



Fifth Meeting of the Programmes and Projects Review Committee (PPRC/5)
 Mexico City, Mexico, 16 to 18 July 2019

Agenda Item 5: Review of GREPECAS Programmes and Projects and Subsidiary Groups
5.4 Projects under the Ground-ground and Air-ground Telecommunication Infrastructure Programme (B0-FICE and B0-TBO)

DESCRIPTION AND FOLLOW-UP TO THE IMPLEMENTATION OF PROJECT ACTIVITIES UNDER THE GROUND-GROUND AND GROUND-AIR COMMUNICATION INFRASTRUCTURE PROGRAMME FOR THE CAR AND SAM REGIONS

(Presented by the Secretariat)

EXECUTIVE SUMMARY

This working paper presents updated information on the status of implementation of activities under projects D1, *ATN Architecture*, and D2, *Ground-Ground/Air-Ground Applications*, of the *Ground-Ground/Air-Ground Communication Infrastructure* programme for the SAM Region, and project D, *ATN Infrastructure in the CAR Region and its ground-ground and ground-air applications*, since the Fourth Meeting of the Programmes and Projects Review Committee (PPRC/4) to date.

Action:	Suggested actions are presented in Section 4.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none"> • Air Navigation Capacity and Efficiency • Environmental Protection
<i>References:</i>	<ul style="list-style-type: none"> • Annex 10 — Aeronautical Telecommunications • Doc 9750 — Global Air Navigation Plan • Reports of the Programmes and Projects Review Committee Meetings (PPRC) • Report of the Eighteenth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/18), Punta Cana, Dominican Republic, April 2018. • Report of Twentieth Third Meeting of the SAM Implementation Group (SAM/IG/23), Lima, Peru, May 2019

1. Introduction

1.1 Since the last Meeting of the Programmes and Projects Review Committee (PPRC/4), the CAR and SAM Regions have implemented several specific deployments for each region, in order to accomplish with the GREPECAS projects. The objective of this working paper is to provide an implementation overview of each region.

1.2 The common CNS inter-regional activities of CAR and SAM Regions are presented in the working paper 7.

2. Discussion

2.1 The developments in Programme D in CAR and SAM regions, since the CRPP/4 Meeting, are described below.

CAR REGION

2.2 CAR region is presented information is under Presentation No 2, agenda item 3.3 of this meeting.

SAM REGION

SAM Programme D, Ground-Ground/Air-Ground Communication Infrastructure

2.3 Since the restructuring of GREPECAS (Decision 16/45), the SAM Ground-Ground/Air-Ground Communication Infrastructure programme includes project D1, ATN Architecture in the SAM Region, and project D2, ATN ground-ground and air-ground applications in the SAM Region.

2.4 The main activities conducted by these projects since the PPRC/3 meeting, when the last follow-up to GREPECAS programmes and projects was made, are described below.

Project D1, ATN Architecture in the SAM Region

2.5 In this project framework, the SAM Region Digital Network is completely deployed and functioning, providing to the States a digital communication platform to support air navigation services. As improvement of this communication infrastructure, during the last Meeting of the Coordination Committee of the RLA/03/901 Regional Project (REDDIG), was approved the acquisition of firewall equipment for all REDDIG nodes, along with training. It is estimated that the acquisition process, training and installation of firewall equipment will be concluded by the first semester of 2020.

2.6 The ICAO SAM Office is initiating coordination with other regions (NAM, EUR y PAC) with the objective of establishing interconnections between IP regional networks. In this aspect, till the deployment of MEVA network Phase 4, FAA already indicated the intention to connect to the REDDIG II terrestrial network (MPLS), contracting directly from the telecommunication provider (CenturyLink) the access to the network. Possibly, the interconnection with the PENS (Europe) and CRV (PAC) networks will be by means of an interconnection agreement between the telecommunication providers.

Project D2 – SAM ATN ground-ground and air-ground applications

2.7 The most significant activities of this project are the operational implementation of AMHS and AIDC. Also, as support to the automation, flight plan errors mitigation is a relevant activity for the States. Other topics that contribute for the automation of the air navigation services and are being addressed by the States are the interchange of AMHS using new formats based on XML/GML and ADS-B implementation.

AMHS Implementation

2.8 With respect to AMHS interconnections, a valuable progress was achieved since the last PPRC meeting, with establishment of new interconnections in 2018 and 2019. All COM Centers of the SAM Region has deployed the AMHS systems and started testing with adjacent centers. Currently, 18 regional interconnections were established, resting only 10 operational AFTN circuits to be replaced to a AMHS interconnection (P1):

SAEZ – SCSC	SAEZ – SLLP	SAEZ – SUMU	SBBR – SLLP
SBBR – SOCA	SBBR – SUMU	SEQU – SKBO	SKBO – MPPC
SOCA – SVCA	SVCA – SYCJ		

2.9 Besides the regional interconnections, 2 inter-regional AMHS interconnections were established:

SBBR (Brasilia) – LEEE (Madrid); and SBBR – SITA

2.10 By the end of July 2019, the following AMHS interconnection will be operational:

SBBR (Brasilia) – KATL (Atlanta); and SAEZ (Ezeiza) – SITA

2.11 Coordination is being carried out to establish the AMHS interconnections between **Atlanta – Lima, Atlanta – Caracas y Brasilia – Dakar**.

2.12 **Appendix A** to this working paper presents a diagram with all AMHS interconnections (blue) already established and the remaining AFTN circuits (green).

AIDC Implementation

2.13 With respect to the AIDC implementation, all States will have, from 2019 on, their automated centres deployed. Currently, 12 AIDC communications were established between automated centres of the SAM Region: 10 between national centres and 2 between centres of different States. On 16 August 2018, the AIDC interconnections between **Iquique ACC – Lima ACC and Guayaquil ACC – Lima ACC** passed from the pre-operational phase to the operational phase.

2.14 Likewise, the States were encouraged to give priority to communications already in the pre-operational phase between national or international centres. **Appendix B** to this working paper contains a table of all AIDC communications to be established in the SAM Region. Those in yellow should be given priority in 2019.

Mitigation of errors and duplicity/multiplicity of flight plans in the SAM Region

2.15 In the SAM/IG/23 Meeting, it was discussed the main initiatives that had been adopted to mitigate flight plans errors: centralised reception of flight plans, with manual or automated handling of errors; establishment of agreements with the operators (airlines) for direct filing of flight plans in order to avoid duplication; and implementation of feedback messages to flight plan originators using ACK and REJ messages.

2.16 There was concern regarding the lack of a standard for ACK and REJ messages, which could generate future incompatibility issues if each State used a different format. Accordingly, States understood that the syntax of ACK and REJ messages should be standardised.

2.17 In this regard, the SAM/IG/23 meeting formulated the following conclusion:

CONCLUSION SAM/IG/23-02		Standardization of the syntax and format of messages ACK and REJ for FPL	
That: The States, through their AIM and CNS Focal Points, form a sub-working group within the INTEROP WG to:		Expected impact:	
<ul style="list-style-type: none"> a) Study the existing formats of ACK and REJ messages of FPL used by the States, evaluating the advantages and disadvantages of each, and the compatibility with user systems (airlines). b) Propose a regional and interregional standard to establish a unique and optimal ACK and REJ message format for FPLs. 		<input type="checkbox"/> Political / Global <input checked="" type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Technical/Operational	
Why: To promote the standardization of the syntax of ACK and REJ messages in order to prevent incompatibility in the future.			
When: Immediately		Status: Adopted by SAM/IG/23	
Who: <input checked="" type="checkbox"/> Coordinators <input checked="" type="checkbox"/> States <input checked="" type="checkbox"/> ICAO Secretariat <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: Users/Industry			

Implementation of OPMET message exchange in the IWXXM format

2.18 During the SAM/IG/23 Meeting, a conclusion was formulated on the adaptation of AMHS terminals of meteorology users for transmission/reception of operational meteorology messages in IWXXM (XML/GML) format.

CONCLUSION: SAM/IG/23-03		Adaptation of AMHS terminals of aeronautical meteorology users
That, Pursuant to the standard requiring the implementation of the exchange of OPMET messages in IWXXM GML format by 5 November, States should:	<ul style="list-style-type: none"> a. Adjust AMHS terminals of aeronautical meteorology users so that they may transmit and receive OPMET messages in IWXXM GML format b. Implement the necessary AMHS interconnections in order to facilitate the transmission and reception of OPMET messages in IWXXM GML format c. States in a position to do so should conduct OPMET message exchange trials in IWXXM GML format. 	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input checked="" type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Technical/Operational
Why: To meet the provisions of amendment 78 to ICAO Annex 3		
When: Immediately		Status: Adopted by SAM/IG/23
Who: <input type="checkbox"/> Coordinators <input type="checkbox"/> States <input type="checkbox"/> ICAO Secretariat <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other: Users/Industry		

2.19 Likewise, the Meeting took note that the Brasilia regional OPMET data bank was already being adapted to receive/transmit OPMET messages in IWXXM format and that Venezuela had developed a message converter (software) from the traditional format (TAC) to the IWXXM format, generating an XML file that could be attached to an AMHS message. As of July 2019, Venezuela would conduct tests with the Brasilia regional OPMET data bank.

ADS-B Implementation in the SAM Region

TERRESTRIAL ADS-B IMPLEMENTATION INITIATIVES

2.20 Several SAM States (Argentina, Brazil, Colombia, French Guiana, Guyana, Panama, Paraguay and Peru) are implementing ADS-B terrestrial stations or carrying out tests of exchange of ADS-B surveillance information, through the REDDIG network.

SPACE-BASED ADS-B IMPLEMENTATION INITIATIVES

2.21 After the conclusion of the Study on the convenience and feasibility of space-based for a regional implementation, available in the links below, the SAM Region States are waiting for the testing that will be carried out in Brazil:

1) Spanish version:

https://www.dropbox.com/s/bz0aqwp5b1xw4rw/SAM%20Estudio%20sobre%20ADS_B%20Sat%2010%20Enero%202019.pdf?dl=0

2) English version:

https://www.dropbox.com/s/3g9smip32z0avnu/SAM%20ADS_B%20Sat%20Study%2010%20Jan%202019%20.pdf?dl=0 SAM/IG/23-NE/18

2.22 Brazil has signed a technical and operational agreement with AIREON to collect surveillance data from aircraft flying in airspace under the responsibility of DECEA, to assist in the decision for the adoption of the satellite ADS-B service.

2.23 The technical and operational performance of satellite ADS-B surveillance based on the AIREON solution applied in DECEA airspace would be assessed in two phases:

PHASE - 1 – Tracking of specific aircraft

2.24 AIREON would provide aircraft tracking during the test period in the areas of interest to DECEA, in order to test satellite ADS-B capabilities.

PHASE - 2 – Real-time tracking

2.25 Collection and real-time delivery of data from ADS-B-equipped aircraft flying in the test areas pre-selected by DECEA, using a virtual private network (VPN) server connected to internet. These tests would seek to extend the analyses performed in Phase 1 to all the FIRs under the jurisdiction of DECEA and continue testing satellite ADS-B services.

2.26 Chile is also in process to sign a MoU with AIREON, in order to test space-based ADS-B.

2.27 States were invited to designate members to participate in the CNS subgroup of the Interop WG, which would address interoperability issues related to the exchange of ADS-B surveillance information and possible use of the satellite ADS-B service in a regional implementation, using REDDIG to distribute the ADS-B surveillance information.

3. Other matters

Restructuration and formalization of SAT Group

3.1 During the last meeting of Group for the Continued Improvement of Air Traffic Service over the South Atlantic (SAT/24), held in Luanda-Angola, 03 to 07 June 2019, the Secretariat presented a Working Paper with a proposal for restructuration of the SAT Group and analyzed the Procedural Handbook for the SAT Group, presented in the **Appendix C** to this Working Paper.

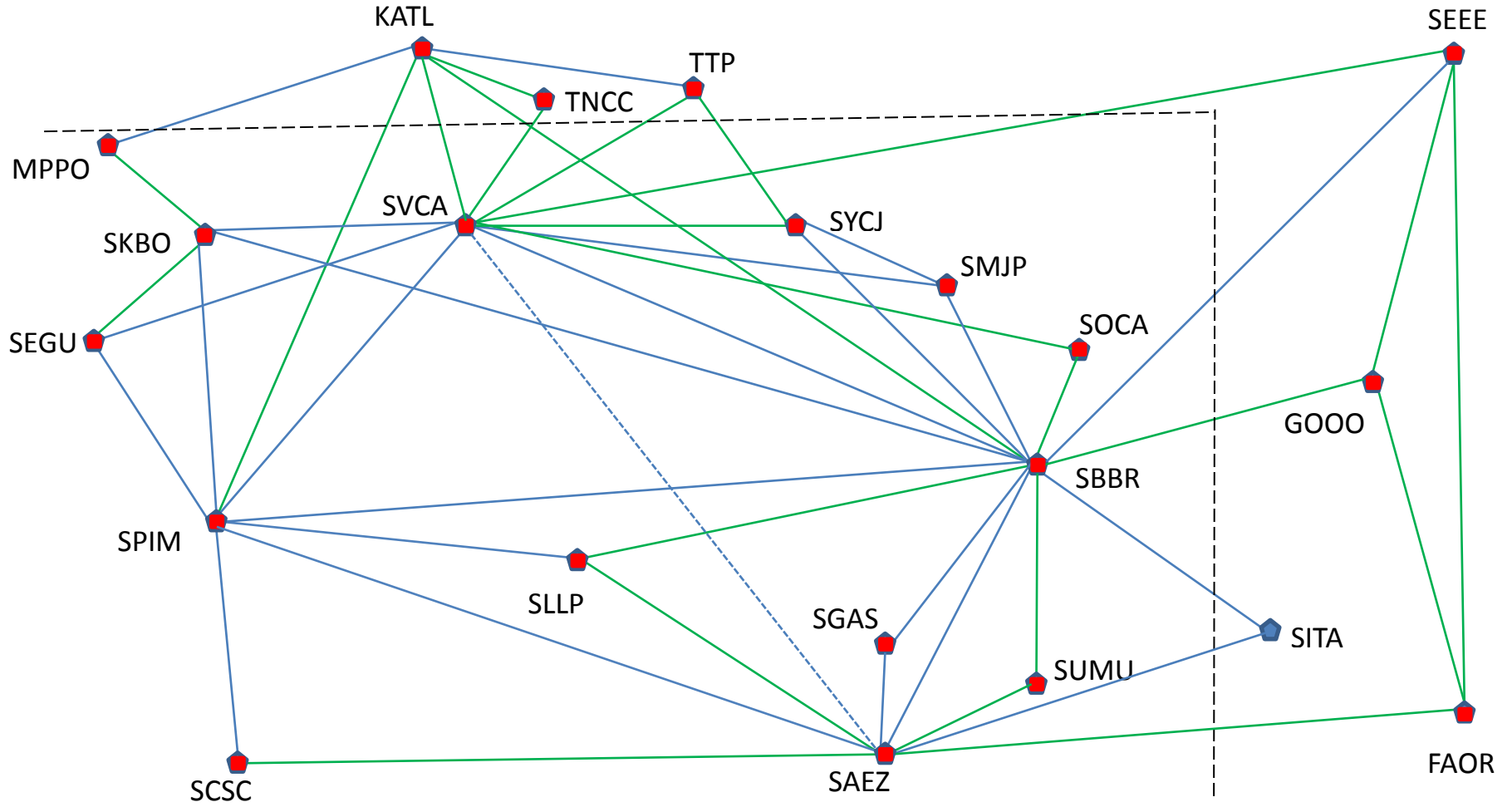
3.2 The suggestions and comments made during the SAT/24 Meeting will be revised by PCI (Programme Coordination and Implementation), prior submission to GREPECAS for approval and reporting to the ANC through ANB. The next meeting of the SAT Group is scheduled to be held in Trinidad & Tobago next year (2020).

4. Suggested actions

4.1 The Meeting is invited to:

- a) take note of the information presented in this working paper and appendix;
- b) analyse inter-regional activities between the CAR and SAM Regions, as shown in section 2 of this working paper; and
- c) review any other related issue it may deem appropriate.

AMHS Interconnections



AIDC COMMUNICATION – SAM REGION

Num.	Centro A / Centre A	Centro B / Centre B	Operativa en / Operational in	Observaciones / Notes
1	Córdoba ACC INDRA AIRCON 2100 (2007)	Iquique ACC INDRA AIRCON 2100		Pruebas positivas (marzo de 2016)/Positive tests (March 2016)
2	Córdoba ACC INDRA AIRCON 2100 (2007)	La Paz ACC Thales TopSky		Previsión para 2020-2021/Estimation for 2020-2021
3	Córdoba ACC INDRA AIRCON 2100 (2007)	Ezeiza ACC INDRA AIRCON 2100 (2007)		Pre-operacional (Dic 2015)/Pre-operational (Dec 2015)
4	Córdoba ACC INDRA AIRCON 2100 (2007)	Mendoza ACC INDRA AIRCON 2100 (2016)		Pre-operacional (Dic 2018)/Pre-operational (Dec 2018)
5	Córdoba ACC INDRA AIRCON 2100 (2007)	Resistencia ACC INDRA AIRCON 2100 (2016)		Pre-operacional (Dic 2018)/Pre-operational (Dec 2018)
6	Resistencia ACC INDRA AIRCON 2100 (2016)	Asuncion ACC ATECH SAGITARIO (2019)		Previsión para 2020/Estimation for 2020
7	Resistencia ACC INDRA AIRCON 2100 (2016)	Curitiba ACC ATECH SAGITARIO		Previsión para 2020/Estimation for 2020
8	Resistencia ACC INDRA AIRCON 2100 (2016)	Ezeiza ACC INDRA AIRCON 2100 (2007)		Pre-operacional (Dic 2018)/Pre-operational (Dec 2018)
9	Resistencia ACC INDRA AIRCON 2100 (2016)	Montevideo ACC INDRA AIRCON 2100		Previsión para 2019/Estimation for 2019
10	Ezeiza ACC INDRA AIRCON 2100 (2007)	Comodoro Rivadavia ACC INDRA AIRCON 2100 (2016)		Pre-operacional (Dic 2018)/Pre-operational (Dec 2018)
11	Ezeiza ACC INDRA AIRCON 2100 (2007)	Mendoza ACC INDRA AIRCON 2100 (2016)		Pre-operacional (Dic 2018)/Pre-operational (Dec 2018)
12	Ezeiza ACC INDRA AIRCON 2100 (2007)	Puerto Montt ACC INDRA AIRCON 2100		Previsión para 2019/Estimation for 2019
13	Ezeiza ACC INDRA AIRCON 2100 (2007)	Johannesburg ACC		Previsión para 2020/Estimation for 2020
14	Ezeiza ACC INDRA AIRCON 2100 (2007)	Montevideo ACC INDRA AIRCON 2100		Previsión para 2019/Estimation for 2019
15	Mendoza ACC INDRA AIRCON 2100 (2016)	Santiago ACC Thales TopSky		Previsión para 2019/Estimation for 2019
16	Comodoro Rivadavia ACC INDRA AIRCON 2100 (2016)	Punta Arenas ACC INDRA AIRCON 2100		Previsión para 2019/Estimation for 2019
17	Comodoro Rivadavia ACC INDRA AIRCON 2100 (2016)	Puerto Montt ACC INDRA AIRCON 2100		Previsión para 2019/Estimation for 2019

Num.	Centro A / Centre A	Centro B / Centre B	Operativa en / Operational in	Observaciones / Notes
18	La Paz ACC Thales TopSky	Amazónico ACC ATECH SAGITARIO		Previsión para 2020-2021/Estimation for 2020-2021
19	La Paz ACC Thales TopSky	Asuncion ACC ATECH SAGITARIO (2019)		Previsión para 2020-2021/Estimation for 2020-2021
20	La Paz ACC Thales TopSky	Curitiba ACC ATECH SAGITARIO		Previsión para 2020-2021/Estimation for 2020-2021
21	La Paz ACC Thales TopSky	Lima ACC INDRA AIRCON 2100 (2016)		Previsión para 2020-2021/Estimation for 2020-2021
22	La Paz ACC Thales TopSky	Iquique ACC INDRA AIRCON 2100		Previsión para 2020-2021/Estimation for 2020-2021
23	Amazónico ACC ATECH SAGITARIO	Brasilia ACC ATECH SAGITARIO	2017	
24	Amazónico ACC ATECH SAGITARIO	Bogotá ACC INDRA AIRCON 2100		Previsión para 2020/Estimation for 2020
25	Amazónico ACC ATECH SAGITARIO	Cayenne ACC ADACEL		Previsión para 2020/Estimation for 2020
26	Amazónico ACC ATECH SAGITARIO	Curitiba ACC ATECH SAGITARIO	2017	
27	Amazónico ACC ATECH SAGITARIO	Georgetown ACC INTELCAN		Previsión para 2020/Estimation for 2020
28	Amazónico ACC ATECH SAGITARIO	Lima ACC INDRA AIRCON 2100		Previsión para 2019/Estimation for 2019
29	Amazónico ACC ATECH SAGITARIO	Maiquetia ACC ATECH SAGITARIO (2019)		Previsión para 2019/Estimation for 2019
30	Amazónico ACC ATECH SAGITARIO	Paramaribo ACC INTELCAN		Previsión para 2020/Estimation for 2020
31	Amazónico ACC ATECH SAGITARIO	Recife ACC ATECH SAGITARIO	2016	
32	Amazónico ACC ATECH SAGITARIO	Atlántico ACC ATECH SAGITARIO (2017)	2018	
33	Atlántico ACC ATECH SAGITARIO (2017)	Curitiba ACC ATECH SAGITARIO	2018	
34	Atlántico ACC ATECH SAGITARIO (2017)	Dakar ACC		Previsión para 2020/Estimation for 2020
35	Atlántico ACC ATECH SAGITARIO (2017)	Johannesburg ACC		Previsión para 2020/Estimation for 2020
36	Atlántico ACC ATECH SAGITARIO (2017)	Luanda ACC		Previsión para 2020/Estimation for 2020
37	Atlántico ACC ATECH SAGITARIO (2017)	Montevideo ACC INDRA AIRCON 2100		Previsión para 2020/Estimation for 2020
38	Atlántico ACC	Recife ACC	2018	

Num.	Centro A / Centre A	Centro B / Centre B	Operativa en / Operational in	Observaciones / Notes
	ATECH SAGITARIO (2017)	ATECH SAGITARIO		
39	Atlántico ACC ATECH SAGITARIO (2017)	Cayenne ACC ADACEL		Previsión para 2020/Estimation for 2020
40	Brasilia ACC ATECH SAGITARIO	Curitiba ACC ATECH SAGITARIO	2016	
41	Brasilia ACC ATECH SAGITARIO	Recife ACC ATECH SAGITARIO	2016	
42	Curitiba ACC ATECH SAGITARIO	Asuncion ACC ATECH SAGITARIO (2019)		Previsión para 2019/Estimation for 2019
43	Curitiba ACC ATECH SAGITARIO	Montevideo ACC INDRA AIRCON 2100		Previsión para 2020/Estimation for 2020
44	Curitiba ACC ATECH SAGITARIO	Recife ACC ATECH SAGITARIO	2016	
45	Santiago ACC Thales TopSky	Iquique ACC INDRA AIRCON 2100		Previsión para 2019/Estimation for 2019
46	Santiago ACC Thales TopSky	Lima ACC INDRA AIRCON 2100		Previsión para 2019/Estimation for 2019
47	Santiago ACC Thales TopSky	Puerto Montt ACC INDRA AIRCON 2100		Previsión para 2019/Estimation for 2019
48	Iquique ACC INDRA AIRCON 2100	Lima ACC INDRA AIRCON 2100	2018	
49	Puerto Montt ACC INDRA AIRCON 2100	Punta Arenas ACC INDRA AIRCON 2100	2017	
50	Bogotá ACC INDRA AIRCON 2100	CENAMER		Previsión para 2019/Estimation for 2019
51	Bogotá ACC INDRA AIRCON 2100	Guayaquil ACC INDRA AIRCON 2100		Pre-operacional desde 2015/Pre-operational since 2015
52	Bogotá ACC INDRA AIRCON 2100	Lima ACC INDRA AIRCON 2100		Pre-operacional desde 2015/Pre-operational since 2015
53	Bogotá ACC INDRA AIRCON 2100	Maiquetia ACC ATECH SAGITARIO (2019)		Previsión para 2019-2020/Estimation for 2019-2020
54	Bogotá ACC INDRA AIRCON 2100	Panamá ACC Thales TopSky		Previsión para 2019/Estimation for 2019
55	Bogotá ACC INDRA AIRCON 2100	Barranquilla ACC INDRA AIRCON 2100		Pre-operacional desde 2016/Pre-operational since 2016
56	Barranquilla ACC INDRA AIRCON 2100	Maiquetia ACC ATECH SAGITARIO (2019)		Previsión para 2019-2020/Estimation for 2019-2020
57	Barranquilla ACC INDRA AIRCON 2100	Panamá ACC Thales TopSky		Previsión para 2019/Estimation for 2019
58	Barranquilla ACC INDRA AIRCON 2100	Kingston ACC		

Num.	Centro A / Centre A	Centro B / Centre B	Operativa en / Operational in	Observaciones / Notes
59	Barranquilla ACC INDRA AIRCON 2100	Curacao ACC		
60	Rio Negro APP INDRA AIRCON 2100	Panamá ACC Thales TopSky		Previsión para 2019/Estimation for 2019
61	Cali APP INDRA AIRCON 2100	Panamá ACC Thales TopSky		Previsión para 2019/Estimation for 2019
62	Guayaquil ACC INDRA AIRCON 2100	Lima ACC INDRA AIRCON 2100	2018	
63	Guayaquil ACC INDRA AIRCON 2100	CENAMER		Situación de la Casilla 18 en el mensaje ABI/Field 18 of ABI message
64	Cayenne ACC ADACEL	Paramaribo ACC INTELCAN		Previsión para 2019-2020/Estimation for 2019-2020
65	Cayenne ACC ADACEL	Piarco ACC		
66	Cayenne ACC ADACEL	Dakar ACC		Previsión para 2019-2020/Estimation for 2019-2020
67	Georgetown ACC INTELCAN	Piarco ACC		
68	Georgetown ACC INTELCAN	Maiquetia ACC ATECH SAGITARIO (2019)		Previsión para 2019-2020/Estimation for 2019-2020
69	Georgetown ACC INTELCAN	Paramaribo ACC INTELCAN		Previsión para 2019-2020/Estimation for 2019-2020
70	Panamá ACC Thales TopSky	CENAMER		Previsión para 2019/Estimation for 2019
71	Panamá ACC Thales TopSky	Kingston ACC		
72	Paramaribo ACC INTELCAN	Piarco ACC		
73	Montevideo ACC INDRA AIRCON 2100	Johannesburg ACC		Previsión para 2019-2020/Estimation for 2019-2020
74	Maiquetia ACC ATECH SAGITARIO (2019)	Piarco ACC		
75	Maiquetia ACC ATECH SAGITARIO (2019)	Curacao ACC		
76	Maiquetia ACC ATECH SAGITARIO (2019)	San Juan ACC		

INTERNATIONAL CIVIL AVIATION ORGANIZATION



GROUP FOR THE CONTINUED IMPROVEMENT OF AIR TRAFFIC SERVICE OVER THE SOUTH ATLANTIC (SAT)

PROCEDURAL HANDBOOK

Edition - 2019

SAT PROCEDURAL HANDBOOK - GENERAL

RECORD OF AMENDMENTS

Amendment	Date	Part	Part and Page No.	Entered by
V ₀	28.05.2019	All	All	F.X Salambanga
V.1	10.06.2019	IV	IV A and Pages 17-18	F.X Salambanga
			IV B and Pages 19-20	

SAT PROCEDURAL HANDBOOK - GENERAL

FOREWORD

1. Background of the SAT Group and its auxiliary bodies

1.1 The Limited Africa/Indian Ocean (COM/MET/RAC) Regional Air Navigation Meeting (LIM/AFI, Lomé, Togo 12-27 April 1988), under its Recommendation 3/13- *Amendment of the AFI and SAM Regional Supplementary Procedures*-endorsed a proposal for amendment of the AFI and SAM regional Supplementary Procedures (Doc 7034/4 Part I-*Rules of the Air, Air Traffic Services and Search and Rescue*) to reduce the minimum of separation from 20 to 15 minutes using the Mach number technique in Canarias, Dakar Oceanic, Recife and Sal Oceanic FIRs.

1.2 Accordingly, Conclusion 3/14-*SAT Co-ordination Meeting*-was framed to call for the holding, under the auspices of ICAO, of co-ordination meetings of concerned States, international organization, and representatives from Administrations of Communication Service Providers in order to ensure a smooth transition to the application of reduced separation using the Mach number technique.

1.3 Furthermore, LIM/AFI formulated Conclusion 3/15-*Continued improvement of Air Traffic Service over the South Atlantic* that reads as follow:
That:

When necessary, informal meetings be convened under the auspices of ICAO with the States and international organizations concerned to examine any possible improvement of air traffic service over the south Atlantic.

1.4 The Seventh Africa/Indian Ocean Regional Air Navigation (RAN) Meeting (AFI RAN/7, Abuja, Nigeria, 12-23 Mai 1997) through its Recommendation 5/11- *Improvement of Air Traffic Service over the South Atlantic* recommended:

That:

a) In order to ensure a continue development of air navigation system in the South Atlantic parties of the AFI and SAM Regions, the concerned States and interested international organization should meet under the auspices of ICAO at least once a year to:

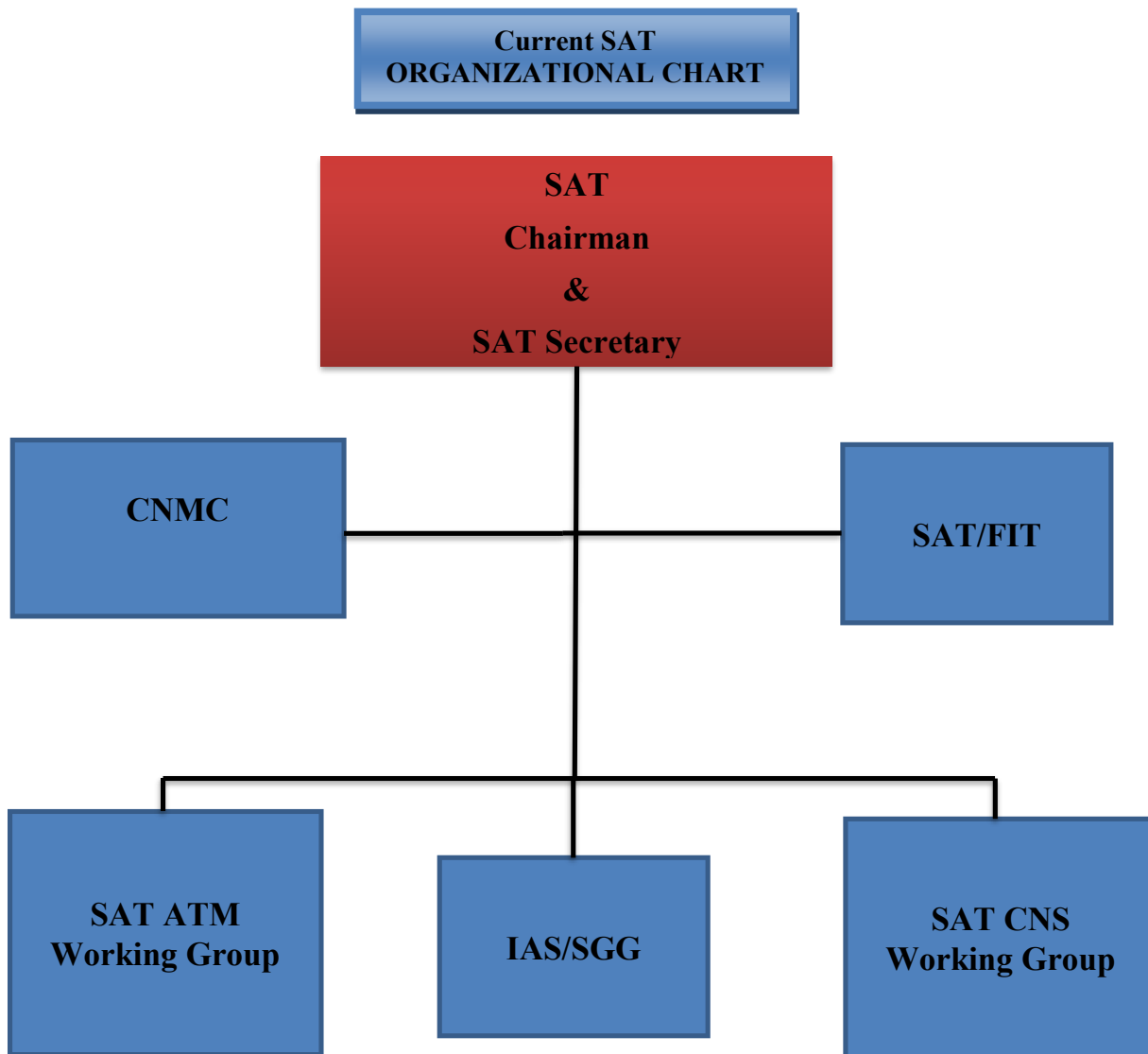
- 1) study, monitor and asses the air navigation system in light of the evolution of traffic characteristics and technology;
- 2) coordinate the implementation of improvements in the air navigation system, including new CNS/ATM systems;
- 3) develop as required, proposals for amendment of air navigation plan and regional supplementary procedures

b) The AFI –Indian Ocean Planning and Implementation Regional Group(APIRG) and all user states should be kept informed of new developments.

1.4 The SAT Group is currently organized under its two ATM and CNS Working Groups and receives reports from the following contributory bodies:

1. The SAT FANS/1 Interoperability Team (SAT/FIT) initiated to coordinate interoperability issues at the beginning of the implementation of ADS-C/CPDLC;

2. The CAFSAT Network Management Committee (CAFSAT) established to monitor the performance of the VSAT network by assessing its operational statistics and coordinate its modernization and;
3. The Study Group on the improvement of Airspace structure in the EUR/SAM Corridor (IAS/SG) established to develop a short, mid, and long term strategy for the implementation of a new airspace structure in the EUR/SAM Corridor with the end to improve the capacity and efficiency of the operations and to meet users' needs.

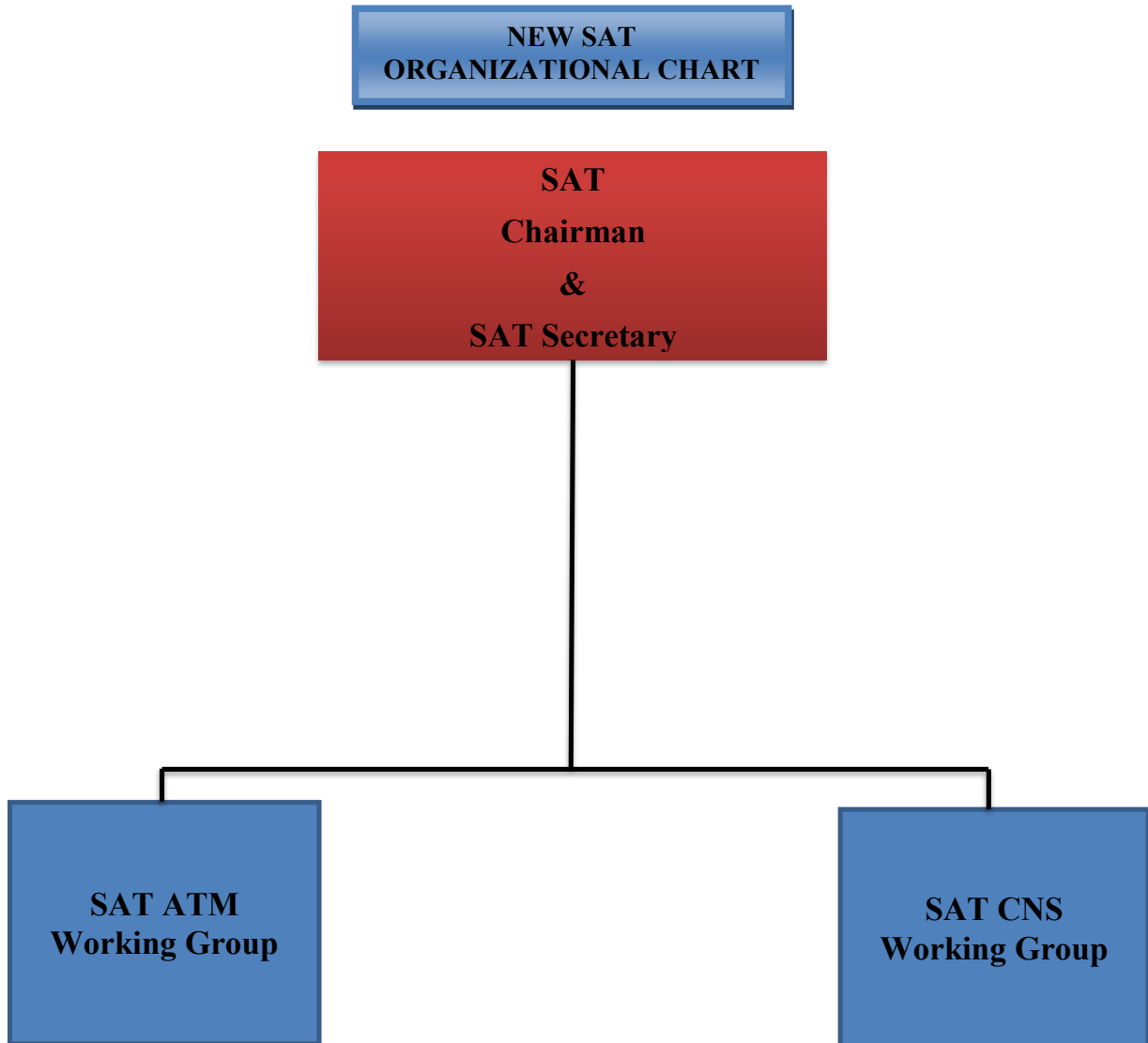


1.5 The SAT is led by a Chairman elected by its meeting and the ICAO WACAF Regional Office services the Secretariat. Since then, the SAT Group has been holding its yearly informal but structured meetings hosted in a rolling and volunteering principle for States and ANSPs in the AFI, EUR and SAM Regions. Opportunity is given to hold the meeting on CNMC and SAT/FIT in preparation of the SAT meeting held back to back during the same week.

1.6 This handbook formalizes the organisation composition work programme and work methodology of the SAT to provide more flexibility and efficiency in its work. In this regard the following major changes are envisaged:

- Refer all ATM operational issues related to the provision of air traffic services to the ATM Working Group
- Refer all technical issues related to the infrastructure supporting the provision of air traffic services to the CNS/WG;
- Clear identification of operational requirements and targets to be planned and implemented by the SAT Group;
- Ad Hoc auxiliary bodies or Implementation Teams may be established by the SAT Group from time to time to address specific issues.

The new organizational chart is as follows:



2. Introduction

2.1 The SAT Procedural Handbook is a publication adopted by SAT. It is intended to provide, for easy reference of all interested parties, a consolidation of material, particularly of a procedural nature, relevant to the work of the SAT and its contributory bodies. It also contains the working arrangements and internal instructions, developed by the Group for the practical application of its terms of reference and working methods.

Note:

In this Handbook, the words “working arrangements” and “working methods” have been used interchangeably. They do not however, always have the same connotation in all contexts.

2.2 This First Edition of the SAT Procedural Handbook reflects the recommendations from SAT members to review and revise the Terms of Reference, Organization, Working Methods and Arrangement in order to improve the efficiency of the SAT.

Organization of the Handbook

2.5 The Handbook is organized in Sections and Parts headings describing the terms of reference, composition, position in ICAO, working arrangements, rules of procedure and practices governing the conduct of business.

2.6 The framework of Section and Part headings, as well as the page numbering has been devised so as to provide flexibility, facilitating the revision or the addition of new material. Each Section is self-contained and includes an introduction giving its purpose and status and a detailed table of contents which serves also as the subject index and checklist for the current pages.

2.7 The Procedural Handbook will be made available to Members and Observers of SAT, the ICAO Secretariat, and to other States and international organizations participating in meetings, contributing to, or having interest in the work of the SAT and/or its contributory bodies.

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**GROUP FOR THE CONTINUED IMPROVEMENT OF AIR TRAFFIC
SERVICE OVER THE SOUTH ATLANTIC
(SAT)**

PROCEDURAL HANDBOOK

PART I

**TERMS OF REFERENCE, WORKING ARRANGEMENTS AND
RULES OF PROCEDURE FOR THE CONDUCT OF MEETINGS**

SAT PROCEDURAL HANDBOOK - PART I

PART I - TERMS OF REFERENCE OF THE GROUP FOR THE CONTINUED IMPROVEMENT OF AIR TRAFFIC SERVICE OVER THE SOUTH ATLANTIC (SAT)

1. Background

1.1 The Group for the improvement of air traffic service over the South Atlantic (SAT) was initiated by the Limited Africa/Indian Ocean (COM/MET/RAC) Regional Air Navigation Meeting (LIM/AFI, Lomé, Togo 12-27 April 1988), under its Conclusion 3/15-*Continued improvement of Air Traffic Service over the South Atlantic* calling upon for, when necessary, the convening of informal meetings under the auspices of ICAO with the States and international organizations concerned to examine any possible improvement of air traffic service over the south Atlantic.

1.2 The Seventh Africa/Indian Ocean Regional Air Navigation (RAN) Meeting (AFI RAN/7, Abuja, Nigeria, 12-23 Mai 1997) through its Recommendation 5/11- *Improvements to the air navigation system in the South Atlantic* recommended that 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 organization should meet under the auspices of ICAO at least once a year to study, monitor and evaluate the air navigation system in the light of changing traffic characteristics and technology, coordinate the implementation of improvements to the air navigation system, including new CNS/ATM systems, and develop amendment proposals to the air navigation plan and Regional Supplementary Procedures (SUPPs, Doc 7030) as required.

1.3 The Council, at the tenth meeting of its 152nd Session on 1 December 1997, approved the above AFI RAN Recommendation 5/11 and requested the Secretary General to bring it to the attention of States.

2. Terms of reference

2.1 The SAT Group aims primarily to ensure, in the South Atlantic parties of the AFI and SAM Regions, a continuous, coherent and harmonized implementation of the air navigation system in accordance with the provision and schedule of the concerned Regional Plans aligned with the Global Air Navigation Plan (GANP Doc. 9750).

2.2 In addition, the objective of the SAT Group is to provide to States and international organizations concerned, the opportunity to examine any possible improvement of air traffic service over the south Atlantic through the conduct inter alia, of the following tasks:

- 1) Study, monitor and assess the air navigation system in light of the evolution of traffic characteristics and technology with due observance to the primacy of air navigation safety and the need for air navigation optimum capacity and efficiency over the South Atlantic;
- 2) Identify and address specific air navigation deficiencies;

- 3) Coordinate the implementation of improvements in the air navigation system, including new CNS/ATM systems;
- 4) Develop as required, proposals for amendment of air navigation plan and regional supplementary procedures.

2.2 The Planning and Implementation Regional Groups for the AFI Region (APIRG), the CAR and SAM Regions (GREEPECAS), the North Atlantic System Planning Group (NAT SPG) and the Europe Air Navigation Planning Group (EANPG) and all user States should be regularly kept informed of new developments, as well as the identification and resolution of air navigation deficiencies in the SAT.

2.3 SAT is an implementation and coordination enabler and, while implementation is the responsibility of States, SAT can play a significant role in supporting the harmonization of the implementation of ICAO SARPs as well as Regional requirements over the South Atlantic.

2.2 The SAT Group will cooperate with its neighbourhood specially, the NAT SPG by identifying priority areas for potential joint projects aiming at harmonization to achieve seamless operations.

3. Composition

3.1 In accordance with the relevant conclusions of the LIM AFI (COM/MET/RAC) and the Recommendations of the AFI/RAN/7 Meetings, ICAO Contracting States, Air Navigation Service Providers, International associations for Airlines (IATA), Air Traffic Controllers (IFATCA), Air Traffic Safety Electronic Personnel (IFATSEA), Pilots (IFALPA), Aeronautical Communication Service Providers (SITA) over the South Atlantic in the AFI, EUR, SAM and NACC Regions, should be included in the membership of SAT.

3.2 Air navigation systems suppliers are entitled to participate in any other SAT meeting as observers but non-members.

3.3 International Organizations recognized by the Council may be invited as necessary to attend as observers to the SAT meetings.

4. Work Programme

4.1 In order to meet its terms of reference, the SAT Group shall establish and assign to its contributory bodies, work programmes that are based on the objective of the SAT and give effect to the terms of reference of the Group and shall perform the following tasks:

- a) review, and propose when necessary, the target dates for implementation of services and procedures, facilities, to ensure the coordinated implementation of the Air Navigation Systems South Atlantic;
- b) in line with the Global Air Navigation Plan (GANP), facilitate the conduct of necessary systems performance, monitoring, identify specific deficiencies in the air navigation field, and propose corrective action;
- c) develop as required, proposals for amendment to update the Regional Air Navigation Plans of the SAT concerned regions necessary to satisfy any changes in the requirements;

- d) monitor implement air navigation facilities and services and where necessary, ensure interregional harmonization, taking into consideration organizational aspects, economic issues (including financial aspects, cost/benefit analyses and business case studies) and environmental matters;
- e) assess human resource planning and training issues and propose, where necessary, human resource development capabilities that are compatible with the concerned Regional Air Navigation Plans;
- f) Conduct when necessary, safety assessments prior to any implementation that may bring important changes to SAT CNS/AT systems with significant impact on safety;
- g) conduct the above activities in the most efficient manner possible with a minimum of formality and documentation and call meetings of SAT when deemed necessary;
- h) coordinate with other regional and sub-regional bodies as necessary to support implementation and monitoring.

4.2 In delivering on its terms of reference, SAT will at all times do so in accordance with the Strategic Objectives of ICAO as updated from time to time. The Strategic Objectives of ICAO are reflected in **Appendix** to this Handbook

5. Creation and dissolution of contributory bodies

5.1 In order to assist in its work, the Group may create contributory bodies, charged with specific functions and/or tasks to enable the Group in discharging on its terms of reference. A contributory body shall be dissolved when it has:

5.2

- a) completed its assigned task;
- b) been determined that the work can be more effectively addressed by another body; or
- c) become apparent that work on the subject or work programme in question cannot be usefully continued.

6. Position in ICAO

6.1 The Group shall be the co-ordinating and reporting organ for all activities conducted within ICAO concerning the Air Navigation System over the South Atlantic Region but shall not assume authority vested in other ICAO bodies such as the PIRGs. The activities of the Group shall be subject to review by the Planning and Implementation Regional Groups (PIRGs) concerned, in the spirit of **Recommendation 5/11- *Improvement of Air Traffic Service over the South Atlantic*** of the AFI/RAN/7 meeting.

6.2 The work of SAT Working Groups are auxiliary bodies of the SAT Group and shall co-ordinate all matters related to air navigation with the SAT Group Secretary to ensure consistency of all initiatives and activities regarding the development and operation of the system.

**GROUP FOR THE CONTINUED IMPROVEMENT OF AIR TRAFFIC
SERVICE OVER THE SOUTH ATLANTIC
(SAT)**

SAT PROCEDURAL HANDBOOK

PART II

WORKING ARRANGEMENTS OF SAT

SAT PROCEDURAL HANDBOOK - PART II

PART II - WORKING ARRANGEMENTS

1. Relations with members

1.1 Members are identified in the Terms of Reference, and SAT, shall be kept fully informed of activities of the SAT. To achieve this objective, members should, on a regular basis, receive or be informed through e-location on:

- a) The proposed agenda for meetings of the Group;
- b) The reports on meetings of the Group and, as appropriate
- c) The summaries or reports on meetings of its contributory bodies of high importance that could not wait for the forthcoming SAT meeting.

1.2 Members should ensure necessary facilitation for co-ordination and follow-up of the Group's activities within their Administrations.

1.3 The Group may obtain information from concerned members on specific planning and implementation issues and offer them advice in the form of specific proposals for action.

1.4 The Group should encourage the integration of the overall facilities and services required for international civil aviation operations with the national civil aviation plans of States, to avoid duplication of efforts.

1.5 Additionally, the Group should concentrate on a clear identification of existing deficiencies in the SAT air navigation system, on the establishment of priorities of overcoming them, on the development of methods of achieving implementation and on practical solutions to specific problems, particularly those matters that seriously affect the safety of international civil aviation operations over the South Atlantic.

2. Relations with other Organizations

2.1 SAT shall keep itself informed of the activities of other organizations to the extent that such activities are likely to have an impact on the planning and operation of the air navigation system over the South Atlantic.

When necessary, SAT shall provide information and advice to such organizations, if this is required, in order to avoid duplication of studies and/or effort.

3. Administration of the SAT

3.1 The SAT shall be administered as follows:

3.2 By a Chairperson elected from the representatives designated by Member States of the Group. A Vice-Chairperson shall also be elected from the said representatives.

- 3.3 By a Secretariat appointed by the Regional Office of Dakar.
- 3.4 The Chairperson, in close co-operation with the Secretariat, shall make all necessary arrangements to ensure efficient working of the Group
- 3.5 Between meetings of the Group or its Working Groups, some subjects may be dealt with by correspondence among appointed subject matter experts through the Secretariat of the SAT or of the contributory bodies concerned.

4. Meetings of the Group

- 4.1 The Secretariat will make with the hosting State/ANSP, the necessary arrangements on the date and duration of meetings of the Group.
- 4.2 Meetings shall normally be convened in the principle of rotation of the locations amongst members.
- 4.3 Delegates of members may be accompanied by advisers. Total attendance should, however, be kept to a minimum consistent with the topics to be discussed so as to maintain the desired informality of proceedings.
- 4.4 The ICAO Regional Offices in Dakar shall provide the Secretariat services to the Group. In the execution of its duties the Secretariat should be supported by the Regional Offices of Lima, Nairobi and Paris as required.

5. Establishment of ad hoc Groups and Implementation Teams

- 5.1 In order to assist in its work, the SAT Group may task its Working Groups to create ad hoc Groups or Implementation Teams charged with specific functions and/or tasks to enable the Working Groups in effectively discharging on its terms of reference.

General considerations

The establishment and work of ad hoc Groups and Implementation Teams shall be based on the following principles:

- a) an ad hoc Group or Implementation Team shall only be formed when it has been clearly established that it is likely to be able to make a substantial contribution to the resolution of a deficiency, shortcoming, challenge, implementation of SARPs or inter-regional requirements, for which it is established;
- b) it shall be given clear and concise terms of reference describing not only its task but also an expected target date for its completion;
- c) a balance shall be established between the formation, composition and working arrangement of an ad hoc Group or Implementation Team, and the ability of members and concerned organizations to participate effectively in ad hoc Group or Implementation Team, taking into consideration, amongst others, logistical and resource issues;
- d) its composition shall be such that, while being kept as small as possible, all members and observers likely to be able to make valid contributions are given the opportunity to participate in it;

- e) its activities shall be subject to review by the Working Groups, especially in order to ensure progress and to avoid duplication of efforts in fields already covered by other activities; and
- f) an ad hoc Group or Implementation Team shall be dissolved when it has:
 - i). completed its assigned task;
 - ii). been determined that the work can be more effectively addressed by another group; or
 - iii). become apparent that work on the subject or work programme in question cannot be usefully continued.

5.2 The secretaries and facilitators of ad hoc Groups or Implementation Teams will be appointed by the Working Groups.

Working Groups

5.3 The Working Groups reflected in Part IV of this Handbook have been established taking into consideration the principles highlighted under paragraph 5.2 of this Part.

5.4 Working Groups shall be composed of officials possessing the qualifications and experience in at least one of the aviation technical areas in the Working Group concerned. In order to facilitate focus, continuity and appropriate expertise, States and international organizations identified by SAT will nominate specific officials to the Working Groups to enable the respective Working Groups to optimally take advantage of the expertise availed to them.

5.5 In addition, to enable the desired continuity and the benefits thereof, members should minimize changes of the nominated experts, and instead, allow the nominated experts to serve for a sufficiently lengthy period of time.

5.6 Each Working Group will be supported by a Secretary designated by the Secretary of SAT from among members of the ICAO Secretariat. In addition, the Secretary of SAT may assign other members of the ICAO Secretariat to support the Working-Groups as necessary.

6. Status of Observers

6.1 In accordance with the provisions of paragraph 3.3 of Part I, representatives of States which are non-members of SAT and international organizations will have the status of Observers at SAT meetings. Observers will be expected to contribute to the work of the Group.

8. Co-ordination and reporting lines

8.1 The Group reports to APIRG through its Secretary.

8.2 Strategic co-ordination among Working Groups will primarily be ensured by the Group, taking into consideration their terms of reference and work programme or when taking action on their reports

8.3 Routine coordination between the Group or its contributory bodies and other ICAO groups, including PIRGs and RASGs and meetings concerning the SAT Region shall be conducted through the SAT Secretariat or on its behalf, by the ICAO Regional Office of the Office of accreditation as required.

8.4 Coordination with representatives of Member States of the Group and representatives of international organizations attending regularly the meetings of SAT shall be conducted through the Secretary of SAT. ICAO Regional Offices in other SAT concerned Regions shall be kept informed of such correspondence whenever it may have an impact on the work of these Offices.

8.5 Relations with States and international organizations whether or not represented in the Group, as well as relations with organizations will normally be conducted through the Secretariat or on its behalf, by the ICAO Regional Office of the Office of accreditation as required.

8.6 Relations with experts provided by States as Members of SAT Working Groups shall be conducted by the Secretary of the Sub-group concerned.

**GROUP FOR THE CONTINUED IMPROVEMENT OF AIR TRAFFIC
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(SAT)**

SAT PROCEDURAL HANDBOOK

PART III

**RULES OF PROCEDURE FOR THE CONDUCT OF MEETINGS OF
THE SAT**

SAT PROCEDURAL HANDBOOK - PART III

PART III - RULES OF PROCEDURES FOR THE CONDUCT OF MEETINGS OF SAT

1. General

1.1 As set out in the Working Arrangements of the SAT related to its Administration, SAT shall at all times work with a minimum of formality and paper work. To achieve this aim, the rules of procedures for the conduct of meetings should be as flexible and simple as possible. The Group is expected to conduct its business by consensus of all interested parties. The following provisions do not include therefore any procedures for handling motions or voting.

1.2 There shall be no minutes for the meetings of the Group. Reports on SAT meetings should not include formal Statements by members or other participants. However, specific divergent views expressed in relation to decisions taken or conclusions reached shall be recorded as an integral part of the report.

2. Participation

2.1 Representatives of Member States of SAT should participate regularly in the meetings of the Group.

2.3 The Group shall normally invite industry representative international organizations recognized by the Council as representing important civil aviation interests to participate in the work of the SAT in a consultative capacity. Among the international organizations, IATA, IFALPA, IFATCA and IFATSEE should be invited on a continuous basis. Other international organizations may also participate when specifically invited by the Group.

2.4 The Secretariat should endeavour to ensure adequate representation by members, the industry international organizations, invited by the Group to participate in its meetings.

3. Convening of meetings

3.1 At each of its meetings, the Group should endeavour to agree on the date, venue and duration of its next meeting. States that offer to host SAT meetings including its Working Groups will be requested to confirm through a formal offer within three months succeeding the last meeting.

3.2 In accordance with its objectives, SAT shall:

- a) ensure the continuous and coherent development of the AFI Regional Plan as a whole and in relation to that of adjacent Regions; and
- b) identify specific problems in the air navigation field concerning the SAT area and propose remedial action addressed to parties concerned.

3.3 A convening letter for a meeting shall be addressed by the Secretary of the Group, normally **60** days prior to the meeting, to representatives of:

- a) Member States of SAT;
- b) Non Member States, having indicated interest to regularly participate in the meetings of the SAT; and
- c) International organizations invited to participate on a continuous basis in the activities of the Group.

3.4 The convening letter should include the agenda, together with explanatory notes prepared by the Secretary in order to assist participants in preparing for the meeting.

3.5 The ICAO Regional Office Dakar in liaison with other concerned ICAO Regional Offices, shall ensure that States and International organizations concerned, are informed of the convening of SAT meetings and the agenda with explanatory notes.

4. Establishment of the Agenda

4.1 The Secretary, in consultation with the Chairperson of the SAT shall establish a draft agenda on the basis of the work programme adopted and the ICAO documentation on latest developments pertaining to the work of the Group.

4.2 The draft agenda shall be circulated with the convening letter, as specified in sub-paragraph 3.4 above, for comments in writing by expected participants in that meeting.

4.3 At the opening of the meeting, a State or international organization may propose the inclusion of additional items on the agenda, and this shall be accepted if the majority of States attending the meeting so agree.

5. Languages

5.1 The languages of the meetings of the SAT shall be English.

5.2 The reports on meetings of the Group and supporting documentation will be prepared in English.

6. Officials and Secretariat of the SAT

6.1 In order to ensure the necessary continuity in the work of the Group and unless otherwise determined by special circumstances, the Chairperson, the Vice-Chairperson and of

the SAT should assume their functions at the end of the meeting at which they are elected, and serve for at least three calendar years or two meetings of SAT, whichever occurs latest.

6.2 Members of the Group may at any time request that the election of the Chairperson and/or Vice-Chairpersons be included on the agenda. Elected Officers may, in any circumstances, be re-elected.

6.3 The Secretary of the SAT will serve as Secretary of the meetings of the Group. He/she will be assisted by other members of the ICAO Secretariat as necessary.

7. Reports, Working Papers and other Documentation

7.1 Presentation of reports of Working groups should normally be made by the Secretary of the respective Working Groups.

7.2 Documentation for meetings of the SAT will be prepared by the Secretariat, Member States of the Group and international organizations participating on a continuous basis in the activities of the Group.

7.3 Any State, international organization and African body or organization, whether or not attending, may submit material for consideration by an SAT meeting. In cases where the material submitted is in the form of supporting documentation on a specific subject, the originator is expected to attend the meeting to which it is presented, at least during the discussions on the subject concerned.

7.4 Supporting documentation shall be presented in the form of:

- a) Working Papers;
- b) Information Papers.

7.5 **Working Papers** constitute the main basis of the discussions on the various items on the agenda.

7.6 Working Papers shall be presented in a standardized format. Each paper should be limited to one agenda item or sub-item and contain, as appropriate, introduction of the matter, brief discussion and conclusions with specific proposals for action.

7.7 Working Papers should be made available to all interested parties as early as practicable, preferably 05 days before the meeting at which they are intended to be considered.

7.8 Working Papers shall be made available by the Secretary to:

- a) Members of the Group;
- b) States having notified the Secretary of their intention of being represented at the relevant meeting; and
- c) International organizations attending SAT activities on a regular basis.

7.9 States or international organizations originating a Working Paper and not attending a specific meeting of SAT shall also be provided with a copy of that particular Working Paper.

7.10 **Information Papers** are intended solely to provide participants at a meeting with factual information on developments of technical or administrative matters of interest to the Group.

7.11 Information papers will be made available to all participants and may be made available to all interested parties as early as practicable depending on logistical and other document processing constraints.

8. Conclusions and Decisions of the Meetings

8.1 Action taken by the Group shall be recorded in the form of:

- a) Conclusions; and
- b) Decisions.

8.2 **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 is required to be initiated by the Secretary in accordance with established procedures.

8.3 Conclusions are aimed mainly at the furtherance of studies and programmes being undertaken by the Group and its Working Groups.

8.4 **Decisions** relate to the internal working arrangements of the Group and its Working Groups.

9. Conduct of business

9.1 The meetings of the SAT shall be conducted by the Chairperson or, in the absence of the Chairperson, by the Vice-Chairperson of the Group.

9.2 At the first sitting of each meeting, following the opening by the Chairperson, the Secretary shall inform participants of the meeting arrangements, its organization and of the documentation available for consideration of the different items on the agenda.

9.3 Each meeting of the SAT will consider, as required:

- a) reports from the SAT and Working Groups;
- b) specific planning and implementation matters; and
- c) review and up-date of the SAT Work Programme.

9.4 At each of its meetings, the Group shall also establish a tentative meeting programme (including meetings of the SAT and Working Groups) for at least the following two calendar years.

9.5 The Group shall at each of its meetings review its outstanding Conclusions and Decisions in order to keep them current and their number at a minimum consistent with the progress achieved in implementation.

10. Reports

10.1 Reports on meetings shall be of a simple layout and as concise as possible and shall include:

- a) a brief history of the meeting (duration, attendance, agenda and list of Conclusions and Decisions);
- b) a summary of the discussions by the Group on the different items of the agenda including, for each of them, the relevant Conclusions and/or Decisions;
- c) the work programme and future action by the Group; and
- d) the tentative programme of future meetings of the Group and of its contributory bodies.

10.2 Draft Conclusions and Decisions will be prepared by the Secretariat for approval by the Group before the closing of each meeting.

10.3 The Meeting Report shall be made available on the meeting webpage by the Secretary to the attention of:

- a) Members of the Group;
- b) Other States and international organizations having attended the relevant meeting; and
- c) ICAO Headquarters for consideration by the Air Navigation Bureau, the Air Navigation Commission and the Council as required.

10.4 The report shall also be circulated, through the ICAO Regional Offices of accreditation, to all provider States in the concerned by the SAT as well as to international organizations concerned.

**GROUP FOR THE CONTINUED IMPROVEMENT OF AIR TRAFFIC
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PROCEDURAL HANDBOOK

PART IV

**WORKING GROUPS OF SAT
TERMS OF REFERENCE, COMPOSITION AND WORK SCHEDULE**

PART IV-A - SAT ATM WORKING GROUP (ATM/WG)

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

- Study, monitor and assess the air navigation system in light of the evolution of traffic characteristics in areas of routing AR1/HA1 and AR2/HA8 *as defined in the Global Air Navigation Plan (ICAO Doc 9750)*.
 - Ensure the continuous improvement of air traffic service over the south Atlantic trough:
 1. Optimum Airspace Organization and Management with the implementation, maintenance and monitoring of separation minima (RNP, RNAV and RVSM.), Random Routing
 2. Development of a new EUR/SAM Corridor Airspace Concept
 3. Conflict Management
 4. Contingency plans harmonization;
 5. Performance based (PBCS/PBN) separation minima implementation
 6. Coordination of South Atlantic Air Traffic Management with NAT's
 7. The ATM Working Group should explore ways and means to achieve further enhancements and implementation in ATM capacity and elements taking into consideration the timescales agreed by the requirements identified in the AFI and CAR/SAM CNS/ATM *AIR NAVIGATION* Implementation Plans.
- Note: The Working 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 any changes in the systems/procedures with significant impact on safety such as but not limited to RVSM and RNP, PBCS and any new 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.	Harmonize ADS/CPDLC programmes developed by SAT States/FIRs and analyze cost-benefit aspects related to their implementation.	Continuous
7.	Maintain ADS/CPDLC operational guidance material updated.	Continuous
8.	Conduct studies related to the implementation of the Global ATM Operational Concept and other enabling concepts within the SAT area.	Continuous
9.	Continue studies related to the extension of the AORRA airspace.	SATXX

10.	Analyze the operational requirements of AIDC implementation in South Atlantic	SATXX
11.	Analyze the feasibility of ITP application in the South Atlantic	SATXX
12.	Monitor the operation of Performance Based Communication and Surveillance in the SAT area.	SATXX
<ul style="list-style-type: none"> Note: The ATM/WG should take appropriate action on pressing issues and submit its proposal to the SAT Group meeting. 		
COMPOSITION		
<ul style="list-style-type: none"> <i>The Working Group 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.</i> Rapporteur: Spain <i>Tasks Nos. 5, 6 and 7 are assigned to the SAT South Africa Team Leader.</i> Working arrangements: <i>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.</i> 		

PART IV-B - SAT CNS WORKING GROUP (CNS/WG)

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

Considering the CAR/SAM and AFI Air Navigation Plans, the SAT CNS/WG should explore ways and means of achieving further enhancements in ATM efficiency within areas of routing AR1/HA1 AR-2/HA8 *as defined in the Global Air Navigation Plan (GANP ICAO Doc 9750)*, by resorting to emerging technologies and, in particular, by taking advantage of rationalization, integration and harmonization of systems where appropriate through:

1. Implementation, maintenance and monitoring of a robust satellite based aeronautical communication infrastructure (CAFSAT) to support current and future service (AFTN, AMHS, AIDC, VoIP, Surveillance Data sharing...);
2. Interconnection and interoperability of SAT CNS/ATM systems with enough flexibility to accommodate existing and future services in an evolutionary and cost-effective manner in accordance with the vision of the ICAO ASBU Bo-FICE and B0-SWIM;
3. Identification, assessment of Cyber risk / threats on the SAT CNS/ATM systems and coordination of remedial mitigation actions;
4. Identification, Evaluation of the performance of SAT CNS systems, identification of deficiencies and coordination of remedial actions
5. The associated institutional arrangements shall not inhibit competition among service providers complying with relevant ICAO Standards, Recommended Practices and Procedures.

WORK PROGRAMME

TASK No.	SUBJECT	TARGET DATE
1.	Analyze CNS deficiencies and make proposals for their elimination.	Continuous
2.	Review the performance of the CAFSAT Network and coordinate its modernization	Continuous
3.	Monitor pre-implementation/post-implementation safety assessments (as applicable) for any changes in the systems/procedures with significant impact on safety such as but not limited to RCP, RSPS, AMHS, AIDC, VoIP and any new CNS system in the South Atlantic, including adjacent areas.	Continuous
1.	Monitor the implementation of Performance Based Communication and Surveillance in the SAT area by ensuring that the SAT CNS & ATM systems meet the criteria required for Performance Based Communication and Surveillance operation	Continuous during the implementation phase
2.	Undertake investigations on the lack of flight plans, including individual cases, with emphasis on the aeronautical fixed telecommunication network (links, switching centers, routing directory and transit time statistics). Assess the reports of the ACCs on the results of the annual work of the local groups tasked to investigate/mitigate missing Flight Plans	Continuous
3.	Carry studies and make proposals to achieve end-to-end interoperability of ATM applications, in accordance with the ATM global operational concept.	SATXX
4.	In accordance with outcome of investigation on CAFSAT performance evaluate the feasibility of using existing or emerging digital VSAT networks to support ATS data link applications in an ATN environment.	SATXX

5.	Considering the implementation time-frames in the AFI and SAM CNS/ATM implementation plans, address cost-benefit aspects for the use of CNS/ATM applications (as required).	Continuous
6.	In coordination with the operational requirements identified by the SAT ATM/WG, share relevant technical data of different ADS/CPDLC Systems, to be implemented by SAT States addressing issues regarding work methodology, procedures, data interchange, maintenance, etc.	Continuous
7.	Analyze all aspects related to the implementation of ATS Voice switching and signaling protocols (VoIP) in the SAT area in accordance with guidance material contained in ICAO Relevant documents	SATXX
8.	Identify, assess Cyber risk / threats on the SAT CNS/ATM systems and coordination of remedial mitigation actions;	Continuous
COMPOSITION		
<ul style="list-style-type: none"> • The CNS/WG being of multi-disciplinary nature shall comprise experts from States responsible of FIRs in the area concerned, experts from adjacent FIRs and international organizations and the aeronautical industry. • Rapporteur: Senegal. • Task Team leaders: TBD • Working arrangements: The CNS/WG should complete its work and submit its proposal to the SAT. The CNS/WG should work through electronic correspondence and teleconferences prior to meetings. 		

Appendix

Strategic Objectives of ICAO for the 2020-2022 Triennium

- **Strategic Objective A: *Safety***: Enhance global civil aviation safety. This Strategic Objective is focused primarily on the State's regulatory oversight capabilities. The Global Aviation Safety Plan (GASP) outlines the key activities for the triennium.
- **Strategic Objective B: *Air Navigation Capacity and Efficiency***: Increase the capacity and improve the efficiency of the global civil aviation system. Although functionally and organizationally interdependent with Safety, this Strategic Objective is focused primarily on upgrading the air navigation and aerodrome infrastructure and developing new procedures to optimize aviation system performance. The Global Air Navigation Capacity and Efficiency Plan (Global Plan) outlines the key activities for the triennium.
- **Strategic Objective C: *Security & Facilitation***: Enhance global civil aviation security and facilitation. This Strategic Objective reflects the need for ICAO's leadership in aviation security, facilitation and related border security matters.
- **Strategic Objective D: *Economic Development of Air Transport***: Foster the development of a sound and economically-viable civil aviation system. This Strategic Objective reflects the need for ICAO's leadership in harmonizing the air transport framework focused on economic policies and supporting activities.
- **Strategic Objective E: *Environmental Protection***: Minimize the adverse environmental effects of civil aviation activities. This Strategic Objective fosters ICAO's leadership in all aviation-related environmental activities and is consistent with the ICAO and UN system environmental protection policies and practices.