SAM/IG/23

INTERNATIONAL CIVIL AVIATION ORGANIZATION
South American Office

Regional Project RLA/06/901

TWENTY THIRD WORKSHOP/MEETING OF THE SAM IMPLEMENTATION GROUP

(SAM/IG/23)

FINAL REPORT

Lima, Peru, 20 to 24 May 2019

INDEX

ii-1 PLACE AND DURATION OF THE MEETING

The Twenty Third Workshop/Meeting of the SAM Implementation Group (SAM/IG/23) was held in the premises of the ICAO South American Regional Office in Lima, Peru, from 20 to 24 May 2019, under the auspices of Regional Project RLA/06/901.

ii-2 OPENING CEREMONY AND OTHER MATTERS

Mr. Fabio Rabbani, ICAO South American Office Regional Director, greeted attending civil aviation authorities and representatives of State and private organizations of the SAM Region. Furthermore, he reiterated his thanks for the continuous support given to the activities of the SAM Regional Office, especially those related to the SAM Implementation Group (SAM/IG).

ii-3 SCHEDULE, ORGANIZATION, WORKING METHODS, OFFICERS AND SECRETARIAT

The Workshop/Meeting agreed to hold its sessions from 09:00 to 15:00 hours, with appropriate breaks. Working methods of the Meeting included a Single Committee, Working Groups and *ad-hoc* Groups.

Mr. Roque Diaz Estigarribia, delegate from Paraguay and Mr. Ivan de Leon, delegate from Panama, were elected as Chairman and Vice-Chairman of the Meeting, respectively.

Mr. Fernando Hermoza, ICAO ATM/SAR Regional Officer acted as Secretary, and was assisted by Mr. Francisco Almeida, ICAO CNS Regional Officer and Mr. Onofrio Smarrelli, ICAO CNS Consultant.

In addition, the Secretariat counted with the support of Mr. Julio Pereira for the PBN Group, Mr. Murilo Albuquerque Loureiro for the Group on Improvements in CNS Capabilities, and Mr. Jorge Merino for the Automation and Situational Awareness Group.

ii-4 WORKING LANGUAGES

The working languages of the Meeting were English and Spanish.

ii-5 AGENDA

The following agenda was adopted:

Agenda Item 1: Follow-up to conclusions and decisions adopted by SAM/IG meetings and presentation of air navigation progress at a global, interregional and intraregional level

Agenda Item 2: Optimization of the SAM airspace

a) PBN regional implementation
b) Actions to standardize the longitudinal separations of en-route aircraft
c) Analysis of the SAM route network, Version 5, and CAR interfaces

Agenda Item 3: Implementation of Air Traffic Flow Management (ATFM) and improvement of procedures for flow coordination between units

Agenda Item 4: Assessment of operational requirements to determine the implementation of improvements in communications, navigation and surveillance (CNS) capabilities for operations in route and terminal area

a) Follow-up to REDDIG II performance and activities, and to MEVA III network interconnection
b) Follow-up to AMHS interconnection
c) SELCAL expansion (SELCAL 32)

Agenda Item 5: Operational implementation of new ATM automated systems and integration of the existing systems

a) Follow-up to AIDC performance and operation in the SAM Region
b) Follow-up to actions taken to mitigate flight plans errors and duplicity/multiplicity in the SAM Region
c) Interoperability between automated systems (GT – Interop)
d) ADS-B implementation in the SAM Region

Agenda Item 6: Other business

ii-6 ATTENDANCE

The Meeting was attended by 84 participants of 13 States of the SAM Region (Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Panama, Paraguay, Peru, Suriname, Uruguay and Venezuela); and State observer from the North American and Caribbean Region (United States), four International Organizations (CANSO, EASA, IATA and IFALDA/APADA) and for companies from the aviation industry (COLLINS AEROSPACE ((ARINC)), ENGIE INEO, IACIT, y THALES). The list of participants is shown in page iii-1.

ii-7 LIST OF CONCLUSIONS [1]

No.	Title of the Conclusion	Page
Conclusion SAM/IG/23-01	Implementation of ATFM measures in accordance with Doc 9971, and coordination in case of ATS contingencies	3-3

[1] The Conclusions are presented in the format requested by the Air Navigation Commission (ANC) through Study Note 8993 (6/11/2015) Progress report of the ad hoc working group in the PIRG and RASG reports (item No. 20036).

LISTA DE PARTICIPANTES / LIST OF PARTICIPANTS

ARGENTINA

1. Néstor Damián Battistessa
2. Ana Carolina Toloza
3. Jorge Roberto Cornelio
4. Verónica E. Villarruel
5. Adrián Malizia
6. Diego Gamboa

BOLIVIA

7. Walter Jorge Olivera Ballesteros
8. Luis Benjamín Rojas Santa Cruz
9. Jaime Yuri Álvarez Miranda

BRASIL / BRAZIL

10. Clóvis Fernandes Júnior
11. James Souza Short
12. Gil Lessa Amaral de Carvalho
13. Alessander de Andrade Santoro
14. Igor José Ribeiro de Sampaio
15. Murilo Albuquerque Loureiro
16. Wallace Gutemberg Medeiros Luz
17. Márcio André Da Silva
18. Fábio Da Silva Santos

CHILE

19. Alfonso De la Vega
20. Lucio López
21. Patricio Zelada

COLOMBIA

22. Juan Oswaldo Hernández
23. Mauricio Corredor
24. Harlen Mejía Oliveros

ECUADOR

25. Jorge Zúñiga Jibaja
26. Clemente Pinargote Vásquez
27. Alis Villavicencio Armijos

ESTADOS UNIDOS

28. Albert O'Neill
29. Raul G. Chong
30. Dulce M. Rosés

PANAMÁ

31. Abdiel H. Vásquez
32. Iván De León Almengor
33. Gilda Espinosa
34. Edwin Gfeller
35. Mario Facey Howard

PARAGUAY

36. Roque Diaz Estigarribia
37. Liz Rocío Portillo Castellanos
38. Víctor Morán Maldonado
39. Delia Giménez Aranda

PERÚ

40. Libio Benites Condori
41. Diana Montoya
42. Sara Siles La Rosa
43. Sady Beaumont
44. Giuliano Guzmán Vera
45. Eloy Tafur
46. Juan Pablo Portilla Venero
47. Karina Calderón
48. Johnny Avila
49. Raúl Anastacio Granda
50. José Díaz
51. Fredy Pimentel Enciso
52. Tomás Macedo Cisneros
53. Jorge Merino Rodríguez
54. Juan Bouverie
55. Marco Vargas
56. Jaime Rojas
57. Sarita Alcántara Carthy
58. Sergio Rojas Hidalgo
59. Dante Samaniego Bilbao
60. Luis Perales Sáez

SURINAM / SURINAME

61. Jürgen Cicilson
62. Quincy S. Cyrus

URUGUAY

63. Gustavo Turcatti
64. Tabaré Sardeña
65. Gabriel Falco
66. Rosanna Barú

VENEZUELA

67. Lumayra Díaz
68. Omar Enrique Linares
69. Jarumy Castillo

AIREON

70. Ana Persiani
71. Demetrius Zuidema
72. Athayde Frauche

ATECH Brazil

73. Edson Fagundes Gomes

CANSO

74. Javier Alejandro Vanegas

COLLINS AEROSPACE (ARINC)

75. Manuel Gongora

EASA

76. Germán Ignacio Meyer

ENGIE INEO

77. Clement Chevallier

IACIT SOLUCOES TECNOLÓGICAS S/A

78. Luiz Antonio Freitas de Castro

IATA

79. Julio de Souza Pereira
80. Rocco Heesters
81. Mariela Valdes

IFALDA / APADA

82. Marcelo F. Sana
83. Hector Delguste

THALES

84. Daniel Vert

OACI / ICAO

85. Fernando Hermoza Hübner
86. Francisco Almeida
87. Javier Vittor
88. Onofrio Smarrelli

Agenda Item1: Follow-up to conclusions and decisions adopted by SAM/IG meetings and presentation of air navigation results at a global, interregional and intraregional level

1.1 Under this agenda item, the following papers were analysed:

a) WP/02 – *Follow-up to valid conclusions adopted by SAM/IG meetings and pending activities (presented by the Secretariat);*
b) IP/03 – *New edition of the Bolivian National Air Navigation Plan TMA* (presented by Bolivia); and
c) IP/04 - *GANP – DOC. 9750 Sixth Edition and develop of performance indicators* (presented by the Secretariat)

Conclusions and decisions formulated by SAM/IG meetings

1.2 The Meeting reviewed the conclusions and decisions still valid, as well as the activities pending from the workshops/meetings of the SAM Implementation Group (SAM/IG), as shown in **Appendix A** to this agenda item. The list of conclusions and activities include:

a) tasks to be performed and/or the corresponding conclusion in the area concerned;
b) specific tasks leading to accomplishment of the main task;
c) results expected from each task;
d) completion dates;
e) parties responsible for implementation;
f) members supporting the task; and
g) status of implementation of the task, and, if needed for better understanding, an explanatory comment on the status of implementation.

1.3 Likewise, the Meeting completed the table shown in **Appendix B** to this agenda item, containing the tasks to be performed by the States for the purpose of their follow-up.

Bolivian National Air Navigation Plan TMA

1.4 The Meeting was informed on the progress made by Bolivia to update its National Air Navigation Plan 2019-2030 (PNNAB) as a result of the Workshop delivered in 2018 in Cochabamba to the authories and users involved with the support of a special implementation project (SIP) developed by the ICAO South American Regional Office. It was mentioned that the approval of the new PNNAB is being handled through a Supreme Decree of the Government.

Performance objectives of the Sixth Edition of the GANP

1.5 The Secretariat informed that the ICAO GANP portal has included a catalogue of performance objectives, showing an initial set of indicators and their respective metrics developed for each of the eleven KPA. See link;

https://www4.icao.int/ganpportal/ASBU/PerformanceObjective

1.6 These efficiency indicators still are being perfected in its description and practical use, however, the SIMS (Safety Information Monitoring System) initiative which is shown on the portal ICAO (htttps://portal.icao.int) is already monitoring the vertical efficiency of various airports in our Region, focused on continuous descent (CDO) operations and frustrated approaches that are registered through ADS-B data. As example the case of the International Airport of Quito was mentioned.

1.7 The Project RLA/06/901 has programmed the "Workshop on the identification and implementation of performance indicators for air navigation systems", in the Regional Office, tentative date August, 05 to 09, 2019. The workshop will be conducted by a specialist of ICAO Headquarters who is consolidating the programme. The convening letter is foreseen to be delivered by the end of May 219.

APPENDIX A

STATUS OF IMPLEMENTATION OF CONCLUSIONS AND/OR TASKS EMANATING FROM SAM/IG MEETINGS

(Updated at SAM/IG/23, May 2019)

No.	Task to be developed	Specific tasks	Deliverables	Completion date	Responsible party	Members supporting the task	Status of implementation
1. Implementation of performance-based navigation (PBN) in the SAM Region							
1-1	**Conclusion SAM/IG/14-6: Projects and/or action plans for PBN redesign of the main South American TMAs** That SAM States: a) send the Project and/or Action Plans for PBN redesign of the main TMA(s) selected by their Administration, in order to complete the SAM PBN Project that is contained in Appendix J to this part of the Report, to the SAM Regional Office by 31 December 2014; b) send the corresponding updates to the aforementioned Project and/or Plans to the SAM Regional Office as soon as possible, so as to ensure harmonisation of activities under the SAM PBN Project.	Determination of the selected air spaces to be optimized with the implementation of PBN	Indicate the selected airspace for redesign or optimisation Report updates	SAMI/IG/25	STATES	RO/ATM	**VALID**

No.	Task to be developed	Specific tasks	Deliverables	Completion date	Responsible party	Members supporting the task	Status of implementation
1-2	**Conclusion SAM/IG/21-01: Regional and interregional harmonised PBN implementation goals** That SAM States, organisations, users, and stakeholders double efforts to meet regional and interregional performance-based air navigation implementation goals, based on GREPECAS projects, and contemplating the strengthening of national PBN implementation plans so that they include performance indicators and the use of recognised project management tools and methods.	Updating of regional PBN action plans and State action plans. Follow-up to PBN implementation and specific assistance to States.	PBN implementation plans implemented	SAMI/IG/26	STATES	RO/ATM	**VALID**

No.	Task to be developed	Specific tasks	Deliverables	Completion date	Responsible party	Members supporting the task	Status of implementation
1-3	**Conclusion SAM/IG/22-01: Study Group and Implementation of the SAM Air Space (GEPEA)** The Study Group and Implementation of the SAM Air Space (GESEA) be constituted, in accordance with the Terms of Reference approved by the SAM/IG Meeting.	cover the topics related to the Design of Procedures that are mostly treated in the PANSOPS workshops; facilitate more in-depth work on specific and complex issues; provide the best conditions for work outside the meetings, via teleconference; and stimulate the participation of new professionals in the work carried out in the Planning of the SAM Air Space, as well as in the activities related to the PANS OPS.	GESEA constitution	SAM/IG/23	STATES	RO/ATM	**VALID**
2. Contingency plans and air space efficiency							

No.	Task to be developed	Specific tasks	Deliverables	Completion date	Responsible party	Members supporting the task	Status of implementation
2-1	**Conclusion SAM/IG/23-04: Procedure to be applied in case of radioactive clouds or accidental release of radioactive material** That the civil aviation authority and/or ATS authorities, in coordination with meteorological authorities and/or meteorological watch offices, implement procedures related to the production of SIGMETs in order to: a) Ensure that their ATS/MET cooperation agreements include the exchange of information on radioactive material in messages exchanged between ATS and MET units; b) Foresee training for ATS staff on procedures related to receiving information from the London VAAC concerning radioactive material; c) Coordinate the inclusion of the accidental release of radioactive material or the presence of radioactive clouds in their contingency plans.						
3. **Standards and procedures for performance-based navigation operations approval**							
3-1	**Conclusion SAM/IG/14-9: Aircraft and operator PBN capacity database** That the ICAO SAM Office send to SAM States information on the use of the aircraft and operator PBN capacity database, requesting that the aforementioned database be completed by 15 March 2015.	Complete the implementation of the Database on aircraft and operator PBN capacity; and circulate a letter to States requesting to complete the data.	a) Web-based application b) Updated database	SAM/IG/24	RO/TC	RO/ FLS	**VALID** Application development started. Currently under review by ICAO Montreal HQ in order to include it in iSTARS.

No.	Task to be developed	Specific tasks	Deliverables	Completion date	Responsible party	Members supporting the task	Status of implementation
4. ATFM implementation							
4-1	**Conclusion SAM/IG/5-7: ATFM teleconferences in the SAM Region** That SAM States continue to hold weekly ATFM teleconferences between flow management units or flow management positions (FMU / FMP) to improve the exchange of information among participating States.	Implement ATFM teleconferences	FMU/FMP coordination carried out.	Permanent	States	RO/ATM	**VALID** Chile, Panama, Paraguay, Peru, and Venezuela will conduct tests starting in November 2017 during CADENA – CANSO ATFM teleconference. Argentina and Brazil are already participating. Results will be reported at the 2018 ATFM workshop. SAM/IG/23 Panama acted as observer in the CANSO' teleconference and has begun coordination to receive training and participate actively in same. Colombia participates in CADENA as member.

No.	Task to be developed	Specific tasks	Deliverables	Completion date	Responsible party	Members supporting the task	Status of implementation
4-2	**Conclusion SAM/IG/21-02: Consolidation of the implementation of 40NM longitudinal separation minima between adjacent FIRs in the SAM Region and promotion of the Action Plan for the implementation of a 20NM separation** That SAM States take action and apply procedures in the ACCs to consolidate the implementation of 40NM longitudinal separation minima and give priority to the execution of the action plan for the implementation of standard 20NM separation minima between adjacent FIRs in SAM continental airspace.	Follow-up to the implementation of the 40NM separation, follow-up to the Action Plan for the implementation of 40 NM separation, follow-up to the Action Plan for the implementation of 20NM minima, and specific assistance to States.	Implementation of 20NM longitudinal separation minima in continental airspace.	SAM/IG/25	STATES	RO/ATM	**VALID**
4-3	**Conclusion SAM/IG/22-02: Support in the implementation of the intraregional and interregional ATFM** That, The States enhance their efforts to: a) promote or optimize the implementation of the ATFM units in the assigned ACCs and that a study of procedures and tests be initiated to join the functions of their units with those of other adjacent States of the SAM Region, and, if such were the case, of the CAR Region; and **b)** render administrative resources that will facilitate the ATFM functions, including basic and recurrent instruction for operational and supervision personnel.	With the purpose of strengthening the provision of ATFM services and establishing the basis for a multinodal model and/or combined with a centralized function, the benefits of ATFM services should be extended to intrarregional and interregional levels.	Support to ATFM	SAM/IG/25	STATES	RO/ATM	**VALID** In February 2019 Paraguay complied with b)

No.	Task to be developed	Specific tasks	Deliverables	Completion date	Responsible party	Members supporting the task	Status of implementation
4-4	**Conclusion SAM/IG/23-01: Implementation of ATFM measures in accordance with Doc 9971, and coordination in case of ATS contingencies** That, SAM States prioritise the provision of the following for their ATS and ATFM services: a) Strengthen the functions of the flow management positions (FMPs) or units (FMUs), providing them with the prerogatives for coordinating and supporting ATS services; b) Define the profile and skills of the ATFM staff, and provide programmes for initial and recurrent training for the Staff; c) Mandate that ATFM measures are strictly based on the Doc. 9971 to face situations generating capacity/demand imbalance, especially in cases of ATS capacity degradation caused by unforeseen events; d) Establish instructions and supervision H24, ensuring that ATFM measures has the less impact for international flights, and all ATFM measures are agreed with adjacent ATFM or ACC dependencies; e) Mandate the correct application of the ATFM process, from the ATM planning phase to the phase of operations analysis and performance control; and f) Exclude the use of NOTAM of Flow Control to deal with situations of demand/capacity unbalance, with the only exception of the initial response that an ACC may require in the first 12 hours of ATS contingency.	To meet the provisions of ICAO Doc 9971 and the SARPs contained in Annex 11	Support to ATFM and ATC	SAM/IG/25	States	RO/ATM	**VALID**

No.	Task to be developed	Specific tasks	Deliverables	Completion date	Responsible party	Members supporting the task	Status of implementation
5. Operational implementation of new ATM automated systems and integration of the existing systems							
5-1	**Conclusion SAM/IG/15-08: Provision of facilities for the staff in charge of the operational implementation of the AIDC by the aeronautical authorities of the States** That the aeronautical authorities of SAM States involved in the implementation of the AIDC system interconnection, in order to meet the requirements of the Bogota Declaration in this regard, provide the necessary facilities so that the staff designated for the implementation of this activity, especially focal points, may carry out the work within the time specified in the schedules of activities listed in Appendix C of this agenda item.	Provision of facilities for the staff in charge of the operational implementation of AIDC by the aeronautical authorities of the States	Facilities for the staff in charge of the operational implementation of the AIDC implemented	SAM/IG/28	States	ICAO Secretariat	**VALID** The lack of support by aeronautical authorities to AIDC focal points in the implementation process is still evident.
5-2	**Conclusion SAM/IG/18/03: Designation of ADS B focal points** That, in order to coordinate regional ADS B planning and implementation activities in the SAM Region, States designate focal points and send the information to the ICAO South American Office no later than 30 December 2016.	Designation of ADS B focal points	ADS B focal points designated	SAM/IG/24	States	RO/CNS	**VALID** To date, the following States have designated focal points: Argentina, Bolivia, Brazil, Chile, Colombia, Uruguay Venezuela; Ecuador and Perú
5-3	**Conclusion SAM/IG/19-2: Implementation of procedures to mitigate the duplication/ multiplicity of scheduled commercial flight plans** In order to implement procedures to mitigate the duplication/multiplicity of scheduled commercial flight plans, States: a) should establish AFTN address	a) establish AFTN address XXXXZPZX as the only address for receiving flight plans b) develop AIC	Singe address Implemented AIC developed	SAM/IG/26	States	RO/CNS y RO/ATM	**VALID** To date, only Peru has implemented the procedure. Brazil, Ecuador and Venezuela have begun the procedure

No.	Task to be developed	Specific tasks	Deliverables	Completion date	Responsible party	Members supporting the task	Status of implementation
	XXXXZPZX, corresponding to the ARO/AIS Offices, as the only address for receiving flight plans. b) could use as a reference the AIC model developed by Peru, shown in Appendix G to this agenda item, when filing the flight plan directly to the ACC FDP.						
5-4	**Conclusion SAM/IG/21-03: Activities required in the AIDC pre-operational phase to reduce migration times to the operational phase** That SAM States currently in the AIDC pre operational phase, in order to reduce time in this phase and migrate to the operational phase: a) operate AIDC for a period of time to obtain the skills required for use thereof; b) monitor AIDC operation, recording errors made during the reporting, coordination and transfer stages; c) conduct statistical measurements based on the results of b), in order to identify the most frequent errors; d) based on the results of c), take the necessary action to mitigate errors; and **e)** report the results obtained in c) and d) and disseminate the lessons learned at events, teleconferences and AIDC implementation meetings of the SAM Region, so that they may serve as a reference for other AIDC implementations.	Follow-up and coordination via teleconferences and meetings	AIDC operational connection completed	December 2019	States	RO/CNS and RO/ATM	**VALID** On 18 August 2018, operational AIDC was established between Lima ACC - Guayaquil ACC and also between Iquique ACC–Lima ACC
5-5	**Conclusion SAM/IG/22-03: Interoperability Task Force (GT Interop)** That**,** to create an Interoperability Task Force	With the main objective of guarantee the interoperability	Creation of GT interop	SAM/IG/23	SAM Region States	ICAO SAM Office	**VALID**

No.	Task to be developed	Specific tasks	Deliverables	Completion date	Responsible party	Members supporting the task	Status of implementation
	(GT Interop) to address the issue in the SAM Region, providing States with guidance on the processes for interconnecting systems already implemented or to be acquired.	among the automated systems used by the areas of AIM, MET, ATM, ATFM, and CNS.					
5-6	**CONCLUSIÓN SAM/IG/23-02: Estandarización de la sintaxis y formato de los mensajes ACK y REJ para FPL** **That:** The States, through their AIM and CNS Focal Points, form a sub-working group within the INTEROP WG to: 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.	To promote the standardization of the syntax of ACK and REJ messages in order to prevent incompatibility in the future	SAM Standardization Regional Guide	SAM/IG/26	SAM Region States	ICAO SAM Office	**VALID**
5-7	**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: a. Adjust AMHS terminals of aeronautical meteorology users so that they may transmit and receive OPMET messages in IWXXM GML format	To meet the provisions of amendment 78 to ICAO Annex 3	Perform the tests and submit results	SAM/IG/26	SAM Region States	ICAO SAM Office	**VALID**

No.	Task to be developed	Specific tasks	Deliverables	Completion date	Responsible party	Members supporting the task	Status of implementation
	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						
6. Follow up to conclusions and decisions adopted by SAM/IG meetings, results of the thirty-eighth session of the ICAO Assembly (A38) and thirteenth meeting of Civil Aviation Authorities of the SAM Region (RAAC/13) and progress made in the development of the new electronic Air Navigation Plan (e-ANP)							
6-1	**Conclusion SAM/IG/13–1: Alignment of the national air navigation plans with the ICAO Global Air Navigation Plan (GANP) and SAM Performance-Based Air Navigation Implementation Plan (PBIP)** That SAM States amend their national air navigation plans, with the aim of aligning them with the new ICAO Global Air Navigation Plan (GANP, 4th Edition) and SAM Performance-Based Air Navigation Implementation Plan (PBIP) approved at the thirteenth meeting of Civil Aviation Authorities of the SAM Region (RAAC/13), and present any progress made in October 2014, at the SAM/IG/14 meeting.	Amend the air navigation national plans to have them aligned with the new ICAO Global Air Navigation Plan.	National air navigation plans aligned with ASBU	SAM/IG/24	SAM States	ICAO SAM Office	**VALID** Bolivia, Brazil, Chile, Colombia, France and Venezuela have reported the completion of its national plans aligned with the ASBU. The PNAI of Chile is presented as reference document of the SAM/IG/21 meeting SAM/IG/23 analyzed the tasks to develop Vol III of e-ANP
6-2	**Conclusion SAM/IG/13-3: Designation of a national focal point for the drafting of the new regional e-ANP** That, with the aim that SAM States can coordinate with the ICAO SAM Regional Office the provision of the data necessary for the drafting of the new regional electronic air navigation plan (e-ANP):	Designate focal points	Focal point	01/08/2014	States	RO/ATM	**VALID** The Secretariat sent letter SA280 on 12 June 2014. SAM/IG/23: the meeting was informed on the need to update focal points and specialist (ATM-CNS-

No.	Task to be developed	Specific tasks	Deliverables	Completion date	Responsible party	Members supporting the task	Status of implementation
	a) The ICAQ SAM Regional Office will send a State letter in early June 2014, requesting the nomination of a national focal point; and b) SAM States will officially inform by 1 August 2014 the name of the designated focal point, and provide a brief resumé, telephone number and electronic mail of the incumbent.						MET-AIM-AGA/AOP) for drafting Vol III of Regional e-ANP. The Secretariat will send a State letter on this regard.

APPENDIX B

FOLLOW-UP TO THE CONCLUSIONS AND PENDING TASKS OF SAM/IG MEETINGS

Note: Conclusion SAM/IG/14-13 already implemented, has been remove

Conclusión/Tarea Conclusion/Task	ARG	BOL	BRA	CHI	COL	ECU	FGY	GUY	PAN	PAR	PER	SUR	URU	VEN	OBSERVACIONES/ REMARKS
Conclusion SAM/IG/13-1 – Alignment of the national air navigation plans with the ICAO Global Air Navigation Plan (GANP) and SAM Performance-Based Air Navigation Implementation Plan (PBIP) That SAM States amend their national air navigation plans, with the aim of aligning them with the new ICAO Global Air Navigation Plan (GANP, 4th Edition) and SAM Performance-Based Air Navigation Implementation Plan (PBIP) approved at the thirteenth meeting of Civil Aviation Authorities of the SAM Region (RAAC/13), and present any progress made in October 2014, at SAM/IG/14 meeting.	O/G	YES	YES	YES	YES	O/G	YES	NO	O/G	O/G	O/G	O/G	O/G	YES	Peru foresees completion in 2019. PNNA will be presented SAM/IG/24 Paraguay foresees completion in December 2018 Suriname is drafting its first N-ANP Uruguay is preparing the first draft of its National Plan Note: States should use as a reference the Global Air Navigation Plan (GANP, 5th edition) and the SAM Performance-based navigation implementation plan (PBIP) version 1.5 approved at the Thirteenth meeting of Civil Aviation Authorities (RAAC/15) Bolivia presented its N-ANP in the SAM/IG/23
Conclusion SAM/IG/13-3 - Designation of a national focal point for the drafting of the new regional e-ANP That, with the aim that SAM States can coordinate with the ICAO SAM Regional Office the provision of the data necessary for the drafting of the new regional electronic air navigation plan (e-ANP):	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	Information from Guyana and Panama still pending. SAM/IG/23: the meeting was informed on the need to update focal points and specialist (ATM-CNS-MET-AIM-

Conclusión/Tarea Conclusion/Task	ARG	BOL	BRA	CHI	COL	ECU	FGY	GUY	PAN	PAR	PER	SUR	URU	VEN	OBSERVACIONES/ REMARKS
a) The ICAO SAM Regional Office will send a State letter in early June 2014, requesting the nomination of a national focal point; and b) SAM States will officially inform by 1 August 2014 the name of the designated focal point, and provide a brief resumé, telephone number and electronic mail of the incumbent.															AGA/AOP) for drafting Vol III of Regional e-ANP. The Secretariat will send a State letter on this regard. Compliance after SAM/IG/23 is considered pending by States
Conclusion SAM/IG/13-9 - IATA safety event indicators for SAM States Encourage States to develop, jointly with operators, Secretariat and other ATM community stakeholders deemed relevant, the methodology allowing the use of the data on safety events and indicators registered by airlines through IATA, in order to identify and mitigate any potential risk to operations, setting goals, priority areas and action plan.	YES	O/G	YES	YES		YES	YES		NO	NO	O/G	NO	O/G	YES	Bolivia: First contact made with IATA SAM/IG/23. IATA provided data with FDX tool. Person in contact is Mr. Julio Pereira. From this meeting Colombia will contact M. Pereira to access the information on safety events and indicators registered by airlines trough IATA. Paraguay expressed interest.
Conclusion SAM/IG/14-9 - Aircraft and operator PBN capacity database That the ICAO SAM Office send to SAM States information on the use of the aircraft and operator PBN capacity database, requesting that the aforementioned database be completed by 15 March 2015.		O/G							YES				O/G		The Secretariat coordinated (August 2017) with ICAO HQ in Montreal so that personnel of iSTAR develop a PBN capacity database. In this respect, iSTAR personnel paid a one-month mission to ICAO SAM Office to begin the activity, which is still in progress. The application will allow States to fill remotely and keep the database updated.

Conclusión/Tarea Conclusion/Task	ARG	BOL	BRA	CHI	COL	ECU	FGY	GUY	PAN	PAR	PER	SUR	URU	VEN	OBSERVACIONES/ REMARKS
Conclusion SAM/IG/14-17 - Updating of FASID Table CNS4 That SAM States send to the Secretariat at the ICAO SAM Office the updated FASID Table CNS4 by 15 December 2014.	YES	YES	O/G	YES	YES	YES	NO	NO	YES	YES	YES	NO	YES	YES	FASID Table CNS 4 is now CAR/SAM 5 Table CNS II of the eANP Volume II
Conclusion SAM IG/14-18 - Exception in the insertion of alternate aerodromes That: a) Airlines operating to the United States that will apply exceptions to the insertion of the alternate aerodrome, insert "ZZZZ" in box 16 of the FPL and specify ALTN//NIL in box18. **b)** States include such procedures in the respective AIPs.	b) YES	b) NO	YES	b)NO	b)O/G	b)O/G	b)O/G	b)O/G	b)N/A	b)O/G	b) YES	b)O/G	b)O/G	b)NO	The recommendation of the NAM/CAR/SAM AIDC/4 meeting of April 2018 also promotes the implementation of the exception. SRVSOP LAR 121.2585 and ICAO Annex 6 provide for the exception when filling the ALTN DEST Bolivia will not apply LAR 121.2585. ICAO will be notified through correct channels. Argentina is publishing the application in its AIP, as reported at the SAMIG/21. SAMIG/23 informed; Panama does not apply the procedure.

Conclusión/Tarea Conclusion/Task	ARG	BOL	BRA	CHI	COL	ECU	FGY	GUY	PAN	PAR	PER	SUR	URU	VEN	OBSERVACIONES/ REMARKS
Conclusion SAM/IG/15-08: **Provision of facilities for the staff in charge of the operational implementation of the AIDC by the aeronautical authorities of the States** That the Aeronautical Authorities of the SAM Region States involved in the implementation of the AIDC systems interconnection, in order to comply with the requirements of the Bogota Declaration in this regard, provide the necessary facilities for the staff designated for the implementation of this activity, especially the focal points, could carry out the work within the time specified in the schedules of activities listed in Appendix C of this agenda item.	O/G	N/A	YES	O/G	YES	YES	N/A	N/A	YES	O/G	YES	N/A	YES	YES	**VALID**
Conclusion SAM/IG/16-01: **Model amendment to the letter of operational agreement on AIDC between two centres** That SAM States, when implementing AIDC between adjacent ATS units, make the corresponding amendments to the letters of operational agreement using as a model the amendment to the letter of operational agreement between the Lima ACC and the Guayaquil ACC for the operation of AIDC, shown in Appendix A to this agenda item.	O/G	NA	O/G	O/G	YES	YES	O/G	NA	YES	O/G	YES	NA	O/G	O/G	At present, the model amendment to the letter of operational agreement on AIDC is being used by Colombia, Ecuador, Panama and Peru. The remaining States will use it when their operational letters of agreement are amended to include AIDC. Panama and Colombia are making arrangements to sing an agreement.
Conclusion SAM/IG/18-01: **PANS-OPS recommendations for harmonising instrument procedures in the SAM Region** That SAM States implement and apply, as soon as possible, the recommendations of the PANS-OPS group, shown in Appendix B* to this part of the report, with a view to harmonising instrument procedures and the associated processes, and enhance safety.	O/G	O/G	O/G	O/G		YES			O/G	O/G	YES		O/G	YES	*See information in PANS-OPS workshop States to report on implementation of conclusions at SAM/IG/19 The objectives of the conclusion are being met. Follow-up being conducted in SAM/IG/19 table. Table was updated at SAMIG/21.

Conclusión/Tarea Conclusion/Task	ARG	BOL	BRA	CHI	COL	ECU	FGY	GUY	PAN	PAR	PER	SUR	URU	VEN	OBSERVACIONES/ REMARKS
															Colombia proposes the conclusion be assumed by tasks of GESEA SG2.
Conclusion SAM/IG/18/03: **Designation of ADS B focal points** That, in order to coordinate regional ADS B planning and implementation activities in the SAM Region, the States designate focal points and send the information to the ICAO South American Office no later than 30 December 2016.	YES	YES	YES	YES	YES	YES	NO	NO	YES	YES	YES	NO	YES	YES	
Conclusion SAMIG/19-02: **Implementation of procedures to mitigate duplication/multiplicity of scheduled commercial flight plans** In order to implement procedures to mitigate the duplication/multiplicity of scheduled commercial flight plans, States: a) should establish AFTN address XXXXZPZX, corresponding to ARO/AIS Offices, as the only address for receiving flight plans. b) could use as a reference the AIC model developed by Peru, shown in Appendix G to this agenda item, when filing the flight plan directly to the ACC FDP.	a) O/G b) O/G	NO	a) O/G b) O/G	a) O/G b) O/G	a) O/G b) O/G	a)YES b) O/G	NO	NO	a) YES b) O/G	a) O/G b) O/G	a) YES b) YES	NO	a) O/G b) NO	a)YES b) O/G	SAMIG/23 informed: Panama has stablished a single address, and is deploying trials with COPA. Ecuador delegates responsibility of FLP presentation to air operators. Venezuela is working with the single address SVMIZPZX Bolivia is under the automation process and do not generate duplicity/multiplicity of flight plans
Conclusion SAM/IG/21-01: Regional and interregional harmonised PBN implementation goals That SAM States, organisations, users, and stakeholders double efforts to meet regional and interregional performance-based air navigation implementation goals, based on GREPECAS projects, and contemplating the strengthening of national PBN implementation plans so that they include performance indicators and the use of recognised project management tools and methods.		O/G		O/G		O/G			O/G	O/G	O/G		O/G	YES	Bolivia: implementation foreseen by June 2020 Peru: In 2018 eight (8) key performance indicators (KPI)has been implemented and applied to ATFM and A-CDM. It is foreseen to extend those indicators to PBN in 2019. Venezuela inserted indicators

Conclusión/Tarea Conclusion/Task	ARG	BOL	BRA	CHI	COL	ECU	FGY	GUY	PAN	PAR	PER	SUR	URU	VEN	OBSERVACIONES/ REMARKS
Conclusion SAM/IG/21-02: **Consolidation of the implementation of 40nm longitudinal separation minima between adjacent FIRs in the SAM Region and promotion of the action plan for the implementation of a 20NM separation** That SAM States take action and apply procedures in the ACCs to consolidate the implementation of 40NM longitudinal separation minima and give priority to the execution of the action plan for the implementation of standard 20NM separation minima between adjacent FIRs in SAM continental airspace.		YES		YES		YES				O/G	O/G		YES	YES	Bolivia cannot implemented 40nm separation minima with its current communications system. Improvement to the VHF network foreseen for 2019. Peru foreseen the implementation of 20NM with Amazonico ACC in 2019. Ecuador will fix date on ATSRO/10 meeting, for testing with Peru in VAKUD 20NM Colombia: during ATSRO/10 meeting (Bogota) will analyse the implementation of 20NM separation.
Conclusion SAM/IG/21-03: **Activities required in the AIDC pre-operational phase to reduce migration times to the operational phase** That SAM States currently in the pre-operational phase of AIDC, in order to reduce time in this phase and migrate to the operational phase: a) operate AIDC for a period of time to obtain the skills required for the use thereof; b) monitor AIDC operation, recording errors made during the reporting, coordination and transfer stages; c) conduct statistical measurements based on the results of b), in order to identify the most frequent errors; d) based on the results of c), take the necessary action to mitigate errors; and **e)** report the results obtained in c) and d) and disseminate the lessons learned at events, teleconferences and AIDC implementation meetings of the SAM Region, so that they may serve as a reference for other AIDC implementations.	NA	NA	 O/G O/G O/G O/G	 YES YES YES O/G	 O/G O/G O/G O/G	 YES YES YES O/G	NA	NA	 YES YES YES O/G	NA	 YES YES YES O/G	NA	NA	O/G	Brazil, Chile, Colombia, Ecuador, Panama and Peru have activities to sign operational letters of agreement SAM/IG/23: Venezuela has foreseen tests for August or September 2019 and for October 2019 to subscribe an agreement at least with Colombia

Updated on SAM/IG/23, May 2019

Agenda Item 2: Optimisation of the SAM airspace

a) PBN regional implementation progress
b) Actions to standardise longitudinal separation of en-route aircraft
c) Post-implementation analysis of the SAM route network – Version 4

2.1 Under this agenda item, the following papers were analysed:

a) WP/03 - *Follow-up to PBN Implementation* (presented by the Secretariat);
b) WP/04 - *Analysis of version 5 of the SAM route network in car interfaces* (presented by the Secretariat);
c) WP/05 - *PBN Brazil* (presented by Brazil);
d) WP/06 - *Criteria for SID RNP AR implementation in Brazil* (presented by Brazil);
e) WP/21 - *Study group and implementation of the SAM airspace (GESEA)* (presented by Brazil);
f) WP/22 - *Strategy for the development of standards and training of experts in airspace planning in the SAM Region* (presented by Brazil);
g) WP/23 - *Organization of instrument flight procedures design services (IFPDS)* (Presented by the Secretariat);
h) WP/34 - *Free route airspace (FRA)* (presented by IATA);
i) WP/37 - *Approach to rwy20 Chacalluta Airport in the city of Arica, Chile* (presented by IATA);
j) WP/39 - *PBN Argentina* (presented by Argentina);
k) IP/05 - *Optimization of Ecuadorian airspace* (presented by Ecuador) (**Spanish only**);
l) IP/06 - *Participation in the Seminar on Flight Procedure Design Service Organization (IFPDS) 2019* (presented by Uruguay) (**Spanish only**);
m) IP/07 - *ATS route catalogue for planning and follow-up* (presented by the Secretariat);
n) IP/08 - *AGILE GRU project* (presented by Brazil and IATA);
o) IP/09 - *Feasibility study for longitudinal separation reduction in the FIR Atlantico* (presented by Brazil)
p) IP/23 - *Advances in the application of the transition from RNAV cartography to RNP in accordance with ICAO Circular 353/AN/209 (presented by Venezuela)* (**Spanish only**);
q) IP/24 - *PBN implementation within the TIMEHRI TMA* (presented by Guyana) (**English only**); and
r) IP/26 - *Progress in the PBN implementation at the TMA Panama* (presented by Panama)

2.2 The meeting analysed the status of implementation of PBN in the Region. Improvements made in the implementation strategy to be applied through the Group of study and implementation of the SAM airspace (GESEA) will be explained below.

PBN in route

2.3 The implementation of PBN en route is addressed at the ATS route network optimisation (ATSRO) meetings, based on route network versions. In accordance with the activities scheduled by the

RLA/06/901 RCC/12 meeting, Version 5 of the route network was developed, containing fifty-one (51) proposals that include:

a) Elimination of 37 conventional regional routes.
b) Elimination of 2 RNAV regional routes for purposes of optimisation and harmonisation.
c) Implementation of 27 new RNAV routes.
d) Modification of 15 RNAV routes, involving realignment, extension, or reduction of existing RNAV routes.
e) 21 proposals involve flight mile reductions and, if all of them were implemented, a total reduction of 178 NM of flight would be obtained.

2.4 From the 51 proposals in Version 5 of the SAM route network, 32 correspond to the CAR-SAM route interface and 19 correspond to the SAM Region.

2.5 The CAR ANI/WG (PBN/TF) PBN task force met on 22-25 April at the NACC Office in Mexico. The 37 proposals of version 5 involving CAR/SAM international airspace were analysed. Nineteen proposals were found feasible and the CAR States involved were expected to participate at the ATSRO/10 meeting (Bogota, Colombia, 17-21 June 2019) in order to consolidate the route implementation plan and improve coordination for effective implementation.

PBN in TMA

2.6 SAM States continue working to comply with the implementation dates for TMA re-design based on PBN. The status of planning is shown in **Appendix A** to this part of the Report.

Implementation of SIDs, STARs and PBN approach procedures

2.7 The ICAO iSTARS 3.0 website shows the status of implementation in 13 SAM States. Out of a total of 213 runway thresholds in the Region, PBN SID implementation reaches 66.7%, and PBN STAR implementation reaches 51.2%.

2.8 The application of CDO and CCO methods is associated to the design of arrival and departure procedures, reaching the following levels of implementation: CDO 34% and CCO 26%. In this regard, the ICAO SIMS website shows the first vertical efficiency indicators generated for CDO at some airports of the Region, as described in IP/04**.**

2.9 Regarding the implementation of PBN approaches pursuant to Resolution A37-11, out of a total of 213 runway thresholds (international airports), approach procedures with APV vertical guidance and/or LNAV minima only have been implemented in 185, reaching 86.9%, accounting for 3.2% progress with respect to 83.7% recorded in November 2018.

Seminar on the organisation of flight procedure design services (IFPD)

2.10 This seminar was conducted on 8-12 April 2019. At the seminar, the experts of the Region analysed the challenges faced by the Region for the implementation of sustainable IFPD services, with emphasis on quality management and safety. GESEA has included in its agenda activities to develop this material, as outlined below.

PBN in Brazil

2.11 Brazil updated its PBN planning for TMAs. At the same time, the Meeting was informed of a project aimed at implementing a new Airspace Concept for the Terminal Control Area (TMA) of São Paulo. The TMA - SP NEO project started in December 2017 and is expected to last three years. The decision to implement a new PBN project was made based on the results of the analysis of capacity indicators with respect to the expected increase in demand. WP/05 contains details of the project.

PBN in Argentina

2.12 Argentina updated its PBN planning for TMAs. EANA and ANAC continue committed to comply with resolution A37 in international airports in Argentina:

- 2017: 31%
- 2018: 58%
- 2019: 91% (estimated – published)

2.13 In 2018, 268 new procedures were published and 464 were reviewed amounting 732 procedures, allowing 28 airports with PBN proceedings. WP/35 presents details of the progress made in two phases of TMA Baires.

Regional plan for the migration of RNAV to RNP nomenclature

2.14 Continuing the analysis started at the Third PAN-OPS workshop, the tentative plans of Brazil to comply with Circular 353 was examined. The strategy for the development of the implementation plan took into account the following aspects:

a) Divide the procedures to be modified into blocks (AD and TMA);
b) Start changing the simpler TMAs;
c) Change all TMA procedures.

The proposal of an implementation plan set forth in Circular 353 AN/209 (number of procedures, work blocks, time required for the change) is shown in Table 1. It is estimated that 2.9 years will be required for making the changes in the PBN procedure charts. The proposal is to start working in January 2020.

FIR	IAC	BLOCK	MONTH (4 weeks)	PERIOD
AMAZÔNICA FIR	49	01	6.0	JAN/JUN 2020
RECIFE FIR	49	02	6.2	JUL 2020 / JAN 2021
BRASÍLIA FIR	49	03	5.4	FEB/JUL 2021
SRPV-SP	59	04	5.6	AUG 2021 JAN 2022
CURITIBA FIR (1)	63	05	5.9	FEB/JUL 2022
CURITIBA FIR (2)	47	06	3.9	AUG/NOV 2022
TOTAL	316		33	2.9 YEARS

Table 1 – Proposal of Implementation Plan set forth in Circular 353 – Brazil

2.15 The Meeting agreed that the development of the plan of Brazil was linked to many countries of the Region, based on the concept of implementation by clusters, which seeks to avoid massive amendments that would be difficult to manage by AIM providers and flight databases. GESEA would be in charge of creating a working group to address this planning process.

Optimised longitudinal separation of aircraft en route

2.16 The States reported on the implementation of longitudinal separation minima between ACCs in the implementation follow-up table, shown in **Appendix B** to this part of the report.

RNP APCH procedures for runway 02 of Chacalluta – Arica

2.17 Based on a paper presented by IATA, an analysis was made of the need to implement RNP APCH procedures for runway 02 of the Chacalluta airport in Arica, Chile, which would improve safety and airport access. The delegates of Chile, Peru, and IATA agreed to coordinate said implementation, noting that the Arica TMA and the Tacna TMA shared airspaces and instrument procedure protection areas. Likewise, the ATS LOA contemplates operational coordination for IFR and VFR flights.

Activities and resources required for the implementation of the Action Plan for the Optimisation of South American Airspace, with the support of Project RLA/06/901

Activities and resources approved with the support of Project RLA/06/901 for 2019

2.18 The Twelfth Meeting of the Coordination Committee of Project RLA/06/901 (RCC/12) approved activities to be carried out in 2019 in support of South American airspace optimisation, which were programmed/implemented as follows:

- (**Implemented**) Development of draft Version 5 of the SAM Route Network - Deliverable: SAM Route Network Version 5 document (February 2019).

- (**Implemented**) Seminar on the organisation of flight procedure design services (IFPD) – to address the implementation of the IFPD service in accordance with ICAO Annex 11 and LAR 211. Geared to strengthening the capacity of the Region to sustain PBN implementation over time (April 2019).

- (**Implemented**) Development of a catalogue for the planning and follow-up of the implementation of regional ATS routes and flight procedures. Support for the first phase of updating of the ICARD route designator database (April 2019).

- ATSRO/10 – Follow-up to the implementation of Version 5 of the SAM Route Network (Bogotá, June 2019).

- Fourth workshop on PANS-OPS implementation. Continue harmonising and coordinating PBN instrument procedures in the SAM Region, improving the capacity of States on PANS OPS design issues (October 2019). The Meeting agreed to carry out activities of the GESEA SG2- PANS/OPS during this event.

- SAM/IG/24 – All air navigation implementation priorities in order to continue implementing the action plans (November 2019).

Strategy of implementation through GESEA

2.19 The Meeting ratified the creation of the GESEA group to improve the efficiency of the work promoted by the SAM/IG. GESEA will work through teleconferences and e-mail, and, where applicable, through face-to-face activities under the RLA/06/901 programme. See paragraph 2.22.

2.20 Agreement was reached on a list of experts from the States and IATA to be part of the General Coordinating Group (CG) of GESEA, and the Coordinating Group of the two subgroups (CSG). Likewise, the experts to make up the working groups (ET) were presented. The Meeting highlighted that GESEA was an open group and that all experts willing to cooperate and support the initiative would be invited to participate. Table 2 shows the list of experts, and table 3 shows the work priorities for the working groups.

Table 2 – GESEA Experts

General coordinator	**CSG-1**	**CSG-2**
Fernandes Jr-BRAZIL	Julio Pereira-IATA	Tomás Macedo-PERU
STATE	**SG1 (AIRSPACE)**	**SG2 (PANS-OPS)**
ARGENTINA	Adrián Malizia, Ana Toloza, Marcelo Castronuevo	Diego Gamboa, Hernán Ibarra, Gustavo Guardia, Mariana Luna
BOLIVIA	Luis Rojas	Jenny Choque
BRAZIL	Marcos Peçanha	Cristian Smidt
CHILE	Hector Ibarra	Manuel Álvarez
COLOMBIA	Harlen Mejía, Fredy Celis, Mauricio Corredor	Oscar Angarita, Medardo Figueroa, Carlos Torres
ECUADOR	Christian Ramos	Alis Villavicencio
PANAMA	Gilda Espinosa	Ana Teresa Montenegro
PARAGUAY	Tomas Yentzch, Liz Portillo	Robin Dacak, Eleno Centurion
PERU	Dante Samaniego, Sady Beaumont	Marcos Vargas, Eloy Tafur
URUGUAY	Gabriel Falco, Gustavo Turcatti, Rosanna Baru	Miguel Miraballes, Bruno Gómez, Daniel Burgos
VENEZUELA	Carlos Castañeda	Omar Linares
IATA		Mariela Valdés, Raymundo Hurtado

Table 3.- GESEA WORKING GROUPS

GESEA – LIST OF WORKING GROUPS	
WORKING GROUP - ET	**Assigned to Subgroup**
GESEA/WG	N/A
SAM AIRSPACE CONCEPT WG	SG1
PLANNING STANDARDS WG	SG1
PLANNER TRAINING WG	SG1
CONT PLAN WG	SG1
CIRCULAR 353 WG	SG2
VISUAL RNAV WG	SG2
QUALITY ASSURANCE WG - IFPDS	SG2

2.21 High priority was assigned to the work of a GESEA-WG, which would be responsible for the development of the terms of reference and the organisation. The specific composition of ETs will be defined when task planning is completed.

2.22 In view of the above, the Meeting agreed to request Project RLA/06/901 to study the feasibility of supporting two GESEA activities in 2020, based on the activities currently being supported (two SAMIG meetings, one ATSRO meeting, and one PANS OPS workshop), as follows:

a) Workshop/meeting of the GESEA WG and the SG1-GESEA (5 days) in March; and
b) Workshop/meeting of the SG2-GESEA (5 days) in July.

Project A2: Air navigation systems in support of PBN

2.23 No progress has been made in the implementation of GBAS technology under study by Brazil. It was noted that the SLS-4000 station could be configured for use in Brazil for precision approaches only between 6 a.m. and 6 p.m. (local time), using the CONUS (Continental United States) risk model, with possible discontinuities during operation due to satellite layout. It was noted that Brazil was considering this activity for the long term.

2.24 Argentina reported the progress made by ANAC and INVAP S.E. in the development in GBAS technology. The Secretariat will receive more information on this respect and will be submitted to delegates by e-mail.

Information

2.25 The information on the PBN focal points of the States was updated, as shown in **Appendix C** to this part of the report.

2.26 The Meeting reviewed the progress made by Brazil in the development of the RNP AR departure criteria, which have not yet been completed by the ICAO IFPP. It also discussed the implementation of the free route airspace (FRA) concept, analysing its successful implementation in Colombia with the participation of KLM. It was agreed that GESEA would consider this issue in its airspace planning agenda.

2.27 The Meeting was provided with information on PBN implementation at international and domestic airports of Ecuador (IP/05); on the participation of Uruguay at the Seminar on the organisation of flight procedure design services (IFPDS) (IP/06); activities for the development of the ATS route catalogue for planning and follow-up (IP/07).

2.28 The Meeting took note of the preliminary results of the initiative of the Brazilian industry for runway capacity and traffic flow optimisation at the Sao Paulo/Guarulhos (GRU) international airport, with simultaneous segregated operations under visual meteorological conditions (VMC) (IP/08). Furthermore, information was provided on the start of studies for reducing longitudinal separation in the AO FIR (IP/09 of Brazil).

Appendix A

Redesign of selected TMA airspaces based on PBN plans

*Updated SAMIG/23

State			Implementation
Argentina	BAIRES INTERMEDIATE		Apr 2020
	BAIRES FUTURE		2022
	Cordoba		Feb 2019
	Comodoro Rivadavia		Implemented
	Bahía Blanca		Implemented
	Salta/Jujuy		Oct 2019
	La Rioja		Oct 2019
	Paraná Sauce Viejo		Dec 2019
	Esquel		Apr 2020
	Resistencia Corrientes		Jul 2019
	Ushuaia/Rio Grande		Apr 2020
	Mendoza		Implemented
	Tucumán		Implemented
	Rosario		Implemented
	Bariloche		Implemented
	Posadas		2020
Bolivia	Cochabamba		Phase 1.- November 2019. LA PAZ FIR PBN TMAs. Phase 2.- TBD. Definitive PBN designs in the LA PAZ FIR with ATS surveillance
	La Paz		
	Santa Cruz		
Brazil	Brasília		Implemented
	Belo Horizonte		
	São Paulo (partial changes)		
	Salvador		
	Manaus		
	(PBN SUL)	Curitiba	Implemented
		Florianopolis	
		Joinville	
		Navegantes	

		Porto Alegre	
		São Paulo (partial changes)	
		Routes network FIR CW	
	São Paulo (TMA-SP Neo)		Set 2020
	Fortaleza, Natal, João Pessoa, Recife		Nov 2021
	Belem, Campo Grande e São Luis		Oct 2022
	Cuiabá, Boa Vista, Porto Velho e Rio Branco		Oct 2023
Chile	Santiago (South)		Implemented
	Routes network FIR Santiago		
Colombia	Bogotá		Implemented
	Medellin		Dec 2019
	Pereira		Sep 2019
	Cucuta		Dec 2010
	Bucaramanga		Mar 2021
	San Andres		Mar 2021
Ecuador	Guayaquil		Implemented
	Manta		Oct 2019
	Quito		Implemented
	Galapagos		Implemented
Guyana	Georgetown		Feb 2019
Panama	Panama		Second semester 2020
Paraguay	Asunción		Implemented
Peru	Arequipa		First semester 2019
	Cusco		Implemented
	Juliaca		Second semester 2019
	Puerto Maldonado		Second semester 2019
Suriname	Paramaribo		Implemented
Uruguay	Carrasco y Laguna del Sauce		Second semester 2020
Venezuela	Maiquetia		Implemented
	Isla Margarita		Sep 2019

APPENDIX B

STATUS OF IMPLEMENTATION OF OPTIMISED LONGITUDINAL SEPARATION

ARGENTINA *Updated by SAM/IG/22 Nov.2018						
ACC	ACC ADJ	Longitudinal Separation				Comments
		40 NM GNSS/ DME	Date of implementation	20 NM GNSS/ DME	Date of implementation	
CORDOBA	IQUIQUE	YES	03/12/18			
	LA PAZ	YES	01/01/17			
	EZEIZA			YES	13/10/2016	
	MENDOZA			YES	13/10/2016	
	RESISTENCIA			YES	13/10/2016	There are some problems with VHF Com.
RESISTENCIA	ASUNCION		01/01/17			
	LA PAZ	YES	01/01/17			
	CORDOBA			YES	13/10/2016	
	CURITIBA	YES	01/01/17			
	EZEIZA			YES	13/10/2016	
	MONTEVIDEO	YES	01/01/17			
EZEIZA	COMODORO RIVADAVIA			YES	13/10/2016	
	MENDOZA			YES	13/10/2016	
	PUERTO MONTT	YES	03/12/18			
	CORDOBA			YES	13/10/2016	
	RESISTENCIA			YES	13/10/2016	
	MONTEVIDEO	YES	01/01/17	YES	2010	PAPIX, KUKEN and DORBO 20 NM
MENDOZA	EZEIZA			YES	13/10/2016	
	SANTIAGO			YES	03/12/2018	
	CORDOBA			YES	13/10/2016	
COMODORO RIVADAVIA	EZEIZA			YES	13/10/2016	
	PUNTA ARENAS	YES	03/12/18			
	PUERTO MONTT	YES	03/12/18			

BOLIVIA *Updated by SAM/IG/23						
ACC	ACC ADJ	Longitudinal Separation				Comments
		40 NM GNSS/ DME	Date of implementation	20 NM GNSS/ DME	Date of implementation	
LA PAZ	AMAZONICO	YES	01/01/17			Not being applied.
	ASUNCION	YES	01/01/17			Not being applied.
	CURITIBA	YES	01/01/17			Not being applied.
	CORDOBA	YES	01/01/17			Not being applied.
	LIMA	OG				Without agreement.
	IQUIQUE	OG				Agreements being handled.
	RESISTENCIA	YES	01/01/17			Not being applied.

BRAZIL *Updated by SAM/IG/23						
ACC	ACC ADJ	Longitudinal Separation				Comments
		40 NM GNSS/ DME	Date of implementation	20 NM GNSS/ DME	Date of implementation	
AMAZÓNICO	BRASILIA	---	---	---	---	10 NM
	BOGOTÁ	YES	13/10/16	YES	01/12/17	20 NM for Amazonico and 40 NM for Bogota
	CAYENNE	---	---	---	---	10 minutes
	CURITIBA	---	---	---	---	10 NM
	GEORGETOWN	YES	07/01/16			
	LA PAZ	YES	01/01/17			
	LIMA	YES	31/03/16	YES	01/12/2017	
	MAIQUETIA	YES	23/10/16			
	PARAMARIBO	YES	13/10/16			
	RECIFE	---	---	---	---	10 NM
	ATLANTICO	---	---	---	---	10 minutes
BRASILIA	AMAZÔNICO	---	---	---	---	10 NM
	CURITIBA	---	---	---	---	5 NM
	RECIFE	---	---	---	---	5 NM
CURITIBA	ASUNCION	YES	Mar/2016	YES	29/03/2018	20 NM for Curitiba and 40 NM for Asuncion
	AMAZONICO	---	---	---	---	10 NM
	BRASILIA	---	---	---	---	5 NM
	LA PAZ	YES	01/01/17			
	MONTEVIDEO	YES	01/01/17	YES	15/11/2018	10 NM under coordination
	RECIFE	---	---	---	---	5 NM
	RESISTENCIA	YES	01/01/17			
	ATLANTICO	---	---	---	---	10 minutes
RECIFE	AMAZONICO	---	---	---	---	10 NM
	BRASÍLIA	---	---	---	---	5 NM
	CURITIBA	---	---	---	---	5 NM
	ATLANTICO	---	---	---	---	10 minutes
ATLANTICO	AMAZÔNICO	---	---	---	---	10 minutes Problems Com. VHF
	CURITIBA	---	---	---	---	
	RECIFE	---	---	---	---	
	CAYENNE	---	---	---	---	
NOTE.- Before SAM/IG/21, 20 NM will be applied to receive traffic, entering the FIR of Brazil.						

CHILE *Updated by SAM/IG/23						
ACC	ACC ADJ	Longitudinal Separation				Comments
		40 NM GNSS/ DME	Date of implementation	20 NM GNSS/ DME	Date of implementation	
SANTIAGO	IQUIQUE	NA	---	----	-----	5 NM
	MENDOZA	YES	3/12/2018			
	PUERTO MONTT	NA	----	----	----	5 NM
IQUIQUE	CORDOBA	YES	3/12/2018			
	LA PAZ	OG				Managing agreements
	LIMA	OG				Managing agreements
PUERTO MONTT	SANTIAGO	NA	---	----	----	5 NM
	PUNTA ARENAS	NA	----	----	---	5 NM
	EZEIZA	YES	3/12/2018			
	COMODORO RIVADAVIA	YES	3/12/2018			
PUNTA ARENAS	PUERTO MONTT	NA	----	----	----	5 NM
	COMODORO RIVADAVIA	YES	3/12/2018			

COLOMBIA *Updated by SAM/IG/22 Nov. 2018						
ACC	ACC ADJ	Longitudinal Separation				Comments
		40 NM GNSS / DME	Date of implementation	20 NM GNSS/ DME	Date of implementation	
BOGOTA	AMAZONICO	YES	30/09/16			
	CENAMER	NO				MoU was not elaborated, for not guaranteeing efficient communications in the border área.
	GUAYAQUIL	YES	13/10/16			
	LIMA	YES	10/11/16			
	MAIQUETIA	YES	21/03/17			
	PANAMÁ	YES	13/10/16			
	BARRANQUILLA	YES	05/10/16			

COLOMBIA *Updated by SAM/IG/22 Nov. 2018						
ACC	ACC ADJ	Longitudinal Separation				Comments
		40 NM GNSS / DME	Date of implementation	20 NM GNSS/ DME	Date of implementation	
BARRANQUILLA	MAIQUETIA	YES	21/03/17			
	PANAMÁ	YES	13/10/16			
	BOGOTÁ	YES	05/10/16			
	KINGSTON	YES	15/06/13			
	CURAZAO	NO				MoU was not elaborated, for not guaranteeing efficient communications in the border área.

ECUADOR *Updated by SAM/IG/22 Nov. 2018						
ACC	ACC ADJ	Longitudinal Separation				Comments
		40 NM GNSS/ DME	Date of implementation	20 NM GNSS/ DME	Date of implementation	
GUAYAQUIL	BOGOTÁ	YES	13/10/16	O/G		The reduced separation of 40 NM is applied. Memorandum of Understanding between ATC service providers, signed.
	LIMA	YES	10/11/16	O/G		Implemented..
	CENAMER	NA	---	---	---	Oceanic separation.

FRENCH GUYANA *Updated by SAM/IG/20 Oct.2017						
ACC	ACC ADJ	Longitudinal Separation				Comments
		40 NM GNSS/ DME	Date of implementation	20 NM GNSS/ DME	Date of implementation	
CAYENNE	AMAZONICO	---	---	---	---	10 minutes
	PARAMARIBO	---	---	---	---	10 minutes
	PIARCO					No information available.

GUYANA *Updated by SAM/IG/22 Nov. 2018						
ACC	ACC ADJ	Longitudinal Separation				Comments
		40 NM GNSS/ DME	Date of implementation	20 NM GNSS / DME	Date of implementation	
GEORGETOWN	AMAZONICO	YES				Georgetown will propose 20nm tests.
	PIARCO	YES	17/08/2017			Georgetown will propose 20nm tests.
	MAIQUETIA	YES	19/03/2018			Georgetown will propose 20nm tests.
	PARAMARIBO	YES				Georgetown will propose 20nm tests.

PANAMÁ *Updated by SAM/IG/23						
ACC	ACC ADJ	Longitudinal Separation				Comments
		40 NM GNSS/ DME	Date of implementation	20 NM GNSS/ DME	Date of implementation	
PANAMÁ	BOGOTÁ	YES	Oct/16	NO	TBD	In conversations. Estimated by September 2019
	BARRANQUILLA	YES	Oct/16	NO	TBD	In conversations. Estimated by September 2019
	CENAMER	YES	15/11/16	YES	April 2019	
	KINGSTON	YES	10/12/16	NO	TBD	Start conversations January 2019

PARAGUAY *Updated by SAM/IG/23						
ACC	ACC ADJ	Longitudinal Separation				Comments
		40 NM GNSS/ DME	Date of implementation	20 NM GNSS / DME	Date of implementation	
ASUNCION	CURITIBA	YES	Mar/16 date of SAMIG 16		28/03/ 2018	Traffic from Asuncion to Curitiba.
	LA PAZ	YES	01/01/17			
	RESISTÊNCIA	YES	01/01/17			Not being applied. Coordination with Argentina is required.

PERU *Updated by SAM/IG/22 Nov. 2018						
ACC	ACC ADJ	Longitudinal Separation				Comments
		40 NM GNSS/ DME	Date of implementation	20 NM GNSS/ DME	Date of implementation	
LIMA	AMAZONICO	YES	31/03/16			Pending revisión in LoA ACC Lima – ACC Amazonico. It is expected to apply from June 2019. In OSL Workshop full implementation was agreed
	BOGOTÁ	YES	31/03/16			Implemented
	OCEANICO	NA	---	---	---	Oceanic Separation
	IQUIQUE	OG				Managing agreements
	GUAYAQUIL	YES	10/11/16			Implemented
	LA PAZ	OG				There are limitations in the scope of air-ground communications. Without agreement.

SURINAME *Updated by SAM/IG/22 Nov. 2018						
E	ACC ADJ	Longitudinal Separation				Comments
		40 NM GNSS/ DME	Date of implementation	20 NM GNSS/ DME	Date of implementation	
PARAMARIBO	AMAZONICO	YES	13/10/16			Signed.
	GEORGETOWN	YES	29/03/16			Signed.
	PIARCO	N/A	---	---	---	Oceanic Separation.
	CAYENNE	N/A	---	---	---	10 minutes.

URUGUAY *Updated by SAM/IG/22 Nov. 2018						
ACC	ACC ADJ	Longitudinal Separation				Comments
		40 NM GNSS/ DME	Date of implementation	20 NM GNSS/ DME	Date of implementation	
MONTEVIDEO	CURITIBA	YES	01/01/17	YES	15/11/18	Coordinated with CAM and effective surveillance, can be 10 nm.
	EZEIZA	YES	01/01/17	YES	01/08/2017	
	RESISTENCIA	YES	01/01/17	YES	15/03/2018	

VENEZUELA *Updated by SAM/IG/22 Nov. 2018						
ACC	ACC ADJ	Longitudinal Separation				Comments
		40 NM GNSS/ DME	Date of implementation	20 NM GNSS/ DME	Date of implementation	
MAIQUETIA	AMAZONICO	YES	12/12/15			
	BOGOTA	YES	21/03/17			
	BARRANQUILLA	YES	21/03/17			
	PIARCO	OG				Negotiating. Coordination required through ICAO NACC Mexico.
	CURAZAO	YES	31/01/19			Close to the signing of the LOA
	SAN JUAN	NO				San Juan does not have conditions to implement. Coordination required through ICAO NACC Mexico.
	GEORGETOWN	YES	19/03/18			

ACTION PLAN 2018 – 2019

"IMPROVEMENT AND NORMALIZATION OF MINIMUM LONGITUDINAL SEPARATIONS EN ROUTE"

Phase 1; Consolidation of SLM 40 NM and initial actions to apply SLM 20 NM

- Define agreements to apply SLM 40 NM with CAR States (April 2018)
- Define application of SLM 40 NM in FIR La Paz (SAM/IG/21)
- Feedback from Brazil on SLM 20 NM application (SAM/IG/21)
- Feedback from COL, PER, ECU, VEN, PAN on SLM 20 NM application (SAM/IG/21)
- Complete implementation of SLM 40 NM in the SAM continental space (SAM/IG/21)

Phase 2; Implementation of SLM 20 NM

- Post-implantation analysis SLM 40NM (SAM/IG/21)
- Analysis of 20 NM unilateral application results in Brazil (SAM/IG/21)
- Analysis of the results of SLM 20 NM States tests (SAM/IG/21)
- Analysis of limitations and shortages (SAM/IG/21)
    a. ATS sectorization, ATS capacity measurement
    b. Flow Management, appropriate application of initiatives.
    c. Direct communications in VHF
    d. ATS route network
    e. Application of the AIDC, management of the FPL.

- Risk evaluation

- Define agreements to apply SLM 20 NM with CAR States (SAM/IG/22)
    a. Stage 1, aircrafts that land in the FIR
    b. Stage 2, all aircrafts that enter the FIR

- Define agreements and application date of SLM 20 NM among SAM States (SAM/IG/22)
    a. Stage 1, aircrafts that land in the FIR
    b. Stage 2, all aircraft that enter the FIR

- Complete implementation of SLM 20 NM in the SAM continental space (SAM/IG/23 - 2019)

- SLM 20 NM post-implantation analysis (SAM/IG/23 - 2019)

Phase 3; Implementation to apply SLM 10 NM, with ATS surveillance

(TBD)

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APPENDIX C / APÉNDICE C

LIST OF CONTACTS FOR OPERATIONAL PBN FOCAL POINTS

LISTA DE CONTACTOS PARA PUNTOS FOCALES PBN

Updated during SAM/IG/23 / Actualizados en la SAM/IG/23

State / Estado	PBN FOCAL POINTS / PUNTOS FOCALES PBN
ARGENTINA	Mariana Fernandez Administración Nacional de Aeronáutica Civil (ANAC) A/C Departamento Programación Técnica Tel: +54 11 5941 3000 Ext. 69193 E-mail: mafernandez@anac.gov.ar Rodrigo Devesa Diseño de Espacio Aereo Empresa Argentina de Navegación Aérea (EANA) Tel: +54 11 4320 2010 Cel: +54911 4088 6542 E-mail: rdevesa@eana.com.ar Diego Alberto Gamboa Jefe Departamento Diseño de Espacio Aéreo Empresa Argentina de Navegación Aérea (EANA) Tel: +5411 3092 7597 E-mail: dgamboa@eana.com.ar Maria Estela Leban Directora de Regulaciones Normas y Procedimientos Tel: 541159413000 int 69728 E-mail: meleban@anac.gob.ar
BOLIVIA (Plurinational State of) / **BOLIVIA (Estado Plurinacional de)**	Luis Benjamín Rojas Santa Cruz Dirección General de Aeronáutica Civil (DGAC) Especialista Planificación de Espacios Aéreos y Procedimientos de Vuelo Tel.: +591 4 422 1696 Cel.: +591 7203 5429 E-mail: lrojas@dgac.gob.bo lbrsc@hotmail.com

State / Estado	PBN FOCAL POINTS / PUNTOS FOCALES PBN
BRAZIL / BRASIL	Clóvis Fernandes Júnior Jefe de Operaciones Instituto de Cartografia Aeronáutica (ICA) Av. General Justo, 160 – Centro Rio de Janeiro 20.021-130, Brasil Tel: +55 21 2101 6127 E-mail: fernandesjuniorcfj@decea.gov.br Hugo Dominato Rossi Jefe ATM Departamento de Control del Espacio Aéreo (DECEA) Av. General Justo, 160 – Centro Rio de Janeiro 20.021-130, Brasil Tel: +55 21 2101 6278 E-mail: rossihdr@decea.gov.br
CHILE	Alfonso de la Vega Encargado Sección Navegación Aérea Dirección General Aeronáutica Civil (DGAC) Miguel Claro 1314 Providencia, Santiago, Chile Tel: +56 2 2439 2952 E-mail: adelavega@dgac.gob.cl; aldelavega@vtr.net Hector Ibarra Martínez ATC Planificador ATM Dirección General Aeronáutica Civil (DGAC) Miguel Claro 1314 Providencia, Santiago, Chile Tel: +56 2 2836 4020 E-mail: hibarra@dgac.gob.cl Marco Abarca Daza ATC Diseñador de Procedimientos Dirección General Aeronáutica Civil (DGAC) Miguel Claro 1314 Providencia, Santiago, Chile Tel: +56 2 2290 4718 E-mail: mabarca@dgac.gob.cl

State / Estado	PBN FOCAL POINTS / PUNTOS FOCALES PBN
COLOMBIA	Medardo Arcesio Figueroa Guerrero Coordinador Grupo Gestión y Organización del Espacio Aéreo (ASM) Aeropuerto El Dorado – Centro de Gestión Aeronáutica de Colombia Bogotá, Colombia Tel: +57 1 4251000 ext 1461 E-mail: medardo.figueroa@aerocivil.gov.co
ECUADOR	Christian Alexis Ramos Tapia Dirección General de Aviación Civil (DGAC) Tel: +593 2294 7400 ext. 4515 E-mail: christian.ramos@aviacioncivil.gob.ec
FRENCH GUIANA / GUYANA FRANCESA	Philippe Rondel E-mail: philippe.rondel@aviation-civile.gouv.fr
GUYANA	Rickford Samaroo Director ANS E-mail: rsamaroo@gcaa.gy.org Trevor Daly Tel: +592 2612564 E-mail: tdaly@gcaa.gy.org
PANAMÁ	Ana Teresa Montenegro Inspectora ANS/PANS-OPS; Oficina de Vigilancia de la Seguridad Operacional para los Servicios de Navegación Aérea; Autoridad Aeronática Civil. Edif. N° 646 Ave. Demetrio Korsi, calle Héctor Conte Bermúdez, Albrook, Panamá. Tel: +507 315 9031 E-mail: amontenegro@aeronautica.gob.pa; anadeleón@aeronautica.gob.pa Alberto De Icaza Jefe de Diseño de Procedimiento de vuelo y Espacio Aéreo; Dirección de Navegación Aerea; Autoridad Aeronática Civil; Edif. N° 646 Ave. Demetrio Korsi, calle Héctor Conte Bermúdez, Albrook, Panamá. Tel: +507 315 9834 E-mail: adeicaza@aeronautica.gob.pa

State / Estado	PBN FOCAL POINTS / PUNTOS FOCALES PBN
PARAGUAY	José Luis Chávez Subdirector Gerente Servicios Aeronáuticos Dirección Nacional de Aeronáutica Civil Edif. Centro de Control de Área Unificado – Mariano Roque Alonso Av. Mompox c/ José Félix Bogado Tel: +59521 758 5022 Cel: +595 99 1 249 969 E-mail: joselch@gmail.com Tomas Alfredo Yentzch Irala Subdirector de Navegación Aérea Dirección Nacional de Aeronáutica Civil Mariscal López e/ 22 de setiembre – Edif. Ministerio de Defensa Nacional Tel: +59521 211978 Cel: +595 981 535886 E-mail: tayi68@gmail.com; tyentzch@dinac.gov.py
PERÚ	Sady Orlando Beaumont Valdez Inspector Navegación Aérea Dirección General de Aeronáutica Civil (DGAC) Ministerio de Transportes y Comunicaciones Jirón Zorritos 1203 Lima, Perú Tel: +51 1 615 7880 E-mail: sbeaumont@mtc.gob.pe Tomás Ben-Hur Macedo Cisneros Experto PANS-OPS en el Área de Normas y Procedimientos Controlador de Tránsito Aéreo CORPAC S.A. Av. Elmer Faucett 3400 Callao, Perú Tel: +511 414 1364 E-mail: tmacedo@corpac.gob.pe

State / Estado	PBN FOCAL POINTS / PUNTOS FOCALES PBN
SURINAM / SURINAME	Kalawatie Radha Atwaroe Air Traffic Controller / Controlador de Tráfico Aéreo (ATM) Suriname Civil Aviation Department Tel: +597 855 5025 Email: radha_atwaroe@hotmail.com Quincy Cyrus Air Traffic Controller / Controlador de Tráfico Aéreo Suriname Civil Aviation Department Tel: +597 857 0648 Email: qcyrus83@gmail.com
URUGUAY	PUNTOS FOCALES PBN DEL ESTADO DINACIA / DGAC Rosanna Barú Inspectora Navegación Aérea Tel: +598 2 604 0408 Ext 4461 E-mail: rbaru@dinacia.gub.uy PUNTOS FOCALES PBN ANSP OPERACIONALES DINACIA / DGIA Tte Cnel. (Nav.) Gabriel Falco Director de Circulación Aérea Tel: +598 2 604 0408 Ext 5101 Cel: +598 9 804 6848 E-mail: gfalco@dinacia.gub.uy DINACIA / DGIA Director de Tránsito Aéreo Gustavo Turcatti Tel: +598 2 604 0408 Ext 5105 E-mail: dta@dinacia.gub.uy DINACIA / DGIA Miguel Miraballes Tel: +598 2 604 0408 ext 5105 E-mail: miguel.miraballes@dinacia.gub.uy

State / Estado	PBN FOCAL POINTS / PUNTOS FOCALES PBN
VENEZUELA(Bolivarian Republic of) / **VENEZUELA (República Bolivariana de)**	CTA Jefe II Omar Enrique Linares Coordinador Nacional ATS Jefe de Sección de Planificación de Espacios Aéreos Servicios a la Navegación Aérea INAC- Venezuela Aeropuerto Internacional Simón Bolívar Edificio ATC, piso 1, Oficina AIS Maiquetía, Vargas República Bolivariana de Venezuela Tel: +58 212 3034513; +58 424 4318754 E-mail: o.linares@inac.gob.ve; ollinaresomar2@gmail.com

-END / FIN-

Agenda Item 3: Implementation of Air Traffic Flow Management (ATFM) and improvement of procedures for flow coordination between agencies

3.1 Under this agenda item, the following papers were analysed:

a) WP/07 - *Follow-up to ATFM Implementation* (presented by the Secretariat);
b) WP/08 - *Implementation of the cross-border multimodal ATFM in the SAM Region* (presented by Colombia);
c) WP/09 - *Follow-up to REDDIG II performance and activities* (presented by the Secretariat);
d) WP/25 - *Implementation of the South American Regional management* (presented by Brazil);
e) WP/26 - *ATFM training courses* (presented by Brazil);
f) WP/36 - *ATFM process in SAM Region* (presented by IATA);
g) WP/40 - *Actions taken by EANA in the implementation of the ATFM service* (presented by Argentina);
h) IP/10 - *Status of implementation of the ATFM in Ecuador - calculations of ATC capacity and runway of the airports of Quito, Guayaquil, Manta and Latacunga* (presented by Ecuador) (**Spanish only**);
i) IP/11 - *Evolution and follow up on ATFM implementation in Paraguay* (presented by Paraguay);
j) IP/12 - *Analysis of platform capacity of Carrasco and Punta del Este Airports* (presented by Uruguay) (**Spanish only**);
k) IP/27 - *Actions implemented during the realization of the World Youth Day Panama, January 2019* (presented by Panama)

3.2 The list of ATFM operational focal points and ATFM units established for continuing coordination and teleconferencing purposes was updated, as shown in **Appendix A** to this Agenda Item.

Follow-up on the implementation of regional ATFM

3.3 The Meeting noted that, out of 14 States/Territories, FMP/FMUs 4 of them had not yet been implemented (Bolivia, French Guiana, Guyana, and Suriname). Accordingly, 71% implementation in the Region is still valid.

3.4 Argentina, Brazil, and Colombia are submitting operational information at the CADENA – CANSO coordination sessions every Friday. Panama, Peru, and Venezuela are participating as observers in the sessions.

3.5 The Meeting noted that, since early 2019, recurrent implementation of flow control measures had been observed in several FIRs of the Region. This situation is discussed in detail in paragraph 3.11 below.

3.6 The ATFM CONOPS is in its last stage of revision. A presentation was made of the English draft version, reviewed by the Secretariat (NACC and SAM Offices). The Meeting contributed with a comments and suggestions for improvements. A deadline of 7 June 2019 was set for receiving more contributions related to the text.

3.7 The updating of guidance material for the SAM Regional ATFM service, which includes the development of an ATFM service manual and messages format according to Doc. 9971, as well as the Guide and procedures for runway, airport and ATC sector capacity calculation, is rescheduled for September 2019.

ATFM in Argentina

3.8 The ATFM service in Argentina had been in operation for one year (see Yearbook in the meeting website). Starting on 20 October 2018, it was decided not to issue any more NOTAMs on ATFM measures. Therefore, the means used to disseminate the measures adopted was AMHS messaging and the EANA website, which openly showed the active measures to all users.

3.9 In March 2019, the Schedule feasibility approval procedure was approved, in which the EZE FMU was included for the conduction of observations for schedule planning, reprogramming and cancellations. Demand, capacity and delay calculations had been carried out, and initial training had been provided to new staff, in addition to the recurrent programme.

3.10 An analysis was made of frequently applied ATFM measures, which could affect flows from the north and northeast entering the Baires TMA crossing the Curitiba FIR and the Montevideo FIR. This was related to existing capacity imbalances in said airspace (see Item 2 for information on the Baires PBN project). Consideration was given to the use of coordination and CDM among the services of Argentina, Uruguay and Brazil.

Improper use of flow control

3.11 The Meeting noted that the improper use of NOTAMs for "flow control" in the form of an ATFM *pseudo measure*, not related to a user impact assessment and not aiming at temporary application, had dropped in 2017 and 2018. During the first quarter of 2019, this practice was resumed in several FIRs of the Region, mostly due to contingencies or CNS system limitations, which, in turn, significantly limited ATS capacity. These NOTAMs generated a domino effect in adjacent States and significantly affected airlines.

3.12 The Meeting took note on the importance of the application of ATFM communications proceedings according to Chapter 6 of Doc 9971, which clearly defines the conditions for the use of NOTAM or SUP AIR information, as well as the distribution of the ATFM –ADP Dairy Plan and use of ATFM terminology.

3.13 Doc 9971 item 4.2.1 specifies that, in general, ATFM measures should only be applied during periods in which demand exceeds capacity, and not on a routine basis. Frequent application of ATFM measures means that there is an imbalance between ATM capacity and traffic demand, which should be resolved in a more strategic manner.

3.14 It was noted that there were ATFM measures that had been applied for a very long time, on a routine basis, causing operational inefficiencies and inadequate use of installed capacity. Examples were shown, such as the AGILE project in Guarulhos, which introduced improvements to aircraft separation in order to optimise capacity.

ATFM for managing contingencies and/or special events

3.15 Colombia presented a proposal to promote an action plan to develop a cross-border ATFM concept for the SAM Region, through a planned and gradual implementation process. It was noted that Ecuador, Peru, and Panama (observer) had expressed interest in this activity at the SAMIG/22 meeting.

3.16 The capabilities of the Harmony system of Colombia were presented. This system offered flow predictability and demand anticipation, even in selected airspace sectors, which should be used to support ATS contingencies, since it would avoid the use of inconsistent 'flow control' measures.

3.17 The Meeting agreed that the cross-border ATFM proposal was interesting for purposes of creating an ATS contingency response and support network in the SAM Region. Colombia, Ecuador, Peru, and Panama would continue working on the initiative.

3.18 In turn, Brazil explained the South American Regional Management initiative, which involved CGNA personnel and systems, and had proven successful for international coordination among Brazil, Argentina, and Uruguay at the G-20 Summit held in Buenos Aires. ATFM measures were adopted and the countries involved did not experience imbalances as a result of the event, once the required measures had been implemented within the Brazilian airspace. In this regard, CGNA capacity to manage ATFM contingency response in the Region was recognised.

3.19 Based on the above, the Meeting formulated the following conclusion:

CONCLUSION **SAM/IG/23-01**	**Implementation of ATFM measures in accordance with Doc 9971, and coordination in case of ATS contingencies**
That: SAM States prioritise the provision of the following for their ATS and ATFM services: a) Strengthen the functions of the flow management positions (FMPs) or units (FMUs), providing them with the prerogatives for coordinating and supporting ATS services; b) Define the profile and skills of the ATFM staff, and provide programmes for initial and recurrent training for the Staff; c) Mandate that ATFM measures are strictly based on the Doc. 9971 to face situations generating capacity/demand imbalance, especially in cases of ATS capacity degradation caused by unforeseen events; d) Establish instructions and supervision H24, ensuring that ATFM measures has the less impact for international flights, and all ATFM measures are agreed with adjacent ATFM or ACC dependencies; e) Mandate the correct application of the ATFM process, from the ATM planning phase to the phase of operations analysis and performance control; and	**Expected impact:** ☐ Political / Global ☒ Inter-regional ☒ Economic ☒ Environmental ☒ Technical/Operational

f) Exclude the use of NOTAM of Flow Control to deal with situations of demand/capacity unbalance, with the only exception of the initial response that an ACC may require in the first 12 hours of ATS contingency.	
Why: To meet the provisions of ICAO Doc 9971 and the SARPs contained in Annex 11	
When: Immediately	**Status:** Adopted by SAM/IG/23
Who: ☒ Coordinators ☒ States ☒ ICAO Secretariat ☐ICAO HQ ☒ Other: Users/Industry	

Information

3.20 Brazil expressed its interest in cooperating with the States, offering ATFM training, and mentioned the course it would offer in CGNA in October 2019 for Ecuador and Panama.

3.21 CANSO presented its document 'Implementing Air Traffic Flow Management and Collaborative Decision Making', consistent with Doc 9971 and developed with the participation of CANSO full members (ANSPs) as well as associated members (Industry Partners). Other CANSO documents were presented in relation to A–CDM, UAS operations and SMS systems, which were made available to the Meeting on its website.

3.22 Information relevant to ATFM was provided to the Meeting through the following information papers: IP/10 – Status of implementation of ATFM in Ecuador – ATC and runway capacity calculations for the airports of Quito, Guayaquil, Manta, and Latacunga (Ecuador); IP/11 – Evolution and follow-up of ATFM implementation in Paraguay; IP/12 – Apron capacity analysis for the Carrasco and Punta del Este airports (Uruguay); and IP/27 – Action taken during the World Youth Day held in Panama, in January 2019 (Panama). All the information is posted on the website of the Meeting.

APPENDIX A / APÉNDICE A

LIST OF FOCAL POINTS FOR OPERATIONAL ATFM AND ATFM SERVICE

LISTA PUNTOS FOCALES PARA ATFM OPERACIONAL Y SERVICIO ATFM

State/ Estado	OPERATIONAL ATFM /ATFM OPERACIONAL	ATFM SERVICE / SERVICIO ATFM
ARGENTINA	Maria Estela Leban Directora de Regulaciones, Normas y Procedimientos Administración Nacional de Aviación Civil (ANAC) Tel: +54 911 58 338379 E-mail: meleban@anac.gob.ar	Silvana Vanesa Enriquez Jefe del Departamento ATS - Gerencia del Área Operativa Cel: 0054 9 11 4420 1306 Email: senriquez@eana.com.ar silvana1979@yahoo.com.ar Nicolas Borovich Jefe de Departamento Planificación Tel: +5411 43203947 Cel: +54911 31199377 Email: nborovich@eana.com.ar nicolasborovich@gmail.com
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Updated during SAM/IG/23 Meeting / Tabla actualizada durante la SAM/IG/23

Agenda Item 4: Assessment of operational requirements to determine the implementation of improvements in communication, navigation and surveillance (CNS) capabilities for operations in route and terminal area

a) Follow-up to REDDIG II performance and activities, and to MEVA III network interconnection
b) Follow-up to AMHS interconnection
c) SELCAL expansion (SELCAL 32)

4.1 Under this agenda item, the following working and information papers were reviewed:

a) WP/09 – *Follow-up to REDDIG II performance and activities* (presented by the Secretariat);
b) WP/10 – *Technical backup proposal for the MEVA III – REDDIG II interconnection* (presented by the Secretariat);
c) WP/11 – *Follow-up to the implementation of the AMHS interconnection* (presented by the Secretariat);
d) WP/12 – *Expansion of the SELCAL code (SELCAL 32)* (presented by the Secretariat);
e) WP/27- *Follow-up to the implementation of the AMHS interconnection* (presented by Uruguay);
f) WP/31 – *Need to implement the ATS speech communication channel via REDDIG II between Corumbá (BRA) and Puerto Suárez (BOL)* (presented by Brazil); and
g) IP/13 – *Status of the AMHS interconnections in Brazil* (presented by Brazil).

ACTIVITIES CARRIED OUT UNDER THE ATN ARCHITECTURE PROJECT – D1

4.2 The Meeting took note of the main activities to be carried out in 2019 by REDDIG II regarding the following aspects:

a) REDDIG II training programme;
b) Preventive maintenance programme;
c) Operation of REDDIG II and analysis of the implementation of new services.

REDDIG II training programme

4.3 The following training activities are scheduled for 2019:

a) Recurrent training on REDDIG II operation and maintenance;
b) Seminar/workshop on the basics of services provided through REDDIG;
c) Course on security policies and firewall configuration;
d) Advanced course on firewall management and monitoring; and
e) Training for the Manaus NCC staff on analysis of IP packages with sniffer (radar, AMHS, etc.).

Recurrent training on REDDIG II operation and maintenance

4.4 This training is addressed to the technical staff responsible for the operation and maintenance of a REDDIG station. Some of the issues to be covered are the new implementations, the preventive maintenance work plan, use of WUG tools, troubleshooting of station components and with other stations, aspects to be taken into account in case of new developments. This training is to be conducted during the scheduled visits by the REDDIG Administrator throughout the year.

Seminar/workshop on the basics of services provided through REDDIG

4.5 This workshop is addressed to the technical personnel that operate the REDDIG stations. It will focus on the basics of the services provided through REDDIG II, such as: RADAR, AMHS, AIDC, CPDLC, ADS-C, ADS-B, etc.

4.6 The objective is to develop the capability of analysing voice and data packages carried over the network in each node, using technological software tools available for that purpose, which will permit a better analysis of problems that may arise during the provision of network services.

4.7 The workshop will last three days and will be offered by the REDDIG Administrator during the course of the RTO/08 meeting (Santiago, 30 September - 4 October 2019). For this event, there will be two participants from each REDDIG node and simultaneous interpretation services will be provided.

Course on security policies and firewall configuration

4.8 Subject to the acquisition of the firewall equipment, training would be provided to the technical staff of the REDDIG nodes, NCC personnel and the Administrator.

4.9 Training will seek, in a first stage, to introduce the staff to security policies and, in a second stage, to allow participants to configure the equipment installed in each node.

4.10 The cost involved in the conduction of the course will be included in the purchase of the equipment, while scholarships will be covered by Project RLA/03/901.

4.11 As stated before, this training will be subject to the definitive acquisition of the equipment, reason why it might be postponed until 2020. The SAM Regional Office has already submitted the documents required for the *Technical Cooperation Bureau* (TCB) in Montreal to start the acquisition process.

Advanced course on firewall management and monitoring

4.12 This course will be addressed to NCC personnel and the REDDIG Administrator. It is directly related to the “Course on security policies and firewall configuration”, and will thereby be subject to the conduction of the former, since it is a continuation thereof.

4.13 A space will be reserved for the Administrator, one for the Manaus NCC and one for the Ezeiza NCC. Costs involved in the conduction of the course will be included in the purchase of the equipment, while scholarships would be covered by Regional Project RLA 03/901.

Training for the Manaus NCC staff on analysis of IP packages with sniffer (RADAR, AMHS, etc.)

4.14 This training is addressed to staff working at the Manaus NCC, tasked with supporting the network and ensuring data transport and integrity.

4.15 It will be carried out throughout the year, starting with theoretical training, and then, using the tools provided, conducting analyses for the assessment, identification and, eventually, resolution of the various issues that may arise in data transmission.

4.16 This training will not entail any spending and will be conducted by the network Administrator.

Preventive maintenance programme

4.17 As was done in 2018, the REDDIG Administration has scheduled a preventive maintenance programme for 2019 for all REDDIG II teams at the NCCs and REDDIG II nodes.

Visit to REDDIG nodes

4.18 The REDDIG Administration, as part of the maintenance and training activities in REDDIG II, has agreed on the need for the REDDIG Administrator to visit two nodes per year to conduct a full assessment of the node and conduct general update training addressed to the staff responsible for node maintenance. The Secretariat of the RCC/22 will decide which nodes will be visited in 2019. Visits will last one week.

Operation of REDDIG II and analysis of the implementation of new services

Transfer of the REDDIG II node of Bogotá and implementation of a new node in Ezeiza

4.19 On 23 April 2018, a teleconference was held to approve Amendment VII to contract No. 22501200 between the TCB and INOE/ENGIE, for the transfer of the REDDIG II of Bogota and the implementation of a new node in Ezeiza. **Appendix A** to this part of the report contains a summary of the aforementioned teleconference.

4.20 Given the uncertainty regarding the completion of works at the new control tower of Ezeiza, the representatives of Argentina (EANA) requested that the two activities be separated into two amendments, maintaining the transfer of the Bogota node in Amendment VII and holding the implementation of the new Ezeiza node for a future amendment.

4.21 It was noted that, for a new amendment, the process of implementation of the new node of Ezeiza would have to start all over and that a new quote would be required, with the possibility that previously quoted costs might change.

4.22 In accordance with the procedure established during the teleconference, EANA sent a letter formalising the separation of both activities. This was immediately communicated to the TCB by the ICAO South American Regional Office, as shown in the document contained in **Appendix B** to this part of the report (English only).

4.23 Accordingly, only the activities for the transfer of the Bogota node are now included in Amendment VII to contract No. 22501200, pending indication by Argentina of the initiation of a new process for conducting the activities for the implementation of the new Ezeiza node.

REDDIG II security analysis

4.24 The Meeting was informed that during the RCC/22 meeting, the Coordination Committee of Regional Project RLA/03/901 had formulated Conclusion RCC/22-4, *Acquisition of firewall equipment for REDDIG II*, and that the South American Regional Office had sent to the Technical Cooperation Bureau (TCB) the necessary documents to begin the acquisition process.

Acquisition of spare parts for REDDIG

4.25 The Meting took note that the process for the acquisition of spare parts for REDDIG by the TCB had concluded and that the material received had been included in the network spare part inventory.

New last-mile provider of the MPLS service of the Manaus node

4.26 Given the continuous low availability performance of the MPLS service shown by some nodes of the REDDIG backup network, especially the Manaus node, the REDDIG Administration held a meeting with CenturyLink on 4 March 2019 at the SAM Regional Office.

4.27 At that meeting, the company agreed to improve the availability of all the nodes that showed performance below the contracted levels. Specifically, for the Manaus node, a new last-mile provider (EMBRATEL) had already been hired.

4.28 The change of last-mile provider took place on 25 April 2019, and a significant change was immediately noted in the latency parameter.

4.29 The Meeting took note that the REDDIG Administrator would do the follow-up in the following months to make sure that the availability has reached the agreed level (99.5%) or more.

FOLLOW-UP TO THE ACTIVITIES UNDER PROJECT D2 – ATN GROUND-GROUND AND AIR-GROUND APPLICATIONS

Ground-ground applications

Follow-up to the operational interconnection of AMHS systems

4.30 The status of implementation of all AMHS interconnections of the SAM Region on the estimated date of their operational implementation is shown in **Appendix C** to this report. It was noted that all AMHS interconnections included in Table CNS II-1 of volume II of the CAR/SAM Regional Air Navigation Plan (Doc 8733) were to be completed by December 2019. **Appendix D** contains the updated list of focal points for the implementation of the AMHS interconnection.

Argentina

4.31 Argentina has updated the user terminals (UA) and the gateway of the Ezeiza COM Centre, which allowed AMHS (P1) interconnection tests to be resumed with the Lima COM Centre. On 10 May 2019, the AMHS interconnection between the Ezeiza COM Centre and the Lima COM Centre was deemed operational.

4.32 Currently, the Ezeiza COM Centre was operationally interconnected with the COM Centres of Asunción, Brasilia, and Lima.

4.33 Argentina awaits the implementation of the new system at the Santiago COM Centre and the upgrade of the Montevideo COM Centre in order to resume interoperability tests with Chile and Uruguay. It is also waiting for directions from the administration of Bolivia to begin interoperability tests with the La Paz COM Centre.

4.34 The interconnection between the Ezeiza COM Centre and the Johannesburg COM Centre is still awaiting the implementation of a link between Argentina and South Africa in order to configure the connection through P1. It is expected to be available when the new AMHS system is enabled at the new tower.

4.35 There is a link available to configure a connection between the Ezeiza COM Centre and the Madrid COM Centre through P1. Information is being collected on the configuration parameters, which are required to establish the link.

4.36 The Meeting took note that interoperability tests between the Ezeiza COM Centre and the SITA type X Gateway had been successfully completed and that, in order to become operational, the AMC (EUROCONTROL) would have to be notified of the arrangement approved for the interconnection of the two centres of the SAM Region (Brasilia and Ezeiza) with the SITA type X Gateway in Atlanta.

4.37 The Secretariat would coordinate the matter with Argentina, Brazil and SITA in order to finalise the interconnection between the SAM Region and the SITA type X Gateway through the COM Centres of Brasilia and Ezeiza.

Bolivia

4.38 Bolivia concluded interoperability tests between the La Paz COM Centre and the Lima COM Centre. This AMHS interconnection was deemed operational on 10 May 2019.

4.39 Coordination started on 17 May 2019 for the interconnection with the Brasilia COM Centre. It was estimated that this interconnection would become operational in June 2019.

4.40 Following the interconnection with Brasilia, Bolivia would start coordinating with Argentina in order to establish the interconnection with the La Paz COM Centre and the Ezeiza COM Centre.

Brazil

4.41 At present, the Brasilia COM Centre is already connected with the COM Centres of Asunción, Bogotá, Caracas, Ezeiza, Georgetown, Lima, Paramaribo, and the SITA type X Gateway in Atlanta.

4.42 Brazil reported that interoperability tests between the Brasilia COM Centre and the Cayenne COM Centre had been completed and that it would become operational in June 2019.

4.43 Coordination started on 17 May 2019 for the interconnection with the La Paz COM Centre. It was estimated that this interconnection would become operational in June 2019.

4.44 Brazil awaits the upgrade of the Montevideo COM Centre in order to resume interoperability tests with the Brasilia COM Centre.

4.45 The Meeting took note that interoperability tests between the Atlanta COM Centre and the Brasilia COM Centre had concluded in late May and that the AMHS interconnection was expected to become operational in June 2019.

Chile

4.46 A new system is being implemented at the Santiago COM Centre, and will be completed in June 2019. Following the implementation of the new system, Chile would conduct new interoperability tests between the Santiago COM Centre and the COM Centres in Ezeiza and Lima.

Colombia

4.47 The Bogotá COM Centre was already operationally connected to the COM Centres of Brasilia, Caracas and Lima. All tests (IOT) had been conducted with the COM Centres of Panama and Quito, and were expected to become operational in June 2019.

Ecuador

4.48 The Quito COM Centre was already operationally connected with the COM Centres of Caracas and Lima. The interconnection with the Bogota Centre was to be completed in June 2019.

French Guiana

4.49 IOT and POT tests had been completed with the COM Centres of Brasilia and Caracas. Interconnections were to become operational in June 2019.

Guyana

4.50 The Georgetown COM Centre was already operationally connected with the COM Centres of Brasilia and Paramaribo. The AMHS interconnection between the Georgetown COM Centre and the COM Centres of Caracas and Port-of-Spain was to become operational in 2019.

Panama

4.51 The interconnection between the Panama COM Centre and the Atlanta COM Centre was operational since 2018, and the interconnection with the Bogota COM Centre was to become operational in June 2019.

Paraguay

4.52 Paraguay had completed the AMHS interconnections with the Brasilia and Ezeiza COM Centres, which became operational on 15 April 2019.

Peru

4.53 The Lima COM Centre was already connected with the COM Centres of Brasilia, Bogotá, Caracas, Ezeiza, La Paz, Quito, and Santiago. The AMHS interconnection with the Atlanta COM Centre was the only one pending. During the meeting, Peru has delivered to United States (FAA) representatives the Technical Letter between Federal Aviation Administration of US Transport Department and the Peruvian Corporation of Airports and Commercial Aviation (CORPAC), signed by the Peruvian representatives.

Suriname

4.54 Suriname had completed all AMHS interconnections planned with the COM Centres of

Brasilia, Caracas, and Georgetown.

Uruguay

4.55 Uruguay presented a working paper (SAM/IG/23-WP/27) describing the status of implementation with the Montevideo COM Centre. Following a discussion of the information presented in WP/27, the Secretariat proposed that interoperability tests be resumed with the COM Centres of Brasilia and Ezeiza, which were the interconnections foreseen in the Regional Plan. Regarding the inquiry of Uruguay regarding the possibility of establishing an extra-Plan interconnection with another COM Centre of the Region, the Secretariat noted that it was possible to establish other interconnections as deemed appropriate by the States. They would only need to coordinate with the State to whose COM Centre they wanted to connect.

4.56 In this regard, Uruguay noted that it would coordinate with Peru in order to establish an AMHS interconnection between the Montevideo COM Centre and the Lima COM Centre.

Other considerations on the AMHS

4.57 The Secretariat highlighted the importance for States to plan and proceed with the migration of all AFTN users to the AMHS environment, in order to process messages with the new formats (AIXM, FIXM and IWXXM) proposed for aeronautical information, flight plan and OPMET information.

4.58 The South American Regional Office has circulated a letter to the States requesting information on the planning of AFTN users. So far the following States have reported: Brazil, Bolivia, Ecuador, French Guyana, Panama, Peru, Suriname, Uruguay and Venezuela.

4.59 Upon completion of AMHS interconnections between SAM States, it is necessary to review the routing tables of COM Centres and to modify Table CNSII-1 of the CAR/SAM Regional Air Navigation Plan. Likewise, the personnel at the COM Centres of the Region must define the procedures to be adopted on more advanced AMHS issues, such as the use of the directory service, the use of cryptography and other functionalities of the AMHS extended messaging service.

4.60 In view of the above, the Meeting agreed to request Project RLA/06/901 to explore the feasibility of providing support for the fulfilment of two activities in 2020:

a) Workshop/meeting of supervisors/operators of the SAM COM (5 days); and
b) Advanced course on AMHS (5 days).

4.61 The Secretariat was charged with coordinating the presentation and substantiation of these activities, to be submitted to the approval of the Coordination Committee Meeting - RCC/13, to be held on 27-28 next June.

Technical backup proposal for the MEVA III – REDDIG II interconnection

4.62 The Secretariat presented working paper SAM/IG/23-WP/10 on the proposal to use the REDDIG II backup network to provide an alternate link for communications routed through the MEVA III – REDDIG II interconnections, mainly the AMHS connections between the Atlanta COM Centre and the COM Centres of Brasilia, Caracas y Lima.

4.63 The FAA has expressed interest in the aforementioned proposal, because in case of failure of the MEVA III – REDDIG II interconnection, it would lose communication with three important COM centres of the SAM Region. In this sense, it has expressed interest in obtaining more information for a possible implementation of an MPLS node of the REDDIG II backup network in Atlanta and Salt Lake City.

4.64 The Meeting took note of the information provided and felt it was time for the Coordination Committee of Project RLA/03/901 (REDDIG) to address the issue.

Expansion of the SELCAL code (SELCAL 32)

4.65 The Meeting took note of the information presented in SAM/IG/23-WP/12 on the expansion of the SELCAL code, highlighting the importance for States that used the SELCAL functionality for air-ground communications (VHF or HF), take the necessary measures to adapt the equipment to the new scheme SELCAL 32.

4.66 The Secretariat noted that the South American Regional Office had circulated a letter informing States about this matter, requesting them to list the measures to be taken, if necessary, and the estimated time required for adapting the systems.

4.67 Brazil has informed that the adaptation of the ACC Atlantic equipment is scheduled for 2020.

Other matters

4.68 Brazil presented SAM/IG/23-WP/31 on the need to implement an ATS speech communication channel, via REDDIG, between Corumbá (Brazil) and Puerto Suárez (Bolivia).

4.69 In this regard, it was noted that this type of communication was increasingly necessary, because the AFIS service in Corumbá was being provided remotely from Curitiba (R-AFIS) and coordination with the ATS Centre in Puerto Suárez would be carried out through this means, using the public telephony service (DDI) as alternate means.

4.70 The representative of Bolivia noted that, on 15 June 2019, the implementation of the ATS speech communication channel through REDDIG between Corumbá and Puerto Suárez would be completed. The DGAC of Bolivia would advise the Secretariat accordingly.

APPENDIX A

SUMMARY OF THE TELECONFERENCE FOR DISCUSSING AMENDMENT VII TO CONTRACT 22501200

(23 April 2019 from 13:30 to 14:20 hours, UTC time)

1. INTRODUCTION

1.1 Amendment VII to contract 22501200 refers to the nodes of Bogotá (Colombia) and Ezeiza (Argentina). The two migrations were included in the same amendment in order to simplify the process.

1.2 On 11 January 2017, the administration of Argentina transferred the amount of USD 464,000.00 to Project RLA/03/901 for the implementation of the new Ezeiza node. On 21 September 2018, the administration of Colombia deposited the amount of USD 177,878.50 in Project RLA/03/901 for the transfer of the Bogotá node.

1.3 The purpose of the teleconference was to discuss the last details for the signing of the amendment with the States (Argentina and Colombia).

1.4 The teleconference took place with the participation of:

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ICAO (SAM Office):
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Francisco Almeida – ICAO CNS Officer – falmeida@icao.int
Javier Vittor – REDDIG Administrator – jvittor@icao.int

2. MATTERS DISCUSSED

2.1 Note was taken of the need to sign the amendment in order for INEO to start the process and start executing the foreseen agenda, which involves a series of activities related to both locations (Bogotá and Ezeiza).

2.2 The representatives of Argentina noted that they could not specify a precise day or month for the completion of the works at the new tower in Ezeiza, where the new node must be installed. Therefore, and in order not to hinder the migration process of the Bogotá node, they requested a separate amendment for each State. Accordingly, there would be an amendment for the Bogotá node and another for the Ezeiza node.

2.3 In this regard, the TCB stated that there would be no problem in separating the activities into two different amendments, whereby the transfer of the Bogotá node would remain under Amendment VII to contract No 22501200, and the implementation of the new Ezeiza node would be the subject matter of a future amendment, restarting the process all over again.

2.4 The representative of INEO/ENGIE stated that there was no problem with executing two separate processes, acknowledging the situation set forth by EANA, but a new quote would be required, and there was no guarantee that the costs indicated in Amendment VII would be maintained.

2.5 Another point highlighted by the representative of INEO/ENGIE was that a long delay could result in a modification of the equipment, models and hardware features foreseen for the new Ezeiza node, because they would no longer be available in the market.

2.6 The SAM CNS officer and the REDDIG Administrator noted that the implementation of new nodes with equipment other than standard equipment would hinder the spare part maintenance and provision process established by REDDIG. New spare parts were recently acquired and stored at the South American Regional Office, to be used by nodes facing a failure or malfunction of some piece of equipment.

2.7 Another important aspect is that network equipment has already reached half of its expected service life of approximately 10 years ago (it was installed in 2014 and, therefore, manufactured before 2014). Thus, it is quite likely that, during the second half of network service life, some pieces of equipment will be obsolete or discontinued by manufacturers.

2.8 The representative of Colombia expressed their readiness to begin the process for the transfer of the REDDIG node of Bogotá as soon as possible.

2.9 In light of the above, the following action will be taken:

a) EANA shall send an official letter to the South American Regional Office expressing its intention not to participate in Amendment VII to contract N° 22501200 and shall subsequently indicate when will it be ready to sign the new amendment;
b) The South American Regional Office will inform the Technical Coordination Bureau (TCB) of the intention expressed by EANA;
c) TCB will proceed to separate the activities involved in the implementation of a new node in Ezeiza, keeping in Amendment VII to contract No 22501200 only the activities for the transfer of the Bogotá node;
d) TCB will coordinate con INEO/ENGIE for the signature of the modified amendment;
e) Colombia shall officially confirm the focal points for the activities involved in the transfer of the Bogotá node;
f) Once the contract has been signed, INEO/ENGIE shall submit a timetable for the conduction of the activities for the transfer of the REDDIG node of Bogotá, at a teleconference to be coordinated by the ICAO South American Regional Office, and which will mark the beginning of work.

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APPENDIX B

INTER-OFFICE MEMORANDUM

URGENT

LN 3/20.2– SA5261 Lima, 25 April 2019

To: D/TCB

Cc: C/PRO, FOS/PIU

From: ICAORD, Lima

Subject: **RLA/03/901, *System for the Management of the REDDIG and the Administration of the Satellite Segment* – Amendment VII to Contract 22501200**

With reference to the attached letter GCIA INF Y TEC No. 28/19, dated 23 April 2019, received from EANA (Argentina Aerial Navigation Authority) informing that Argentina is not in a position to determine the work completion date in the new Ezeiza's Tower, and in order not to harm the State of Colombia, requests to exclude Argentina from Amendment VII of Contract 22501200

Consequently, I would very much appreciate if you proceed with this request.

Thank you very much for your prompt attention

Regards,

Fabio Faizi Rahnemay Rabbani

Enc.

APÉNDICE C / APPENDIX C

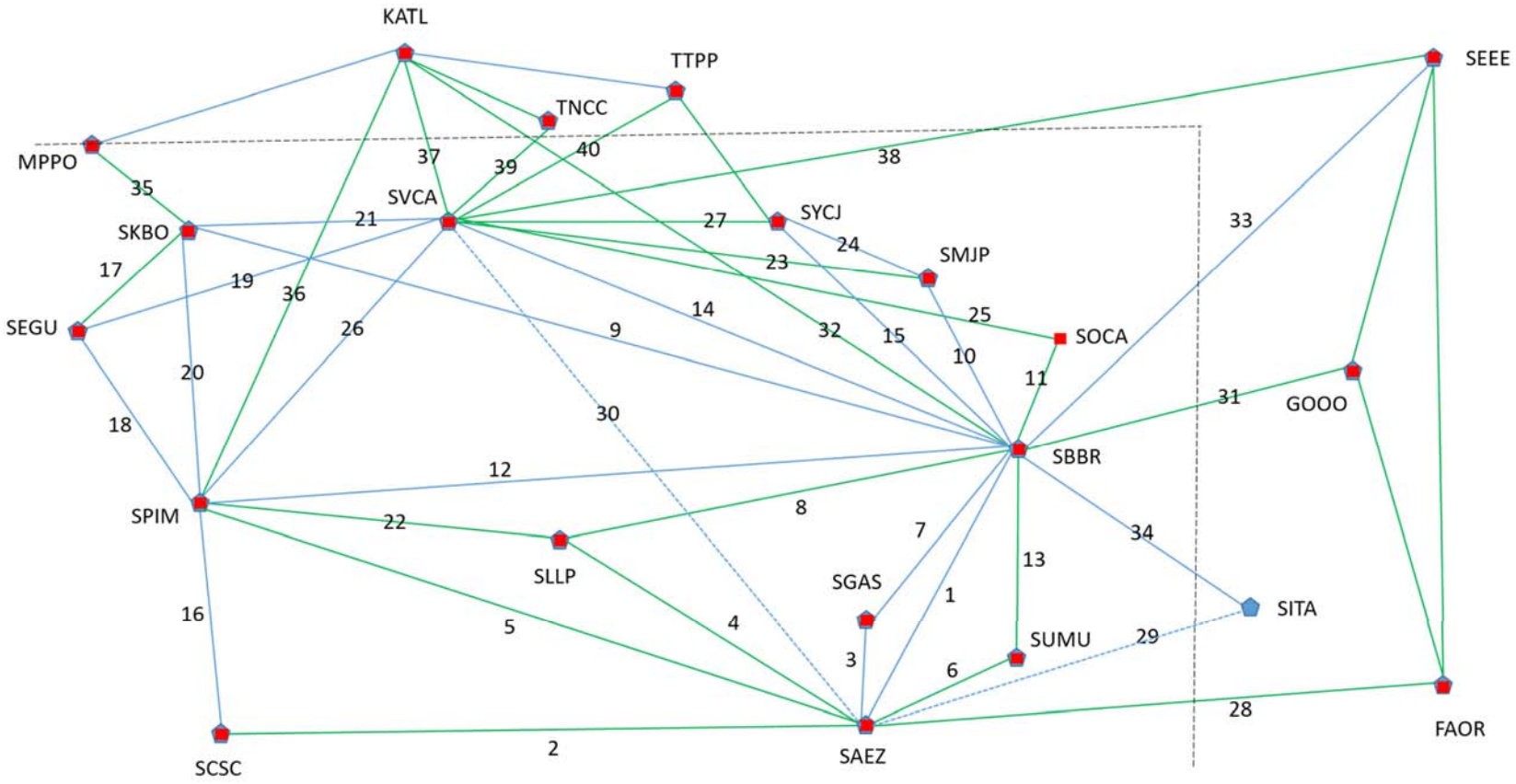
INTERCONEXIONES AMHS – REGIÓN SAM / AMHS INTERCONNECTION – SAM REGION

(26 Abril 2019 / 25 April 2019)

	Conexión P1 / P1 Connection	Situación / Situation	Operativa en / Operational in	Observaciones / Notes
1	SAEZ – SBBR	Operativa / Operational	04/04/2018	
2	SAEZ – SCSC	Pre operativa / Pre-operational		Reiniciar pruebas en Jun19 / Restart testing on July 19
3	SAEZ – SGAS	Operativa / Operational	30/11/2018	
4	SAEZ – SLLP			
5	SAEZ – SPIM	Operativa / Operational	10/05/2019	
6	SAEZ – SUMU			
7	SBBR – SGAS	Operativa / Operational	30/11/2018	
8	SBBR – SLLP	En coordinación / In coordination		
9	SBBR – SKBO	Operativa / Operational	22/05/2017	
10	SBBR – SMJP	Operativa / Operational	11/10/2018	
11	SBBR – SOCA	Pre operativa / Pre-operational		IOT y POT concluidos / IOT and POT concluded
12	SBBR – SPIM	Operativa / Operational	14/12/2015	
13	SBBR – SUMU			
14	SBBR – SVCA	Operativa / Operational	28/02/2018	
15	SBBR – SYCJ	Operativa / Operational	16/07/2017	
16	SCSC – SPIM	Operativa / Operational	14/12/2015	
17	SEQU – SKBO	Pre operativa / Pre-operational		Reiniciar pruebas en Mayo19 / Restart testing on May 19
18	SEQU – SPIM	Operativa / Operational	14/07/2012	
19	SEQU – SVCA	Operativa / Operational	11/10/2018	
20	SKBO – SPIM	Operativa / Operational	15/11/2020	
21	SKBO – SVCA	Operativa / Operational	01/12/2017	
22	SLLP – SPIM	Operativa / Operational	10/05/2019	

	Conexión P1 / P1 Connection	Situación / Situation	Operativa en / Operational in	Observaciones / Notes
23	SMJP – SVCA			
24	SMJP – SYCJ	Operativa / Operational	11/10/2018	
25	SOCA – SVCA	Pre operativa / Pre-operational		IOT y POT concluidos / IOT and POT concluded
26	SPIM – SVCA	Operativa / Operational	01/12/2017	
27	SVCA – SYCJ	En coordinación / In coordination		
28	SAEZ – FAOR			
29	SAEZ – SITA	Pre operativa / Pre-operational		IOT y POT concluidos / IOT and POT concluded
30	SAEZ – SVCA			
31	SBBR – GOOO	En coordinación / In coordination		
32	SBBR – KATL	Pre operativa / Pre-operational		IOT y POT concluidos / IOT and POT concluded
33	SBBR – LEEE	Operativa / Operational	11/10/2018	
34	SBBR – SITA	Operativa / Operational	16/08/2018	
35	SKBO – MPPC	En coordinación / In coordination		
36	SPIM – KATL	En coordinación / In coordination		
37	SVCA – KATL	En coordinación / In coordination		
38	SVCA – LEEE			
39	SVCA – TNCC	En coordinación / In coordination		
40	SVCA – TTPP			

AMHS Interconnections / Interconexiones AMHS



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APÉNDICE D / APPENDIX D

NATIONAL FOCAL POINTS/PUNTOS FOCALES NACIONALES
IMPLEMENTATION OF INTERCONNECTION OF AMHS SYSTEM /IMPLANTACIÓN INTERCONEXIÓN DE SISTEMAS AMHS

STATE/ ESTADO	ADMINISTRATION/ ADMINISTRACIÓN	NAME/ NOMBRE	POST/ CARGO	TELEPHONE/ TELEFONO	E-MAIL
ARGENTINA	EANA /ANAC	Hernán Gabriel Canna	Especialista CNS EANA	(54 11) 4480-2362	hcanna@eana.com.ar
		Fabian Romero	Gerente CNS (Communication, Navigation and Surveillance) EANA		fromero@eana.com.ar
		Moira Callegare	Jefe departamento CNS (ANAC)	(54 11) 594-13097	mcallegare@anac.gob.ar
BOLIVIA	AASANA	Remigio Blanco	Responsable de Telecomunicaciones AASANA	(591 2) 237-0340	rblanco@aasana.bo
BRASIL/ BRAZIL	DECEA	Murilo Albuquerque Loureiro	Coordinación técnica	(55 21) 2101-6658	loureiromal@decea.gov.br
		Marcelo Mello Fagundes	Coordinación operacional	(55 21) 2101-6268	fagundesmmf@decea.gov.br
		Lucio Cavalcante	Jefe CTMA-BR	(55 61) 3364-8375	luciolac@fab.mil.br
COLOMBIA	UAEAC	Gabriel Guzmán	Especialista de Comunicaciones	(571) 296-2940 (57) 317656 7202	gabriel.guzman@aerocivil.gov.co
		Robinson Quintero	Especialista de Comunicaciones	(57) 1 296 2241	robinson.quintero@aerocivil.gov.co

STATE/ ESTADO	ADMINISTRATION/ ADMINISTRACIÓN	NAME/ NOMBRE	POST/ CARGO	TELEPHONE/ TELEFONO	E-MAIL
CHILE	DGAC	Christian Vergara	Especialista comunicaciones	(56 2) 2836-4005 (56 2) 2644-8345	cvergara@dgac.gob.cl
ECUADOR	DAC	Darwin Manolo Yazbeck Sarmiento	Coordinador AFS	(593) 2947400 ext 1095	darwin.yazbeck@aviacioncivil.gob.ec
		Victor Yépez	Responsable Sistema VSAT	(593)2947400 Ext.1091	victor_yepez@aviacioncivil.gob.ec
GUYANA	Guyana Civil Aviation	Mortimer Salisbury	Supervisor - AN & T	(592) 261-2569	mbsalisbury2000@yahoo.com
GUYANA FR./FRENCH GUIANA	Dirección de los servicios de navegación aérea (Francia)	Michel Areno	Jefe del centro de control del aeropuerto de Cayena	(594) 594 359395	michel.areno@aviation-civile.gouv.fr
PANAMA	Autoridad Aeronáutica Civil (AAC)	Daniel de Ávila	Supervisor Dep. de COM	(507) 315 9877	deavila@aeronautica.gob.pa
		Abdiel Vásquez	Jefe Depart. CNS	(507) 315-9877/78/44	abvasquez@aeronautica.gob.pa
PARAGUAY	DINAC	Víctor Morán Maldonado	Jefe Departamento de Comunicaciones	(595 21) 758 5208	moranchu@gmail.com
		Juan Felix Estigarribia	Jefe departamento técnico AMHS	(595) 217585257 / (595) 217585255	jfe2406@gmail.com
PERÚ	CORPAC	Jorge García	Jefe de Comunicaciones	(511) 2301000 Ext 3131	jgarcia@corpac.gob.pe
		Raúl Anastasio Granda	Supervisor Comunicaciones AMHS-AFTN Área de Comunicaciones Fijas Aeronáuticas	(511) 230-1018	ranastacio@corpac.gob.pe

STATE/ ESTADO	ADMINISTRATION/ ADMINISTRACIÓN	NAME/ NOMBRE	POST/ CARGO	TELEPHONE/ TELEFONO	E-MAIL
SURINAM/ SURINAME	Ministry of Transport, Communication and Tourism, Civil Aviation Department	Mitchell Themen	CNS Technical Division	(597) 325-123 (597) 325-172 (597) 497-143	mickiano@live.com
URUGUAY	DINACIA/DGIA	Raúl Pesce	Técnico Electrónico Aeronáutico	(598) 2604-0408 Ext.4520	raulhpesce@hotmail.com
	DINACIA/DGIA	Oscar Farías	Director de División Telecomunicaciones Aeronáuticas	(598) 2604-0408 Ext. 5107	dte@dinacia.gub.uy
VENEZUELA	INAC	Sabrina Rodrigues Medina	Jefe área técnica AMHS	(58 212) 3551864	sa.rodriguez@inac.gob.ve
		Maricel Berroteran Quijada	Jefe CCAM de Maiquetía	(58 212) 3552967	maricel.berroteran@inac.gob.ve

-FIN / END-

Agenda Item 5: Operational implementation of new ATM automated systems and integration of the existing systems

a) **Follow-up to AIDC performance and operation in the SAM Region**
b) **Follow-up to actions taken to mitigate flight plans errors and duplicity/multiplicity in the SAM Region**
c) **Interoperability between automated systems (GT – Interop)**
d) **ADS-B implementation in the SAM Region**

5.1 Under this agenda item, the following papers were analysed:

a) WP/13 – *Follow-up on the Performance of the AIDC Operation in the SAM Region* (presented by the Secretariat);
b) WP/14 - *AIDC Implementation and operation in Ecuador* (presented by Ecuador);
c) WP/15 – *Follow-up of the actions that mitigate the errors and the duplicity/multiplicity of flight plans in the SAM Region* (presented by Secretariat);
d) WP/16 – *Action taken by Ecuador to mitigate flight plan errors and duplication/multiplicity* (presented by Ecuador);
e) WP/17 – *Interoperability task group – INTEROP TG*; (presented by the Secretariat);
f) WP/18 – *Status of ADS-B implementation in the SAM Region* (presented by THE Secretariat;
g) WP/19 – *Implementation of ADS-B in Colombia* (presented by Colombia;
h) WP/20 – *Implementation of OPMET message exchange in IWXXM format* (presented by the Secretariat);
i) WP/38 – *Follow-up of the actions that mitigate the errors and the duplicity/multiplicity of flight plans in the SAM Region* (presented by Peru);
j) IP/14 – *Current status of AIDC in Colombia* (presented by Colombia);
k) IP/15 – *Plan de implementación ADS-B en Ecuador* – **Spanish only** (presented by Ecuador)
l) IP/16 – *Status of ADS-B implementation in Brazil* (presented by Brazil)
m) IP/17 - *Avances en la implantación del nuevo sistema gestión de control de tránsito aéreo* – **Spanish only** (presented by Venezuela);
n) IP/18 - *Brazil flight plan centralization project* (presented by Brazil);
o) IP/19 – *PCICEA – SWIM* (presented by Brazil;
p) IP/25 - *Avances en las actividades de implantación de los sistemas automatizados (AIDC) en el Centro de Control de Panamá* – **Spanish only** (presented by Panama)

FOLLOW-UP ON THE PERFORMANCE OF THE AIDC OPERATION IN THE SAM REGION

5.2 Under this item of the agenda, the Meeting received information on the status of implementation of the AIDC in the States through the study note WP / 13 presented by the Secretariat, with an overview of the AIDC communications established so far.

5.3 Basically, the situation has not changed since the SAM / IG / 22 Meeting (Lima, November 19 to 23, 2018). Of the 76 communications planned, 12 were already established, 10 being between national centers and 2 between international centers. **Appendix A** of this part of the Report presents the table with all the AIDC communications for the States of the SAM Region.

5.4 The Meeting made an analysis and review of the current status of the AIDC interconnections between the different ACCs of the SAM Region. It was reiterated the importance that

those States in which the AIDC is maintained in the Pre-Operational phase manage to pass to the Operational phase in the shortest possible time, provided that there are no technical or operational impediments to this transition. In this regard, States are urged to proceed according to Conclusion SAM / IG / 21-03, and report the results of the performance of the AIDC interconnections they are responsible for.

5.5 The Meeting recognized the operational benefits of the AIDC, among which are highlighted:

- Reduction of the workload of ATC personnel
- Decongestion of the oral channels
- Reduction of LHD and operational errors
- Automated updating of the information of the active FPL in the automated systems.
- Friendly user interface.
- More time available for ATC personnel to focus on the activity of Air Traffic Control.

Analysis

5.6 The progress made by each State regarding the implementation of the AIDC as an automated coordination means is detailed below:

Argentina

5.7 At the national level, the AIDC between Ezeiza and Aeroparque is in the operational phase. The AIDC between the ACC of Córdoba and the Ezeiza ACC remains in the pre-operational phase since 2015, and among the other internal ACCs since 2018, having being amended the letters of operational agreement between the national ACCs with the introduction of operational use of AIDC as the primary means of coordination. Also, in September 2017, AIDC training was completed for the controllers of the ACCs of Comodoro Rivadavia, Mendoza and Resistencia.

5.8 The AIDC is expected to be operational among all national ACCs by the second semester of 2019. AIDC is expected to be operational with adjacent regional ACCs by 2020.

5.9 Regardless of these plans, the automated systems in Argentina are in a position to proceed with the initiation of technical interconnection tests with the regional ACCs.

Bolivia

5.10 An automated Thales ATM Topsky system is being implemented in Bolivia's main ATS units, which is scheduled to enter into operation by the second half of 2020. However, the initial purchase did not include the module that allows AIDC functionality. Bolivia will acquire, as an update to its system, the necessary module to the manufacturer Thales, whose quotation was already negotiated, together with an update of the AMHS. It is planned to start the AIDC interconnection tests with the ACCs of the adjacent States for the second half of 2021.

Brazil

5.11 Brazil has the AIDC in place and in operation among all its national ACCs.

5.12 At the international level, the AIDC between the Amazonian ACC and the Lima ACC are in the pre-operational phase from September 6, 2018. The interconnections of the Atlantic ACC and Curitiba ACC with the adjacent ACCs of the Region are pending.

5.13 Atech is developing a correction in the method of processing and describing LRM messages, which is expected to be installed for the second half of 2019. After this, it could be moved to the operational phase with the ACC Lima. Next, the intention is to establish the AIDC communication with the adjacent ACCs of Paraguay and Venezuela, which is estimated to enter the pre-operational phase even in 2019.

Chile

5.14 On 18 August 2018, was established the AIDC connection between Iquique ACC and Lima ACC. Positive AIDC tests have been conducted between the Iquique ACC and the Cordoba ACC, which are expected to become operational during 2019-2020. At national level, AIDC connection is operational between the Punta Arenas ACC and the Puerto Montt ACC, and between the Iquique ACC and the Antofagasta APP since mid-2017.

5.15 It is planned to update the automated system of the Santiago Oceanic ACC by the manufacturer Thales to allow the AIDC functionality, which is expected to be interconnected with the adjacent ACCs by the second half of 2020.

Colombia

5.16 At the national level, the AIDC interconnection between the Bogotá ACC - Barranquilla ACC is in the pre-operational phase, and it is planned to move to the operational phase for the second half of 2019.

5.17 At the international level, the AIDC interconnections between ACC Bogotá - ACC Guayaquil, ACC Bogotá - ACC Lima, ACC Bogotá - ACC Panama and ACC Barranquilla - ACC Panama), are in the pre-operational phase since the end of 2015. Letters of operational agreement between the mentioned ACCs were reviewed with the introduction of the use of the AIDC as primary means. In November 2016, an operational agreement letter amendment was signed between the Bogotá ACC and the Lima ACC, and an updated version has been submitted for signature at this meeting. It is expected that the AIDC connections between the ACC Bogotá with the ACC Lima, and ACC Bogotá with ACC Guayaquil enter the operational phase on July 6, 2019, and with the ACC Panama for the first quarter of 2020.

5.18 Training sessions and additional OJT training have been carried out to ATC personnel from ACC Bogota since April 2019 to improve their performance in the operation of AIDC, so that the migration to the operational phase with ACC Lima and ACC Guayaquil is carried out successfully.

5.19 There is a technical drawback that causes the automated Bogotá ACC system to generate LRM RMK/65 errors when it receives an AOC message from the Guayaquil ACC. Efforts are being made for the manufacturer (Indra) to solve this problem in order to be able to move to the operational phase with the Guayaquil ACC.

5.20 At the interregional level, it is planned to initiate interconnection tests with ACC CENAMER during the second half of 2019. No tests have yet been carried out between the Barranquilla ACC and the Kingston ACC.

Ecuador

5.21 On 18 August 2018, the Lima ACC-Guayaquil ACC AIDC migrated to the operational phase. The updated letter of agreement contains the aspects and guidelines related to the coordination protocol signed at the SAM/IG/23 meeting. The implementation between the two centres was successful, reducing ATC workload and improving coordination between the control centres.

5.22 In January 2017, the internal AIDC was operationally implemented between the Guayaquil ACC and the Quito APP, with very satisfactory results obtained from coordination efforts.

5.23 Internal AIDC coordination between the Guayaquil ACC and the Manta APP is in the pre-operational phase since February 2018, expected to migrate to the operational phase in June 2019, and with the Shell APP in November 2019.

5.24 The Bogota ACC and the Guayaquil ACC went back to the pre-operational phase on 20 August 2018. After signing the MoU and based on the results of tests conducted in April 2019, it was agreed that the LRM/65 reject message should be analysed and resolved by the manufacturer in the Bogota system in order to move immediately to the operational phase.

5.25 In November 2018, AIDC tests were conducted between the CENAMER ACC and the Guayaquil ACC. Tests continued after the CENAMER automated system was upgraded to a new version of the FDP, which corrected the problem in box 10 and 18 of the flight plan. Since then, the AIDC message cycle has been operating satisfactorily, except for the TOC and AOC message, due to loss of the radar signal in some sectors. The migration to the operational phase is foreseen for September 2019.

French Guiana

5.26 In mid-2017, a new ATM automation system, which included AIDC, was installed in the Cayenne ACC. The implementation of AIDC with the ACCs of adjacent States is foreseen for the period 2019-2020.

Guyana

5.27 The AIDC functionality is currently disabled in the automated INTELCAN system. Conversations have been initiated with the manufacturer to enable this functionality. The AIDC capacity is expected to be available from 2020.

Panamá

5.28 The Thales Topsky automated system in Panama had updates in July 2017 and October 2018, which allowed improving the functionality of the AIDC and the processing of FPL.

5.29 Coordinations were made with the AIDC managers of Bogotá and Kingston to establish the respective Letters of Agreement between the adjacent ACCs. The Letter of Agreement between the ACC of Panama and CENAMER was signed on February 15, 2019, establishing the use of the AIDC as the primary means of coordination as of that date. At present, the pre-operational phase between the Panama ACC and the Bogotá ACC and Barranquilla ACC has been maintained, and some inconveniences have arisen due to the fact that the operational personnel have not been correctly performing the AIDC pre-operational tests (the manual coordinations were maintained via oral channel without letting AIDC operate automatically).

5.30 It is expected that the necessary agreements will be signed to migrate to the operational phase with Bogotá and Barranquilla for the first quarter of 2020. It should be mentioned that with the APPs Rio Negro and APP Medellín, no tests have been carried out so far.

5.31 The Kingston ACC has not yet been able to start the pre-operational phase due to the fact that during the interconnection tests it was not possible to verify the sending and effective reception of the AIDC messaging by Kingston.

Paraguay

5.32 Paraguay has acquired a new ATM System, Atech SAGITARIO, and taking into consideration the period required for the installation and commissioning, the new ATM system is foreseen to be operating by the second semester 2019, to continue with the tests that were postponed. Initially it is planned to perform tests with the Curitiba ACC.

Peru

5.33 The ACC of Lima has the AIDC in operational phase with the ACC of Guayaquil (Ecuador) and ACC Iquique (Chile), since August 18, 2018. The AIDC connection with the ACC of Bogotá is still in the pre-operational phase from the month of August 2015, and with the Amazonian ACC from September 6, 2018. It is planned to move to the operational phase with the Bogotá ACC on July 6, 2019, and with the Amazonian ACC by the end of 2019 Also, the indication of the States of Bolivia (ACC La Paz) and Chile (ACC Santiago Oceanic) is expected to start or continue the process of establishing the AIDC interconnections with the Lima ACC.

5.34 Peru expects that, if no further delays occur in the adjacent ACCs, the Lima ACC with the 6 adjacent ACCs can be interconnected via the AIDC for the first quarter of 2021.

Suriname

5.35 Suriname has an automated INTELCAN system that to date does not yet have the AIDC functionality. An update of said system is planned to equip it with this functionality. The implementation of the AIDC with the ACCs of the adjacent States is scheduled for the second half of 2020. It is planned to start the AIDC tests with Guyana, since they have systems from the same manufacturer.

Uruguay

5.36 Uruguay is waiting to achieve interconnection via AMHS with the adjacent ACCs in order to use AIDC messaging through this medium. The implementation of the AIDC with the ACCs of the adjacent States is scheduled for the first half of 2020.

5.37 Uruguay expressed the convenience and need to carry out a training reinforcement for ATC, AIM, CNS and SMS personnel in the concept, operation and use of AIDC.

Venezuela

5.38 Venezuela has acquired a new automated SAGITARIO system from ATECH of Brazil, which is currently in the SAT testing phase. Once these tests were completed and the system was put into operation, the ACC Maiquetía would be able to start pre-operational tests with the adjacent ACCs, which is expected to be achieved during the second semester of 2019.

5.39 Venezuela expressed the desirability and necessity of training the ATC, AIM and CNS personnel in the concept, operation and use of the AIDC. In this regard, the Secretariat informed that there is a training activity scheduled in Project RLA/06/901 and the confirmation of the administration of Venezuela of the date for the completion of the training is awaited. It is requested that a communication be sent at least 6 weeks before the scheduled date for the start of training.

5.40 Other information on the matter was presented by the States through study notes and information notes. In addition, the States updated the table with information from the AIDC Focal Points, which is presented as **Appendix B** to this part of the Report.

FOLLOW-UP OF THE ACTIONS THAT MITIGATE THE ERRORS AND THE DUPLICITY / MULTIPLICITY OF FLIGHT PLANS IN THE SAM REGION

5.41 The Meeting took note of the progress made by the States regarding actions to mitigate errors and the duplication/multiplicity of flight plans. The updated information is detailed below.

Argentina

5.42 ARO offices are being centralized with unique addresses for reception of FPL in each ACC of Argentina, which must be completed by the end of 2020, in order to adapt to the Conclusion SAM/IG/19-2 - *Implementation of procedure for the mitigation of duplication/multiplicity of regular commercial flight plans.* Currently, the FPL is sent only to the Flight Plan Offices, either physically or electronically. Agreements are being signed with the airlines to submit FPL electronically to the ARO/AIS terminals.

5.43 The Flight System Repairs positions of the ATM Systems have been transferred to the ARO / AIS offices. The ARO / AIS staff is now responsible for reviewing and repairing the FPL. The FDP position is now operated by ARO/AIS personnel from those offices.

Bolivia

5.44 Flight plans are currently being presented in physical format (paper). However, there have been no reports of duplicity/multiplicity problems of FPL. Bolivia is in the process of implementing an automated ATM system. It is planned to implement a facility to enter flight plans online, via the internet, and via a mobile application for cell phones.

Brazil

5.45 At the beginning of 2018, the centralization of all flight plans in the CGNA (Air Navigation Management Center) was initiated through the SIGMA system - Integrated Air Traffic Management System, which will provide this information to the systems automated systems of the ACC (Sagittarius) and Control Towers (TATIC). That implementation is planned in 3 phases:

a) Phase 1: In execution 2019

- Replacement of SIGMA system hardware equipment, improving robustness, redundancy and contingency management;
- Adoption of a single address - SBRJZPX - to be used by SIGMA;
- Adoption of alphanumeric code that makes it possible to identify only and exclusively each flight intention;
- Availability of statistical reports;

- Presentation of feedback messages for users, with the status of their flight intentions.

b) Phase 2: 2020
- Synchronization of the databases of SIGMA and SAGITARIO systems;
- SIGMA interoperability (GEA) with the AIM-BR system, for automatic updating of its database; and
- Consolidation of C-AIS CGNA.

c) Phase 3: 2021
- Unification of the databases of SIGMA, SAGITARIO and TATIC systems;
- Presentation of feedback messages for users, based on the recording of flight plans in the databases of the ATC bodies (APP, TWR).

5.46 It is planned to have the new system installed in the Recife FIR by the end of 2019 to carry out parallel tests, and have it integrated and operational nationwide by first semester of 2020.

5.47 In addition, Brazil put into service in November 2018 the PCICEA platform developed by ATECH for the exchange of FPL data between DECEA Rio de Janeiro and EUROCONTROL Brussels. This platform incorporates the SWIM concept.

Chile

5.48 Has made contact with airlines to minimize errors in the generation of flight plans, having succeeded in significantly reducing the duplicity/multiplicity of FPL. The internal addressing structure is being revised to avoid multiplicity of flight plans and the study for the implementation of the national center for the reception of the flight plans has begun.

Colombia

5.49 Meetings were held with air operators (Avianca, LATAM, Spirit, Viva Colombia, Iberia) in October 2017 on procedures to present flight plans in the international AIS Offices and not directly in the ACCs, in order to avoid duplicity of flight plans. In this regard, drafts have been prepared for the MOUs with these airlines.

5.50 For the 2019 period, the acquisition of an automated IFPS system for the processing of FPL is planned.

Ecuador

5.51 The SAM/IG/19 meeting considered that, in order to implement procedures to mitigate the duplication/multiplicity of commercial scheduled flight plans, States should use AFTN XXXXZPZX as the only address for receiving flight plans corresponding to ARO/AIS offices. Initial tests with this procedure encountered problems because the manual addressing and transmission to ATS automated systems gave rise to duplicated flight plans.

5.52 To reduce the risk of manual errors, reference is made to DOC 4444, paragraph 11.2.1.1.1, which states that ANSPs can implement local agreements that delegate responsibility to operators for the direct transmission of movement messages to through the Fixed Aeronautical Telecommunications Network (AMHS).

5.53 On November 15, 2018, the Letter of Operational Agreement between the company JETBLUE and the General Directorate of Civil Aviation of Ecuador was signed to accept the direct submission via AMHS of the FPL from its dispatch center in the USA to the ATS systems.

5.54 There is currently a request from 15 airlines interested in the direct presentation of the flight plan and movement messages, so an AIC is being developed that indicates the guidelines and conditions for this procedure.

Guyana

5.55 A centralized AFTN address has been established for the reception of FPL (SYCJZPZX for Flight Plans, SYCJYNYX for NOTAM, and SYCJYMYX). Flight Plans can be presented in electronic and physical format (paper). All FPLs are received by the AID office (SYCJZPZX).

Panama

5.56 Although initially Panama decided that the airlines (mainly Copa) stop sending their FPL directly to the automated systems and, on the contrary, they present themselves through the ARO/AIS office, the possibility is being analyzed of resuming the way so that the airlines are responsible for sending the FPL directly to the direction of the FDP, delegating this responsibility. It is expected that this will mitigate the duplication/multiplicity problems of FPL.

5.57 Copa is currently sending its FPL directly to the FDP address, and Iberia has indicated its intention to avail itself of this procedure. The Letters of Operational Agreement with these airlines are being prepared to formalize the procedure.

Paraguay

5.58 Reception of duplicate flight plans continues. An operational instruction was made for the personnel in charge of the repair of FPL, in regard to the treatment of the duplicated FPLs. There were conversations with some airline dispatchers operating in Paraguay, regarding the sending of duplicate FPLs, especially with respect to flights departing from airports in the country in which only those issued by the ARO offices are considered valid, and they reported that they would communicate the situation to their bases. So far, it continues to receive duplicate FPLs. There are also problems of lack of FPL in some cases, especially in overflights.

Peru

5.59 It was implemented through AIC/05-2017, replaced on August 9, 2018 by AIC 09-2018 (basically updating contact data), a procedure designed to mitigate the duplication/multiplicity of regular commercial flight plans through the direct shipment of the FPL from the airlines to the single address SPIMZPZX (ARO), which has been developing quite successfully.

5.60 The ARO Office in Lima follows up on all the flight plans that enter the automated ATM system via AMHS for the implementation of electronic reports in the ARO positions, and thus detect the airlines that have errors and duplicity in the flight plans. Likewise, it carries out constant coordination with the managers of company operations of the headquarters where the flight plans originate.

5.61 In the months of August to November of 2018, training has been carried out nationwide of all personnel related to the reception procedures of FPL via AMHS/AFTN.

5.62 In October of 2018, an error reporting/duplication system of the FPL was implemented in the ARO office of the "Jorge Chávez International Airport", which information allows errors statistics to be obtained and to elaborate more complete and adequate mitigating measures.

5.63 From December 2017 to date, Letters of Agreement have been signed with 13 airlines that carry out international scheduled flights, covering 95% of these FPL, and have stopped working with RPL. In 2019 it is expected to continue the procedure with the airlines that operate domestic flights.

5.64 In March 2019, training was given to all ARO personnel in Lima in the preparation and transmission of the ACK and REJ messages. In April, ACK and REJ message transmission tests were carried out with the JetBlue and Copa Airlines companies, with successful results. For this reason, as of May 1, 2019, the use of the ACK and REJ messages has been operationally implemented with all airlines with which the FPL has received an agreement through AMHS.

5.65 The Peruvian State will implement a Flight Plan Treatment Unit for the entire FIR in order to optimize the AIDC and ATFM.

5.66 There is concern on the part of Peru and other states regarding the lack of a standard in the use of the ACK and REJ messages, which could result in problems of incompatibility in the future, if each State uses a different format. For this reason, Peru requested the Secretariat to promote the standardization of the syntax of the ACK and REJ messages.

5.67 In this sense, the Meeting formulated the following conclusion:

<table>
<tr><td colspan="2">CONCLUSION SAM/IG/23-02 Standardization of the syntax and format of messages ACK and REJ for FPL</td></tr>
<tr><td>That:
The States, through their AIM and CNS Focal Points, form a sub-working group within the INTEROP WG to:

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.</td><td>Expected impact:
☐ Political / Global
☒ Inter-regional
☐ Economic
☐ Environmental
☒ Technical/Operational</td></tr>
<tr><td colspan="2">Why: To promote the standardization of the syntax of ACK and REJ messages in order to prevent incompatibility in the future.</td></tr>
<tr><td>When: Immediately</td><td>Status: Adopted by SAM/IG/23</td></tr>
<tr><td colspan="2">Who: ☒ Coordinators ☒ States ☒ ICAO Secretariat ☐ ICAO HQ ☒ Other: Users/Industry</td></tr>
</table>

Suriname

5.68 The FPLs are presented in physical format in the ARO offices. To date, FPL is not received directly in the Paramaribo ACC.

Uruguay

5.69 The FPL are presented both in physical format through the ARO offices, and electronically through the AFTN directly to the automated system of the ACC Montevideo. Indra made a series of corrections to the FDP and DBM of the AIRCON 2100 system, which allow a correct processing of the majority of FPL. However, FPL duplicity problems frequently occur. In this regard, it is planned to conduct a study that allows taking the necessary and appropriate measures to reduce the duplication/multiplicity of FPL.

Venezuela

5.70 It has implemented in a pre-operational mode, an automated centralized system for the treatment of flight plans of the IDS brand, which reduces errors in the presentation of the same. This system is located in the ARO Office of Maiquetía. It is expected that by the end of 2019 SAMIG/19-2 conclusion will be implemented. A manual control of the duplicities of FPL is currently carried out as a mitigating measure.

INTEROPERABILITY TASK FORCE – INTEROP TF

5.71 The Meeting highlighted the interoperability problem that existed between systems of different manufacturers, or of the same manufacturer but of different generations or models. This was noted especially during the implementation of AMHS and AIDS in the Region.

5.72 Taking into account the number of new systems required for the automation of aeronautical information management (AIM) services, the SWIM (System Wide Information Management) concept, air traffic management (ATM), air traffic flow management (ATFM), communication, navigation and surveillance (CNS), and meteorology (MET) services, it is felt that a task force must be established to deal with the structure of the SAM Implementation Group (SAM/IG), in order to ensure the interoperability of the implemented systems.

5.73 The SAM/IG/22 meeting (Lima, Peru, 19-23 November 2018) approved Conclusion SAM/IG/22-3 on the creation of the Interoperability Task Force (Interop TF), with the main objective of ensuring the interoperability among automated systems used in the AIM, MET, ATM, ATFM, and CNS areas, within the context of the implementation of the elements designated in the SAM-PBIP.

5.74 The Meeting urged the States to complete their list of participants to make up the Interoperability Task Force, who should be planners and implementers of systems supporting air navigation services.

5.75 Regarding the “Terms of reference of the Interoperability Task Force” presented by the Secretariat at the SAM/IG/23 meeting, Brazil noted that each State should designate its representatives to a Coordination Group tasked with defining and approving the Terms of Reference, and defining the required subgroups. The Meeting also deemed it advisable to hold a teleconference for designating a rapporteur for the Interop TF. The Secretariat shall organize a teleconference, as soon as possible after nomination of participants for the Coordination Nucleus (NC) by the States.

5.76 **Appendix C** to this part of the Report presents the representatives from the States who nominated participants to the Interop TG.

IMPLEMENTATION OF ADS-B IN THE SAM REGION

5.77 Updated information on the initiatives for the implementation of ADS-B in the SAM Region is presented below.

GROUND ADS-B IMPLEMENTATION INITIATIVES

Argentina

5.78 Argentina has conducted ADS-B information exchange tests using REDDIG for receiving information from the ADS-B stations of Paraguay.

Brazil:

5.79 Brazil has implemented ADS-B, mainly to support aircraft operations in the Macaé TMA, a place of interest for oil operations, characterised by the movement of helicopters between the continent and the platforms or vessels anchored in this basin, in the oceanic zone, for transporting persons and cargo.

5.80 Six ADS-B stations were intaed in the Macaé TMA airspace to serve Cuenca de Campos,: four stations in offshore platforms and two in the continent. This infrastructure, made up by the existing radar network that supports air traffic control in this region, allows for surveillance in the entire TMA airspace at 500 feet and above.

5.81 At continental level, there are plans to install 68 ground ADS-B stations in order to provide surveillance data of better quality and accuracy. The project is structured in 4 implementation phases:

- Phase 1 – Airways in the EURO/SAM corridor (UN741, UN856, UN873, UN857);
- Phase 2 – Airways in the SAM/NAM corridor (UA317, UA312, UL795, UL201, UL304, UZ13, UB680);
- Phase 3 – Airways UL306, UL540, UM799, UW33, UZ7; and
- Phase 4 – UL309, UL793, UL655, UB554, UM402, UM415.

5.82 Furthermore, there are plans to implement WAM (multilateration) at the Porto Alegre TMA.

Colombia

5.83 Colombia developed an extensive ADS-B implementation project starting in March 2016, to provide service starting on 1 January 2020 to all aircraft registered in Colombia and those operating in Colombian airspace. However, there are no plans to restrict aircraft not equipped with ADS-B, since the MSSR Mode S secondary surveillance radar network will remain operational.

5.84 The Meeting took note of the importance of taking into account the ADS-B version (TSO-C166b) that includes the TIS-B facility, as well as the GPS version (TSO-C129a, TSO-C129b – ABAS, TSO-C145e, TSO-C146e – WAAS).

Ecuador

5.85 Ecuador has plans to replace the MSSR radar of Guayaquil in 2020 with a new MSSR Modo S that includes ADS-B. It is also planning to upgrade the MSSR Mode S radars of Quito and San Cristóbal to equip them with an ADS-B sensor built into the same structure of the antenna by 2024.

5.86 The national regulation for the use of ADS-B is scheduled for publication in 2020. ADS-B is foreseen to be avaible for use in 2021 only at the Quito and Guayaquil TMAs.

French Guiana

5.87 French Guiana has plans to implement 5 ADS-B stations in 2019 in: Rochambeau (airport), Mont-Matoury, Maripasoula, Mana, and Saint Georges.

Guyana

5.88 Guyana has a project for the implementation of 5 Skysurv ADS-B stations. Four have already been implemented in: Port Kaituma (SYPK), Kamarang (SYKM), Kaieteur SYKA), and Annai (SYAN).

Panama

5.89 Panama has implemented ADS-B stations in Cerro Jefe, Volcán Barú, Cerro Cana Agua, and El Porvenir.

Paraguay

5.90 Paraguay has implemented 6 ADS-B stations at the M. R. Alonso unified control centre, Guaraní airport, Concepción airport, San Juan Baptista, Mariscal Estigarribia airport, and Bahía Negra airport.

Peru

5.91 Peru installed two ADS-B stations (INDRA GSS-20) for conducting tests in Pisco and Lima. Due to coverage issues with the ADS-B that existed in Lima, the decision was made to transfer to Lima the equipment that was installed in Pisco, which operates continuously to provide coverage redundance and backup to the MSSR radar of Lima, eliminating the cone of silence for aircraft equipped with ADS-B.

5.92 Furthermore, Peru is planning to incorporate 8 ADS-B systems at national level in 2020.

5.93 The aeronautical authority (DGAC Perú) has not yet issued regulations on the use of ADS-B as surveillance system to provide air traffic control services. Consequently, ADS-B is only used as a means to support radars.

Uruguay

5.94 Uruguay has plans to implement ADS-B and multilateration in the short term, in order to cover gaps in radar coverage.

Venezuela

5.95 Venezuela was in the process of acquiring ADS-B systems for Lagunazo, Santa Elena de Uairen, Cerro Los Colorados station, Cerro Catire station, Puerto Ordaz airport, Margarita airport, and La Chinita airport.

SATELLITE ADS-B IMPLEMENTATION INITIATIVES

Argentina

5.96 Argentina is arranging for a Memorandum of Understanding (MoU) to be signed with the satellite ADS-B provider, AIREON, for the conduction of tests in order to determine the coverage that coul be hired and to assess safety aspects.

Bolivia

5.97 Official operation of the radar system in Bolivia is scheduled to start in 2020. Once the actual coverage with the RADAR surveillance system is confirmed, plans will be made to use the ADS-B system for sectors lacking radar coverage, based on the information resulting from the Study on the convenience and feasibility of using satellite ADS-B.

Brazil

5.98 Brazil signed a technical and operational cooperation agreement with AIREON for the collection of data on the surveillance of aircraft using the airspace under the responsibility of DECEA, in order to make a decision on the adoption of the satellite ADS-B service.

5.99 The assessment of the technical and operational performance of satellite ADS-B surveillance based on the AIREON solution applied to DECEA airspace will consist of two phases:

PHASE - 1 – Tracking of specific aircraft
AIREON will provide aircraft tracking during the test period in the area of interest of DECEA, in order to test satellite ADS-B capabilities.

PHASE - 2 – Real-time tracking
Collection and real-time delivery of data through a virtual private network ("VPN") server connected to the internet, ADS-B-equipped aircraft, and flying in test areas previously selected by DECEA. These tests will seek to extend the analyses conducted in Phase 1 to all the FIRs under the jurisdiction of DECEA and continue testing the satellite ADS-B services.

5.100 Possible benefits of the implementation of satellite ADS-B technology, which will be subject to the assessment proposed in this Agreement, include, but are not limited to:

- Increased coverage of the surveillance service in oceanic areas and/or supplementary coverage in continental airspace, wherever an operational demand is identified and where use of the ground surveillance infrastructure is not possible or feasible;
- Improved air traffic management in the airspace managed by DECEA, and airspace optimisation to increase air traffic capacity through more direct routes and/or application of reduced aircraft separation minima;
- Improved air traffic flow management in Brazilian airspace;
- Improved search and rescue (SAR) operations in the airspace management by DECEA;
- Better understanding of the technical characteristics of the satellite ADS-B service offered by AIREON.

Colombia

5.101 Colombia considers that a technical and financial assessment is required in order to determine the advantages of using the satellite ADS-B service compared to ground ADS-B, especially to

cover gaps in its airspace. In this regard, the SAM Region already has conducted a study on the convenience and feasibility of satellite ADS-B in a regional implementation, which could be taken into account.

Peru

5.102 Peru is arranging for a Memorandum of Understanding (MoU) to be signed with the satellite ADS-B provider, AIREON, for the conduction of tests to identify the benefits of contracting the satellite ADS-B service.

Uruguay

5.103 Uruguay arranging for a Memorandum of Understanding (MoU) to be signed with the satellite ADS-B provider, AIREON, for the conduction of tests to identify the benefits of contracting the satllite ADS-B service.

Other States

5.104 The SAM Region continues analysing the advantages of adopting the satellite ADS-B service at the regional level compared with its individual adoption by each State. States are expected to express their position regarding this strategy in order to save costs in the Region.

5.105 AIREON proposed the implementation of a VPN box via internet through the ICAO SAM Office in order to provide satellite ADS-B information to interested States, for the purpose of conducting operational tests in each airspace of interest. The States interested in this proposal can contact AIREON directly at:

Ana Persiani, *Regional Director Latin America and Caribbean, ana.persiani@aireon.com*

5.106 Technical and logistic aspects of this implementation and tests will be discussed and agreed by the interested States.

ADS-B FOCAL POINTS

5.107 The Meeting updated the information on ADS-B focal points, and States that had not designated them yet were urged to do so as soon as possible. **Appendix D** to this part of the Report presents the Focal Points nominated by the States.

IMPLEMENTATION OF OPMET MESSAGE EXCHANGE IN IWXXM FORMAT

5.108 WXXM is a format or reporting meteorological information in XML/GML language of the World Meteorological Organization (WMO). IWXXM includes XML/GML-based representations for products standardised in ICAO Annex 3 and WMO No. 49, Vol. II, such as METAR/SPECI, TAF, SIGMET, AIRMET, tropical cyclone advisories, and volcanic ash advisories. IWXXM products are used for the operational exchange of meteorological information for use in aviation.

5.109 Amendment 78 to ICAO Annex 3 (approved on 7 March 2018, effective 16 July 2018) introduces IWXXM (ICAO Meteorological Information Exchange Model), among other elements. The Manual on the digital exchange of aeronautical meteorological information (Doc 10003) contains guidance on the use of IWXXM.

5.110 Regarding IWXXM, Amendment 78 stated the following:

a) Until 4 November 2020, it is recommended that all advisory messages (volcanic ash, tropical cyclones, space weather) and OPMET messages (METAR, SPECI, TAF, SIGMET, AIRMET) be disseminated in IWXXM GML format.
b) As of 5 November 2020, dissemination in IWXXM GML format becomes a standard.
c) Regarding space weather advisory messages, the recommendation applies as of 7 November 2019

5.111 On this regards, the Meeting considered that the implementation of the of the exchange of OPMET messages in IWXXM format is linked to the migration of AFTN users to AMHS environment as soon as possible. Likewise, the Meeting deemed convenient the need to adequate the AMHS terminals of meteorological users for the transmission and reception of AMHS messages with content (meteorological information) in the new IWXXM GML format.

5.112 Taking into consideration the aforementioned aspects, the Meeting agreed on the following conclusion:

<table>
<tr><td colspan="2">CONCLUSION:
SAM/IG/23-03 Adaptation of AMHS terminals of aeronautical meteorology users</td></tr>
<tr><td>That,

Pursuant to the standard requiring the implementation of the exchange of OPMET messages in IWXXM GML format by 5 November, States should:

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</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☒ Economic
☐ Environmental
☒ Technical/Operational</td></tr>
<tr><td colspan="2">Why: To meet the provisions of amendment 78 to ICAO Annex 3</td></tr>
<tr><td>When: Immediately</td><td>Status: Adopted by SAM/IG/23</td></tr>
<tr><td colspan="2">Who: ☐ Coordinators ☐ States ☐ ICAO Secretariat ☐ ICAO HQ ☐ Other: Users/Industry</td></tr>
</table>

APENDICE A / APPENDIX A

COMUNICACIÓN AIDC – REGIÓN SAM / 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)	Mendonza 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)	Mendonza 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

Num.	Centro A / Centre A	Centro B / Centre B	Operativa en / Operational in	Observaciones / Notes
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
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	

Num.	Centro A / Centre A	Centro B / Centre B	Operativa en / Operational in	Observaciones / Notes
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 ATECH SAGITARIO (2017)	Recife ACC ATECH SAGITARIO	2018	
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	

Num.	Centro A / Centre A	Centro B / Centre B	Operativa en / Operational in	Observaciones / Notes
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		
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		

Num.	Centro A / Centre A	Centro B / Centre B	Operativa en / Operational in	Observaciones / Notes
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		

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APPENDIX B / APÉNDICE B

NATIONAL FOCAL POINTS IN SAM REGION / PUNTOS FOCALES NACIONALES EN REGIÓN SAM
IMPLEMENTATION OF INTERCONNECTION OF AUTOMATED SYSTEMS / IMPLANTACIÓN INTERCONEXIÓN SISTEMAS AUTOMATIZADOS

STATE/ ESTADO	ADMINISTRATION/ ADMINISTRACIÓN	NAME/ NOMBRE	POST/ CARGO	TELEPHONE/ TELEFONO	E-MAIL
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	ANAC	Diego Agüero	Técnico automatización	(5411) 5941 3000 Ext.69-128 Cel (54911) 2258 7836	daguero@anac.gob.ar
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BRASIL/BRAZIL	DECEA	Murilo Albuquerque Loureiro	Asesor CNS	(5521) 2101 6658	loureiromal@decea.gov.br
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STATE/ ESTADO	ADMINISTRATION/ ADMINISTRACIÓN	NAME/ NOMBRE	POST/ CARGO	TELEPHONE/ TELEFONO	E-MAIL
ECUADOR	DAC	Juan Poalasín	Controlador ACC Guayaquil Radar	(593) 2947400 ext 2130 (593) 998318034	juan.poalasin@aviacioncivil.gob.ec
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GUYANA FRANCESA / FRENCH GUIANA	Service de la Navigation Aérienne aux Antilles-Guyane (SNA-AG)	Michel Areno	Head French Guiana ACC	(594) 6944 55617	michel.areno@aviation-civile.gouv.fr
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		Moises Mela	Controlador Tránsito Aéreo Panama ACC	(507) 315 9850/52 (507) 662 94270	mmela@aeronautica.gob.pa
		Arístides Villarreal	Gerente de estación de servicio de vuelo Tocumen	(507) 238 2603 (507) 621 81043	avillarreal@aeronautica.gob.pa
PARAGUAY	DINAC	Digno Nelson Cardozo González	Técnico Especialista en Radar y Sistemas Automatizados	(595) 217585016 Cel (595) 961779106	nechicar@gmail.com
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PERÚ	CORPAC	Johnny Ávila	Jefe Área de sistemas de vigilancia aérea	(511) 230-1545	javila@corpac.gob.pe

STATE/ ESTADO	ADMINISTRATION/ ADMINISTRACIÓN	NAME/ NOMBRE	POST/ CARGO	TELEPHONE/ TELEFONO	E-MAIL
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		Jaime Arturo Contreras Benito	Coordinador Operativo del Centro de Control	(511) 630 1154 Cel (51) 948 463 081	jcontreras@corpac.gob.pe
		Raul Anastacio Granda	Supervisor Comunicaciones AMHS-AFTN Área de Comunicaciones Fijas Aeronáuticas	(511) 230-1424	ranastacio@corpac.gob.pe
		Mario Matos Rivera	Especialista CNS	(511) 2301000 Ext.1211	mmatos@corpac.gob.pe
	DGAC	Sady Beaumont Valdez	Inspector de Navegación Aérea	(511) 6157880	sbeaumont@mtc.gob.pe
		Giuliano Guzman Vera	Inspector de navegación aérea	511 6157880	gguzman@mtc.gob.pe
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VENEZUELA	INAC	Jean Carlos Lozano Garcia	Controlador tránsito aéreo ACC Maiquetía	(58 416) 7226428	jclozgar@hotmail.com

STATE/ ESTADO	ADMINISTRATION/ ADMINISTRACIÓN	NAME/ NOMBRE	POST/ CARGO	TELEPHONE/ TELEFONO	E-MAIL
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-FIN/END-

APÉNDICE A / APPENDIX A

PUNTOS FOCALES GT INTEROP / FOCAL POINTS GT INTEROP
(23/05/2019)

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Bolivia:
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- Fernando Mestanza Hernández (MET), fmestanza@corpac.gob.pe +51 961730871

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- César Vecino (MET), cvecino@dinacia.gub.uy;
- INUMET (MET)
- Mario Dávila (AIS), mdavila@dinacia.gub.uy;
- Graciela Monzillo (AIS), gmonzillo@dinacia.gub.uy.

Venezuela:

- - - - - - -

APPENDIX D / APENDICE D

ADS-B
NATIONAL FOCAL POINTS / PUNTOS FOCALES NACIONALES

STATE/ ESTADO	ADMINISTRATION/ ADMINISTRACIÓN	NAME/ NOMBRE	POST/ CARGO	TELEPHONE/ TELEFONO	E-MAIL
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ECUADOR					
GUYANA					
GUYANA FR./ FRENCH GUIANA					
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STATE/ ESTADO	ADMINISTRATION/ ADMINISTRACIÓN	NAME/ NOMBRE	POST/ CARGO	TELEPHONE/ TELEFONO	E-MAIL
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	DGAC	Sady Orlando Beaumont Valdez	Inspector de Navegación Aérea	(51 1) 615-7880 Cel +51 987594185	sbeaumont@mtc.gob.pe
		Giuliano Guzmán Vera	Inspector de Navegación Aérea	(51 1) 615-7880 Cel +51 941376862	gguzman@mtc.gob.pe
SURINAM/ SURINAME					
URUGUAY	DINACIA	Taberé Sardeña		+598 2604 0408 Int. 4532	tsardena@dinacia.gub.uy
VENEZUELA	INAC	Francisco Javier Ascanio Cedeño	Jefe de Garantía de Calidad del ACC Maiquetía		francisco.ascanio@inac.gob.ve

- FIN /END -

Agenda Item 6: Other business

6.1 Under this agenda item, the following papers were analysed:

a) WP/24 - Problems observed in the 5LNC module of the ICARD database. (presented by the Secretariat);
b) WP/28 - *Circular 353 an/209 implementation plan - Brazil* (presented by Brazil;
c) WP/29 - *Continuation of technical cooperation between countries of the SAM Region* (presented by Brazil);
d) WP/30 - *Revision of the ATS contingency plan of the SAM Region* (presented by Brazil);
e) WP/32 - *Summary of meeting report of the GREPECAS scrutiny working group – GTE/18 and update on the regional activities for the reduction of LHD's in SAM States* (presented by the Secretariat);
f) WP/33 - *SIGMET for accidental release of radioactive material* (presented by the Secretariat);
g) WP/35 - *Regional horizontal cooperation for ATM implementation* (presented by the Secretariat);
h) IP/20 - *Plan de contingencia por ceniza volcánica de los servicios de navegación aérea del Estado Plurinacional de Bolivia (VACP/BOL)* (presented by Bolivia) **Spanish only;**
i) IP/21 - *Implantación del Plan de Acción de reducción del CO2 y del esquema de reducción y compensación de CO2 proveniente de la aviación internacional* (presented by Uruguay) – **Spanish only;**
j) IP/22 – *American Cup 2019* (presented by Brazil).

Database 5LNC

6.2 With reference to the management of the ICARD database and module of 5LNC points, it was summarized the efforts made for the elimination of duplicity of designators (in some cases tripled and quadrupled codes) in many ICAO Regions. A list of duplicated designator in each State was given to participants in XLS format. The XLS sheet allows to filter the States which have priority to keep the point according to the criteria set by ICAO since 2017.

6.3 The meeting was informed on the importance of release points in disuse, progressively replace duplicated points 5LNC that do not have priority, and ensure that all points of its airspace that are in the AIP are also registered in ICARD. Besides, the Secretariat will deploy actions to resolve duplicated points in CAR and SAM regions, that have generated errors or refused Flight Plans and AIDC messages.

Horizontal cooperation

6.4 The Meeting took note on the bilateral cooperation activities carried out by Brazil to develop ATM and CNS implementation matters with Argentina, Bolivia, Paraguay, Uruguay and Venezuela. The WP/29 presents details of this activities covering technical CNS training, operational ATS and flight inspection program for radio-aids in Paraguay.

6.5 It was emphasized that paragraph 2.1.4 of the above mentioned working paper should not be considered in the analysis.

6.6 It was also highlighted the interest of the State to promote the cooperation through mechanisms of the SAM Office. On this respect, the Secretariat informed that since the 80's, South American States have shown a great spirit of mutual cooperation, which has been the driver of regional projects that permit more efficient support. In this case, RLA/06/901 is the tool that permits the implementation of the ATM operational concept.

6.7 In this sense, all initiatives regarding assistance or collaboration among States under the aforementioned regional project on specific topics related to ATM improvement fall under a Regional horizontal cooperation model.

6.8 Within this context and under the principles of transparency and neutrality, and provided the goal is the implementation of regional air navigation priorities, it is considered advantageous to promote Regional horizontal cooperation initiatives among member States through the use of "Job Card" that would facilitate the description of the requirements and needs of the requesting States, as well as the identification of capabilities in those States interested in cooperating.

6.9 States agreed on the use of Job Card to present the cooperation needs and the Secretariat will coordinate with RLA/06/901 the first request and to submit them to the potential cooperators. A Job Card model is shown in the **Appendix** to this part of the report.

Revision of the ATS contingency plan of the SAM Region

6.10 In Brazil, the contingency plan is reviewed based on an interaction between the ACC and the Air Navigation Management Center (CGNA), which has the competence to activate the contingency plan in case of partial or total interruption of said services in the Brazilian FIR. However, a complete revision of the current plan is necessary, including letters of agreement with foreign FIR adjacent to Brazilian airspace, including ATS coordination and the ATFM service performance. The Meeting considered advantageous that since the updating activities the FIR Amazonica and FIR Curitiba agreed with its adjacent FIRs, it can be obtained updated plans of the 27 FIR in the SAM space.

6.11 *This* initiative should promote the regional application of contingency plans for volcanic ashes and also, to include ATS/MET proceedings (within ATS material) in case of accidental release of radioactive material, as analyzed in paragraph 6.11 following.

6.12 Consequently, the Meeting agreed to request project RLA/06/901 to explore the feasibility of providing support for carrying out two activities for the year 2020;

a) 1st Workshop/Meeting for the SAM/ATS/ATFM contingency plan updating (05 days) in tentative dates in April; y
b) 2nd Workshop/Meeting for the SAM/ATS/ATFM contingency plan updating (05 days) in tentative dates in July.

During the SAM/IG/26 foreseen for November 2020, the signature or agreements among administration would be completed as well as the updating process.

ATS/MET agreements in case of accidental release of radioactive material

6.13 ICAO Doc 9691 *Manual on volcanic ash, radioactive material and toxic chemical clouds*, recommends that States should have national emergency procedures to respond to nuclear accidents occurring in the State or to clouds of radioactive material crossing their boarders. Chapter 9 of said manual presents national and international recommended proceedings.

6.14 Amendment 72 to Annex 3 includes a requirement that allows SIGMET and AIRMET messages contain a cylindrical description of air space affected by the release of radioactive material in the atmosphere. The disposition is intended to support the meteorological watch offices in the provision of SIGMET messages for radiative clouds, taking into account the recommendations of the International Atomic Energy Agency (IAEA).

6.15 In light of the above, the Meeting formulated the following conclusion:

<table>
<tr><td colspan="2">CONCLUSION
SAM/IG/23-04 Procedure to be applied in case of radioactive clouds or accidental release of radioactive material</td></tr>
<tr><td>That:

That the civil aviation authority and/or ATS authorities, in coordination with meteorological authorities and/or meteorological watch offices, implement procedures related to the production of SIGMETs in order to:

a) Ensure that their ATS/MET cooperation agreements include the exchange of information on radioactive material in messages exchanged between ATS and MET units;

b) Foresee training for ATS staff on procedures related to receiving information from the London VAAC concerning radioactive material;

c) Coordinate the inclusion of the accidental release of radioactive material or the presence of radioactive clouds in their contingency plans.</td><td>Expected impact:

☒ Politician / Global

☒ Inter-regional

☒ Economic

☒ Environmental

☒ Technical/Operational</td></tr>
<tr><td colspan="2">Why: to comply with recommendation of Doc 9691 and SARPS of ICAO Annex 3.</td></tr>
<tr><td>When: Immediately</td><td>Status: Adopted by SAM/IG/23</td></tr>
<tr><td colspan="2">Who: ☐ Coordinators ☒ States ☐ ICAO Secretariat ☐ ICAO HQ ☐ Others: Users/Industry</td></tr>
</table>

Initiatives to reduce LHD

6.16 The GREPECAS Scrutiny Working Group (GTE) has evolved into a group that generates safety data to reduce the events that may have an impact on safety in the RVSM airspace. Detailed information of GTE/18 Meeting and results for the FIR of the SAM Region FIR, can be found in WP/32.

6.17 a summary was presented with the activities carried out in the SAM region during the first quarter of 2019 supported by GTE data. Likewise, current initiatives between Argentina and Chile were analyzed as well as between Chile and Peru to mitigate and eliminate LHD, such as E Code (error in ATS coordination) in FIR boundary points *hotspot.*

6.18 States and ANSP suppliers were urged to join the SAM Office initiative to improve the level of safety through the reduction of the LHDs, which also will be fueled with the prompt implementation of the AIDC between all ACC in the Region.

Information

6.19 Relevant information was presented through information papers: IP/20 regarding the contingency plan for volcanic ashes in the air navigation services of Bolivia; NI/21 (Spanish only) referred to the implementation of an action plan for the CO2 reduction and CO2 reduction and compensation scheme from international aviation (Uruguay) and NI/22 dedicated to on the command and control structure planned for the American Cup 2019 (Brazil).

Activities for the subscription of letters of agreement

6.20 Peru and Ecuador singed a revised LOA ATS ACC Guayaquil – ACC Lima and also exchanged proposals for a MOU regarding sharing radar data. Colombia and Peru worked in the updating of LOA ATS ACC Lima – ACC Bogota, pending details of certain agreements to be completed before signature, foreseen by the ATS/RO/10 Meeting in Bogota, Colombia the week of June 2019.

APPENDIX

HORIZONTAL COOPERATION BETWEEN SAM STATES MEMBERS OF RLA/06/901

<table>
<tr><td>JOB CARD
Titulo/Title</td><td colspan="5">ASSISTANCE FOR TRAINING ON CAPACITY CALCULATION FOR RUNWAY AND ATS SECTOR</td></tr>
<tr><td>Estado peticionario/
Petitioner state</td><td colspan="5">NEVERLAND / ANSP NENASA</td></tr>
<tr><td>Ejecutor/Executor</td><td colspan="5">RLA/06/901 Regional technical cooperation project</td></tr>
<tr><td rowspan="2">Definición del problema/

Problem Statement</td><td>Elemento ATM /ATM Element Servicio/Service</td><td>ATFM SERVICE</td><td rowspan="2">Priority /Prioridad</td><td>Alta/High
Media/Medium
Baja/Low</td><td>X</td></tr>
<tr><td colspan="4">The ANSP of Neverlandia requires ATFM specialists trained in track and ATS unit capacity calculations.
Imbalances of capacity in some periods and delays in take-offs of the three international airports have been observed.
The availability of capacity calculations is essential to plan the ATFM service and support the development of the ACDM.</td></tr>
<tr><td>Detalles Específicos/
Specific Details</td><td colspan="5">Four experts the ANSP of Neverlandia ATFM were trained in the year 2013 through the RLA/06/901 in capacity calculations of track and ATS in the CIAC's Ozlandia sectors.
In 2014, measurements were made in 3 international airports of Neverlandia tracks, however, never completed the calculation of capacity of sector ATS.
The number of take-offs in the State has grown at annual average of 7% since 2014. Fairfield held on average 31 per hour, but in high season operations has been observed average schedule up to 41 operations.
Imbalances of capacity in some periods of the day, and delays in takeoffs from three international airports can be seen. Also, the ACC staff reports that work loads are unacceptable, and is affecting the operational safety.
There is no certainty of the magnitude of the imbalance. ATFM measures, inter alia ground delay initiatives, they are not accepted by the airlines because they considered them inefficient between years 2015 and 2016 withdrew three of the specialists of the ATFM CAA.
To date the ANSP has only a specialist for capacity calculation tasks, but this is retiring in 2020.
It requires training for five new specialists ATFM implementation of these capacity calculations. The course must be taught in Spanish language, and should cover actual practices at an international airport and a reporting to ACC.
Modality training in-house or travel to the site of the training, are options.</td></tr>
<tr><td>Vinculación con módulo GANP/
GANP module Link</td><td colspan="5">ASBU NOPS (Network Operations) B0/1 y B0/5</td></tr>
</table>

<table>
<tr><td>Beneficios esperados /

Expected Benefits</td><td colspan="2">Safety
Proper manage of workload in ATC. ATS incidents reduction
Accessibility
Improved access to the airports, and improved fluency in departures - arrivals.
Efficiency
Holdings and delays in airports and airspace are reduced.
Economics
Optimization of the airports operation results in cost savings for airlines. Air transport will find capacity to plan growth, in favor of the air connectivity of the State
Environmental Benefits
Reduces CO2 emissions, generated by delays in ground taxing and in the air.</td></tr>
<tr><td>Metricas propuestas/
Proposed Metric</td><td colspan="2">• Percentage of improvement in Fairfield runway capacity
• Percentage of improvement in ground taxiway delays.
• Percentage of improvement in ground delay times.</td></tr>
<tr><td>Interdependencias/
Interdependencies</td><td colspan="2">• To Benefit the ACDM activities at the Fairfield airport.</td></tr>
<tr><td>Documentos de referencia/
Reference Documents</td><td colspan="2">o PANS ATM
o PANS Aerodrome
o Annex 14
o Annex 11
o Doc. 9750
o Doc. 9971 –ATFM MANUAL</td></tr>
<tr><td rowspan="2">Estimado de impacto inicial/
Nota; Solo Estimado inicial de impactos en recursos (financieros, personal, etc,)
Initial Impact Assessment

Note: only an initial impact assessment on resources (financial, personnel, etc).</td><td>Impacto en el Estado peticionario/ Impact on State</td><td>• Need to hire new staff.
• Need to perform or share expenses for the development of the requested course.
• Need to prepare or revise manuals ATFM, and capacity calculations.
• Staff retention policies</td></tr>
<tr><td>Impacto en la industria/
Impact to Industry</td><td>• Changes in the operational procedures of the ANSP, and associated costs.
• Changes in the operational procedures of the operator of Fairfield and associated costs.
• Changes in airline procedures to adapt to more efficient ATFM measures and associated costs.
• Operational benefits for the ANSP and the operator of the airport Fairfield.</td></tr>
</table>

Equipo de Proyecto/ Project Team	**Jefe de Proyecto/ Project Leader**	Director Air navigation Neverland
	Contraparte/ Counterpart	TBD
	Miembros de equipo de Proyecto/ Project Team Members	• Head of the ACC of Neverland. • Chief supervisor of the ATFM • Operation Chief of Fairfield • Planner ATM/ATFM • Support specialist •
	Punto Focal/ SAM Regional Office Focal Point	ATM RO SAM

>>>>>>>>

Preparado por / Prepared by:	**Aprobado por / Approved by**	**Entrega initial / Initial Issue Date**	**Date**	**Notas/Notes**

PLANEAMIENTO / PLANNING

Objetivo N° 1 / Objetive N° 1	

Resultados /Results	***Activities /Actividades***	***Responsables /Accountables***	***Estado / Status***	***Fechas Estimadas / Expected dates***		
				Delivery	***Validation***	***Application***

Objetivo N° 1 / Objetive N° 1						
Resultados /Results	***Activities /Actividades***	***Responsables /Accountables***	***Estado / Status***	***Fechas Estimadas / Expected dates***		
				Delivery	***Validation***	***Application***

-END-