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SAM/AIM/11

INTERNATIONAL CIVIL AVIATION ORGANIZATION
SOUTH AMERICAN REGIONAL OFFICE

ELEVENTH MULTILATERAL MEETING OF THE SAM REGION FOR THE TRANSITION OF AIS TO AIM (SAM/AIM/11)

FINAL REPORT

Lima, Peru, 23 to 27 April 2018

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HISTORY OF THE MEETING

ii-1 PLACE AND DURATION OF THE MEETING

The Eleventh Multilateral Meeting of the SAM Region for the transition of AIS to AIM (SAM/AIM/11) was held at the ICAO South American Regional Office, Lima, Peru, from 23 to 27 April 2018.

ii-2 OPENING CEREMONY AND OTHER MATTERS

Mr. Oscar Quesada-Carboni, Regional Deputy Director of the ICAO South American Office, welcomed the participants and stressed the importance of the objectives of the Meeting regarding the follow-up to Phase 1 implementation. He stressed that the change to ISO 9001 presents a new scenario for the completion of this phase of the Roadmap, but that there had been significant progress in its implementation, and that tasks in Phase 2 could be carried out in parallel, since the technology was already available. Additionally, Mr. Quesada highlighted the restructuring of the AIS/AIM documentation as a result of Amendment 40 to Annex 15, the creation of the PANS-AIM, and the reformulation of ICAO Doc 8126. He stressed that these changes established a regulatory framework for the provision of aeronautical information in an electronic environment and that the Region should adapt its regulations and service provision to these new standard procedures.

Likewise, Mr. Quesada noted that this Meeting would analyse items related to e-TOD, AIXM, and eAIP. In this regard, he welcomed the presence of the representatives of the industry and invited the States to exchange ideas and options regarding the solutions that the industry offered for these issues. He also felt that the preparatory work to introduce States to the implementation of expanded management of information systems, known as *SWIM,* was important.

Presentations were made on different topics, such as: *e-TOD* (NG-Aviation: *webmeeting); the importance of Data Quality* (JEPPESEN); *issues observed due to lack of updating and good practices in the publication of data* (IATA); as well as *Summary guide to the EUROCONTROL Manual related to the eAIP* (Peru).

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

The Meeting agreed to hold its sessions from 08:30 to 15:30 hours, with appropriate breaks. The Meeting agreed to work in plenary and in working groups.

Mrs. Graciela Monzillo, AIS Chief of the *Dirección Nacional de Aeronáutica Civil e Infraestructura Aeronautica* (DINACIA) of Uruguay, was unanimously elected as Chairperson of the Meeting.

Mr Jorge Armoa Cañete, AIM/MET Regional Officer from the South American Regional Office, acted as Secretary.

ii-4 **WORKING LANGUAGES**

The working language of the Meeting was Spanish, with simultaneous interpretation into English. The documentation was presented in both languages.

ii-5 **AGENDA**

The following agenda was adopted:

Agenda Item 1: Implementation of provision of Electronic Terrain and Obstacle Data (e-TOD).

Agenda Item 2: Implementation of Aeronautical Information and Aeronautical Data Exchange Systems

Agenda Item 3: Implementation of the Quality Management System in AIM units.

Agenda Item 4: NOTAM Contingency Plans, AIM deficiencies and the ICARD system.

Agenda Item 5: Analysis of objectives, metrics and dates for the implementation of elements regarding the second phase of the plan for the transition of AIS to digital AIM.

Agenda Item 6: Approval of the Amendment to Annex 15 - Aeronautical Information Services and PANS-AIM.

Agenda Item7: Planning for SWIM Implementation

Agenda Item 8: Other business

ii-6 **ATTENDANCE**

The Meeting was attended by 28 participants from 9 SAM States (Argentina, Brazil, Chile, Guyana, Panama, Paraguay, Peru, Uruguay and Venezuela) and 3 international organisations (IATA, IFAIMA and JEPPESEN).

The list of participants is presented in page iii-1.

ii.7 LIST OF CONCLUSIONS

No.	Title	Page
SAM/AIM/11-1	Establishment of multinational teams to study the feasibility of e-TOD implementation	1-4

LIST OF PARTICIPANTS

ARGENTINA
1. María Jazmín Montero
2. María Amelia Schulz

BRAZIL
3. Cristiane de Barros Pereira
4. Rinaldo Ferreira Marinho
5. Leonardo Coelho de Almeida

CHILE
6. Sergio M. García Jorquera
7. Pablo A. Pérez
8. Fernando A. Sobarzo

GUYANA
9. Roy Sookhoo

PANAMA
10. Dalys Rodríguez

PARAGUAY
11. Antonio Insfrán
12. Lidia Cáceres

PERU
13. Karina Calderón Yactayo
14. Juan Vargas Gavancho

PERU (Cont.)
15. Walter Peceros López
16. Mirtha Angeles
17. Evelyn Canches
18. Eloy Tafur
19. Juan Pablo Portilla
20. Libio Benites Condori

URUGUAY
21. Graciela Monzillo
22. Mario Dávila

VENEZUELA
23. Juan Carlos Piñango Ovalles
24. Marisol Gudiño
25. Zumila Colmenares

IATA
26. Marco Vidal

IFAIMA
27. Luis F. Cruz Alburqueque

JEPPESEN
28. Scott Blum

ICAO
29. Jorge Armoa

Agenda Item 1: Implementation of provision of electronic terrain and obstacle data (e-TOD)

1.1 Under this agenda item, the Meeting reviewed the following papers:

- WP/02 - *GREPECAS Project G1* (presented by the Secretariat)
- WP/03 - *Challenges in e-TOD implementation and action plan* (presented by the Secretariat)

GREPECAS Project G1 - Implementation of provision of electronic terrain and obstacle data (e-TOD)

1.2 The Meeting reviewed the status of implementation of e-TOD.

1.3 In this regard, the delegates provided information on the status of implementation, as follows:

AREA 1 - Terrain

1.4 Information was compiled in relation to compliance with terrain surveying requirements in Area 1, with the following results:

a) Regarding implementation, **Argentina, Brazil, Chile, Colombia, French Guiana, Panama, Paraguay, Peru, Uruguay** and **Venezuela** had a terrain and/or elevation or surface digital model for the development of Area 1. At the SAM/AIM/9, **Panama** had informed that surveying was being conducted at national level, reaching at that time 90%. It was expected to be completed in December 2016, but had not reported its completion. At present, 79% of States in the Region had digital models. **21% was pending completion before November 2018. The progress made since March 2017 was 15%.**

b) Regarding compliance with terrain requirements for Area 1, according to Annex 15 Table 8-1, **Argentina, Brazil, Chile, French Guiana, Paraguay** and **Venezuela** were in compliance. The current implementation percentage was 57%. **43% was pending. No progress made since August 2016.**

c) Regarding compliance with the ISO 19110 digital model methodology, **Argentina, Brazil, Chile, Colombia, French Guiana, Panama** and **Venezuela** reported compliance, reaching 56% of States in the SAM Region. **44% was pending. No progress made since August 2016.**

AREA 1 - Obstacles

1.5 Information was compiled on compliance with obstacle surveying requirements for Area 1, with the following results:

a) Regarding the availability of an obstacle database covering Area 1, **Argentina, Brazil, Colombia, French Guiana** and **Venezuela** meet the requirement, thus reaching 42% compliance in the Region. **Chile** complied only partially, so it was considered as not completed. **58% pending to be completed by November 2018. No progress was registered since November 2017.**

b) **Argentina, Brazil, Chile, Panama, Uruguay** and **Venezuela** reported compliance with the obstacle requirements of Table 8-1 for Area 1. The implementation level in the Region went up to 42%. **58% pending to be completed by November 2018. No progress made since November 2017.**

AREA 2 - Terrain

1.6 Regarding action plans for obtaining electronic terrain data in Area 2a, **Argentina, Bolivia, Brazil, Chile, Ecuador, Panama, Paraguay** and **Uruguay** accounted for **56%** compliance. **44% still pending, which should have been completed in 2015. No progress made since August 2016.**

1.7 When analyzing compliance with the provision of terrain data for the take-off path, States that reported the development of an action plan were **Argentina, Brazil, Chile, Ecuador, Panama, Paraguay** and **Uruguay**. The Region increased compliance to 57%. **43% was still pending, which should have been completed in 2015**. **No progress made since November 2017.**

1.8 Regarding the provision of electronic terrain data corresponding to the area defined by the lateral extension of the aerodrome obstacle limitation surfaces, **Argentina, Brazil**, **Chile**, **Ecuador**, **Panama** and **Paraguay** accounted for **50% implementation. 50% pending, which should have been completed in 2015. Progress made in this area since August 2015 was 15%.**

AREA 2 - Obstacles

1.9 **Argentina, Bolivia, Brazil, Chile, Ecuador, Panamá, Paraguay** and **Uruguay** developed action plans for the compilation of Area 2a data, concerning obstacles that penetrate the obstacle limitation surface, in accordance with Appendix 8 to Annex 15, reaching 57% compliance. **43% pending, which should have been completed in 2015. No progress made in this area since August 2016.**

1.10 Likewise, **Argentina, Bolivia, Brazil, Chile, Ecuador, Panama** and **Paraguay** reported progress in their action plans for the provision of electronic data on objects that penetrate from the flat slope of 1.2% with respect to the take-off path, thus increasing implementation in the Region from 42% to 57%. **43% pending which should have been completed during 2017. No progress had been made since August 2016.**

1.11 Regarding the provision of electronic data on the penetration of aerodrome obstacle limitation surfaces, **Argentina, Bolivia, Brazil, Chile, Ecuador, Panama** and **Paraguay** had developed action plans to meet the requirement. Compliance reached 64%. **36% pending which should have been completed in 2017. No progress made since March 2015.**

1.12 Likewise, in the Region, **Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, French Guiana, Panama, Paraguay, Peru, Suriname, Uruguay** and **Venezuela** had produced a Manual on technical specifications for e-TOD implementation. **16% pending for completion in 2018. No progress reported since August 2015.**

1.13 With regard to obstacle surveying for Area 2, **Argentina** informed that obstacle surveying had been completed at four airports, **Chile** at three airports, **Panama** was in a bidding process for two airports, **Peru** had awarded the job for the Cuzco airport, while **Uruguay** expected to complete the surveying by mid-2018 and would submit the plan to collect obstacle data. Venezuela reported that it had conducted obstacle surveys for international airports, which were being fed into the database. However, the data needed updating, since it dated back many years.

1.14 Guyana informed that it would take some time for the Project to be implemented. Regarding Area 2, the main runway was currently being extended and, if obstacle surveying started now, the workload would double. Runway completion had been postponed until 2019, after which the obstacle survey plan for Area 2 would be developed.

e-TOD training in the SAM Region

1.15 The SAM/AIM Meeting took note that regarding e-TOD training in the Region, there had been no change. **Argentina, Brazil, Chile, Colombia, Ecuador, French Guiana, Panama, Uruguay** and **Venezuela**, accounting for **71% of States**, continued with e-TOD training plans**. 29% was pending completion in 2018. No progress reported in this area since August 2016.**

1.16 Regarding the inclusion of operational concepts in training, **implementation reached 72% in the Region**. **28% was pending to be completed in 2018. No progress made since August 2015.**

1.17 Regarding equipment and programmes required for e-TOD information management, the Region had reached 56% compliance, with **44% pending completion in 2018**. **No progress reported since August 2016.**

Service Level Agreement (SLA) and Geographic Information Systems (GIS)

1.18 Regarding Service Level Agreements (SLAs) between AIM units and data providers, **Argentina** had implemented them. **Chile** had reported that they had been included in the quality management process and in its internal regulations. **Paraguay** had issued a circular with the requirements to be met by data and information providers when providing data to AIS/AIM, as a replacement to SLA requirements. **Guyana** had prepared a draft SLA and was working with 15 providers for its implementation. **Venezuela** was preparing a draft of the aforementioned document, but was planning to use a circular, because of its general nature. Regarding **Panama**, the State had implemented a SLA with an information provider.

1.19 **SLA implementation was deemed at 56%. No progress made since November 2017**, as shown in following table:

2017 State	% of States with automated systems or GIS = 56%	% of States that have established SLA agreements = 57%
ARG	YES	YES
BOL		NO
BRA	YES	YES (Standard)
CHI	YES	YES (within the integrated quality system)
COL	YES	YES (included in the quality management process)
ECU		---
FGY	YES	---
GUY		NO (in process)
PAN	YES	YES
PAR		YES (issued a circular)
PER	YES	YES

2017 State	% of States with automated systems or GIS = 56%	% of States that have established SLA agreements = 57%
SUR		NO
URU	YES	YES
VEN		NO (In process. Draft letters have been prepared for data providers.)

1.20 **Appendix A** describes GREPECAS Project G1 - *Implementation of the provision of electronic terrain and obstacle data (e-TOD).*

Challenges in e-TOD implementation

1.21 The Meeting analysed the recommendations emanating from the *ad hoc* group established by GREPECAS/18 to review e-TOD implementation in the CAR/SAM Regions.

1.22 Upon analysing the challenges, the meeting recognised the need to have recommendations concerning a cost-benefit analysis for e-TOD implementation. Accordingly, it established a group consisting of the delegates of Argentina, Brazil, Peru, and IATA, in order to prepare a guidance document for the conduction of a cost/benefit analysis of e-TOD implementation. The group concluded that the studies on cost/benefit should be based on Doc. 9082 - *ICAO's policies on Changes for Airports and Air Navigation Services* and Doc. 9882 - *Manual on Air Traffic Management System requirements*. The group coincided in indicating that the benefits should be quantified, considering the provision of data of quality, accuracy, integrity and timeliness and its impact in safety.

1.23 Upon analysing the other items recommended by GREPECAS/18, the Meeting urged States to establish multi-institutional teams to study the feasibility of e-TOD implementation. Accordingly, it deemed advisable to formulate the following conclusion:

Conclusion SAM/AIM/11-1 - Establishment of multinational teams to study the feasibility of e-TOD implementation

That, in order to socialise with all the institutions of the States involved in the management of obstacle, chart, geodesy, and other terrain- and obstacle-related databases, aeronautical information providers:

a) get in contact with all national entities and service providers involved, in order to establish a national team to study the feasibility of implementing e-TOD;

b) get in contact with universities and other teaching institutions for the development of terrain and obstacle data collection projects;

c) conduct technical studies to assess the need for e-TOD data for its precision procedures;

d) consult with procedure designers, cartographers, and other specialists involved in terrain and obstacle data in order to determine and define the regulatory framework for the provision of e-TOD data; and

e) request the support of other States with experience in terrain and obstacle data surveying.

1.24 Likewise, Brazil recalled that a geo-portal had been presented at the SAM/AIM/9 meeting, in which e-TOD data was made available to users. The geo-portal link is: http://www.aisweb.aer.mil.br/geoaisweb.

APPENDIX A

SAM Region	**PROJECT DESCRIPTION (DP)**	DP N° G1	
Programme	**Title of the Project**	**Start**	**End**
AIM (ICAO Programme Coordinator: Jorge Armoa)	Implementation of the provision of electronic terrain and obstacle data (e-TOD) (SAM) Project coordinator: Juan González (Uruguay) Experts contributing to the project: SAM/AIM IG	26/09/11	31/12/19
Objective	Support the implementation of the provision of e-TOD by SAM States, and provide guidance to States on GIS acquisition and management.		
Scope	The scope of the project contemplates the assessment and identification of implementation levels associated to the provision of electronic terrain and obstacle data. It contemplates the drafting of an Action plan and guides for the implementation of e-TOD to support developments in the provision of electronic terrain and obstacle data for the evolution of digital terrain models (DTM) to gradually improve electronic aeronautical charts and other similar products, with the support of tools such as the geographical information systems (GIS).		
Metrics	• Number of States that have implemented GIS or automated systems. • Guide-document with action plan approved. • Number of States that establish SLAs. • Main Airports with Area 2 (e-TOD) Surveyed		
Strategy	The conduction of project activities will be coordinated among project members, the project coordinator, and the programme coordinator, mainly through teleconferences (*GoToMeeting* application) and meetings that may be held within other scheduled events, based on the activities of the work programme. The project coordinator will coordinate with the programme coordinator for the inclusion of additional experts, if warranted by the tasks and works to be executed. The results of the work done will be submitted to the consideration and review of State experts in the form of a final consolidated document for analysis, review, and approval, and for presentation to the GREPECAS PPRC by the programme coordinator.		

Goals	Draft the Guide-document containing the objectives of the e-TOD project. 2012. Define the technical and e-TOD project specifications. 2012. Prepare the document containing the e-TOD technical specifications. 2012. Guide on the acquisition of a geographical information system (GIS). 2012. GIS implementation Manual. 2012. Available Methodology and tools for surveying Area 2. 2013 Main International Airports with Area 2 surveyed. 2017
Rationale	Compliance with the SARPs of Annexes 15 and 4 to facilitate the execution of performance-based air operations and to advance with the AIS-AIM Transition Roadmap. A close relationship with other projects is needed in order to obtain the operational requirements of the aforementioned applications and their respective tentative dates of implementation.
Related projects	This project is related to Project G3 *"Implementation of the Quality Management System in the AIM units"* in the CAR/SAM States.

Project deliverables	Relationship with the performance-based regional plan (PFF)	Responsible party	Status of implementation*	Delivery date	Comments
Survey on the status of e-TOD implementation.	PFF: SAM AIM/02	Juan González Uruguay		30/11/2011	Finalised on schedule.
Generate follow-up report.	PFF: SAM AIM/02	Juan González Uruguay		30/04/2012	Finalised on schedule.
Develop Guide-Document with the objectives of the e-TOD project.	PFF: SAM AIM/02	Juan González Uruguay		30/09/2012	Finalised on schedule. Delivered 30/09/2012
Define the technical specification of the e-TOD project.	PFF: SAM AIM/02	Juan González Uruguay		30/09/2012	Finalised on schedule. Delivered 30/09/2012
Develop the document with the e-TOD technical specifications.	PFF: SAM AIM/02	Juan González Uruguay		30/09/2012	Finalised on schedule. Delivered 30/09/2012

Guide for the acquisition of a geographical information system (GIS).	PFF: SAM AIM/01	Juan González Uruguay		09/03/2012	Finalised on schedule.
GIS implementation manual.	PFF: SAM AIM/01	Juan González Uruguay		09/03/2012	Finalised on schedule.
Present to States the different options available for surveying Area 2	ASBU:BO30 DATM	ICAO Coordinator		26/07/2013	Finalised on schedule.
Guide to develop a Digital Terrain Model (DTM) or a Digital Elevation Model (DEM)	PFF: SAM AIM/02 ASBU:BO30 DATM	*Ad-hoc* Group SAM/AIM/7 Meeting		30/03/2015	Finalised on schedule
Complete 50% States with DTM and/or DEM implementation before SAM/AIM/7 Meeting	PFF: SAM AIM/02 ASBU:BO30 DATM	States		12/11/2016	49% finalised on schedule.
Availability of programmes to manage e-TOD informaiton	PFF: SAM AIM/02 ASBU:BO30 DATM	States		12/11/2016	49% States finalised on schedule.
Action Plan for electronic **terrain** data in Area 2	PFF: SAM AIM/02 ASBU:BO30 DATM	States		12/11/2017	49% States finalised on schedule.
Action Plan for electronic **obstacle** data in Area 2	PFF: SAM AIM/02 ASBU:BO30 DATM	States		12/11/2017	42% States finalised on schedule.
Resources required	Designation of experts in the execution of some of the deliverables. More commitment by States to support the designated Coordinators and experts.				

**Grey* *Task not started*
Green *Activity underway as scheduled*
Yellow *Activity started with some delay but expected to be completed on time*
Red *It has not been possible to implement this activity as scheduled; mitigating measures are required*

Agenda Item 2: Implementation of aeronautical information and data exchange systems (AIXM)

2.1 Under this agenda item, the Meeting reviewed the following papers:

- WP/04 - *GREPECAS Project G2* (presented by the Secretariat)
- WP/05 - *EUROCONTROL Manual on the specification for the electronic aeronautical information publication (eAIP)* (presented by the Secretariat)

GREPECAS Project G2

2.2 GREPECAS Project G2 continued with its work plan in 2018. The Project coordinator, with the support of the Secretariat, had prepared guides and documents to facilitate AIXM implementation.

2.3 Regarding the exchange of messages, this could not be accomplished due to updating issues. Brazil had sent an email to the States indicating its willingness to do it whenever the others were ready. In this regard, Peru stated that, once the updating had been completed, it would be ready for testing on the first quarter of 2019. Venezuela noted that the provider, IDS, had stated that the systems would be ready in 2018.

2.4 Regarding eAIP implementation, Argentina, Chile, and Panama were developing plans to be consolidated in 2019. In Peru, the process would be completed on the first quarter of 2019. Brazil and Venezuela reported that they already had the eAIP available. Chile indicated it had available the technical basis for the preparation of the eAIP. Guyana stated that it had requested technical support, had provided 6-month training to AIS/AIM and ATM personnel on the use of the software, and had partially implemented the eAIP. The first exchange tests would probably take place in 2019. Paraguay noted that technical specifications were ready, but the call for bids was still pending. Uruguay reported that they were migrating all charts to the digital format, since the problem was that AMHS still continued as ATN, which prevents data transfer.

2.5 The Meeting recalled that the SAM/AIM/10 meeting had requested the Secretariat to make the effort of translating the EUROCONTROL document on the drafting and dissemination of the electronic AIP (eAIP).

2.6 In this regard, Project G2 coordinator informed that, with the support of the Secretariat, work was being done for the preparation and translation of the EUROCONTROL document related to the publication of the electronic AIP (eAIP). The document is contained in **Appendix A** to this part of the report (available only in Spanish). This guide was designed to provide a clear and specific understanding of the contents of the original document.

2.7 The Meeting requested the coordinator to continue this task *via* teleconference, with the support of the other experts participating in the Project. It further asked the Secretariat to request the support of the Regional Project to complete the aforementioned documentation.

APPENDIX A

Summary-guide of the EUROCONTROL Manual:

Specification for the electronic Aeronautical Information Publication (eAIP)

(Spanish only)

GUÍA RESUMEN DEL MANUAL DE EUROCONTROL ESPECIFICACIÓN PARA LA PUBLICACIÓN ELECTRÓNICA DE INFORMACIÓN AERONÁUTICA (eAIP)

CONTENIDO

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3. Estructura y diseño general de la AIP electrónica…….....4
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1. RESUMEN EJECUTIVO

Este documento es una Guía resumen del documento Eurocontrol “Especificación para la Publicación Electrónica de Información Aeronáutica – eAIP.

Esta Guía resumen está diseñada para ayudar a comprender de manera clara y especifica el contenido del documento original.

Al respecto, muestra los requisitos mínimos y necesarios para la presentación de la AIP electrónica (eAIP) cubriendo la presentación visual que incluye AIP, AMDT, SUP y AIC para una aplicación correcta y armonizada.

Fuente: Documento de Eurocontrol-Especificación para la publicación electrónica de información Aeronáutica (eAIP)

2. REQUISITOS DE VISUALIZACIÓN Y FUNCIONALIDAD DE LA AIP ELECTRÓNICA-eAIP

Los requisitos se adhieren a los requisitos del anexo OACI 15 para la estructura y el diseño de la AIP y los requisitos del ciclo AIRAC.

3. ESTRUCTURA Y DISEÑO GENERAL DE LA AIP ELECTRÓNICA

Requisitos generales asociados con la visualización del eAIP.

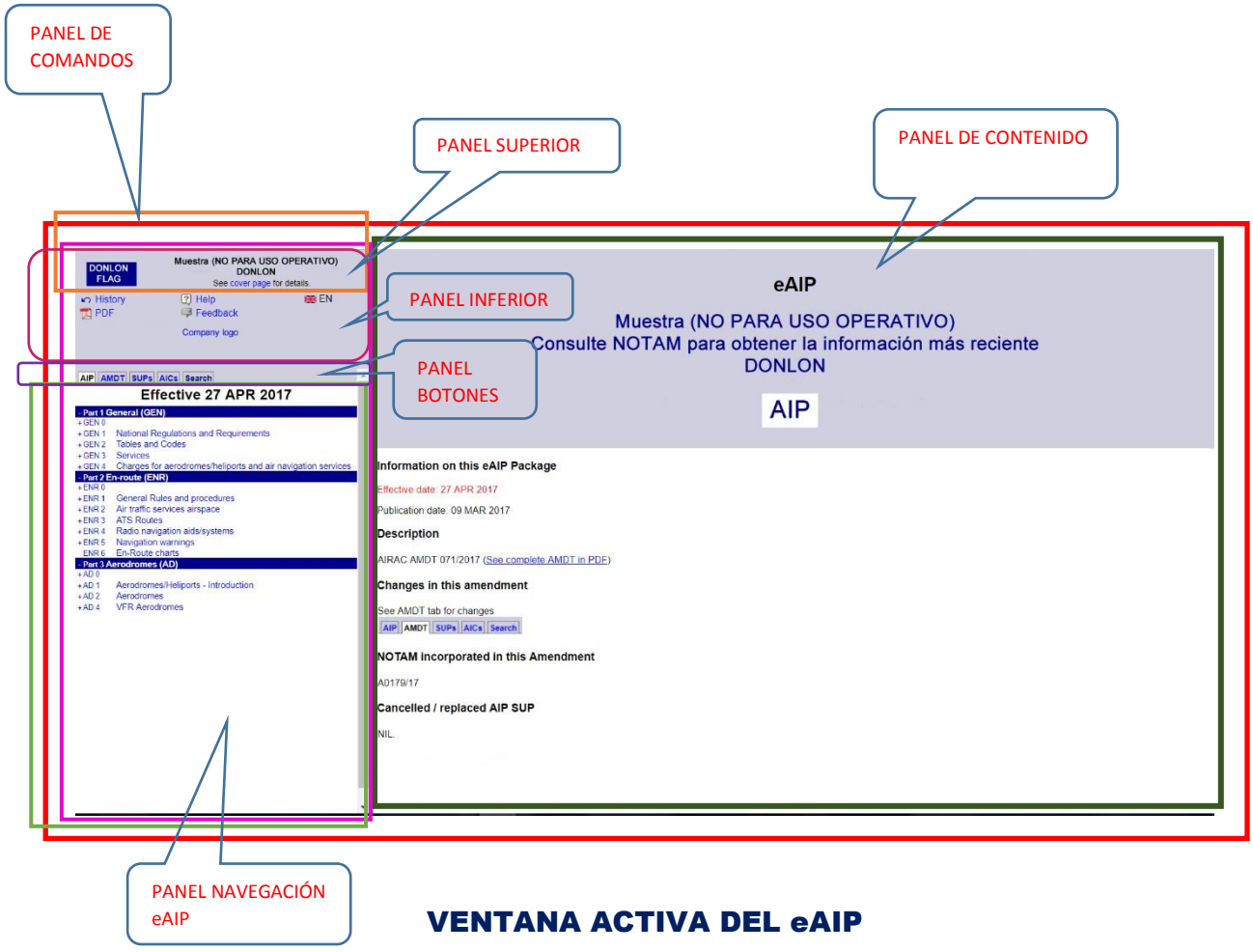

Figura 1

Fuente: Documento de Eurocontrol-Especificación para la publicación electrónica de información Aeronáutica (eAIP

4. PANEL DE COMANDOS

El panel de comandos de la ventana eAIP contendrá el menú eAIP, que comprende dos paneles, el panel superior y el panel inferior.

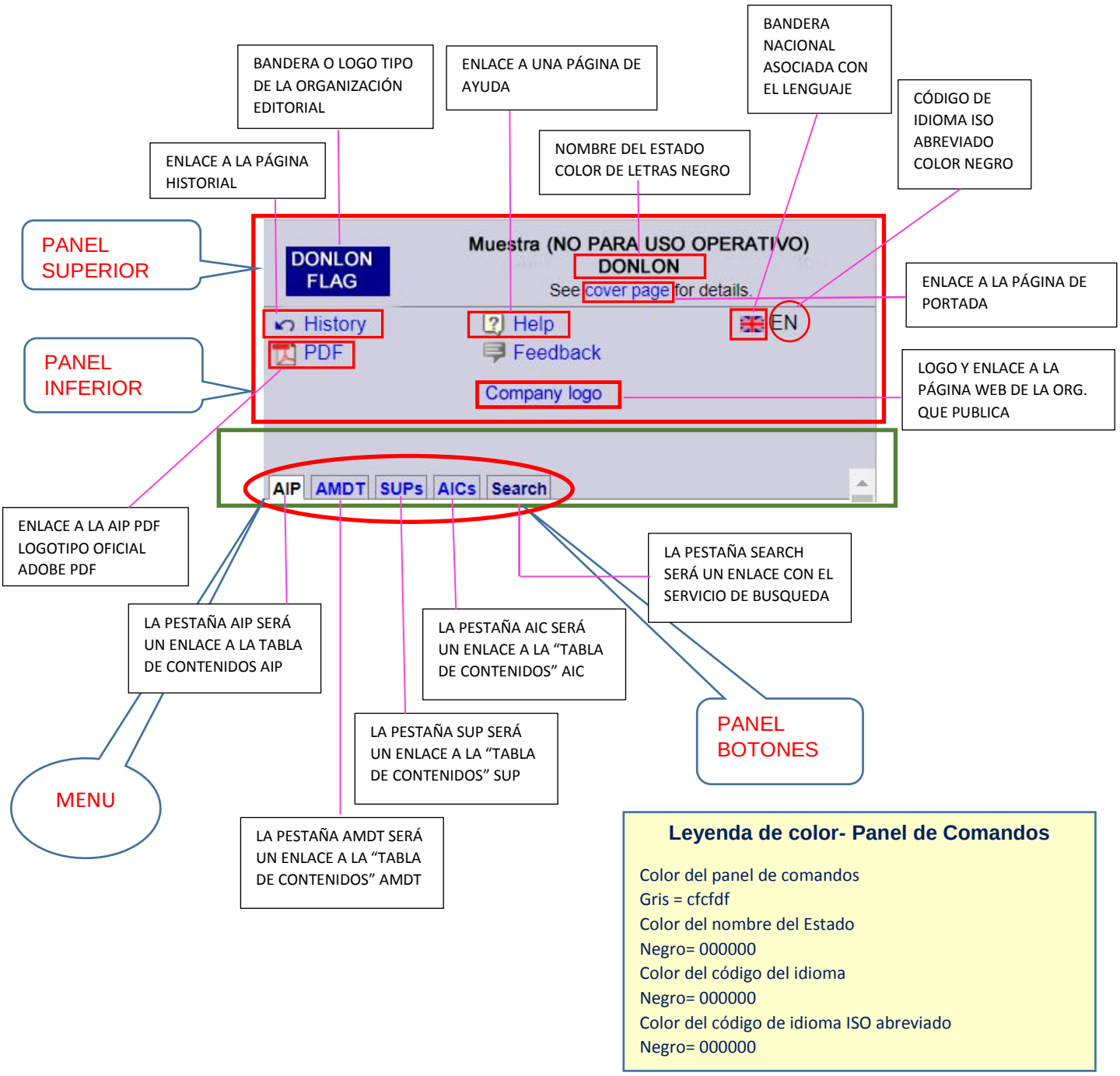

Figura 2

Fuente: Documento de Eurocontrol-Especificación para la publicación electrónica de información Aeronáutica (eAIP)

5. SERVICIO DE BÚSQUEDA

Cuando se selecciona la pestaña **SEARCH** debe aparecer una página de búsqueda en el panel de navegación, el cual tendrá un botón de inicio y un botón borrar

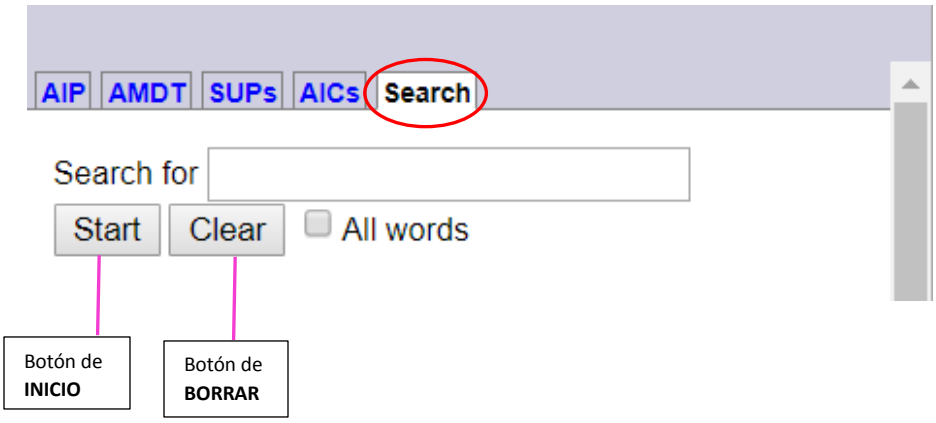

Figura 3

El usuario al hacer clic en el botón **Inicio**, el servicio de búsqueda debe devolver los resultados al panel de navegación**.**

Cada resultado de entrada en el panel de navegación debe ser un **enlace.**

Cuando un usuario hace clic en el enlace de entrada en el panel de navegación, de la subsección de la sección de eAIP debe mostrarse en el panel Contenido de la ventana eAIP.

Fuente: Documento de Eurocontrol-Especificación para la publicación electrónica de información Aeronáutica (eAIP

6. HISTORIAL DE LA PÁGINA

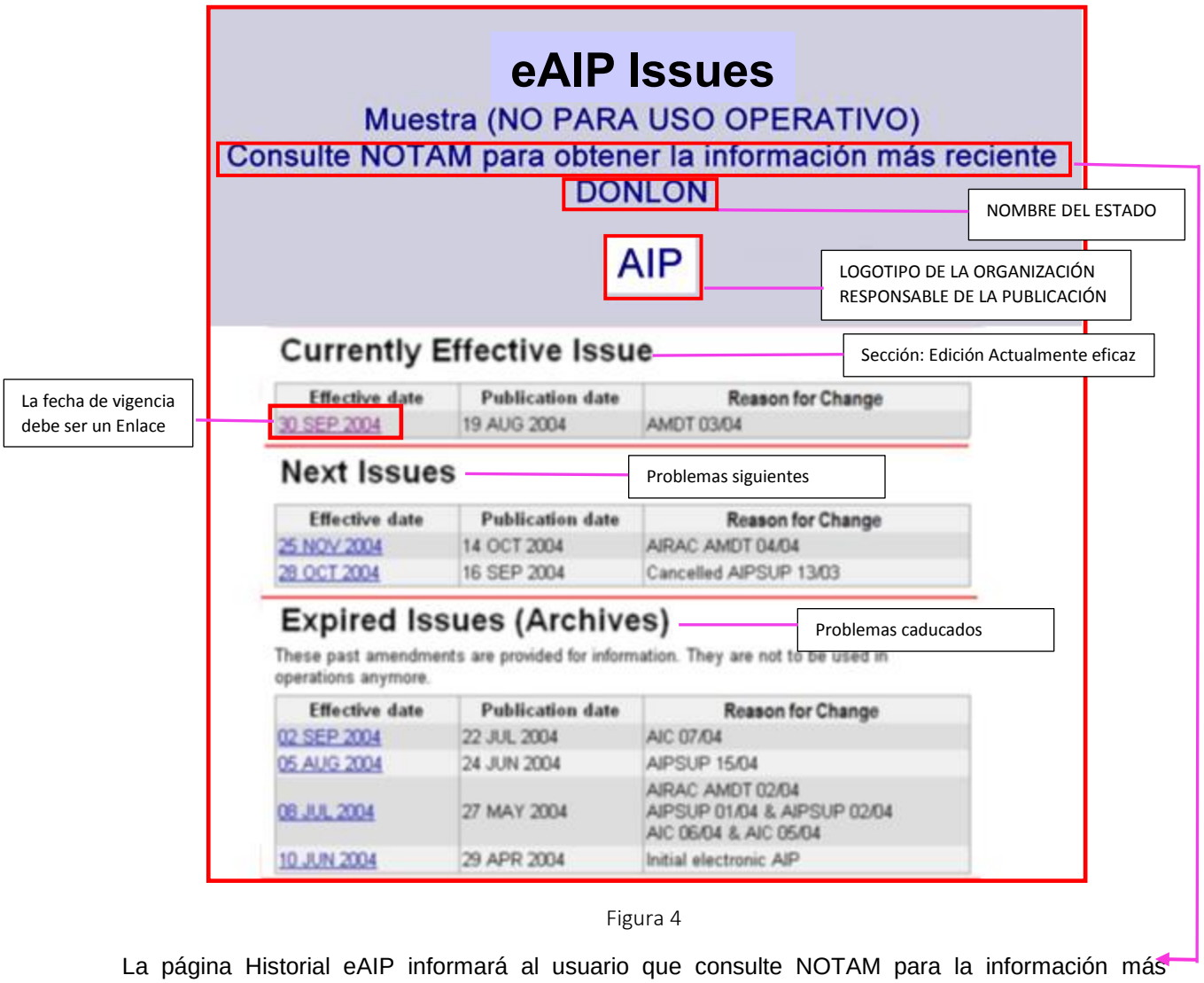

Figura 4

La página Historial eAIP informará al usuario que consulte NOTAM para la información más reciente.

La página Historial eAIP, la sección Edición, deberá contener:

- Una tabla con una columna de fecha de publicación.
- Una tabla con una columna Motivo de cambio.

Fuente: Documento de Eurocontrol-Especificación para la publicación electrónica de información Aeronáutica (eAIP)

7. PANEL DE NAVEGACIÓN

El panel de navegación de la ventana eAIP contendrá el menú de navegación para el eAIP.

Requisitos asociados con la tabla de contenido.

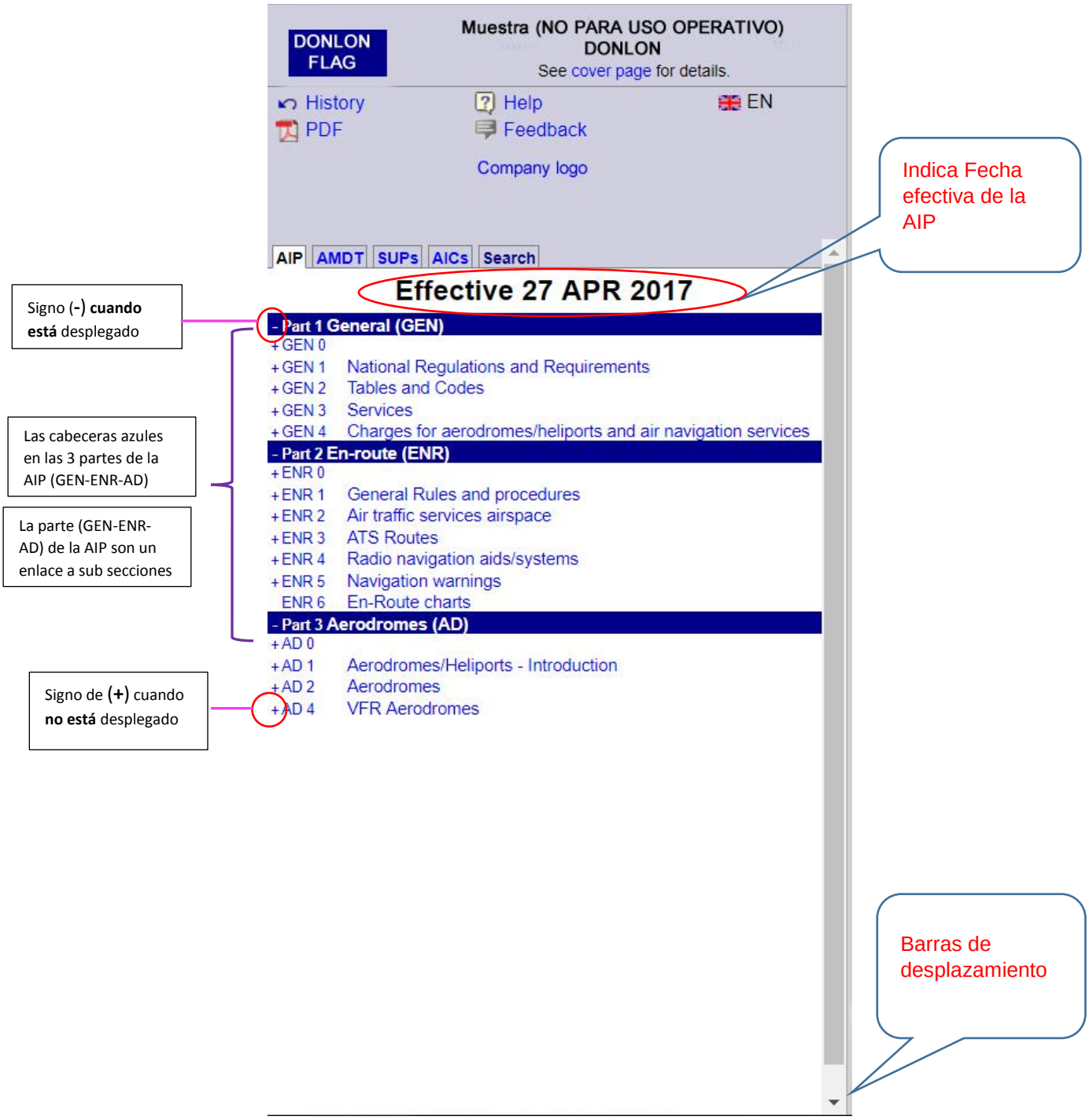

Figura 5

Fuente: Documento de Eurocontrol-Especificación para la publicación electrónica de información Aeronáutica (eAIP)

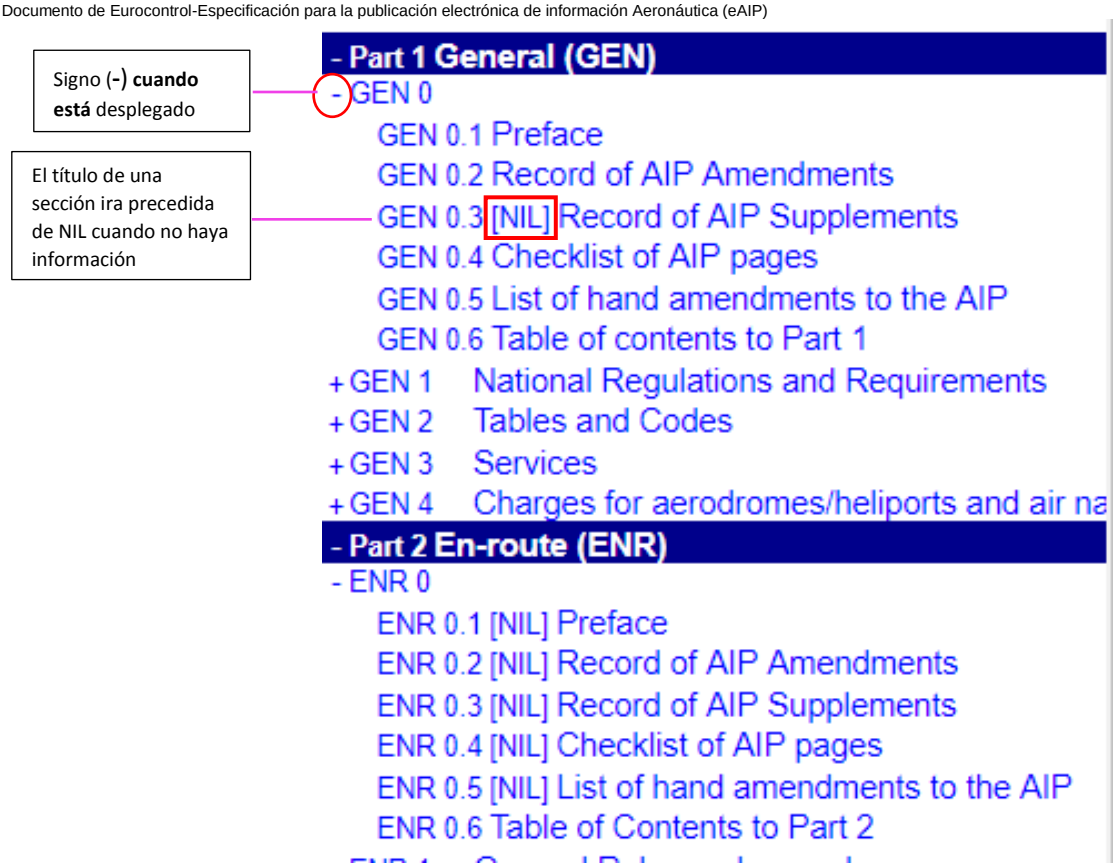

Figura 6

Fuente: Documento de Eurocontrol-Especificación para la publicación electrónica de información Aeronáutica (eAIP)

8. PANEL DE CONTENIDO

El panel Contenido de la ventana eAIP contendrá la portada de la eAIP cuando el eAIP se abre inicialmente.

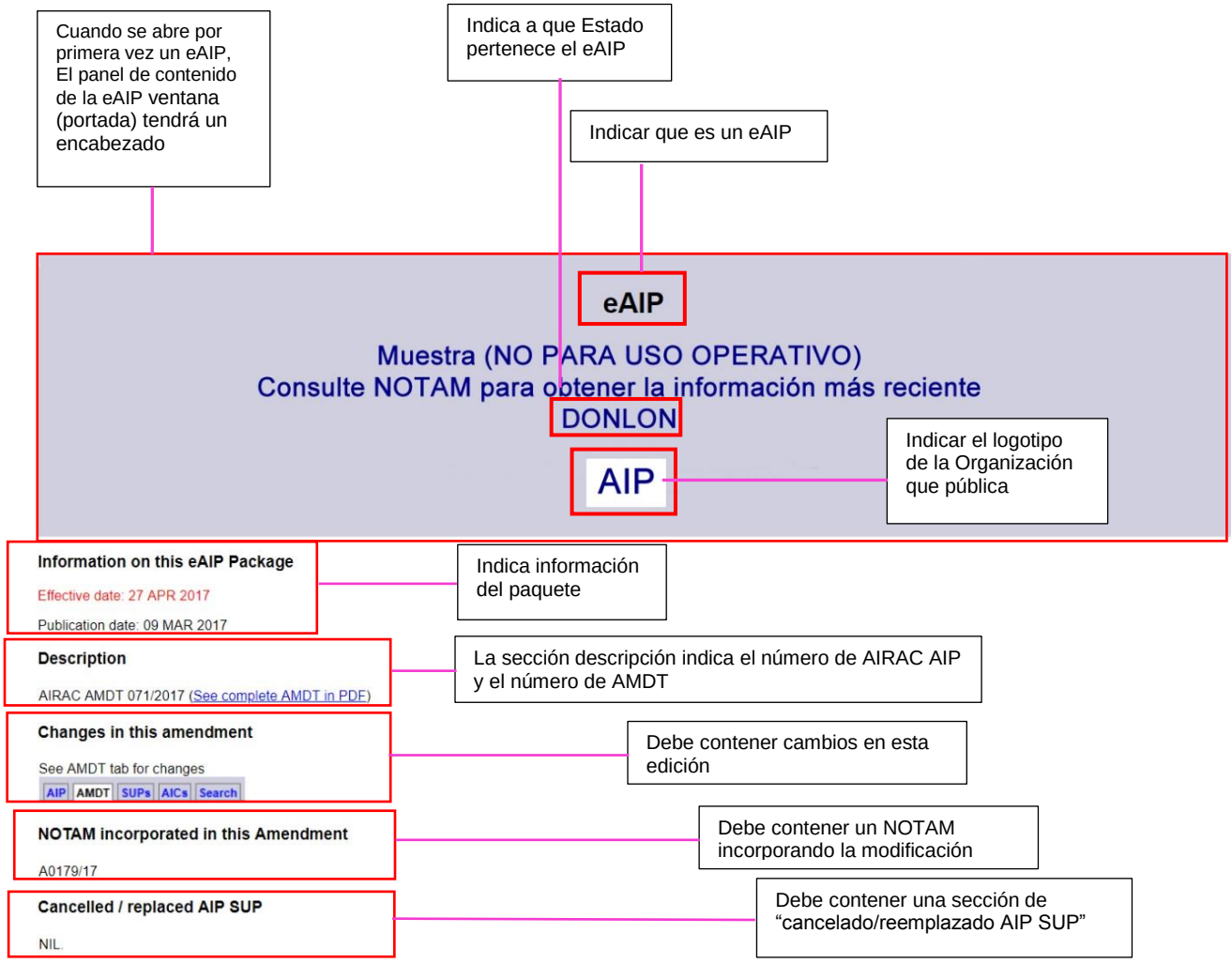

Figura 7

Agenda Item 3: Implementation of the quality management system in AIM units

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

- WP/06 - *GREPECAS Project G3* (presented by the Secretariat)
- WP/07 - *Recommendations to adjust the AIM/QMS to ISO 9001 version 2015* (presented by the Secretariat)
- Presentation by JEPPESEN
- Presentation by IATA

GREPECAS Project G3

Background

3.2 The Meeting recalled that 84% progress had been made concerning the first phase of the Roadmap for the transition o AIS to AIM. 16% remained, which should have been completed in 2016 and the first semester of 2017. However, changes made to ISO 9001 in September 2015 modified the scenario for the implementation and certification of quality management systems in AIM.

3.3 In this regard, the Meeting took note that since the last SAM/AIM meeting five States had been certified under version 2015 of ISO 9001 by December 2017, showing 36% progress.

3.4 Regarding those States that had their AIM/QMS certified with ISO 9001 version 2008, Argentina reported that ANAC would send information regarding re-certification plans. Uruguay had scheduled the re-certification audit for 27-28 August 2018.

3.5 Regarding those States that had not yet completed AIM/QMS implementation, **Bolivia, Suriname** and **Ecuador** had not updated their action plans**. Guyana** noted that they had been working with version 2015 and expected to complete implementation by December this year. In turn, **Venezuela** stated that training had been provided in version 2015 of the standard, including courses on risk management, and that they expected to complete all processes by April 2019. Additionally, the plan was delivered to the Secretariat.

3.6 Based on the information collected during the Meeting, the updated AIM/QMS status of implementation table was as follows:

STATE	% implementation April -2018	Date of implementation	% progress	Progress in version 2015	REMARKS
Argentina	Certified	FEB/2016	0%	No progress made	ANAC will report on re-certification plans.

STATE	% implementation April -2018	Date of implementation	% progress	Progress in version 2015	REMARKS
Bolivia	30%	TBD	0%		The provider AASANA has trained two experts in quality implementation. A DGCA official attended the Lead Auditor course conducted in October 2015.
Brazil	**CERTIFIED**	----------	---------	**100%**	Certified under version 2015
Chile	**CERTIFIED**	----------	---------	**100%**	Certified under version 2015
Colombia	90%	SEP/2014	25%	No progress reported	A consultancy firm has been hired for AIM and MET QMS certification.
Ecuador	Did not obtain the re-certification	---------	--------	No progress reported	No information available on plans for re-certification**.**
French Guiana	**CERTIFIED**	---------	-------	No progress reported	No information available on plans for re-certification
Guyana	90%	DEC/2017	30%		Expect to complete implementation in July 2018.
Panama	100%	DEC/2017		100%	Certified under version 2015 of the standard.
Paraguay	**CERTIFIED**	--------	-------	Certified	Certified under ISO 9001:2015.
Peru	**CERTIFIED**	--------	-------	Certified	Certified under ISO 9001:2015.
Suriname	50%	AUG/2014	5%	No progress reported	Submitted an action plan.
Uruguay	**CERTIFIED**	--------	-------	90%	Re-certification audit scheduled for 27 and 28 August 2018.

STATE	% implementation April -2018	Date of implementation	% progress	Progress in version 2015	REMARKS
Venezuela	95%	DEC/2017	10%	70%	

3.7 The Meeting took note of the recommendations to adjust the AIM/QMS to ISO 9001 version 2015. These recommendations were made based on the experience of Peru in adjusting its MET/QMS to version 2015, as shown in **Appendix A** to this part of the report.

3.8 The Meeting considered that this document was important, and requested the Secretariat, with the support of the delegates of Chile and Paraguay, to adjust the recommendations to AIM.

3.9 The delegate of JEPPESEN highlighted the importance of having quality aeronautical information, showing the typical problems related to aeronautical data. The Meeting took note that problems were related to inconsistencies between the published data and that contained in the AIP, and to inconsistencies when procedures changed but data did not. He also mentioned inconsistencies in FIR boundaries.

3.10 Likewise, JEPPESEN mentioned the conflicts generated throughout the aeronautical information chain by non-compliance with AIRAC cycles, which resulted in late publication of changes in procedures. Furthermore, he highlighted the new data quality approach contained in Amendment 40 to Annex 15 concerning all parameters associated to data and data sets.

3.11 In turn, IATA described the problems resulting from failure to update obstacle charts at some aerodromes and failure to publish operational agreements between States. Likewise, it presented some good practices related to the publication of changes made by States in their procedures, and in case of major changes, their publication with three AIRAC cycles prior to the amendment date, as done in other Regions. This ensured the dissemination and availability of information to the aeronautical community well in advance for planning purposes, so as to conform to the new procedures being introduced. The Meeting took note of the difficulties and good practices presented by IATA.

APPENDIX A

Guidelines for the transition from ISO 9001:2008 to ISO 9001:2015 Experience of Peru

(Spanish only)

DIRECTRICES PARA LA TRANSICIÓN DE LA NORMA ISO 9001:2008 HACIA LA ISO 9001:2015
CASO ESTADO PERUANO

Por: Ricardo Reyes Távara
Experto contribuyente al Proyecto H3 "Implementación del sistema de gestión de la calidad de la información MET (QMS/MET)

1) LECCIONES APRENDIDAS SEGÚN LA NORMA ISO 9001

Considerando que la Norma ISO 9001:2015 es menos documental, sin embargo por la experiencia pasada basado en información documentada, los gestores de gestión de la calidad del Estado Peruano a cargo del proveedor del servicio MET a cargo de la empresa CORPAC S.A, **planificaron actualizar la documentación existente con la nueva reglamentación y terminología de la norma ISO 9001:2015,** por ello se actualizaron:

a) Manual del sistema de gestión de la calidad (SGC)
b) Política de la Calidad (**numeral 5.2**)
c) Plan de Objetivos de la Calidad (**numeral 6.2**)
d) Procedimiento de control de documentos (**numeral 7.5**)
   En este procedimiento, entre otros considerar una lista maestra de documentos de origen interno y externo.
e) Procedimiento de control de registros **(numeral 7.5**)
f) Procedimiento de control de las salidas no conformes (**numeral 8.7**)
g) Procedimiento de acciones correctivas **(numeral 10.2**)
h) Procedimiento de auditoria interna (**numeral 9.2**)
i) Procedimiento de evaluación de proveedores (**numeral 8.4.3)**
j) Procedimiento de revisión del SGC por la dirección (**numeral 9.3)**
k) Procedimiento de gestión del talento humano (**numeral 7.2**)
l) Procedimiento de gestión de riesgo y oportunidades **(NUEVO)(numeral 6.1)**

Con este procedimiento se cumple también con los numerales de la nueva norma:
4.1 Comprensión de la organización y de su contorno
4.2 Compresión de las necesidades y expectativas de las partes interesada

Además, con la aplicación de este procedimiento se tiene identificado y gestionado los riesgos del proceso de observaciones meteorológicas, pronostico, vigilancia y climatología, registros de este procedimiento que son necesarios para la auditoria de transición.

2) PROCESOS MET SEGÚN LA ISO 9001:2015

Para cumplir con el numeral **4.4 Sistema de gestión de la calidad y sus procesos** y Numeral **8.1, 8.2, 8.4 y 8.5** de la norma ISO 9001:2015, se ha actualizado la siguiente información documentada:

a) Procedimiento de información MET (Aquí está el proceso MET con sus subprocesos:
   - ✓ Observaciones meteorológicas
   - ✓ Pronóstico meteorológico
   - ✓ Vigilancia meteorológica
   - ✓ Climatología aeronáutica

b) Manual de Procedimiento proceso de observaciones MET en estación meteorológica aeronáutica;
c) Manual de Procedimiento proceso de pronóstico meteorológico en oficina meteorológica de aeródromo;
d) Manual de Procedimiento proceso de Vigilancia Meteorologica en la FIR Lima;
e) Manual de Procedimiento proceso de climatología aeronáutica;
f) Procedimiento de indicadores de gestión MET.

Con la documentación de numeral (1) y (2) se cumple con el numeral **7.5 Información documentada** de la Norma ISO 9001:2015

3) OTROS TEMAS DE LA NORMA ISO 9001:2015 QUE NECESITAN DOCUMENTARSE

a) Numeral **6.3 Planificación de los cambios**.
   Puede haber cambios al sistema de gestión de la calidad, como actualizar los procedimientos o un cambio en el alcance de la certificación o cambios en la matriz de riesgos etc.
b) Numeral **7.1.5.2 Trazabilidad de las mediciones**
c) Numeral **7.4 Comunicación**.
   Es importante tener una matriz de cosas que deben ser comunicadas internas y externas, por ejemplo la Política, los objetivos, indicadores de la calidad, resultados de la encuestas al cliente etc.,

4) Realizar una auditoría interna y Revisión del SGC por la Dirección

Con la documentación actualizada, se debe realizar:

- Una auditoria interna a los procesos del alcance de la Certificación del sistema de gestión de la calidad, considerando los criterios de la nueva norma ISO 9001:2015, a cargo de los auditores internos de nuestra organización
- Una Revisión del SGC por la Dirección, con los nuevos criterios de la nueva norma ISO 9001:2015.

5) Aprobar una auditoria de transición de la norma ISO 9001:2008 hacia la Norma ISO 9001:2015, a cargo de una empresa Certificadora.

Esta auditoría de transición, deberá realizarse después de dos o tres meses de haberse implementado y puesta en operación el sistema de gestión de la calidad MET.

Cordialmente

Ricardo J Reyes Távara

Lima, 15 de enero 2018

Agenda Item 4: NOTAM contingency plans, AIM deficiencies, and ICARD system

4.1 Under this agenda item, the Meeting reviewed the following papers:

- WP/08 - *NOTAM contingency plans, AIM deficiencies, and ICARD system* (presented by the Secretariat)
- WP/09 - *Second transition phase to digital AIM: Implementation of B0-DATM and B1-DATM, follow-up to the implementation of automated systems and other requirements in accordance with Annex 15* (presented by the Secretariat)
- WP/15 - *Progress made by Peru in the implementation of NOTAM contingency plans with other States* (presented by Peru)

NOTAM contingency plans

4.2 The Meeting took note of the Regional Catalogue of SAM NOTAM contingency plans.

4.3 The Meeting reviewed information regarding this catalogue and noted that the contingency plans between Chile and Paraguay, and the one between Peru and Venezuela, had not yet been approved by the authorities. Accordingly, they could yet be officially included in the Regional Catalogue. Paraguay noted that all the documentation had been sent to Chile and were expecting to sign the agreement in the next few months. Venezuela would get in contact with the authorities of Peru to outline the contingency plan, since they already had the approval of their authorities.

4.4 The Meeting acknowledged Guyana for the excellent support recently provided to Suriname with regard to the technical difficulties faced by the NOF of Suriname, which prevented it from fulfilling its functions. The NOF of Guyana had done an excellent job, in compliance with the NOTAM contingency plan.

4.5 The NOTAM contingency plan catalogue is contained in **Appendix A** to this part of the report.

AIM deficiencies

4.6 Regarding the deficiencies reported in the AIM area, it was noted that States had made progress with respect to the previous meeting. The States informed of the resolution of various deficiencies, which would be reflected in the GREPECAS air navigation deficiencies database (GANDD). Likewise, data was provided on the updating of action plans for the resolution of deficiencies, which would also be reflected in the GANDD.

ICARD system

4.7 The Meeting took note of the work being done at Headquarters to debug the ICARD database in order to resolve the issue related to duplicated points or similar-sounding codes established in close proximity.

4.8 The Meeting took note of practices being followed by the States, which resulted in an outdated database, whose main problems could be classified as follows:

a) a significant number of duplicated codes (including tripled and quadrupled codes);
b) similar-sounding codes established in close proximity or on the same route; and

c) differences between 5LNC data registered in the ICARD database and data published in the AIPs.

4.9 The Secretariat made a demonstration of the procedures for using the new ICARD platform. Likewise, it presented a list of duplicated codes, a list of codes that appeared in the AIPs but not in ICARD, a list codes that appear in ICARD but not in the AIPs, as well as a list of codes on FIR boundaries that had different coordinates, all of which appear in **Appendix B** to this part of the report.

4.10 The States have committed themselves to work towards the resolution of these issues, and submit action plans at the SAM/IG/21 meeting or other forums.

4.11 Furthermore, the Secretariat reminded the Meeting of the rules that would help States resolve or reduce duplicated or similar-sounding points established in close proximity or on the same route, rules that are contained in State Letter AN 11/45.5-17/101.

4.12 In view of its extension and the density of its air routes, Brazil presents major difficulties with the ICARD database in relation with the other States. In such sense, a good coordination with all States is desirable, mainly at the time of defining codes for FIR limits. For these reasons, the Meeting recommended the Secretariat to make its best effort to conduct a workshop on ICARD for all those involved in the use of this database in Brazil.

Progress made by Peru in the implementation of NOTAM contingency plans with other States

4.13 Aware of the importance of having NOTAM contingency plans pursuant to Conclusion 12/99 of GREPECAS/12 - "*Agreement on NOTAM contingency plans for the CAR/SAM Regions"*, Peru had signed, so far, contingency plans with Bolivia and Panama.

4.14 In fulfilment of these commitments, Peru informed that in October 2016, on occasion of a failure of the La Paz NOTAM bank, it had activated the plan, providing the NOTAM service over the period during which the AIS service of La Paz was inoperative. Likewise, in September 2017, the contingency plan signed with Panama had been activated, transmitting NOTAMs during the period in which the Tocumen AIS service was inoperative. Furthermore, current operational agreement with Panama had been reviewed.

4.14 The Meeting took note of the measures taken by Peru, expressing its acknowledgment in view of the fact that, on both occasions, the NOTAM services, by virtue of the bilateral agreement with the respective States, through the contingency plans, had not been interrupted, and aircraft operations had not been affected.

APÉNDICE / APPENDIX A

Catálogo de los Planes de Contingencia NOTAM de la Región SAM **Fecha: 01 de septiembre de 2017**
Catalogue of NOTAM Contingency Plans in the SAM Region **Date: 01 September 2017**

Estado/ State	Estado de respaldo/ Backup State	Situación / Status		Punto de Contacto/ Contact Point	Descripción general de facilidades y servicios que garantizan la continuidad / General description of facilities and services available which ensure continuity	Banco NOTAM NOTAM Bank
		Borrador/ Draft	Final			
1	2	3	4	5	6	7
Argentina	Uruguay		X	NOF Ezeiza Tel: 541 4480 2294 Fax: 541 4480 2260 Email: nofezeiza@anac.gob.ar NOF Montevideo Tel: 5982 6040067 Email: ais@adinet.com.uy	AFS, Tel/Fax, REDDIG, Internet	AMHS
Bolivia	Perú		X	NOF La Paz Tel: 5912 2316686 Email : ais@aasana.bo NOF Lima Tel: 511 2301288 –2301172 – 51 978471875 Email: fvasquez@corpac.gob.pe nofperu@corpac.gob.pe aislima@corpac.gob.pe	AFS, Tel, REDDIG, Internet	
Brasil/Brazil				NOF Brasil Tel/Fax: 5521 21016976 Email: nofbrazil@decea.gov.br	Tel, Fax, Internet	SISNOTAM

Estado/ State	Estado de respaldo/ Backup State	Situación / Status		Punto de Contacto/ Contact Point	Descripción general de facilidades y servicios que garantizan la continuidad / General description of facilities and services available which ensure continuity	Banco NOTAM NOTAM Bank
		Borrador/ Draft	Final			
1	2	3	4	5	6	7
Chile	Ecuador		X	NOF Chile Tel: 562 28364033 Email: nofchile@dgac.gob.cl NOF Guayaquil Tel: 5934 2285661 – 5934 2282017 Email: nof_ecuador@dgac.gob.ec	AFS, Tel/Fax, REDDIG, Internet	IAT-WIN
Colombia				NOF Bogotá Tel: 571 2962991 Email: ais@aerocivil.gov.co; solicitudes.notam@aerocivil.gov.co		Actual Banco Web / Current Web Bank AMHS
Ecuador	Chile		X	NOF Guayaquil Tel: 5934 2285661 – 5934 2282017 Email: nof_ecuador@dgac.gob.ec NOF Chile Tel: 562 28364033 Email: nofchile@dgac.gob.cl	AFS, Tel/Fax, REDDIG, Internet	IAT-WIN
Guyana	Suriname		X	NOF Guyana Telefax: 592 2612279 Tel: 592 2612269 AFS: SYCJYNYX Cable: TIMAIRPORT GUYANA Email: aisguyana@gcaa-gy.org NOF Suriname Tel: 597 0325103 Email: ais.sur@hotmail.com ais@cadsur.sr	AFS, Tel/Fax, REDDIG, Internet	AMHS

Estado/ State	Estado de respaldo/ Backup State	Situación / Status		Punto de Contacto/ Contact Point	Descripción general de facilidades y servicios que garantizan la continuidad / General description of facilities and services available which ensure continuity	Banco NOTAM NOTAM Bank
		Borrador/ Draft	Final			
1	2	3	4	5	6	7
Guyana Francesa/ French Guiana						
Panamá	Perú		X	NOF Panamá Tel: 2382 6152616 Email: ais@aeronautica.gob.pa NOF Lima Tel: 511 2301288 – 2301172 Email: fvasquez@corpac.gob.pe nofperu@corpac.gob.pe	AFS, Tel/Fax, REDDIG, Internet	AMHS AMHS
Paraguay	Chile	X	OCT/2017	NOF Asunción Tel: 59521 645952 Email: aisnof_ad@dinac.gov.py NOF Chile Tel: 562 28364033 Email: nofchile@dgac.gob.cl	AFS, Tel/Fax, REDDIG, Internet AFS, Tel/Fax, REDDIG, Internet	AMHS IAT-WIN
Perú	**Bolivia**		X	NOF Lima Tel: 511 2301288 – 2301172 – 51 978471875 Email: fvasquez@corpac.gob.pe nofperu@corpac.gob.pe aislima@corpac.gob.pe NOF La Paz Tel: 5912 2316686 Email: ais@aasana.bo		AMHS

Estado/ State	Estado de respaldo/ Backup State	Situación / Status		Punto de Contacto/ Contact Point	Descripción general de facilidades y servicios que garantizan la continuidad / General description of facilities and services available which ensure continuity	Banco NOTAM NOTAM Bank
		Borrador/ Draft	Final			
1	2	3	4	5	6	7
Suriname	Guyana		X	NOF Suriname Tel: 597 0325103 Email: ais.sur@hotmail.com ais@cadsur.sr NOF Guyana Telefax: 592 2612279 Tel: 592 2612269 AFS: SYCJYNYX Cable: TIMAIRPORT GUYANA Email: aisguyana@gcaa-gy.org	AFS,Tel/Fax, REDDIG, Internet	AMHS
Uruguay	**Argentina**		X	NOF Montevideo Tel: 5982 6040067 Email: ais@adinet.com.uy NOF Ezeiza Tel 5414 480 2294 Fax 5414 480 2260 Email: nofezeiza@anac.gob.ar	AFS, Tel/Fax, REDDIG, Internet	AMHS
Venezuela	Perú	X		NOF Lima Tel: 511 2301288 – 2301172 – 51 978471875 Email: fvasquez@corpac.gob.pe nofperu@corpac.gob.pe aislima@corpac.gob.pe		.

Nota/Note:

Columna 1: Indicar Estado, Territorio u Organismo Internacional / *Indicate State, Territory or International Organization*.

Columna 2: Indicar Estado, Territorio u Organismo Internacional con quien debe coordinarse el Plan de Contingencia del Estado citado en la Columna 1 / *Indicate State, Territory or International Organization with whom the Contingency Plan of the State mentioned in Column 1 should be coordinated*.

Columna 3: Marcar con X en el caso que el Plan de Contingencia se encuentre en proceso para su armonización con el Estado en cuestión / *Mark with an X in case the Contingency Plan is in process for its harmonization with the referred State.*

Columna 4: Marcar con X en el caso que el Plan de Contingencia se encuentre armonizado con el Estado en cuestión / *Mark with an X in case the Contingency Plan is in process for its harmonization with the referred State.*

Columna 5: Indicar cargo del Punto de Contacto y medio de comunicación a utilizar en caso de ser necesario / *Indicate position of the Point of Contact and communications means to be used, if necessary.*

Columna 6: Indicar cuáles son, en general, las facilidades y los servicios disponibles mientras el Plan de Contingencia se encuentra activado / *Indicate which are, in general, the facilities available services while the Contingency Plan is activated.*

Columna 7: Banco NOTAM / *NOTAM Bank.*

APPENDIX B

List of duplicated codes, codes that appear in AIPs but not in ICARD or *vice versa*, codes on FIR boundaries with different coordinates

Códigos duplicados dentro de las 1000NM

5LNC	Duplicates in same region?	COUNT	Countries	DIST NM	Priority	Note
ANGEL	Yes	5	Thailand, Phillippines, Japan, Honduras (COCESNA), Colombia/Ecuador (FIR boundary)	927.464	Colombia/Ecuador	
PERLA	Yes	4	Brazil, Cuba, El Salvador, Mexico	649.630	Brazil	
PODIS	Yes	2	Dominican Republic, Cayman Islands (UK)	660.067	To be determined by the 5LNC Duplicate Resolution Rules	
ULARA	Yes	2	Costa Rica, Haiti	966.334	To be determined by the 5LNC Duplicate Resolution Rules	Ask Costa Rica and Haiti to delete this code if they ar
ANISU	No	2	Algeria, Senegal/Niger (ASECNA)	785.627	Algeria	Ask Algeria and ASECNA to delete this code if they ar
DARVA	No	2	Turkmenistan/Uzbekistan (FIR boundary), Kuwait	941.782	Turkmenistan/Uzbekistan	Ask Kuwait to delete this code if they are not using it
GUADA	No	3	United States of America, Venezuela, Costa Rica	862.007	United States of America	Ask Costa Rica to delete this code if they are not usin
LEONA	No	4	United States of America, Venezuela, Japan, Australia	963.827	United States of America	

Códigos duplicados con otras regiones

5LNC	Count	Countries	Priority
DELTA	10	Suriname, Japan, Italy, Vanuatu, Syrian Arab Republic, Bhutan, Liberia, Lao People's Democratic Republic, India, Sr	Suriname
CORAL	9	China (Hong Kong), China (Taiwan), Japan, Australia, Brazil, France (French Polynesia), Cuba, Mexico, Honduras (CI	Brazil
ORION	8	Philippines, China (Taiwan), Japan, Tonga, Italy, United States of America, Peru, Spain	United States of America
BRAVO	7	China (Taiwan), India, Syrian Arab Republic, United Kingdom, United Kingdom (Falkland Islands), Italy, Brazil	Brazil. To be determined by the 5LNC Duplicate Resolution Rules if not used by Brazil.
LUCAS	7	Costa Rica, Venezuela, Mexico, Brazil, Australia, China (Taiwan), Philippines	Venezuela
TANGO	7	Spain, Syrian Arab Republic, Pakistan, India, Thailand, Lao People's Democratic Republic, Viet Nam	Spain
BISON	6	China (Taiwan), China (mainland), Indonesia, Viet Nam, Australia, United States of America	United States of America
CEDAR	6	Brazil, United Kingdom, Lebanon, Japan, Australia, China (Hong Kong)	United Kingdom
MANGO	6	China (Hong Kong), Republic of Korea, United Kingdom, New Zealand, Angola, Nicaragua (COCESNA)	United Kingdom
PANDA	6	United States of America, Japan, China (Taiwan), Brazil, Philippines, Indonesia	United States of America
ROCKY	6	China (Hong Kong), China (Taiwan), Japan, New Zealand, United States of America, Venezuela	United States of America
SELVA	6	Venezuela, Ecuador, Brazil, Bolivia, United States of America, Spain	United States of America
TOMAS	6	Australia, Denmark (Greenland), New Zealand, Brazil, Venezuela, Costa Rica (COCESNA)	Denmark (Greenland)
ANGEL	5	Thailand, Phillippines, Japan, Honduras (COCESNA), Colombia/Ecuador (FIR boundary)	Colombia/Ecuador
BACON	5	Brazil, United States, Japan, China (Taiwan), Phillippines	United States of America
BONGO	5	United States of America, Venezuela, Burkina Faso/Ghana (FIR boundary), Japan, Australia	United States of America
CRANE	5	United States of America, Japan, Brazil, Republic of Korea, Australia	United States of America
DRAKE	5	Chile/Argentina, Costa Rica (COCESNA), United States of America, United Kingdom, China (Taiwan)	United Kingdom
FLUTE	5	Brazil, United States of America, Germany/Denmark (FIR boundary), Thailand, Japan	United States of America
FRANK	5	Japan, China (Taiwan), United States of America, Brazil, Panama	United States of America
GARZA	5	Republic of Korea, United States of America, Costa Rica (COCESNA), Venezuela, Peru	United States of America
HANKY	5	United States of America, United Kingdom, Republic of Korea, China, Australia	United Kingdom
MARIA	5	United States of America, Japan, Thailand, Brazil, Argentina/Bolivia (FIR boundary)	United States of America
RAMON	5	Costa Rica (COCESNA), Uruguay, United States of America, Spain, Australia	United States of America
SAMAR	5	Indonesia, Israel, Spain/Morocco (FIR boundary), Brazil, Mexico	Spain/Morocco
STONE	5	Japan, Thailand, Brazil, Australia, United States of America	United States of America
TULIP	5	Netherlands, United States of America, Japan, China (Taiwan), Indonesia	Netherlands
ARENA	4	Spain/Morocco (Western Sahara), Brazil, Costa Rica, Japan	Spain/Morocco (Western Sahara)
ASTRA	4	Brazil, United Kingdom, Japan, China (Hong Kong)	United Kingdom
AVILA	4	Spain, Brazil, United States of America, Philippines	Spain
BAKER	4	China (Hong Kong), China (Taiwan), Australia, United Kingdom	United Kingdom
BERTA	4	Nicaragua (COCESNA), Uruguay, Russian Federation, Austria/Slovenia (FIR boundary)	Austria/Slovenia
BERTI	4	Algeria, Brazil, United States of America, Australia	United States of America
BLUES	4	United States of America, Brazil, Thailand, Japan	United States of America
CARME	4	Spain, United States of America, Uruguay, Guatemala	Spain
CEDRO	4	Peru, Costa Rica, Italy, Cuba	To be determined by the 5LNC Duplicate Resolution Rules.
ESTER	4	Australia, Israel, United States of America, Brazil	United States of America
GAMBA	4	Cabo Verde, Chile, Japan, China (Hong Kong)	Chile
GOLFO	4	Cuba, Venezuela, Mexico, Spain	Spain
GRACE	4	United States of America, Brazil, Thailand, China (Taiwan)	United States of America
GROVE	4	New Zealand, United Kingdom, United States of America, Brazil	United Kingdom
JULIA	4	United States of America, Brazil, Japan, Australia	Brazil
LANDA	4	Egypt, Honduras (COCESNA), Argentina, China (mainland)/China (Hong Kong)	Argentina
LIMON	4	Venezuela, United States of America, Chile, Algeria	United States of America
LOTUS	4	Pakistan, Peru, China(Hong Kong), Japan	China (Hong Kong)
MASON	4	Brazil, Australia, Thailand, China (Taiwan)	Brazil
MITOS	4	Malaysia, Indonesia, Spain, Peru	Malaysia
NOBEL	4	Thailand, Indonesia, Japan, Brazil	Brazil
SANDI	4	United States of America, Australia, Nigeria, Uruguay	United States of America
SARGO	4	United States of America, Spain, Argentina/Uruguay (FIR boundary), China (mainland)	Spain
SILVA	4	Venezuela, United Kingdom, China (Hong Kong), Italy	United Kingdom
TAMAR	4	Venezuela, Israel, Brazil, China (Hong Kong)	Brazil
VERDE	4	Philippines, United States of America, Spain, Brazil	United States of America

Otros problemas detectados

PETRI aparece en el ICARD pero en el AIP Brasil.

ANDAN is a triplicate (Venezuela, Philippines, Indonesia) but it's not allocated in ICARD.

ISEBA está en un límite de FIR COCESNA/Panamá pero hay una diferencia de coordenadas de 3 NM entre ambos AIPs.

UGADI está en un límite de FIR Ecuador/COCESNA pero hay una diferencia de coordenadas de 1 NM entre ambos AIPs.

VENUS aparece en el ICARD pero no en el AIP Brasil.

BOLDO está en un límite de FIR (COCESNA/Colombia), pero las coordenadas en ambos AIPs difieren por casi 2 NM

BRAVO, NASAL, PASTE, REDON aparece en el ICARD pero no en el AIP Brasil

LACON, LOPES, MINCE aparece en el ICARD pero no en el AIP de Brasil

WAHOO, ANGEL código que aparecían en el ICARD pero en el AIP Venezuela

Agenda Item 5: Analysis of objectives, metrics and dates for the implementation of elements regarding the second phase of the plan for the transition of AIS to digital AIM

5.1 Under this agenda item, the Meeting reviewed the following paper:

- WP/10 - *Second phase of the transition to digital AIM: Implementation of B0-DATM and B1-DATM, follow-up to the implementation of automated systems and other requirements in accordance with Annex 15* (presented by the Secretariat)

5.2 The Meeting recalled that the second phase of the Roadmap for the transition of AIS to AIM would start upon completion of Phase 1. The second phase comprised the implementation of steps 1, 2, 6, 7, 11, 13, 14 and 15 of the Roadmap.

5.3 Likewise, the Meeting considered that the Global Air Navigation Plan (Doc 9750), under the ASBU methodology, specifically in PIA 2, included module B0-DATM in Block 0, which became B1-DATM in Block 1, whose elements contributed to the implementation of the Roadmap.

5.4 The Secretariat requested States to provide information on the implementation of B0-DATM. The Meeting went on to complete the follow-up template, and offered to provide the Secretariat, in the next two weeks, with details on their plans for the implementation of this module.

5.5 Likewise, the Secretariat requested the formulation of plans for B1-DATM. The Meeting recalled that the GANP, in its fifth edition, stated that technology and regulations should be available before planning module B1-DATM, starting with the second block (2019). The Meeting considered that this module provided for further integration of information and served as support for the new ATM information exchange concept, which would facilitate access through tools based on Internet protocols. Exchange models, such as AIXM, FIXM, IWXXM and other models would correlate their concepts with the AIRM model to favour convergence, re-utilisation and harmonisation.

5.6 The Meeting felt that the elements to be taken into account were similar to those of Block 0, but in a digital environment. The elements to be planned in this module were:

i. Provision of quality aeronautical information data.
ii. Provision of electronic aeronautical information publication (AIP) data sets.
iii. Provision of digital terrain data sets.
iv. Provision of digital obstacle data sets.
v. Provision of digital aerodrome charting data sets.
vi. Provision of digital instrument flight procedure data sets.
vii. Improvements in the provision of NOTAMs.

5.7 The Meeting urged States to plan for the required training well in advance, so that Phase 2 could be implemented without much delay. Likewise, they were requested to reformulate their training plans for AIS personnel, based on the new professional profile of AIM technicians, including digital information management skills and competencies.

5.8 Based on the experience of Brazil and Venezuela, the Meeting recommended that plans for B0-DATM and B1- DATM be included in the National air navigation plan.

5.9 The Meeting recommended a regional follow-up sheet, since the benefits of working in an electronic environment would increase as more States adopted the digital exchange of aeronautical data and made possible the creation of an interoperable environment.

Agenda Item 6: Approval of Amendment 40 to Annex 15 – Aeronautical Information Services and creation of the PANS-AIM

6.1 Under this agenda item, the Meeting reviewed the following paper:

- WP/11 - *Proposal of amendment to Annex 15* (presented by the Secretariat)

6.2 The Meeting took note that Amendment 40 to Annex 15 - *Aeronautical Information Services* had been approved by the ICAO Council, effective on July 2018 for the new changes made to Annex 15, and proposed applicability date of 8 November 2018 for the associated implementation.

6.3 The Meeting took note that the aforementioned amendment defined the minimum data scope for the exchange of interoperable digital data, highlighted the importance of quality controls throughout the aeronautical data process, and supported the integration of modern aeronautical information products (digital data sets) that allowed for automatic validation and verification procedures. It also minimised the need for human intervention. Furthermore, it would enable new capabilities to airspace users, in accordance with the ICAO Global Air Navigation Plan.

6.4 The Meeting also noted that the PANS-AIM was part of this restructuring of AIS/AIM documentation and that it had been developed in order to introduce procedures, processes, formats, and technical specifications. It also noted that an AIM data catalogue was being developed for inclusion in Appendix 1 to the PANS-AIM. The data catalogue would serve as a reference for all provisions related to the origination and publication of aeronautical data. The data catalogue provided a common language that could be used by data providers/creators and AIS.

6.5 Taking into account the extent of this restructuring, the Meeting deemed it necessary to analyse the amendment under two perspectives, that of the regulator and that of the service provider. To this end, two groups were established, which arrived at the following conclusions:

Steps to be taken into account by <u>regulators</u> for managing and harmonising State regulations in accordance with Amendment 40 to Annex 15 – Aeronautical Information Services and the PANS-AIM:

- review the changes proposed in Amendment 40 and the PANS-AIM, and assess their impact;
- prepare a table showing the items that had been modified, deleted or transferred to the PANS-AIM;
- prepare draft regulations to be submitted for consultation to all users;
- hold meetings with service providers (ATM, MET, AGA, CNS, AIM) to analyse the impact on the areas affected;
- analyse the comments made to the draft, if any, and make the corrections;
- study the feasibility of meeting the requirements within the timeframe proposed in the standard, in terms of technical and financial capability;
- publish the national regulations before the effective date of the amendment;

- if applicable, notify the differences and publish them in the AIP; and
- indicate opportunities for improvement.

Steps to be taken into account by the <u>provider</u> for the implementation of Amendment 40 to Annex 15 – Aeronautical Information Services and the PANS-AIM

- review the new national regulations issued by the regulator;
- identify changes, impact, and risks;
- check if (human, system, equipment, material) resources are sufficient;
- provide for the necessary resources, if those available are not sufficient;
- modify existing processes to meet the new requirements;
- inform the work team of the changes introduced by the new regulations;
- train the team;
- inform the areas involved (AGA, ATM, mapping, etc.), through documents, of the changes made;
- formalise changes with the data originators; and
- validate the project output.

6.6 The Secretariat urged the Meeting to consider the dates for communicating their approval or disapproval of the amendment, as well as the date for filing differences, so as to schedule the tasks for both the regulator and the provider in order to meet these requirements.

Agenda Item 7: Planning for SWIM implementation

7.1 Under this agenda item, the Meeting reviewed the following paper:

- WP/12 - *Follow-up to the recommendations of the SWIM Workshop* (presented by the Secretariat)

Follow-up to the recommendations of the SWIM Workshop

7.2 The Meeting took note of the conclusions and recommendations formulated by the SWIM Seminar/Workshop conducted in November 2017.

7.3 The Meeting recalled that the aforementioned workshop helped to clarify SWIM concepts and scope, as well as to identify the stakeholders in SWIM implementation planning, such as the aeronautical authority, air navigation service providers, weather services, aircraft and airport operators, the aeronautical industry, as well as software developers and researchers.

7.4 The Meeting also recalled the need to involve all areas related to SWIM implementation, based on their competencies, in the development of an effective SWIM implementation plan. In order to accomplish the above, it was recommended that States take into account the following:

a) conduct an internal evaluation of facilities and infrastructure available for SWIM implementation;

b) prepare a "roadmap" to follow up on those requirements that were not currently available but were needed for SWIM implementation.

7.5 In this regard, the States reported the following:

a) **Argentina**: No plan had been developed for SWIM.
b) **Brazil**: A team was working on all items related to SWIM, involving all areas, including the industry, aircraft operators and universities. Furthermore, national seminars were being conducted to communicate the progress made. All information related to the working group, as well as to the seminars, may be found at: http://www.icea.gov.br/workshopcyberswim/.
c) **Chile**: Following the workshop, meetings had been held with all stakeholders and a plan had been developed.
d) **Guyana**: No plan developed for SWIM.
e) **Panama**: Following the meeting, a series of presentations had been planned but without any definitive dates.
f) **Paraguay**: No plan presented for SWIM.
g) **Peru**: No plan presented for SWIM.
h) **Uruguay**: No plan presented for SWIM.
i) **Venezuela:** No plan presented for SWIM.

Agenda Item 8: Other business

8.1 Under this agenda item, the Meeting reviewed the following papers:

- WP/13 - *Thirteenth Air Navigation Conference (AN-Conf/13)* (presented by the Secretariat)
- WP/14 - *Civil aviation cybersecurity awareness and training* (presented by the Secretariat)

Thirteenth Air Navigation Conference (AN-Conf/13)

8.2 The Meeting took note that the Thirteenth Air Navigation Conference (AN-Conf/13) will be held in Montreal, Canada, on 9-19 October 2018.

8.3 The Meeting took note that the agenda for the Conference was to include a broad range of flight safety and air navigation capacity and efficiency topics of interest to the Directors General of Civil Aviation, air navigation service providers, and all airspace users.

8.4 The Meeting was informed that the AN-Conf/13 would conduct detailed technical discussions that were expected to result in an agreement on a series of high-level recommendations on safety and air navigation.

8.5 The Meeting noted that, in accordance with the agenda for the AN-Conf/13, AIM-related topics could involve working papers under Items 1, 2 and 3. The Meeting established three *ad hoc* groups, one for each item, to identify topics that could be proposed to their States for submittal to the Conference in working papers.

8.6 The topics identified by these *ad hoc* groups were as follows:

a) Topics to be considered under Item 1: *Air navigation global strategy*:

- Full compliance with the Roadmap for the transition of AIS to AIM by 2020.
- More financial resources assigned to AIM (e-Tod, AIXM, eAIP, integrated DB).
- Awareness of the importance of, and quality required in, AIM data, information, and products.
- Integration of the AIM/CNS/MET/ATM areas.
- Training of the personnel involved.
- Quality, assurance, and availability of AIM data and information as the basis for safety.
- Transition to the provision of electronic aeronautical (environmental, safety) information.
- Enhanced AIM status within the organisational structure.

b) Topics to be considered under Item 2: *Enabling the global air navigation system*:

- Taking into account the importance of information worldwide and the impact on automated aeronautical information management, an integrated strategy is required to carry out the transition of AIS to AIM, implementing the exchange of information

through AIXM and the electronic AIP, to ensure a better quality and availability of data, taking into account technological development and SWIM implementation.
- Development of training plans that include guidance material in the language of the Region, and that facilitate training of AIM personnel.
- Best practices and recommendations on the cost-benefit analysis for the acquisition of automated systems by the States of the Region.
- Recommendations to align the National air navigation plan of the States to ASBU blocks.

c) Topics to be considered under Item 3: *Enhancing the global air navigation system*:

- Generate a practical guide (step by step) regarding technical and operational implementation required for air traffic management, including recommendations, best practices and lessons learned by other States, taking Brazil as a reference.
- Generate awareness and promulgate procedures at directive and executive level in each aeronautical entity to establish working groups between States and Regions in order to try to harmonize technologies and generate integration tests regarding the exchange of data in a SWIM environment.
- Generate a procedure for analysis and continuous improvement regarding income, security and governance of data quality.

8.7 The Meeting urged States to get involved in the drafting of working papers for AN-Con/13, stating the challenges and difficulties faced in AIM-related implementations, and the strategies to be applied for the exchange of aeronautical information in an electronic or digital and interoperable environment.

Civil aviation cybersecurity awareness and training

8.8 The Meeting took note of ICAO Assembly Resolution A39-19 on ways to address cybersecurity.

8.9 In a presentation made by the delegate of Paraguay, the Meeting took note that cybercrime had grown worldwide, affecting different vital areas of organisations, companies, financial institutions, even social networks, not to exclude the aeronautical sector. Accordingly, cyber attacks had become one of the emerging threats to information technology systems, critical communications and data, and other civil aviation data.

8.10 The presentation on cybersecurity highlighted that aeronautical information services/aeronautical information management were the focal point for the collection, verification and distribution of aeronautical information of the States. Therefore, they were subject to cyber threats that could affect the safety of aeronautical operations. It underlined the need to adopt measures to protect the data used by AIS/AIM, and to sensitise all workers on the importance of taking protection measures.

8.11 The Meeting stressed the need to implement preventive and reactive measures. To this end, work should be carried out jointly with network and IT personnel for the protection of information and for the adoption of other contingency measures that might help in case of cyber attacks.

8.12 Furthermore, the Secretariat informed that the ICAO/LACAC NAM/CAR and SAM Regional Aviation Security and Facilitation Group (AVSEC/FAL/RG) had started to work on this issue in 2014, and recommended that those responsible for aeronautical information management should identify

the focal points of this group in their States, in order to start working together to agree on actions to mitigate cyber attacks in an area as sensitive as AIM.