



Agenda Item 1: Follow-up to the implementation of air navigation priorities

FOLLOW-UP TO THE IMPLEMENTATION OF THE AIDC INTERCONNECTION

(Presented by the Secretariat)

SUMMARY

This working paper presents the progress made in the implementation of the AIDC interconnection in the SAM Region since the Third meeting of air navigation and flight safety directors (AN&FS/4)

References

- Second meeting of Air Navigation and Flight Safety Directors, Lima, Peru, 14-16 September 2015.
- Fourteenth meeting of Air Navigation Authorities (RAAC/14) Santiago, Chile, 27, 28 and 30 October 2015.
- Third meeting of Air Navigation and Flight Safety Directors, Lima, Peru, 22-24 August 2016.
- Eighteenth workshop/meeting of the SAM Implementation Group (SAM/IG/18) Lima, Peru, 17-21 October 2016.
- Second meeting on AIDC (ATS interfacility data communication) implementation in the SAM Region (Lima, Peru, 21-23 September 2016).
- Third meeting on AIDC (ATS interfacility data communication) implementation in the SAM Region (Lima, Peru, 24-26 April 2017).
- Nineteenth workshop/meeting of the SAM Implementation Group (SAM/IG/19) Lima, Peru, 22-26 May 2017.
- Summary of AIDC teleconferences.

• *ICAO strategic objectives:*

- *A – Safety*
- *B – Air navigation capacity and efficiency*

1. Introduction

1.1 The interconnection of automated systems (ATS interfacility data communication - AIDC) is one of the air navigation priorities contemplated in the Declaration of Bogota. The goal was to implement 15 AIDC interconnections in the period 2014-2016. Likewise, the AN&FS/2 contemplated the implementation in 2017-2019 of 26 additional interconnections, which were endorsed by the RAAC/14 meeting.

1.2 Table CNS II-3 – *ATS direct speech circuits* of the CAR/SAM Air Navigation Plan (Doc 8733) contains the ATS speech circuit requirements between international ATS units (ACCs, APPs and control towers) for each of the CAR/SAM States. In this regard, AIDC connection implementation requirements for each State of the Region would be the same as for the international ATS speech circuits listed in Table CNS II-3. In time, ATS voice communications would become secondary means and AIDC would become the primary means of communication. The AIDC interconnections initially contemplated in the Declaration of Bogota and for the period 2017-2019 are only between ACCs.

1.3 For the period 2017-2019, the AN&FS/2 meeting, with the endorsement of RACC/14, agreed to continue with the implementation of surveillance data exchange, setting a goal of 30% surveillance coverage in transfer of flight control areas between adjacent ACCs in the Region.

2. Analysis

AIDC interconnection

2.1 No progress has been made in the implementation of new AIDC interconnections since AN&FS/3. To date, the only operational AIDC interconnections are those implemented between the domestic ACCs of Brazil (6). The AIDC interconnection between the Lima ACC and the Guayaquil ACC went from the operational to the pre-operational phase due to the modernisation of the ATM automation system of the Lima ACC, which is to be completed at the beginning of the fourth quarter of 2017. **Appendix A** contains a table with AIDC interconnection requirements and their estimated implementation dates, and **Appendix B** contains the list of focal points in charge of coordinating AIDC implementation.

2.2 Amongst the activities carried out, mention should be made of the analysis of flight plan errors and duplication/multiplicity, which generate errors in the associated AIDC messages, and therefore need to be mitigated. In this regard, the AIDC group developed a *Guide to avoid errors in FPLs and associated ATS messages* and formulated recommendations to mitigate flight plan errors and duplication/multiplicity. The guide and the recommendations developed by the AIDC group were presented at the Second meeting on AIDC implementation, and were approved by the SAM/IG/18 meeting.

2.3 As part of the activities to mitigate flight plan errors and duplication, the AIDC group has been working on the following aspects:

- Status of implementation of automated systems for FPL/2012.
- Procedures for flight plan filing by SAM States.
- Procedures for mitigating flight plan duplication/multiplicity.

Status of implementation of automated systems for FPL 2012

2.4 According to the analysis of the status of implementation of automated systems in the SAM Region pursuant to Amendment 1 to Edition 15 of Doc 4444 (FPL2012), out of all ACCs in the SAM Region (27), 67% has implemented the update in flight plan processors (FDP), 22% continues using converters, and the remainder still applies the manual solution in view of the fact that automated systems installed in the ACCs are not compliant with FPL 2012 or such automated systems are lacking. Regarding the implementation of AMHS/AFTN terminals containing FPL 2012 templates capable of identifying completion errors, 67% of the States already has them. **Appendix C** contains a table describing the status of implementation of automation, in compliance with amendment 1 to Edition 75 of Doc 4444.

Procedures for flight plan filing by SAM States

2.5 The Third meeting on AIDC implementation collected information on flight plan filing procedures used by SAM States, as shown in **Appendix D** to this working paper.

Procedures for mitigating flight plan duplication/multiplicity

2.6 Based on the analysis conducted by the AIDC group on the procedures used by SAM States for filing flight plans, the SAM/IG/19 meeting felt that, in order to mitigate flight plan duplication in the FDP of the ACC of the aerodrome of departure, the international flight plans transmitted through the AFTN by the flight planning system hired by airlines should be addressed directly to the corresponding ARO/AIS offices of the aerodrome of departure, which will relay them via AFTN/AMHS to the FDP of the corresponding ACC of the aerodrome of departure. This process will continue for a period of transition defined by the States, and once effectiveness of flight plans received directly through the AFTN/AMHS of flight planning systems hired by the airlines is confirmed, these may be directly related to the FDP, with copy to the corresponding ARO/AIS office.

2.7 The SAM/IG/19 meeting also considered the need to establish a single AFTN address XXXXZPZX (ARO/AIS offices) to receive scheduled commercial flight plans. In this sense, the States could prepare an AIC concerning the single AFTN address and the procedure mentioned in paragraph 2.7. Accordingly, the SAM/IG/19 meeting formulated conclusion SAMIG/19-2 – *Implementation of a procedure to mitigate the duplication/multiplicity of scheduled commercial flight plans.*

Surveillance data exchange

2.8 Coordination started between Argentina and Chile for the exchange of surveillance data (secondary radar). This coordination had been interrupted because Chile had to acquire and install software for filtering the surveillance data information used by the military so as to exclude it from the exchange. The technical-operational activities for the implementation of the exchange of radar and flight plan data (AIDC) between Argentina and Chile are contemplated in an MoU that was signed between the authorities of Argentina and Chile on 18 October 2010. A teleconference will take place between the Secretariat (ICAO), Argentina and Chile on 11 October 2017 to define a new action plan for the implementation of the interconnection of surveillance and flight plan data.

2.9 MoUs were established and signed between Argentina and Brazil, Argentina and Uruguay, Brazil and Uruguay, Brazil and Venezuela, and Brazil and Peru for the exchange of surveillance and flight plan data, in order to improve air traffic control in transfer areas between adjacent ACCs. These MoUs were established between 2010 and 2012. At present, out of the activities contemplated in these MoUs, work is currently underway in the implementation of AIDC; the exchange of surveillance data had been interrupted due to the impossibility of using certain communication protocols (asterix). In this regard, given the time elapsed, the States involved in the MoUs should take up the surveillance data exchange issue.

3 Suggested action

3.1 The Meeting is invited to:

- a) take note of the information contained herein; and
- b) review and discuss the AIDC interconnection implementation activities described in section 2 of this working paper and its respective appendices, and report on the plans for achieving the AIDC implementation goal.

- END -

APPENDIX A

(AIDC) GROUND-GROUND DATA INTERCONNECTION LEVEL REQUIREMENTS IN THE SAM REGION

ARGENTINA						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels *				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
CORDOBA (AUT. INDRA AIRCON2100) (2007)	IQUIQUE	XI			X	Positive AIDC tests - March 2016 As a result of the tests, the transmission speed has to be incremented from 2400 to 9600 bit/seg AIDC foreseen to be operational at the end of the second semester of 2018.
	LA PAZ	XI			X	AIDC foreseen for period 2018-2019
	EZEIZA	XI			XI	AIDC in pre-operational phase since December 2015. Operational phase foreseen by the first semester of 2017
	MENDOZA	XI			X	AIDC pre-operational phase by the second semester of 2017
	RESISTENCIA	XI			X	AIDC pre-operational phase by the second semester of 2017
RESISTENCIA (AUT. INDRA AIRCON2100) (May 2016)	ASUNCION	XI			X	Positive AIDC tests were conducted in 2015 between Ezeiza and Asuncion. Tests between Resistencia and Asuncion were conducted in the end of 2016. AIDC foreseen to be operational by the first semester of 2018.
	CORDOBA	XI			X	AIDC pre-operational by the second semester of 2017
	CURITIBA	XI			X	AIDC foreseen by the first semester of 2018
	EZEIZA	XI			X	AIDC pre-operational by the second semester of 2017
	MONTEVIDEO	XI			X	AIDC foreseen by the first semester of 2018

EZEIZA (AUT. INDRA AIRCON2100) (2007)	COMODORO RIVADAVIA	XI			X	AIDC pre-operational by the second semester of 2017
	MENDOZA	XI			X	AIDC pre-operational by the second semester of 2017
	PUERTO MONTT	XI			X	AIDC by the first semester of 2018
	CORDOBA	XI			XI	AIDC in pre-operational phase since December 2015. Operational phase foreseen by the second semester of 2017
	RESISTENCIA	XI			X	AIDC pre-operational by the second semester of 2017
	JOHANNESBURG	XI			X	AIDC tests foreseen by the second semester of 2017
	MONTEVIDEO	XI			X	AIDC foreseen by the first semester of 2018
MENDOZA (AUT INDRA AIRCON2100) (May 2016)	EZEIZA	XI			X	AIDC pre-operational by the first semester of 2017
	SANTIAGO	XI			X	AIDC foreseen for period 2018-2019
	CORDOBA	XI			X	AIDC pre-operational by the second semester of 2017
COMODORO RIVADAVIA (AUT INDRA AIRCON2100) (June 2016)	EZEIZA	XI			X	AIDC pre-operational by the first semester of 2017
	PUNTA ARENAS	XI			X	AIDC by the end of the second semester of 2017
	PUERTO MONTT	XI			X	AIDC by the end of the second semester of 2017

BRAZIL						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
AMAZÓNICO (MANAUS) AUTO. SAGITARIO ATECH	BRASILIA	XI			XI	AIDC implemented June 2016
	BOGOTÁ	XI			X	AIDC operational foreseen by December 2017
	CAYENNE	XI			X	AIDC foreseen for period 2018-2019
	CURITIBA	XI			XI	AIDC implemented July 2016
	GEORGETOWN	XI			X	AIDC foreseen for period 2018-2019
	LA PAZ	XI			X	AIDC foreseen for period 2018-2019

	LIMA	XI			X	AIDC foreseen for December 2017
	MAIQUETIA	XI	X		X	AIDC foreseen for period 2018-2019
	PARAMARIBO	XI			X	AIDC foreseen for period 2018-2019
	RECIFE	XI			X	AIDC implemented since 2 May 2016
	ATLÂNTICO	XI			X	Second semester 2017
BRASILIA AUTO. SAGITARIO ATECH	AMAZÔNICO	XI			XI	AIDC implemented June 2016
	CURITIBA	XI			XI	AIDC implemented July 2016
	RECIFE	XI			XI	AIDC implemented June 2016
CURITIBA AUTO. SAGITARIO ATECH	AMAZONICO	XI			XI	AIDC implemented July 2016
	ASUNCION	XI			X	AIDC foreseen for December 2017
	BRASÍLIA	XI			Xi	AIDC implemented July 2016
	LA PAZ	XI			X	AIDC foreseen for period 2018-2019
	MONTEVIDEO	XI			X	AIDC foreseen for the first semester of 2018
	RECIFE	XI			XI	AIDC implemented July 2016
	RESISTÊNCIA	XI			X	AIDC foreseen by the first semester of 2018
	ATLÂNTICO	XI			X	Second Semester 2017
RECIFE AUTO. SAGITARIO ATECH	AMAZÔNICO	XI			XI	AIDC Implemented on 2 May 2016
	BRASÍLIA	XI			XI	AIDC implemented June 2016
	CURITIBA	XI			XI	AIDC implemented July 2016
	ATLÂNTICO	XI			X	Second Semester 2017
ATLÂNTICO AUTO. SAGITARIO ATECH	AMAZÔNICO	XI			X	Second Semester 2017
	CURITIBA	XI			X	Second Semester 2017
	DAKAR	XI			X	AIDC TBD
	JOHANNESBURG	XI			X	AIDC TBD
	LUANDA	XI			X	AIDC TBD
	MONTEVIDEO	XI			X	AIDC foreseen for period 2018-2019
	RECIFE	XI			X	Second Semester 2017
	CAYENNE	XI			X	AIDC foreseen for period 2018-2019

BOLIVIA						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
LA PAZ (MANUAL)	AMAZÔNICO	XI			X	AIDC foreseen for period 2018-2019
	ASUNCION	XI			X	AIDC foreseen for period 2018-2019
	CURITIBA	XI			X	AIDC foreseen for period 2018-2019
	CORDOBA	XI			X	AIDC foreseen for period 2018-2019
	LIMA	XI			X	AIDC foreseen for period 2018-2019
	IQUIQUE	XI			X	AIDC foreseen for period 2018-2019

CHILE						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
SANTIAGO (AUTO THALES TOPSKY)	IQUIQUE	XI			X	AIDC foreseen for period 2018-2019
	LIMA	XI			X	AIDC foreseen for period 2018-2019
	MENDOZA	XI			X	AIDC foreseen for period 2018-2019
	PUERTO MONTT	XI			X	AIDC foreseen for period 2018-2019
IQUIQUE (AUTO INDRA AIRCON 2100)	CORDOBA	XI			X	Positive AIDC tests - March 2016. Tests results indicate the requirement of increase transmission speed from 2400 to 9600 bit/sec. AIDC operational foreseen by the first semester of 2018
	LA PAZ	XI			X	AIDC foreseen for period 2018-2019
	LIMA	XI			X	Positive AIDC tests conducted in February 2016. AIDC foreseen to be operational by the second semester of 2017

PUERTO MONTT (INDRA AUTOMATED)	SANTIAGO	XI			X	AIDC foreseen for period 2018-2019
	PUNTA ARENAS	XI			X	AIDC pre operational since November 2016.
	EZEIZA	XI			X	AIDC by the first semester of 2018
	COMODORO RIVADAVIA	XI			X	AIDC by the first semester of 2018
PUNTA ARENAS (INDRA AUTOMATED)	PUERTO MONTT	XI			X	AIDC pre operational since November 2016
	COMODORO RIVADAVIA	XI			X	AIDC by the first semester of 2018

COLOMBIA						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 444 4 Auto	3 (OLDI)	4 (AIDC)	
BOGOTÁ (AUTO INDRA AIRCON 2100)	AMAZÔNICO	XI			X	AIDC foreseen to be operational for December 2017
	CENAMER	XI			X	AIDC foreseen for period 2018-2019
	GUAYAQUIL	XI			XI	Positive AIDC tests conducted AIDC in pre-operational phase (August 2015). Implementation foreseen December 2017.
	LIMA	XI			XI	Positive AIDC tests conducted. AIDC pre-operational (August 2015) Operational letter of agreement incorporating AIDC was signed on November 2016 Operational phase foreseen last quarter 2017
	MAIQUETIA	XI			X	AIDC foreseen for period 2018-2019
	PANAMA	XI			X	Positive AIDC tests conducted. AIDC foreseen to be operational by second semester 2017.
	BARRANQUILLA	XI			XI	AIDC pre-operational (March 2016)
BARRANQUILLA (AUTO INDRA AIRCON 2100)	MAIQUETIA	XI			X	AIDC foreseen for period 2018-2019
	PANAMA	XI			X	Positive AIDC tests conducted. AIDC foreseen to be operational by second semester 2017.

	BOGOTA	XI			XI	AIDC pre-operational (March 2016)
	KINGSTON	XI			X	AIDC TBD
	CURAÇAO	XI			X	AIDC TBD
APP Rio Negro (AIRCON 2100)	PANAMA	XI			X	Tests on second semester 2017
APP Cali (AIRCON 2100)	PANAMA	XI			X	Tests on second semester 2017

ECUADOR						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 444 4 Auto	3 (OLDI)	4 (AIDC)	
GUAYAQUIL AUTO INDRA AIRCON 2100	BOGOTA	XI			XI	Positive AIDC tests conducted. AIDC pre-operational (August 2015) implementation foreseen December 2017
	LIMA				XI	AIDC operational implementation (31 March 2016) Migrated to pre-operational phase since Nov 2016. Resume to operational phase foreseen for last quarter 2017.
	CENAMER	XI			X	Positive AIDC tests conducted. AIDC foreseen for period 2018- 2019

FRENCH GUIANA						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
CAYENNE AUTO ADACEL AIDC not installed	AMAZÔNICO	XI			X	AIDC foreseen for period 2018-2019
	PARAMARIBO	XI			X	AIDC foreseen for period 2017-2019
	PIARCO	XI			X	AIDC foreseen for period 2018-2019
	DAKAR	XI			X	AIDC foreseen for period 2018-2019
	ATLANTICO	XI			X	AIDC foreseen for period 2018-2019

GUYANA						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
GEORGETOWN AUTO INTELCAN AIDC not installed	AMAZONICO	XI			X	AIDC foreseen for period 2018-2019
	PIARCO	XI			X	AIDC foreseen for period 2018-2019
	MAIQUETIA	XI			X	AIDC foreseen for period 2018-2019
	PARAMARIBO	XI			X	AIDC foreseen for period 2018-2019

PANAMA						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 444 4 Auto o	3 (OLDI)	4 (AIDC)	
PANAMA (AUTO THALES)	BOGOTA	XI			X	Positive AIDC tests conducted. AIDC foreseen to be operational by second semester 2017.
	BARRANQUILLA	XI			X	Positive AIDC tests conducted. AIDC foreseen to be operational by second semester 2017.
	CENAMER	XI			X	Positive AIDC tests conducted. Pre operational phase. AIDC foreseen to be operational by the second semester 2017
	APP CALI	XI			X	Tests on second semester 2017.
	APP RIO NEGRO	XI			X	Tests on second semester 2017.

PARAGUAY						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
ASUNCION AUTO AIRCON 2100 INDRA	CURITIBA	XI			X	AIDC foreseen for December 2017
	LA PAZ	XI			X	AIDC foreseen for period 2018-2019
	RESISTENCIA	XI			X	Positive AIDC tests conducted in 2015 between Ezeiza and Asuncion. Tests between Resistencia and Asuncion were held by the end of 2016. AIDC foreseen to be operational by the first semester 2018.

PERU						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
LIMA AUTO AIRCON 2100 INDRA	AMAZONICO	XI			X	AIDC foreseen to be operational by December 2017
	BOGOTA	XI			XI	Positive AIDC tests conducted. AIDC pre-operational phase (August 2015). Amendment to the operational agreement including the AIDC signed in November 2016. Operational phase foreseen last quarter 2017
	SANTIAGO	XI			X	AIDC foreseen for period 2018-2019
	IQUIQUE	XI			X	Positive AIDC tests conducted in February 2016. AIDC foreseen to be operational by the second semester of 2017.

	GUAYAQUIL	XI			XI	AIDC operational (31 March 2016) migrated to pre-operational phase on November 2016. Expected to resume operational phase the las quarter 2017.
	LA PAZ	XI			X	AIDC foreseen for period 2018-2019

SURINAME						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
PARAMARIBO (AUTO INTELSCAN) AIDC not installed	AMAZÓNICO	XI			X	AIDC foreseen for period 2018-2019
	GEORGETOWN	XI			X	AIDC foreseen for period 2018-2019
	PIARCO	XI			X	AIDC foreseen for period 2018-2019
	CAYENNE	XI			X	AIDC foreseen for period 2018-2019

URUGUAY						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
MONTEVIDEO (AUTO INDRA AIRCON2100)	CURITIBA	XI			X	AIDC foreseen by first semester 2018
	EZEIZA	XI			X	AIDC foreseen by the first semester 2018
	RESISTENCIA	XI			X	AIDC foreseen by first semester 2018
	ATLANTICO	XI			X	AIDC foreseen for period 2017-2019
	JOHANNESBURG	X			X	AIDC TBD

VENEZUELA						
ACC	ACC ADJ	Flight plan				Comments
		Interconnection levels				
		1 4444 Manual	2 4444 Auto	3 (OLDI)	4 (AIDC)	
MAIQUETIA (AUTO ATECH X4000) AIDC not installed	AMAZONICO	XI	XI		X	AIDC foreseen for period 2018-2019
	BOGOTA	XI			X	AIDC foreseen for period 2018-2019
	BARRANQUILLA	XI			X	AIDC foreseen for period 2018-2019
	PIARCO	XI			X	AIDC TBD
	CAYENNE	XI			X	AIDC foreseen for period 2018-2019
	CURAZAO	XI			X	AIDC TBD
	SAN JUAN	XI			X	AIDC TBD

* X PLANNED

*XI IMPLEMENTED AND IN PRE-OPERATIONAL OR OPERATIONAL PHASE

APÉNDICE B / APPENDIX B

**NATIONAL FOCAL POINTS/PUNTOS FOCALES NACIONALES
IMPLEMENTATION OF INTERCONNECTION OF AUTOMATED SYSTEMS/IMPLANTACIÓN INTERCONEXIÓN SISTEMAS
AUTOMATIZADOS**

STATE/ ESTADO	ADMINISTRATION/ ADMINISTRACIÓN	NAME/ NOMBRE	POST/ CARGO	TELEPHONE/ TELEFONO	E-MAIL
ARGENTINA	EANA	Javier Schenk	Gerente CNS EANA	(549 11) 5848 6936	Jschenk@eana.com.ar
		Oswaldo Oscar Godoy	Jefe ANS Subregional Ezeiza	Cel (54911) 28836444 5411 44802309	ogodoy@eana.com.ar
		Daniel Coria	Coordinador nacional sistema automatizados	T.E:+5491135942686	dcoria@eana.com.ar
	DNCTA	Mario Correa	Jefe sistemas automatizados ATS	(5411) 43176015	mario_correa@yahoo.com.ar
	ANAC	Diego Agüero	Técnico automatización	(54911) 2258-7836 (5411) 5941-3000 Ext.69-128	daguero@anac.gob.ar
BOLIVIA	DGAC	Jaime Yuri Álvarez Miranda	Jefe Unidad CNS	Tel: +5912 2444450 int. 2651	jalvarez@dgac.gob.bo
BRAZIL/ BRASIL	DECEA	Luiz Antonio dos Santos	Asesor ATM	5521 2101 6088	luizantoniolas@decea.gov.br
		Murilo Loureiro	Asesor sistemas automatizados	(55 21) 2101-6658	loureiromal@decea.gov.br
COLOMBIA	UAEAC	Harlen Mejía	Jefe de Aeronavegación		harlen.mejia@aerocivil.gov.co
		Mauricio Ferrer	Especialista ATM sistemas automatizados		mauricio.ferrer@aerocivil.gov.co
		Pedro Alejandro Velasco	Jefe Grupo de Vigilancia Aeronáutica	(57) 317656-7203	pedro.velasco@aerocivil.gov.co
CHILE	DGAC	Pedro Pastrian	Especialista radar y sistemas	(56 2) 836-4005	ppastrian@dgac.gob.cl

STATE/ ESTADO	ADMINISTRATION/ ADMINISTRACIÓN	NAME/ NOMBRE	POST/ CARGO	TELEPHONE/ TELEFONO	E-MAIL
			automatizados	(56 2) 644-8345	
		Christian Vergara	Especialista comunicaciones	(56 2) 836-4005 (56 2) 644-8345	cvergara@dgac.gob.cl
		Gustavo Cáceres Moraga	Controlador Tránsito Aéreo Ofc. Operaciones ACCS	(56 2) 91581853 (56 2) 28364018	gcaceres@dgac.gob.cl
ECUADOR	DAC	Raul Avellan	Especialista CNS coordinador sistema AMHS	(593 4) 269-2829 (593 9) 9530-2735	raul.avellan@aviacioncivil.gob.ec
		Jorge Zúñiga	Programación FDP y coordinaciones	(593 2) 2604477	jorzu40@hotmail.com
		Eugenio Espinoza	Controlador ACC Guayaquil Radar	(593) 981269823	eugenio.espinoza@aviacioncivil.gob.ec
GUYANA					
GUYANA FR./ FRENCH GUIANA	Service de la Navigation Aérienne aux Antilles-Guyane (SNA-AG)	Michel Areno	Head French Guiana ACC	(594) 694455617	michel.arena@aviation-civile.gouv.fr
PANAMA	Autoridad Aeronáutica Civil (AAC)	Mario Antonio Facey Howard	Especialista radar y sistemas automatizados	(507) 315-9852/65	mfacey@aeronautica.gob.pa
PARAGUAY	DINAC	Digno Nelson Cardozo González	Técnico Especialista en Radar y Sistemas Automatizados	(595) 9217585016 Cel: (595) 961779106	nechicar@gmail.com
		Diego Ramón Aldana Fernández	Supervisor ACC/APP	(595) 21 645-707	diegoaldana@gmail.com
PERÚ	CORPAC	Johnny Ávila	Jefe equipos centro de control	(511) 230-1000 Anexo:1267	javila@corpac.gob.pe

STATE/ ESTADO	ADMINISTRATION/ ADMINISTRACIÓN	NAME/ NOMBRE	POST/ CARGO	TELEPHONE/ TELEFONO	E-MAIL
		Jorge Eduardo Merino Rodríguez	Especialista ATM Controlador de Tránsito Aéreo	(51 1) 230-1000 Ext 1158 (511) 5750886 (Centro de Control Lima) (511) 5750995 Cel: 51 99737407	jmerino@corpac.gob.pe jemr69@yahoo.com
		Jaime Arturo Contreras Benito	Coordinador General del Centro de Control	(511) 630 1154 Celular: (51) 948 463 081	jcontreras@corpac.gob.pe
		Raul Anastacio Granda	Supervisor Comunicaciones AMHS-AFTN Área de Comunicaciones Fijas Aeronáuticas	(511) 230-1018	ranastacio@corpac.gob.pe
		Sara Siles La Rosa	Jefe del Área de Servicios de Información Aeronáutica CORPAC S.A.	(511) 230 1168 / (511) 230 1169 Cel: (51) 978 598 481	ssiles@corpac.gob.pe
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APPENDIX C / APENDICE C

**STATUS OF THE AUTOMATION IMPLEMENTATION TO GIVE EFFECT TO THE
AMENDMENT TO THE FLIGHT PLAN FORMAT/**

**ESTADO DE IMPLANTACION DE LA AUTOMATIZACION PARA DAR CUMPLIMIENTO
DE LA ENMIENDA EN EL FORMATO DEL PLAN DE VUELO**

STATE/ ESTADO	ACC	AFTN/AMHS (Template FPL 2012)	FDP /FPL2012
Argentina	Comodoro Rivadavia	Implemented (AMHS terminal) / Implantado (terminal AMHS)	Automated/Automatización Implemented June 2016/Implementado Junio 2016
	Cordoba	Implemented (AMHS terminal) / Implantado (terminal AMHS)	Automated / Automatizado
	Ezeiza	Implemented (AMHS terminal) / Implantado (terminal AMHS)	Automated / Automatizado
	Mendoza	Implemented (AMHS terminal) / Implantado (terminal AMHS)	Automated/Automatización Implemented June 2016/Implementado Junio 2016
	Resistencia	Implemented (AMHS terminal) / Implantado (terminal AMHS)	Automated/Automatización Implemented June 2016/Implementado Junio 2016
Bolivia	Cochabamba /La Paz	Implemented (AMHS terminal) / Implantado (terminal AMHS)	Manual It is foreseen by the end of 2019 an ATM automated system compatible with FPL/12 in the new Cochabamba ACC and La Paz ACC (back up) / Se tiene previsto para finales del 2019 un sistema automatizado ATM compatible con el FPL/12 en el nuevo ACC de Cochabamba y La Paz. ACC (respaldo)

STATE/ ESTADO	ACC	AFTN/AMHS (Template FPL 2012)	FDP /FPL2012
Brazil / Brasil	Amazónico	Implemented (AMHS terminal) / Implantado (terminal AMHS)	Automated /Automatizado (use of converter) / (uso de convertidor centralizado)
	Atlántico	Implemented (AMHS terminal) / Implantado (terminal AMHS)	An update in Sagitario ATM automated system (from ATECH Brazil) which includes the new FPL/12 flight plan format to deactivate the centralized inverter is scheduled for the end of 2017 in the ACC
	Brasilia	Implemented (AMHS terminal) / Implantado (terminal AMHS)	Amazonico, Atlantico, Brasilia, Curitiba and Recife/ Para finales del 2017 está prevista una actualización en Sagitario (sistema automatizado ATM de Brasil de la empresa ATECH) que incluye el nuevo formato de plan de vuelo FPL/12 y desactivar el convertidor centralizado.
	Curitiba	Implemented (AMHS terminal) / Implantado (terminal AMHS)	
	Recife	Implemented (AMHS terminal) / Implantado (terminal AMHS)	
Chile	Iquique	Not implemented (AFTN terminal) / No Implantado (terminal AFTN)	Automated /Automatizado
	Punta Arenas	Not implemented (AFTN terminal) / No Implantado (terminal AFTN)	Automatizado /
	Puerto Montt	Not implemented (AFTN terminal) / No Implantado (terminal AFTN)	Automated /Automatizado
	Santiago	Not implemented (AFTN terminal) / No Implantado (terminal AFTN)	Automated/Automatizado
	Santiago Oceanico	Not implemented (AFTN terminal) / No Implantado (terminal AFTN)	Automated/Automatizado
Colombia	Barranquilla	Not implemented (AMHS terminal) No implantado (terminal AMHS)	Automated /Automatizado
	Bogotá	Not implemented (AMHS terminal) No implantado (terminal AMHS)	Automated /Automatizado

STATE/ ESTADO	ACC	AFTN/AMHS (Template FPL 2012)	FDP /FPL2012
Ecuador	Guayaquil	Implemented (AMHS terminal) / Implantado (terminal AMHS)	Automated /Automatizado
French Guiana (France) Guyana Francesa (Francia)	Rochambeau	No Implemented (AMHS terminal) / No Implantado (terminal AMHS)	Automated / Automatizado
Guyana	Timehri	Implemented (AMHS terminal) / Implantado (terminal AMHS)	Automated / Automatizado
Panama	Panama	Implemented / implantado (AMHS terminal))	Automated /Automatizado
Paraguay	Asunción	Implemented (AMHS terminal) / Implantado (terminal AMHS)	Manual Automated at the end of 2017 /Automatizado a final del 2017
Peru	Lima	Implemented (AMHS terminal) / Implantado (terminal AMHS)	Update automation system by the end of third quarter 2017/ Actualización Sistema automatizado finales del tercer trimester del 2017
Suriname/Surinam	Paramaribo	Implemented (AMHS terminal) / Implantado (terminal AMHS)	Automated (out of service, working manually) / Automatizado (fuera de servicio, trabajando manualmente)
Uruguay	Montevideo	Implemented (AMHS terminal) / Implantado(terminal AMHS)	Automated / Automatizado
Venezuela	Maiquetia	Implemented (AMHS terminal) / Implantado (terminal AMHS)	Automated /Automatizado (use of converter) / (uso de convertidor) By the end of 2017 it is foreseen a new automation system in Maiquetía ACC/ Para finales del 2017 se estima operación del nuevo sistema automatizado del ACC de Maiquetía

APPENDIX D

FLIGHT PLAN FILING PROCEDURES IN THE SAM REGION

ARGENTINA

Regarding the processing of FPLs in accordance with national regulations, paper forms can be initially filed at an ARO-AIS office and transmitted *via* AMHS to the units involved, or by phone or in flight through the A/G frequency.

The filing of RPLs is also regulated, as published in the AIP of Argentina. It should be noted that the filing of RPLs is not being used.

Additionally, the ACCs of Argentina have a flight data position, where an air traffic controller receives and controls FPLs through an AMHS channel.

In 2015, coordination started between the service provider and the operators LATAM Argentina and Aerolíneas Argentinas to study the possibility of using the information digitally produced by the flight planning systems hired by said operators, in the communication systems of the service provider, which produced the FPLs of all planned flights, which were then submitted by the operators in hard copy to the ARO/AIS offices involved.

To this end, coordination meetings were held between the aeronautical authority, ANAC, and the aforementioned actors. Personnel of the service provider and the operator conducted tests in early 2016 using the AMHS channel, with the inclusion of the ARO/AIS units of Aeroparque, Ezeiza and the INDRA automated centre at the EZE ACC.

These tests were successful, and use was extended to all ARO/AIS units in charge of planning the flights of the aforementioned companies.

This procedure permits reception of flight plans by the LIDO or JEPPESEN systems up to 4 hours before, with the advantage that they contain the data of the flight that will be actually conducted, significantly reducing errors in the data contained therein.

It should be noted that the aforementioned provision on FPL processing continues to be applied, and the control function of the ARO/AIS operator is not replaced by the systems hired by the operators.

BRAZIL

Brazil has as goal, to implement the centralized treatment of flight plans, as part of the implementation of SIGMA system (Air Movement Integrated System in use by CGNA – Air Navigation Management Centre). Under this concept, SIGMA validates the syntax, based on the analysis of the content of each field of the flight plan form (FPL) and in accordance with MCA 100-11- “*Preenchimento dos Formulários de Plano de Voo*”.

It also validates the semantics, which refers to the consistency among FPL boxes, based on the specifications of each flight, such as preferred routes, restricted aerodromes, enabled and activated airspaces, and others. All this automated process starts with the completion of the flight plan and ends when clicking on the VALIDATE button. If there is any inconsistency, the user will be informed in order to make corrections as needed.

At present Brazil accepts domestic flight plans through internet in its whole territory, as set by AIC-9N dated 15 May 2016 – “Sending flight plans by internet”. Additionally 6 AIS – CAIS regional centres were implemented in Brasilia, Curitiba, Recife, Rio de Janeiro and Sao Paulo, as well as AIS offices in airdromes of Belo Horizonte, Campinas, Confins and Guarulhos that use SIGMA system in filling flight plans and making the semantic validation. Likewise, flight plans can also be received by phone, fax, or in person at the AIS offices or in CAIS.

In this framework, the FLP filling in AMHS terminals is made only as alternative in case of communication failure between the application and SIGMA system. In this process, the FLP validated will be analysed by SIGMA from a flow management perspective (demand vs. capacity) and, if approved, are directly transmitted to the ACCs, which relay them to the TWRs and APPs involved.

Another on-going project is the integration of automated systems of TWR and ACC/APP, using OLDI protocol and ADEXP messages, which allows more integrity of flight plan data used by centers involved.

Regarding the repetitive flight plan (RPL), Brazil applies this type of procedure for scheduled, charter, and postal flights authorised by ANAC, and is reproduced with the same basic characteristics for at least 10 (ten) flights, for a minimum period of 2 (two) months. RPLs are standardised through ICA 100-11 – Plano de Voo. A basic requirement for using RPLs is that data must be highly stable, so any changes can be easily made.

The RPL is filed using electronic media, the Internet, and, alternatively, by fax, or in person at the repetitive flight plan centre. Non-repetitive flight data, such as an alternate, range, and number of people on board, shall be sent prior to take-off, by radiotelephone, to the control tower, aerodrome of departure, or aeronautical telecommunication station.

Airlines must request the repetitive flight plan at least ten (10) days before the beginning of each of the periods described below:

- a) from the first to the tenth day of the month;
- b) from the eleventh to the twentieth day of the month; and
- c) from the twenty-first to the last day of each month.

Changes, delays, and temporary cancellations can be made to a flight in a planned RPL series. Permanent modifications that involve the addition of new flights, the deletion or modification of flights, in the RPL lists will be presented in the form of a new flight plan with the same advance notice.

CHILE

All flight plans have to be sent to ARO offices via AFTN, e-mail or presenting ATC-1 (FPL) form on ARO fronting desk.

The regulation allows sending a flight plan by any written means. There is also the possibility to present a flight plan at ATC through radio frequency (AFIL).

The process is as follows:

- Flight plan presented by the user (pilot, dispatcher, airline, etc.)
- Flight plan accepted. Review and advisory by ARO office in this part of the process.
- Flight plan transmitted to all ATS dependencies involved in the route.

IFIS system (flight plan presentation through internet) is only available for domestic users of general aviation (small aircrafts). Air operators are not allowed to send FPL via IFIS. Flight plans filled by IFIS are validated by the system and directly registered in FDP of automated systems.

Flight plans send by operators of flight plan service are registered in FDP pf automated system.

ECUADOR

Based on the implementation of Amendment 1 to the Procedures for air navigation services – Air traffic management (PANS ATM - Doc 4444, 15th edition) of the International Civil Aviation Organization (ICAO), the implementation of new procedures and the content of the flight plan and its associated messages in Ecuador are defined as follows:

Procedures for filing a flight plan

- Flight plans will be physically filed at the AIS-AD room of the air navigation services at the aerodrome of departure.
- Filing of flight plans within Ecuadorian territory through the Internet flight information system (IFIS), whether by the pilot-in-command or his/her authorised representative, based on national technical aeronautical regulations on the filing of flight plans within Ecuadorian territory.
- When the operations office of the aircraft operator at the aerodrome of departure uses e-mail as the means to communicate with the AIS-AD room, the filing of the referential flight plan using this medium will be permitted, after which the original forms shall be filed on the same day, no later than 2300 UTC.
- The filing of the flight plan by telephone will not be accepted, nor its submission by individuals other than the pilot-in-command or his/her duly accredited and authorised representative.

The duration of the flight plans will be:

30 minutes for domestic FPL

60 minutes for international FPL

PANAMA

Panama has the THALES ANAIS system for flight plan processing.

In accordance with the AIP of Panama (ENR1.10-1), all users must file a flight plan in accordance with the flight plan format contained in Doc 4444, at least one hour before departure.

The user must notify ATM units of any changes (amendments) to the FPL, on a timely basis.

Users that have dispatch offices with a service capable of linking to the AMHS network shall transmit the FPL to the appropriate ATM units once approved by the authority.

Every AIS-AD unit that receives an FPL will immediately transmit it to the ATM services, addressed to MPZLZQZX and the airports and ACCs involved.

PARAGUAY

The operator files the flight plan in writing to the AIS unit.

The AIS unit transcribes the flight plan, which is addressed and transmitted *via* AMHS.

The flight plan is entered in the AMHS and, in turn, addressed to the automated system through a point-to-point connection to the FDP.

The FDP does the processing and sends the flight plan to the flight plan generation and correction position.

Obs: All flight plans entered in the automated system are sent *via* the AMHS.

An IFPL application (flight plan presentation via INTERNET) developed by company Radio COM is available for domestic flights.

PERÚ

Regular operators can present their flight plans (FPL) through AMHS or AFTN directly to the Lima ACC address, sending a copy to departing, arriving and alternative airdromes and to other ACC involved in the flight in according to AIC 04/2017. Operators working under requirements of this AIC are also responsible of issuing CHG, DLA or CNS corresponding messages.

For the rest of operators the procedure is as follows:

- a) Flight plans (FPL), are presented in hard copy, e-mail, fax or telephone, directly to the ARO/AIS Office of departure airdrome.
- b) The AIS expert in charge receives the FPL and analyses and verifies if it was duly completed according to ICAO Doc 4444. Likewise, he/she advises the pilot or the representative of the company on how to correct the FPL in case of errors, in correspondence with ICAO standards, documents and letters of agreement.

- c) The AIS expert makes the transcription of the flight plan and transmits it through a FPD station to the ATS involved. A user agent (AMHS) will send the FPLs in case of failure of the FDP. A copy of the message is received by the FDP system, for its automatic processing and recording in the data base if accurate data has been entered

The FPL shall be submitted or sent at least 1 hour before the EOBT, and will remain in force until 1 hour after the EOBT. Then will be cancelled automatically. The operators are responsible for promptly manage any delay or change in the EOBT to avoid inconveniences at the departure of their flights.

The use of repetitive flight plans (RPL) is also allowed. Companies using RPL must submit them obligatorily one week prior the end of each month. These RPL correspond exclusively to commercial flight.

URUGUAY

The presentation of FPL is based on AIP Uruguay ENR 1.10-1.

International FPL

The presentation of the flight plan must be made without exception, before departure in the Operations Office (Flight Plan) at the departure airdrome which is responsible of filling the FPL in the system.

FPL reception

The Operations Department of DINACIA of Carrasco International Airport receives flight plans through the following means: 1) in person at the department' office, 2) by Fax # (598) 26040311, 3) by E-mail: plandevuelo@dinacia.gub.uy. All those FPLs are registered in the automated system.

National FPL

For domestic flights and/or when the operations office does not exist/functioning at the departing airdrome, FPL can be routed through the Aeronautical Telecommunications Station (CXK), through telephone 0800 PLAN (0800-7536 or 2604 0251 Ext. 5123).

RPL presentation is based on AIP Uruguay ENR 1.11-4.

The operator first will present by means and addresses indicated in ENR 1.11-5, the list of RPL and/or its corresponding amendments and them will be registered in the system.

FPL forms and RLP Doc 4444

Error types:

- Aircraft not entering FIR and not being alternated
- Duplicated plans
- Plan origin (no route, PBN)
- FPL missing (DEP, EST.)
- Data base (solution in progress)
- FLP form (free text)

VENEZUELA

Every aircraft that files a domestic or international flight plan, whether civilian, commercial, or military, must complete the physical flight plan format established to that end.

This flight plan must be presented to the appropriate AIS authority or unit, which will validate and authorise the flight plan.

Once the flight plan is authorised, the communications office will arrange for the entry of the flight plan into the AMHS or AFTN system so that it will reach the FDP.

Repetitive flight plans also exist in the automated system of the ACC. These flight plans are the commercial itineraries. However, these flight plans are also received by the AIS office (although not obligatory) and, when processed, generate duplication in the FDP system. Venezuela has incorporated Amendment 1 to Edition 15 of Doc 4444 into its flight plan.
