiveness of the AIC and NOTAM relating to the publication of the agreed to contingency plan:

a) AIC publication: 27 August 2009
b) AIC effectiveness: 22 October 2009.
c) NOTAM Publication: 8 October 2009

6.3 Cape Verde will coordinate the drafting of NOTAM and AIC models, as well as the list of focal points within the ACCs concerned**.**

Agenda Item 7: Any other business

7.1 Under this agenda item the Task Force noted a statement made by the delegation of Mauritania expressing the will of their State to participate henceforth in all SAT meetings, as the UTA of Nouakchott is located along the EUR/SAM Corridor. The meeting welcomed them.

Dates and venue of SAT/15 meeting

7.2 The meeting welcomed the offer of Portugal to host the forthcoming SAT/15 meeting, tentatively scheduled for March or April 2010. ICAO will coordinate with the Host State on the precise venue and dates.

The meeting formulated the following Decision:

Decision SAT14TF1/02: Next SAT Meeting

> **Portugal will host the SAT/15 meeting during March or April 2010. The precise venue and date are to be confirmed.**

7.3 The SAT Group members will be notified of the dates and venue of this meeting in due course.

Appendix A
SAT14/TF1 Report

INTERNATIONAL CIVIL AVIATION ORGANIZATION
Western and Central African Office

Firsh Meeting of the SAT/14 Task Force
(Sal, Cape Verde, 10 - 12 June 2009)

List of Participants/Liste de Participants

COUNTRY/PAYS	NAME/NOM	TITLE/FONCTION	ADDRESS	Telephone/Fax/E-Mail
BRAZIL	Mr. Ernane Roza de CASTRO	Air Traffic Manager, DECEA	Av. Boa ViaGAM, 6836 BL.04 Aptoss – Recefe – PE	Tel.: + 55 81 991 0087 + 55 8121 298 242 Email: ernanecastro@hotmail.com
	Mr Marcos A. A. SANTOS	CNS Manager, DECEA	Av CENTENARIO Santos Dumont, S/N° Cindacta 3 – Bordad – Recife – PE	Tel.: + 55 81 2129 8180 Email: + marantalsan@hotmail.com
CAPE VERDE	Mr. Jose RODRIGUES	Administrator	Sal Airport, P.O.B. 58, Espargos	Tel.: + 238 99 12809 Email: jrodrigues@asa.cv
	Mr. Arlindo NEVES	Director of Air Navigation	ASA, Sal	Tel.: + 238 99 15642 Email: aneves@asa.cv
	Mr. Carlos BRITO	DAQA		Tel.: + 238 99 34934 Email: calbuto@asa.cv
	Mr. Jose Louis Ramos REIS	Chief Maintenance Service of Aeronautical Telecomms. Systems	Espargos – Ilha Do SAL	Tel.: + 238 99 12177 Email: jreis@asa.cv
	Mr. Teofilo FIGUEIREDO	CGACA	Bairro Novo – Espartos - Ilha Do SAL	Tel.: + 238 977 0139 Email: tfigueiredo@asa.cv
	Mr. Jose Paulo Almeida CABRAL	Chefe de Operaçoes ATS	SAL	Tel.: + 238 99 12 159 Email: Jcabral@asa.cv Paulocabral10@hotmail.com
	Mr. Altino Lopes CABRAL	ATC Coordinator	Aeroporto Internacional Amilcar Cabral, Ilha Do Sal	Tel.: + 238 241 1730 Email: acabral@asa.cv
	Mr. Jose Carlos Jesus FERNANDES	Tecnico Telecom. Aeeronautica	Espartos – SAL	Tel.: + 238 99 12831 Email: jcarlos@asa.cv Zecarlos50@hotmail.com

COUNTRY/PAYS	NAME/NOM	TITLE/FONCTION	ADDRESS	Telephone/Fax/E-Mail
	Mr. Vital SANTOS	ASA	ASA	Tel.: + 238 12 807 Email: vitalvs@gmail.com
	Mr. Sabino BAPTISTA		CP. 35 Espargos, Sal	Tel.: + 238 99 15642 Email: Salinogb@gmail.com
COTE D'IVOIRE	M. Jean ALLA AMANI	Chef Département Navigation Aérienne	L'Autorité Nationale de l'Aviation Civile – ANAC, 07 BP 148 Abidjan 07	Tel.: + 225 07 923022 Fax.: + 225 21 27 6346 Email: allaamanijean@yahoo.fr anac@avisco..ci/anac_ci@yahoo.fr
	M. KONE SIDI	Head of Air Navigation Service	ASECNA, Côte d'Ivoire	Tel.: + 225 21 58 6900/01 Fax.: + 225 21 27 6346 Email: anac@avisco..ci/ anac_ci@yahoo.fr
	M. Sylvain N'ZEBO OI N'ZEBO	AIS/MAP Chief	L'Autorité Nationale de l'Aviation Civile – ANAC, 01 BP 7042 Abidjan 01	Tel.: + 225 03-300932 Fax.: + 225 21 27 6346 Email: snzebo@yahoo.fr anac@avisco..ci/anac_ci@yahoo.fr
GHANA	Mr. Albert TAYLOR	Director, Air Traffic Services	Ghana Civil Aviation Authority, Private Mail Bag, Kotoka International Airport, Accra	Tel.: + 233 21 77 6079 Email: ataylor@gcaagh.com Albert.aidoo-taylor@yahoo.co.uk
	Mr. Samuel ASANTE	ATS Watch Manager	Ghana Civil Aviation Authority, Private Mail Bag, Kotoka International Airport, Accra	Tel.: + 233 0244 644 872 233 21 77 3283 Email: skasannte57@yahoo.com
	Ms. Joyce ASANTE	Electronic Engineer	Ghana Civil Aviation Authority, Private Mail Bag, Kotoka Int. Airport, Accra	Tel.: + 233 244 88 6813 Email: naanajoyce@yahoo.com
MAURITANIA	Mr. Abdoulaye Abasse N'GAIDE	Deputy Director General, ANAC	ANAC, BP 91, Nouakchott,	Tel. : + 222 525 3578/ + 222 524 4005 Fax : + 222 525 3578 Email : ngaidecsa@yahoo.fr
	Mr. Moctar DIALLO	Consultant	ANAC, BP 91, Nouakchott	Tel.: + 222 74 60747 Email: sylle501@hotmail.com
	Mr. Moctar Ould AHMED SALEM	Air Navigation expert		Tel. : + 222 244 7323 Fax : + 222 525 1625 Email : mukhtarsalem@yahoo.fr
PORTUGAL	Mr. Pedro Andrade FERREIRA	ATM Expert	NAV Portugal, E.P.E., Rua D, Edificio 121, Aeroporto de Lisboa, 1700-008 LISBOA	Tel.: + 351-218 553 256 Fax.: + 351 218 553 593 Email: Pedro-Andrade.Ferreira@nav.pt
	Mr. Luis RODRIGUES	CNS Specialist	NAV Portugal, E.P.E., Rua C, Edificio 118, Aeroporto de Lisboa, 1700-007 LISBOA	Tel.: + 351-218 553 562 Fax.: + 351 218 553 574 Email: Luis.rodrigues@nav.pt

COUNTRY/PAYS	NAME/NOM	TITLE/FONCTION	ADDRESS	Telephone/Fax/E-Mail
SENEGAL	Mme Aïchatou SOW	Cadre Technique – Inspector Nav. Aérienne	Cité ASECNA N°. G65, BP 29848, Dakar/Yoff	Tel.: + 221 77 450 0415 Email: shatousow@yahoo.fr
	Mr. David MENDY	ATC	BP 8123, Svc. ENA, ASECNA Yoff Aéroport L.S.S.	Tel.: + 221 76 682 11 19 Email: Davidmendy@yahoo.fr
	Mr. Magueye Marame NDAO	Air Navigation Services Manager	BP 8132, Aéroport Léopold Sédar Senghor, Dakar, Yoff	Tel.: + 221 33 869 2307 Fax.: + 221 33 820 0600 Email : magueyen@yahoo.fr
	Mr. Seydou BA	CNS Manager	Aéroport L.S.S. , BP 8132	Tel.: + 221 33 869 2320 Fax.: + 221 33 820 0252 Email: basey@asecna.org
	Mr. Sidy GUEYE	Dakar ACC Manager	BP 8132, Dakar	Tel.: + 221 33 869 2305 Email: sgueye@yahoo.fr
SOUTH AFRICA	Mr. Harry ROBERTS	ATM Specialist - ATNS	Private Bag X15, Kempton Park, RSA 1627	Tel.: + 27 11 961 0123 Email: harryr@atns.co.za
	Mr. SMITH Johnny	Manager, Air Traffic Services	Air Traffic Control Centre, Johannesburg International Airport, Private BAG x1, Bonaero Park 1622	Tel.: + 27 11 928 6526 Fax : + 27 11 1045 395 Email: johnnys@atns.co.za
	Mr. NOLAN Loyd		Pool Manager ACC, Johannesburg Area Private BAG x1, Bonaero Park 1622	Tel.: + 27 11 928 6436 + 27 82 572 9672 Fax.: + 27 11 945 1045 Email: lloydn@atns.co.za
SPAIN	M. Antonio Coronado TOURAL	Head of ATM Design, Development and Implementation Division	AENA/C/JUAN JUNAGD, Luca de Tena 14 - 28042, Madrid	Tel.: + 34 91 321 3321 Email: acoronado@aena.es
	Mr. José Manuel LOPEZ MONCO	Head of en-Route Operations Division	AENA	Tel.: + 34 91 321 0298 Email: jmlmonco@aena.es
	Mr. Anselmo Martinez VIDAL	Responsible for activity of Palma de Mallorca ATC Centre	AENA	Tel.: + 34 639 1857 84 Email: amvidal@aena.es
	Mr. Ana Belén TORRES FUSTES	Project Coordinator	INSA	Tel.: + 34 91 758 2077 Email: abtorres@insa.es
	Mr. Rubén Garcia PARDO	Head of International Institutional Relations Department	AENA, Juan Egnacio Luda de Tena, 14 28027, Madrid	Tel.: + 34 628 714 614 Email: rgpardo@e-externas.aena.es
INTERNATIONAL ORGANIZATIONS/ ORGANISATIONS INTERNATIONALES				
ASECNA	Mr. Bissa SOUGUE	Aeronautical Telecommunications Manager	BP 3144, Dakar	Tel.: + 22133 869 5732 Fax.: + 221 33 820 7538 Email:souguebis@asecna.org
	Mr. Amadou Yoro DIALLO	Chief of ATM Studies Bureau	P.O.B 3144, 32-38 Av. Jean Jaurès, Dakar	Tel.: + 221 33 869 5661 Fax.: + 221 33 820 7495 Email: dialloamad@asecna.org

COUNTRY/PAYS	NAME/NOM	TITLE/FONCTION	ADDRESS	Telephone/Fax/E-Mail
IATA	M. P. Zo'o Minto'o	Assistant Regional Director, AFI	88, Stella Street, Sandton, Johannesburg 2146, South Africa	Tel.: + 27 82 746 7413 Fax : + 27 11 5232701 Email : ZooMintooP@iata.org
SATMA	Mr. Antonio Arias FEBLES	SATMA CNS Responsible	AENA	Tel.: + 34 928 57177 Email: aarias@aena.es
SITA	Mr. GEURTS Patrick	Manager, ATM Business Development, Europe		Tel.: + 32 2 745 05 18 Mob.: + 32 479 76 05 10 Fax : + 32 2 745 05 70 Email : Patrick.geurts@sita.aero

APPENDIX B

Status of implementation of SAT/14 Conclusions and Decisions

Conclusions and Decisions	Implementation Status
Conclusion SAT 14/01: Suspension of selected ATS Routes within the AORRA airspace That concerned States publish by the AIRAC date of **3 July, 2008** a common AIP Supplement with effective date **25 September, 2008** to suspend those portions of the routes, shown at **Appendix B** to this part of the report, which are within the boundaries of the AORRA airspace.	**Completed by Brazil and South Africa**
Conclusion SAT 14/02: Implementation of phase 2 of AORRA airspace That States concerned: a) publish by the AIRAC date of **23 October, 2008** a common AIP Supplement for implementing the phase 2 of AORRA airspace by **18 December, 2008;** and b) implement AORRA phases 3 and 4 by 17 December 2009. .	**AORRA Phase 2 implemented on the 9th of April 2009**
Conclusion SAT 14/03: New safety assessment in the EUR/SAM Corridor That: a) in order to perform a new safety assessment the States concerned in the EUR/SAM corridor provide to SATMA the data traffic information from 5 July 2007 to 31 July, 2008 of the traffic operating outside Canarias FIR; and b) SATMA presents the results of the safety analysis to the SAT 14/TF/1.	**Considered under Agenda item 5 of SAT14/TF/1.**
Decision SAT 14/04: Cost-benefit analysis in terms of fuel and CO2 emissions reductions That SATMA, in close coordination with IATA and air carriers, periodically perform a cost-benefit analysis in terms of fuel and CO2 emissions reductions to be presented in SAT meetings. .	**On going. SATMA to provide report to SAT 15**
Conclusion SAT 14/05: Contingency Plan for the EUR SAM Corridor That: a) States concerned publish by AIRAC date 31 July 2008 an AIC with the contingency procedures shown at **Appendix G** to this part of the Report, to be effective on 25 September 2008; b) States concerned make the appropriate arrangement before 25 September, 2008 in order to include the contingency procedures approved as an Appendix to the Letters of Agreement; c) Brazil make the necessary arrangements to harmonize its contingency plan with the contingency procedures shown in Appendix C to this part of the report with regard to the EUR/SAM corridor within Atlantico FIR; and d) Cape Verde coordinates the drafting of NOTAM and AIC models, as well as the list of focal points within the ACCs concerned.	**Not implemented. To be reported to SAT 15.**

Conclusions and Decisions	Implementation Status
Conclusion SAT 14/06: Implementation of ATS/ADS circuit for Luanda/Atlantico States concerned take the appropiate actions to implement the ATS/DS circuit for Luanda/Atlantico with effective date of May 2009.	**Still valid. Action to be completed.**
Conclusion SAT 14/07: Las Palmas/Nouakchott, and LasPalmas/Nouadhibou ATS/DS That ICAO removes from the ICAO list of deficiencies in AFI Region links Las Palmas/Nouakchott, and Las Palmas/Nouadhibou ATS/DS as requirements have been met through the collaboration between ASECNA and Spain.	**Completed.**
Conclusion SAT 14/08: ATS Voice Numbering Plans for AFI Region That ICAO take the necessary steps to include in the appropriate working group the need to study the implementation of ATS Voice Numbering Plans for AFI Region, as defined by the recommendation contained within the ICAO Manual on ATS Ground-Ground Voice Switching and Signalling (Doc 9804,Chapter 2 Section 2.3).	**Still valid. To be considered by SAT 15**
Conclusion SAT 14/09: Trials for extension of ATS-N5 Voice Switching protocol Encourage SAT States to participate in the trials for extension of ATS-N5 Voice Switching protocol following the successful implementation of ATS-N5 (via CAFSAT) between Cape Verde and Las Palmas.	**Still valid. To be considered by SAT 15**
Decision SAT 14/10: New Task for the SAT/CNS Working Group That Task Nº8 be added to SAT/CNS Working Group Terms of Reference, as follows: Analyse all aspects related to the implementation of ATS-N5 protocol in the SAT area in accordance with ICAO guidance material contained in ICAO Annex 10 and Doc 9804.	**Completed.**
Decision SAT 14/11: Reformulation of Task 7 of the SAT/CNS Working Group That Task Nº 7 of SAT CNS Working Group Terms of Reference be reformulated, as follows: *In coordination with ATM/WG, share relevant technical aspects of different ADS/CPDLC systems to be implemented by SAT States addressing issues regarding work methodology, procedures, data interchange, maintenance, etc.*	**Completed.**
Conclusion SAT/14-12: ADS Data Sharing That States explore, the concept of ADS Data Sharing for the SAT Area, taking advantage of the potential of existing digital VSAT Networks in the area.	**Still valid. To be considered by SAT 15**

Conclusions and Decisions	Implementation Status
Decision SAT/14-13: Creation of the Migration Plan Task Force That the Migration Plan Task Force be created to coordinate all aspects related to the migration of services from Satellite IS-801 that will be retired on October 2008. The terms of reference of this WG are presented in Appendix A to the report on Agenda Item 4.	**Completed**
Conclusion SAT/14-14: Resources for the migration process to a new satellite That States take proper actions to ensure within the framework of the schedule, the availability of equipment, budget and resources, so the migration process may be achieved.	**Completed.**
Conclusion SAT/14-15: Trials for the interconnection of AMHS systems That SAT Members take the necessary actions to initiate trials for the interconnection of AMHS systems.	**Still valid. To be considered by SAT 15**
Conclusion SAT/14-16: SAT/FIT/3 Report The SAT/14 meeting approved the SAT/FIT/3 Report and its conclusions.	**Completed.**
Conclusion SAT/14-17: Terms of reference, working programme and Composition of the SAT Group Auxiliary bodies That the term Terms of reference, working programme and Composition of the SAT ATM Working Group (ATM/WG), Study group on the implementation of the airspace structure in the EUR/SAM CORRIDOR (IAS/SG), CNS Working Group (CNS/WG), and Migration Plan Working Group, respectively, are shown in **Appendix A** to this part of the report.	**ATM/WG and CNS/WG TORs are accepted. MP/WG is terminated.**

APPENDIX C

SAT FIT4 LIST OF CONCLUSIONS

Number	Title
Conclusion SAT FIT 4/1	**ADS/CPDLC in the SAT Area** That: a) SAT members implement the various Conclusions related to the need for implementation/operational application of ADS/CPDLC in the SAT area by not later than the end of 2010; and b) Canarias FIR, Dakar Oceanic FIR and Atlántico FIR (EUR/SAM Corridor), take appropriate measures aimed at full operational implementation by August 2009, in compliance with previous SAT conclusions.
Conclusion SAT FIT 4/2	**Hosting of the Central FANS Reporting Agency (CFRA)** That 1. The CFRA be in place by 2010 2. The CFRA Cost recovery is supported by the FIT in principle. 3. Technical service providers be invited by the Secretariat to present their proposals to the FIT by SAT FIT5 4. SATMA provides a business case, including financial implications and funding options: a) for review by the FIT in order to ensure full transparency of the process, and b) to provide SAT States with the outcome of the business case for consideration in making their final decisions. *Note: SATMA (Spain) offered to discharge CFRA function pending the finalization of the CFRA.*
Conclusion SAT FIT 4/3	**Participation at SAT FIT meetings** That: a) In case the regulator is different from the service provider, SAT States should ensure participation of regulators in the SAT/FIT meetings in order to have full commitment to the implementation activities; and b) Major airline representatives should also participate in the SAT/FIT meetings.
Conclusion SAT FIT4/4	**Update of ADS/CPDLC activities by States:** That States should update their plan of action/activities at Appendix D to the SAT FIT/2 report and return the same to the Rapporteur (johnnys@atns.coza) as an on going activity for presentation to SAT Meetings.
Conclusion SAT FIT 4/5	**Update of FOM** That a new controlled version of the FOM be posted to the corresponding ICAO Website. *Note: Latest version of FOM is version 6.* *Any further amendments to be forwarded to the Rapporteur.*

Number	Title
Conclusion SAT FIT 4/6	**Standardization of ADS- CPDLC functionalities within the SAT** That 1) the FIT members as a working group develop a roadmap and make the necessary proposals to address : • an AIP Supplement Model to be used by SAT States in future; • a common update rate for periodic contracts; • the parameters applied to trigger events contracts; • FANS 1/A non recognized messages; • Possible changes of LOA/LOPs; and • The altitude change range regarding RVSM airspace and non RVSM airspace. 2) The Secretariat initiates the process by July 2009 and all discussions be conducted by electronic correspondence
Conclusion SAT FIT 4/7	**Use of ADS-C/CPDLC in south Atlantic** That IATA and ICAO urge all airlines with suitably equipped aircraft to make use of ADS-C/CPDLC technologies to enhance safety and efficiency of operations within the south Atlantic.
Conclusion SAT FIT 4/8	**ADS-C/CPDLC Systems Interoperability in SAT Area** That Member States ensure interoperability of their systems and cooperate to implement data and applications exchange to improve operational coordination and air navigation safety.
Conclusion SAT FIT 4/9	**Amendment to the Work Programme of the SAT FANS 1/A Interoperability Team** That the SAT FIT work programme is amended as shown in **Appendix B** to the SAT FIT 4 report.

APPENDIX D

ATM PERFORMANCE OBJECTIVE: BASIC CHECKLIST FOR IMPLEMENTATION OF THE NEW ICAO FLIGHT PLAN (FPL) FORM				
Benefits				
Environment	• reductions in fuel consumption.			
Efficiency	• ability of air navigation service providers t make maximum use of aircraft capabilities • ability of aircraft to conduct flights more closely to their preferred trajectories • facilitate utilization of advanced technologies thereby increasing efficiency • optimized demand and capacity balancing through the efficient exchange of information			
Safety	• enhance safety by use of modern capabilities onboard aircraft			
Strategy: Short term (2010) - Medium term (2011 - 2015)				
ATM OC COMPONENTS	**TASKS**	**TIME FRAME START-END**	**RESPON-SIBILITY**	**STATUS**
SDM	***En-route airspace*** • ensure that the automation and software requirements of local systems are fully adaptable to the changes envisaged in the new FPL form.	2009		
	• ensure that issues related to the ability of FDPSs to parse information correctly and to correctly identify the order in which messages are received, to ensure that misinterpretation of data does not occur.	2009-2012		
	• analyze each individual data item within the various fields of the new flight plan form, comparing the current values and the new values to verify any problems with regard to applicability of service provided by the facility itself or downstream units.	2009		
	• ensure that there are no individual State peculiarities or deviations from the flight plan provisions.	2009-2012		
	• ensure that the accepting ATS Reporting Office accepts and disseminates all aircraft capabilities and flight intent to all the downstream ACCs as prescribed by the PANS-ATM provisions.	2012		
	• plan the transition arrangements to ensure that the changes from the current to the new ICAO FPL form occur in a timely and seamless manner and with no loss of service.	2009-2012		
	• in order to reduce the change of double indications it is important that any State having published a specific requirement(s) which are now addressed by the amendment should withdraw those requirements in sufficient time to ensure that aircraft operators and flight plan service providers, after 15 November 2012, use only the new flight plan indications.	2009-2012		
	• establish a central depository in order to track the implementation status and inform the ICAO regional offices on an ongoing basis.	2009		
Link to GPIs	GPI-5: Performance based navigation. GPI-18: Aeronautical Information. GPI-9: Situational awareness. GPI-11: RNP and RNAV Standard Instrument Departures (SIDs) and Standard Terminal Arrivals (STARs). GPI-17: Implementation of data link applications.			

APPENDIX E
TERMS OF REFERENCE, WORK PROGRAMME AND COMPOSITION OF THE SAT ATM WORKING GROUP (ATM/WG)

- Considering the evolutionary implementation of CNS/ATM systems in areas of routing AR1/HA1 and AR2/HA8 *as defined in the Global Air Navigation Plan (ICAO Doc 9750)*, the Task Force should explore ways and means to achieve further enhancements in ATM capacity and aeronautical telecommunications, and to implement CNS/ATM elements taking into consideration the timescales agreed for these areas of routing. It will be guided by the requirements identified in the AFI and CAR/SAM CNS/ATM Implementation Plans.
- *Note: The Task Force will adopt a pragmatic approach and may set up auxiliary bodies to carry out specific tasks, as necessary.*

WORK PROGRAMME

TASK No.	SUBJECT	TARGET DATE
1.	Analyze ATM deficiencies and make proposals for their elimination.	Continuous
2.	Monitor pre-implementation/post-implementation safety assessments (as applicable) for RVSM and RNP operations in the South Atlantic, including adjacent areas.	*Continuous*
3.	Study and evaluate RVSM, RNP/RNAV procedures applicable in the AFI/CAR/SAM and EUR/SAM Interface areas.	Continuous
4.	Monitor flight plan availability and propose appropriate corrective measures.	Continuous
5.	Oversee FANS 1/A system performance monitoring to ensure that the system continues to meet safety and interoperability requirements and that operations and procedures are working as specified.	Continuous
6.	Carry out studies on the establishment of a central reporting agency (CRA) and related institutional issues	Completed
7.	Harmonize ADS/CPDLC programmes developed by SAT States/FIRs and analyze cost-benefit aspects related to their implementation.	Continuous
8.	Maintain ADS/CPDLC operational guidance material updated.	Continuous
9.	Conduct studies related to the implementation of the Global ATM Operational Concept and other enabling concepts within the SAT area.	Continuous
10.	Continue studies related to the implementation of the AORRA airspace.	Continuous
11.	**Monitor the implementation of the ICAO New Flight Plan in the SAT Region.**	**15 November 2012**

- Note: The ATM/WG should take appropriate action on pressing issues and submit its proposal to the SAT/15 meeting.

COMPOSITION

- *The Task Force of multi-disciplinary nature shall comprise of experts from States responsible of FIRs in AFI and SAM routing areas AR1/AH2 and AR2/AH8 as defined in the Global Air Navigation Plan (ICAO Doc 9750), and experts from adjacent FIRs and international organizations.*
- ***Rapporteur:*** *Spain*
- *Tasks Nos. 5, 6, 7 and 8 are assigned to the SAT established FANS-1/A Interoperability Team (FIT) with South Africa as Team Leader.*

- ***Working arrangements****: The ATM/WG should complete its work and submit its proposal to the SAT Group. The ATM/WG should work through electronic correspondence prior to meetings.*

APPENDIX F

Requirements for transitions from/to SAT AORRA Phase II

Abidjan FIS/Roberts/Dakar Oceanic FIRs
ABJ - Direct - N00 00/W009 00
ABJ - Direct - N00 00/W010 00
ABJ - Direct - N00 00/W011 00
ABJ - Direct - N00 00/W012 00
ABJ - Direct - N00 00/W013 00

Accra FIR/Abidjan FIS
ACC - Direct - N00 00/W004 00
ACC - Direct - N00 00/W005 00
ACC - Direct - N00 00/W006 00
ACC - Direct - N00 00/W007 00

Accra FIR
EBULI - Direct - N00 00/E005 00 (Need a Sao Tomo Exit WPT) EBULI - Direct - N00 00/E004 00 EBULI - Direct - N00 00/E003 00 EBULI - Direct - N00 00/E002 00 EBULI - Direct - N00 00/E001 00 EBULI - Direct - N00 00/E000 00

Brazzaville/Accra FIRs
DLA - Direct - GEBRO - Direct - EBULI
DLA - Direct - RITIL - Direct - N00 00/E005 00 (Need a Sao Tome Exit WPT)

Dakar Oceanic FIR
TUROT - SIBAX - N00 00/W017 03 59.5284
TUROT - Direct - N00 00/W018 04 44.5132 (Airway UL435) TUROT - Direct - N00 00/W019 00 TUROT - Direct - N00 00/W020 00 TUROT - Direct - N00 00/W020 59 43.5284 (Airway UA572)

Luanda FIR
MUNDA - Direct - S06 00/E010 24
MUNDA - Direct - S07 00/E011 00
MTI - Direct - S07 00/E011 00
MTI - Direct - NATAR - Direct - OPAPO
BUDEL - Direct - IMLEX - Direct - S09 00/E011 13 VNA - Direct - S09 00/E011 13 VNA - Direct - S11 00/E011 24

Roberts/Dakar Oceanic FIRs
ROB - Direct - N00 00/W013 00
ROB - Direct - N00 00/W014 00
ROB - Direct - N00 00/W015 00
ROB - Direct - N00 00/W016 00
ROB - Direct - N00 00/W018 00
ROB - Direct - N00 00/W019 00
ROB - Direct - N00 00/W020 00

APPENDIX G

DRAFT TERMS OF REFERENCE FOR LHD MONITORING TEAM

a) Be responsible for sending, with the defined format, before day 15th of each month, a monthly report to SATMA about all LHD´s detected in the respective ACC during the month, even if no LHD is reported. In case that an specific ACC of the Corridor repetitively omit this LHD monthly report, SATMA could give advise to ICAO about this repetitive omission

b) On SATMA request, be responsible to send to SATMA the conclusions of possible LHD, s investigation.

c) Initiate proposals about new operational coordination procedures between adjacent ACC´s and submit them to SATMA for approving in SAT meetings.

d) Be responsible to monitor in each ACC the implementation of possible common operational procedures to reduce the operational errors in the coordination between adjacent ATC units

e) Provide SATMA with traffic and deviations data regularly following models published in DATA TO BE SENT BY STATES in SATMA webpage (www.satmasat.com)

SATMA will be the receptor of all LHD reports, as well as the conclusions of possible LHD, s investigation, and will be the interface with all LHD focal point in each ACC. SATMA should be able to request to the LHD focal point additional information about a detailed LHD.

Rapporteur : **SATMA**

APPENDIX H

GUIDELINES FOR THE PREPARATION OF A CONTINGENCY PLAN FOR THE EUR/SAM CORRIDOR

1) Beginning of the contingency situation

When a specific ACC of the EUR-SAM Corridor starts a contingency situation will proceed as follows:

1. Will inform, by all its possible and quickest means, to its concern ACC´s about its contingency situation, specifying that the general contingency procedures of the EUR-SAM Corridor and the specific contingency procedures reflected in the contingency annex to its LOA´s are in force.
2. Will inform to its collateral ACC's about the real situation of the air traffic under its responsibility, as well as the information about the estimated traffic at the moment that the contingency situation started.
3. A common NOTAM notifying the contingency situation in the EUR-SAM Corridor will be published by the ACC in a contingency situation as well as by the rest of ACC´s of the Corridor. This common NOTAM will refer to the published AIC concerning the EUR/SAM Contingency Plan and indicates relevant procedures to be applied. A model of this common NOTAM is specified in Annex A.
4. Each ACC of the EUR-SAM Corridor shall broadcast via ground/air published VHF/ HF frequencies the contingency situation experienced in the specific ACC to all the air traffic under its responsibility. This broadcast should also include the details about the applicable contingency procedures.

2) General procedures during the contingency situation

Pilots flying in a contingency airspace in the EUR-SAM Corridor should follow IFBP (In flight Broadcast Procedure) as specified below :

a) Must be in permanent contact by the pilot – to - pilot frequency (123,45 MHz) .
b) Reports positions or estimates and the beginning and the end of the climb/ descent phases
c) Maintain a watch for conflicting traffic, both visually and by reference to ACAS.
d) Turn on all aircraft exterior lights.
e) Keep the SSR transponder on all times.
f) Climb and descend phases must be clearly performed at the right side of the route axis. They are also required to apply the lateral deviation off-set procedures as specified in relevant AIC published by the EUR/ SAM corridor States.
g) No in flight change of level will be authorized except in cases of emergency.

3) Contingency ATS routes of the EUR-SAM Corridor

In the event of an ATS contingency situation of one specific ACC of the EUR-SAM Corridor, the air traffic will be allocated with the restricted use of flight levels and routes directionality as it is described hereafter. The operational procedures applicable between the ACC in contingency and its collateral at the moment that the contingency situation begins will be specified in the contingency annex to the LoA's between both ACC´s. This contingency annex must be in accordance with these general procedures.

During a contingency situation of one specific ACC, the collateral ACC´s of the one in contingency will allocate the air traffic flows towards the one in contingency using exclusively the following ATS routes and flight levels:

a) Route UN741
   - Southbound only.
   - Flight Level availability. - FL 300, FL340, FL360 and FL380 (exclusively EVEN FL).

b) Route UN866
   - Northbound only.
   - Flight Level availability. - FL 290, FL330, FL350, FL370 and FL390 (exclusively ODD FL).

c) Route UN873
   - Southbound only.
   - Flight level availability. - FL 300, FL340, FL360 and FL380 (exclusively EVEN FL).

d) Route UN857
   - Northbound only.
   - Flight Level availability. - FL 290, FL330, FL350, FL370 and FL390 (exclusively ODD FL).

e) RANDOM route
   - Traffic flying the RANDOM Route will not be accepted and must be allocated in one of the ATS routes described above.

f) Crossing traffic (East- West)
   - Westbound. - FL320 exclusively.
   - Eastbound. - FL310 exclusively.

After that the contingency airspace is flown, the adjacent ACC can accommodate the air traffic according to the ATS routes directionality and flight levels establish.

4) Contingency longitudinal separation minima:

The contingency longitudinal separation minima in the EUR/SAM corridor is 20 minutes with Mach number technique:

After the contingency airspace is flown, the adjacent ACC can resume to the normal separation minima (10 minutes with MNT).

5) End of contingency procedures

As soon as the reason that caused the contingency situation is solved, the in contingency ACC will inform, by all its possible and quickest means, to its concern ACC´s about the end of the contingency situation.

A NOTAM notifying the end of the contingency situation in the EUR-SAM Corridor will be published by the ACC that was in a contingency situation as well as by the rest of ACC´s of the Corridor.

In the aim to get a safely and orderly transition from the contingency situation to the normal situation, flow control restriction measures could be applied.

If the recovery from the contingency situation is only partial, but enough to reduce the air traffic restrictions, the in contingency ACC will issue a NOTAM informing about the new situation. In close coordination with its collateral ACC´s, new traffic transfer conditions could be agreed.
