International Civil Aviation Organization
South American Office
Sixteenth Meeting on the improvement of Air Traffic Services over the South Atlantic (SAT/16)
Recife, Brazil, 4 to 6 May 2011

Agenda Item 1: Air Traffic Management (ATM)

1.2. Follow up of the AORRA airspace implementation

(Presented by Secretariat)

Summary

This paper presents the status of implementation of the AORRA airspace and follow-up measures. It also reports on the outcome of the meeting held in Accra Ghana (29-30 June 2010) on the full implementation of AORRA.

References:

- SAT/14 Meeting Report
- SP AFI RAN 2008 Report
- SAT14TF1Meeting Report
- SAT/15 Meeting Report
- Report of the AORRA Implementation Coordination Meeting held in ACCRA, Ghana.

1. Introduction

1.1 As a result of repetitive demands expressed by airlines, and in order to realize increased benefits from the tracks designed to maximize wind effect and related fuel savings in flight operations, South Atlantic States, based on discussions at the SAT/11 (2001) and SAT/12 (2004) meetings, decided and initiated the implementation of a Random Routing Area for aircraft operating between Africa and South America, called the Atlantic Ocean Random Routing Area (AORRA).

1.2 Aircraft flying random routes within AORRA will use the conventional Airway structure outside of the AORRA area and commence random routing only at the boundary. As the conventional ATS route structure does not always position the aircraft efficiently for a random route, benefits to airlines will increase with the additional entry/exit waypoints and transition route portions to the boundary of AORRA airspace . This would make Random Routing and its associated benefits accessible to airlines operating, inter alia, from the Arabian Gulf (Middle East) to South America, and from Norh America to South Africa, in both directions. This will allow airlines to achieve fuel efficiencies and the subsequent reduction in green house gas emissions.

2. Discussion

2.1 The routing area was planned to be implemented in four phases as shown at **Appendix A** to this paper. AORRA phase I was implemented on AIRAC date 21st of December 2006 by SAT States concerned (June 2007 for Angola).

2.2 Thereafter, SAT/13 (Canary Island , Spain, April 2006) and SAT/14 (Montevideo, Uruguay, May 2008) meetings decided to establish the timeframe of the implementation of Phases 2 , 3 and 4 as follows:

- Phase 2 : 18 December 2008,
- Phases 3 and 4: 17 in December 2009.

2.3 In November 2008, noting that the target date of AORRA phase 2 implementation will not be met, the SP AFI RAN (Durban, South Africa, December 2008) meeting recommended that ICAO facilitates and coordinates implementation of all phases of AORRA and assists in determining a suitable date for AORRA Phase 2 implementation. This was done by the ICAO WACAF office and AORRA Phase 2 was successfully implemented on 12 April 2009 by Angola, Brazil, Ghana and ASECNA.

2.4 At SAT14/TF1 meeting held in SAL, Cape Verde, from 10 to 12 June 2009, decision was made that States concerned with the implementation of AORRA phases 3 and 4 should complete that implementation not later than end April 2010.

2.5 However, some States requested again for more time to adequately prepare for their implementation, particularly with regards to ATC training and communication means. In this respect, the Airac date of 26 August 2010 was set by the SAT 15 meeting (Lisbon , Portugal, April 2010) as deadline for full implementation of AORRA by all States concerned.

2.6 Along with the implementation of the random routing area, the following issues were acknowledged as key requirements by successive SAT meetings:

- All routes within AORRA should 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 an emergency situation.

- direct route transitions are required from waypoints on the existing airway structure to discrete Latitude/Longitude waypoints on the AORRA boundaries, in order to optimize random routing benefits.

2.7 Regarding the second issue particularly, IATA issued a proposal for additional Entry/Exit waypoints on the AORRA boundary along with suitable transitions from the existing domestic airway structure, which was presented to SAT 15 meeting (Lisbon , Portugal, April 2010).

2.8 In this regard, Sat 15 adopted the following conclusion:

Conclusion SAT15/02: Direct transitions to/from AORRA airspace

That a coordination meeting be held by the end of June 2010 between Angola, Brazil, Côte d'Ivoire, Ghana, Sao Tome and Principe, Senegal, ASECNA, Roberts FIR and IATA to discuss the direct transitions to/from AORRA airspace as proposed by IATA in Appendix D to this report.

2.9 To this effect, an AORRA Implementation Coordination meeting was held in Accra, Ghana, to the kind invitation of Ghana Civil Aviation Authority (GCAA), from 29 to 30 June 2010. The Agenda and the list of Conclusions of the Accra meeting are shown at Appendix B and C to this paper respectively.

2.10 Through its Conclusion 05 the Accra meeting agreed to the creation of new entry/exit waypoints on the AORRA boundary and transition route segments as shown at Appendix D this paper.

2.11 Finally, AORRA implementation was completed on Airac date 26 August 2010 by all States concerned in application of Conclusion 09 of the Accra meeting.

3. Action by the meeting

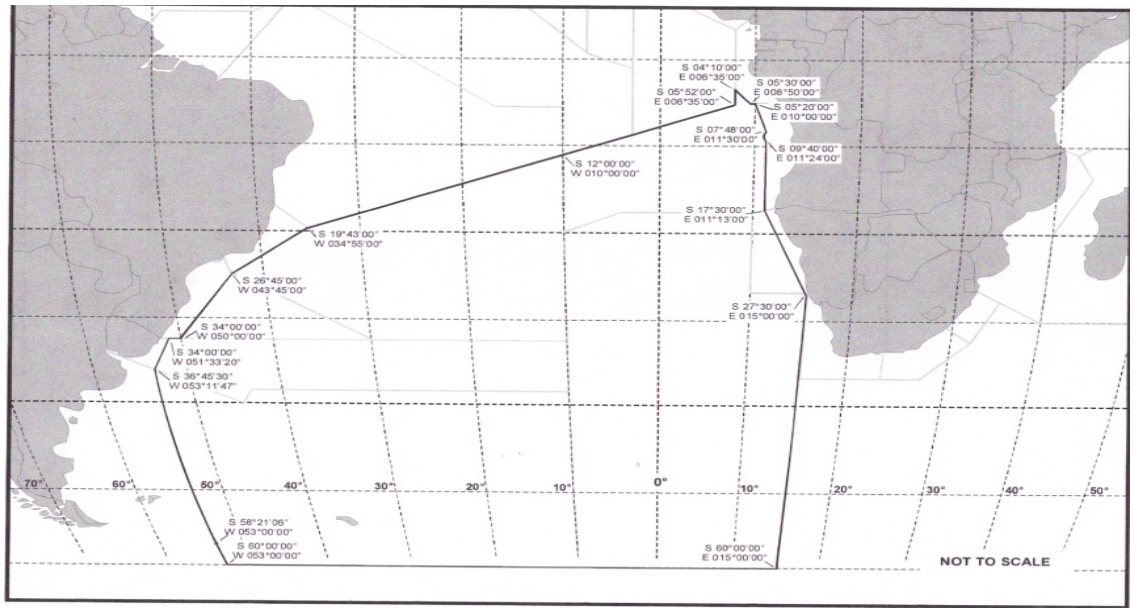
3.1. The meeting is invited to:

1) Note the information contained in this paper.
2) Note that the implementation of AORRA Phases 3 and 4 has been completed on the airac date 26 August 2010.
3) Note the suspension of all fixed routes within the AORRA and the creation of transition routes to/from AORRA, by all States and ANSPs concerned
4) Agree on any other follow-up action required

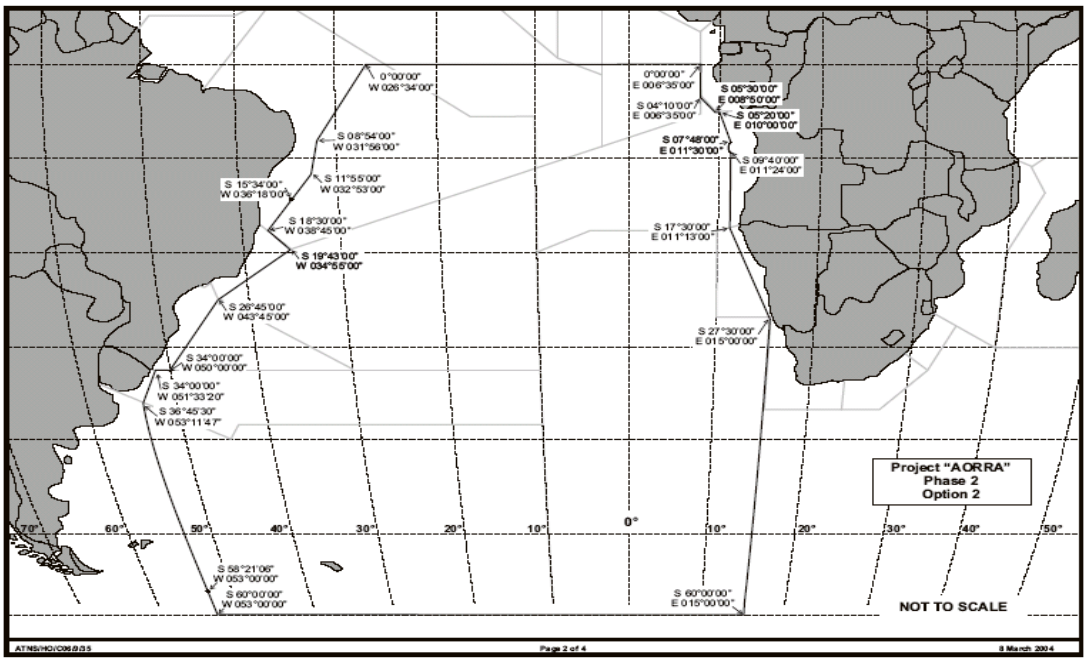
-END-

AORRA PHASES

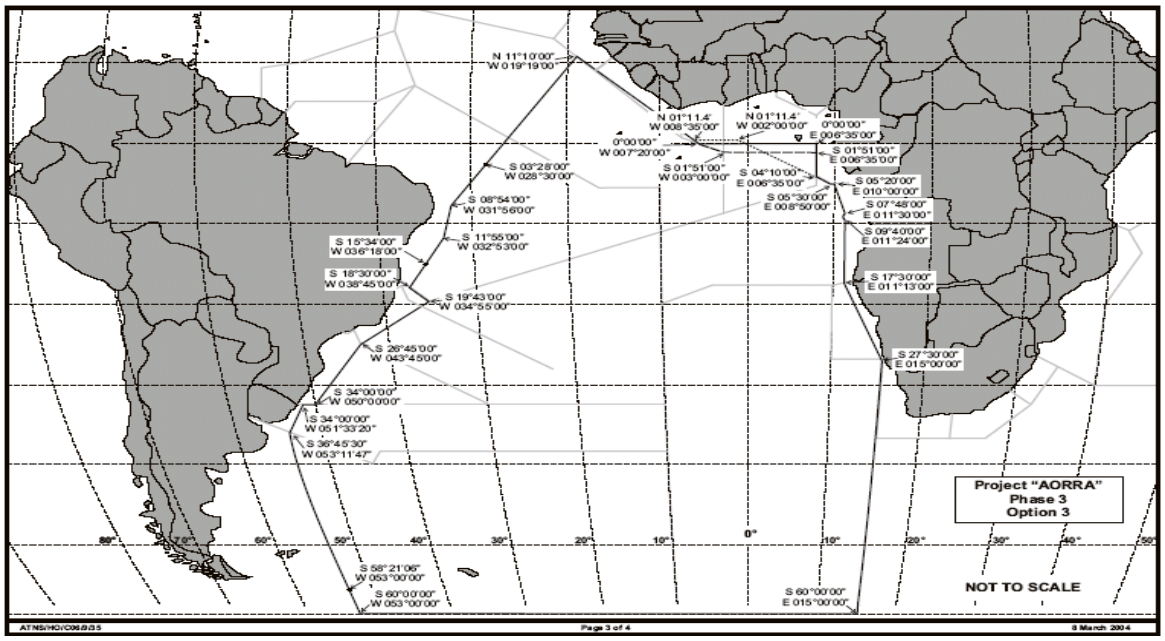
Phase I



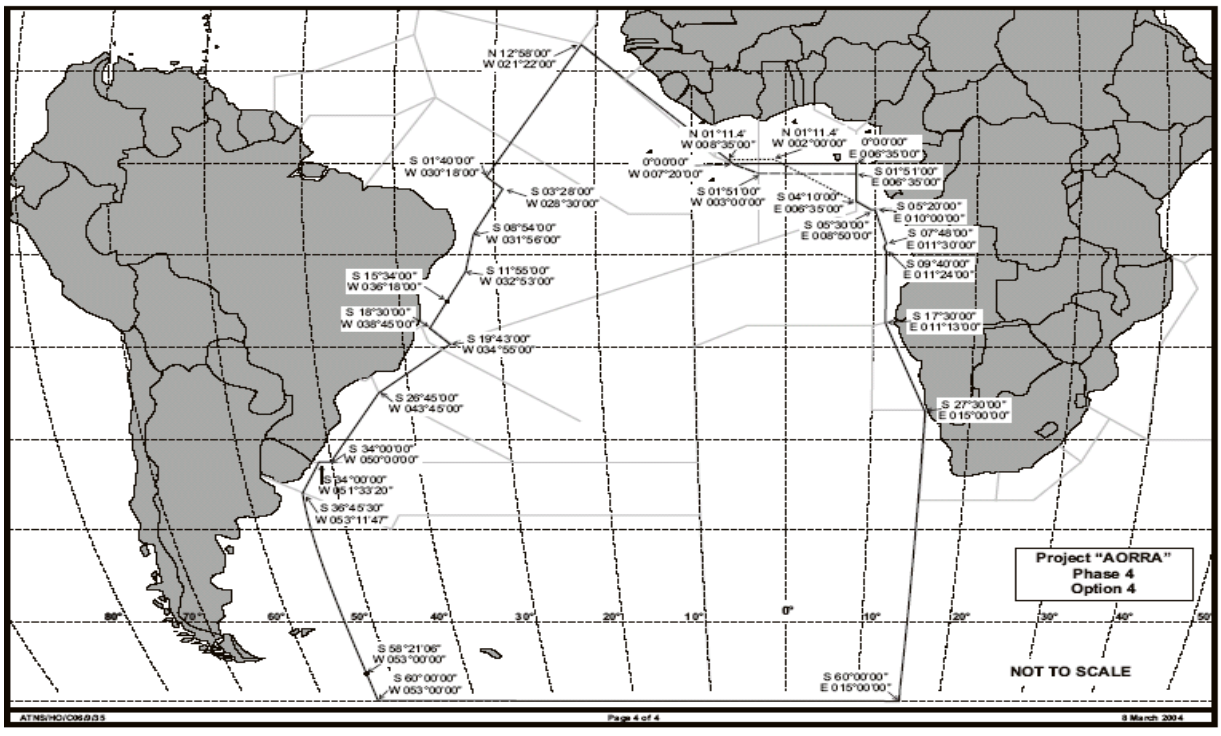
Phase II



Phase III



Phase IV



AORRA IMPLEMENTATION COORDINATION MEETING (ACCRA, GHANA, 29-30 JUNE 2010)

AGENDA OF THE MEETING

Agenda Item 1: Welcome address by GCAA

Agenda Item 2: Welcome address by ICAO

Agenda Item 3: Election of bureaux

Agenda Item 4: Adoption of the agenda and work programme

Agenda Item 5: Review of requirements for access to/from AORRA and justification submitted by IATA

Agenda Item 6: Implementation of direct transitions to /from AORRA

6.1 Assessment / Agreement on entry/exit waypoints and transitions to existing ATS routes outside AORRA

6.2 Suspension of ATS routes within AORRA Airspace

6.3 Harmonization of contingency procedures

6.4 Agreement on transfer of control points between ACCs

6.5 Agreement on operational procedures between ACCs

6.6 Risk/Safety assessment

6.7 Publication of AIP supplement

6.8 Discussion on AORRA flight plans

6.9 Implementation milestones/actions

Agenda Item 7: Feed-back to SAT Group

Agenda Item 8: Any other business.

AORRA IMPLEMENTATION COORDINATION MEETING (ACCRA, GHANA, 29-30 JUNE 2010)

LIST OF CONCLUSIONS

Conclusion Number	Title
Conclusion 01:	**Improvement of Abidjan-Luanda and Abidjan-Atlantico ATS/DS circuits** **That:** Angola, Brazil and Côte D'Ivoire take necessary actions to improve and ensure the full availability of Abidjan-Luanda and Abidjan-Atlantico ATS/DS links as soon as possible in any case not later than the 20th of August 2010
Conclusion 02:	**Suspension of ATS Routes in AORRA airspace** That: a) All portions of conventional ATS Routes within the AORRA airspace should be suspended on the Airac date of 26 August 2010 by ACCs concerned. Such route portions could be activated by notam in case of contingency measures b) Only the five letter waypoints on these suspended routes could be shown on published chart.
Conclusion 03:	**Contingency planning** That: The meeting emphasizes the need for a common contingency plan for the SAT area and calls on FIRs concerned to expedite the implementation of Conclusion SAT15/06
Conclusion 04:	**Transfer of control points** That: Based on their experience in random routing, IATA will liaise with airlines and provide FIR boundary coordinates and estimates within AORRA airspace to ACCs in their flight plans.
Conclusion 05:	**AORRA entry/exit points and transition routes** That: The meeting agreed to the entry/exit gates and transition routes to /from AORRA airspace as shown in the Appendix B to this report.

Conclusion 06:	**Transition to AORRA from Brazzaville FIR** That: Accra, Brazzaville, Douala, Libreville, Sao Tome, ASECNA and IATA hold a coordination meeting on transition routes to/from Brazzaville FIR to AORRA airspace as soon as possible in any case not later than 20 July 2010. ICAO to coordinate the convening of the meeting.
Conclusion 07:	**Entry gates in Windhoek FIR** That: IATA shall inform Windhoek FIR about their request to entry gates on the Windhoek FIR/AORRA boundary and coordinate with ICAO and ACCs concerned for the establishment of the gates.
Conclusion 08:	**Safety assessment** That: a) By the 7th of July 2010, IATA will send a template to all ACCs concerned to be filled with traffic data, in view of the need to conduct a safety assessment. **b)** ACCs are to send the traffic data for June 2010 to IATA not later than 21st July 2010 **c)** IATA shall send the report of the traffic simulation to ICAO WACAF and FIRs concerned to enable them to conduct the safety assessment, not later than 15th August 2010
Conclusion 09:	**Publication of AIP supplement** That: All parties agree to publish the AIP supplement on AORRA 3 & 4 implementation on or prior to the Airac date of 29 July 2010, effective date 26 August 2010.

AORRA IMPLEMENTATION COORDINATION MEETING (ACCRA, GHANA, 29-30 JUNE 2010)

AORRA GATES AND TRANSITIONS

Accra FIR

TYE VOR to:
EBUSO-GUGIG-EBTON-VABES-NANAK-RATIL-EDORO
EBUSO-GUGIG-EBTON-VABES-NANAK-RATIL-GANUM
EBUSO-GUGIG-EBTON-VABES-NANAK-RATIL-OPUGA
DIBSI-MEPAL-BUBRO-KINTO

Accra/Abidjan FIRs

ACC VOR to:
SIBEG-DIBTA-APUMI- WP6 (N1 55.450 W4 08.633)- WP31(S0 00.000 W5 00.000)
SIBEG-DIBTA-APUMI- WP6 (N1 55.450 W4 08.633)- WP32(S0 00.000 W6 00.000)
SIBEG-DIBTA-APUMI- WP6 (N1 55.450 W4 08.633- WP33 (S0 00.000 W7 00.000)

Abidjan/Roberts FIRs

AD VOR to:

WP1 (N0 55.057 W7 20.000) - ARLEM
WP9 (N2 14.165 W7 20.000) - WP3 (N1 09.450 W8 31.933)
WP15 (N3 00.000 W7 20.000) - WP5 (N1 44.167 W9 07.967)
WP18 (N3 32.840 W7 20.000) - WP10 (N2 18.883 W9 43.933)
WP19 (N4 01.118 W7 20.000 - WP12 (N2 53.583 W10 19.983)
WP21 (N4 24.625 W7 20.000) - WP17 (N3 28.250 W10 56.050)

Roberts FIR

ROB VOR to:

WP17 (N3 28.250 W10 56.050)
WP20 (N4 02.900 W11 32.183)
TUROT
WP22 (N5 12.117 W12 44.583)
WP23 (N5 46.683 W13 20.883)
WP24 (N6 21.200 W13 57.267)

LGI VOR to:

WP24 (N6 21.200 W13 57.267)
TINIS
WP25 (N7 30.117 W15 10.267)
WP26 (N8 04.500 W15 46.900
WP27 (N8 38.833 W16 23.650)

Roberts/Dakar FIRs

BIS VOR to:
WP27 (N8 38.833 W16 23.650)
WP28 (N9 13.100 W17 00.500)
WP29 (N9 47.300 W17 37.483)

WP7 (N10 21.450 W18 14.583)
WP8 (N10 55.517 W18 51.817)

Dakar FIR

DKR VOR to:
WP8 (N10 55.517 W18 51.817)
TAROT

Brazzaville FIR

DLA VOR to:
KINTO or KOPOX-KINTO
ILDOT or EBULI-INOSA-ILDOT

LV VOR to:
WP34 (S1 30.000 E6 35.000)
WP35 (S2 00.000 E6 48.126)

Luanda FIR

BUDEL - ONTAR
VNA – WP36 (S08 49 33.5 E011 13 53.2)
VNA – WP37 (S11 50 30.4 E011 27 59.5)

Atlantico FIR : Waypoints published by NOTAM N0019/2010 on 21 Jun 2010:

SORSA	S24 39 55	W40 57 33
MIGEX	S23 34 53	W39 34 09
VURTO	S22 58 57	W38 49 15
IRONA	S21 53 43	W37 26 46
EDVEL	S21 21 05	W36 46 00
PALOR	S20 48 26	W36 05 33
MUKEK	S20 15 48	W35 25 05
OBKOL	S19 39 55	W35 10 08
GELEM	S19 24 14	W36 00 23
VIRIL	S19 08 04	W36 50 26