

SUMMARY OF THE WEB CONFERENCE 24 MAY 2012
IMPLEMENTATION OF THE NEW FLIGHT PLAN FORMAT

States and territory invited to the web conference

French Guiana (France); Guyana; and Suriname.

List of participants

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Summary

The web conference in follow-up to the implementation of the NEW FPL was held on 24 May 2012 from 9:00 to 10:00 a.m. (Lima local time). The event was organized for the SAM non-Spanish speaking States, i.e, French Guiana (France), Guyana and Suriname. Guyana and Suriname participated (see above list of participants).

The Agenda for the web conference was the following:

1. Follow-up to the implementation of the NEW FPL format by the States
 - a) Legislation
 - b) Safety assessment
 - c) Automation System
 - d) Training
2. Plan for regional and interregional tests for the NEW flight plan format
3. ICAO guidelines on the implementation of the NEW FPL format during the transition period

1. **Follow-up to the implementation of the NEW FPL format by the States**

Guyana

Informed that they published the AIC informing the aeronautical community of the new flight plan format (Amendment 1 to ICAO Doc 4444, 15th Edition) in June 2011. For the safety assessment, they are going to complete the analysis by mid-June 2012. Once this analysis is completed, they will be sending it to the SAM Regional Office. For the automation system, they informed that since mid-2011 their new AMHS system (Skycom) and their new FDP (Flight Data Processor) (Skycom) are ready to operate with the NEW flight plan format, and for training, they informed that they made an initial training in December 2010 and they will be holding another two: one in July 2012 and the other in September 2012.

Suriname

Informed that they have published the AIC informing the aeronautical community of the new flight plan format (Amendment 1 to ICAO Doc 4444, 15th Edition) in May 2012. They are currently working on the safety assessment, and they expect to complete the task by the end of June 2012. Once completed, they will be sending it to the SAM ICAO Regional Office. Their AMHS system (Skycom) and FDP (Skycom) are ready to operate with the NEW flight plan format since March 2011. As to training, they inform that they conducted an initial training for the air traffic controllers in August 2011 and have scheduled other training before the date of entry of the NEW FPL format.

2. **Plan for regional and interregional tests for the NEW flight plan format**

In reference at this Agenda Item, it was informed that the SAM/IG/9 meeting (Lima, Peru, 14-18 May 2012) presented a schedule for regional and interregional level tests for the NEW FPL format. In this respect, information was provided that, for the tests, the AFTN address “XXXXNFPL” is to be used by each SAM State (where in XXXX you have to insert the identification for the State and the site).

The tests consist in sending to adjacent ACCs the FPL with the inclusion of the new alphanumeric in item 10 and the new indicators in item 18.

Appendix A of this summary contains the tests schedule, reviewed during the WEB conference. In this respect, the dates for the regional and interregional tests for French Guiana (France), Guyana and Suriname are the ones indicated in the Appendix. It is important that the FPL focal point starts the coordination with the respective counterparts (See **Appendix B** for the list of focal points).

During the conference, information was provided that Eurocontrol had drafted a guideline document to conduct tests for the European States, as well as for States of other Regions. The document included as **Appendix C** of this summary describes, in Section 4, the procedures to follow for the tests with the air navigation service providers outside the IFPS (Eurocontrol) working Region, indicating the AFTN address for the tests, the dates scheduled for the trials, and the steps to follow for the registration. States of the Region are invited to register and conduct the tests permitting the validation of the messages through the NEW FPL format.

3. **ICAO guidelines on the implementation of the NEW FPL during the transition period**

The Guyana and Suriname focal points informed that their systems (AMHS template and FDP) are ready to accept the CURRENT and NEW FPL during the transition period 1 July 2012 to 14 November 2012. **Appendix D** of this summary contains the ICAO guidelines for the transition period. The SAM Region is using the NEW to CURRENT FPL conversion table indicated in this guideline.

Other issues

It was informed on the importance that the focal points continue participating in the Web teleconferences organized by this ICAO Regional Office, considering that these conferences represent the only forum that the Region counts with to follow-up the implementation of the NEW FPL.

In this respect, the next Web conferences are scheduled in the following dates: 25 May, 29 June, 31 August, 28 September and 31 October 2012.

In order to know the implementation of the NEW FPL at global level, please enter the ICAO web page for the NEW FPL implementation (FITS): <http://www2.icao.int/en/fits/Pages/home.aspx>.

In order to support the States in develop the operational safety assessment **Appendix E** contains a document developed by the SAM/IG with the support of the RLA/06/01 project. The purpose of this document is to make a safety assessment from the viewpoint of the South American Region before Amendment 1 to the 15th edition of the ICAO Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc 4444), related to the implementation of the new contents of the flight plan (NEW format) as of 15 November 2012, becomes effective and during the transition period starting on 1 July 2012, when airspace users are expected to make use of both the CURRENT and NEW formats.

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APPENDIX A / APENDICE A

SAM REGION TESTING SCHEDULE FOR THE IMPLEMENTATION OF THE NEW FLIGHT PLAN FORMAT / PROGRAMACION DE ENSAYOS PARA LA IMPLANTACION DEL NUEVO FORMATO DE PLAN DE VUELO EN LA REGION SAM

Estado / State	ACC	Regional Testing 1 Apr to 30 Jun 2012/ Pruebas Regionales 1 abr al 30 jun 2012		Inter-Regional Testing 1 Apr to 30 Jun 2012/ Pruebas Interegionales 1 abr al 30 jun 2012		User Testing 1 Jul to 14 Nov 2012/ Pruebas usuarios 1 Jul a 14 Nov 2012		Type of Solution Converter or Upgrade/ Tipo de Solución o Mejora	Date of Acceptance of Both Present and New Format 1 Jul 2012/ Fecha de Aceptación de Actual y Nuevo Formato 1 Jul 2012	Remarks
		State/ Estado	Date/ Fecha	User/ Usuario	Date/ Fecha	User/ Usuario	Date/ Fecha			
Argentina	Comodoro Rivadavia	Chile Puerto Montt Punta Arenas	30Aug/ Ago	South Africa Johannesburg	15Sep			FDP Manual AMHS Upgrade/ Mejoras	July/Julio 2012	
	Cordoba	Bolivia La Paz	20Jul					Upgrade/ Mejoras FDP and AMHS	July/Julio 2012	
		Chile Antofagasta	30Aug/ Ago							
	Ezeiza	Uruguay Montevideo	30Aug/ Ago	South Africa Johannesburg	15Sep			Upgrade/ Mejoras FDP and/y AMHS	July/Julio 2012	
		Chile Puerto Mont	30Aug/ Ago							
	Mendoza	Chile Santiago	30Aug/ Ago					FDP Manual AMHS Upgrade/ Mejoras	July/Julio 2012	

Estado / State	ACC	Regional Testing 1 Apr to 30 Jun 2012/ Pruebas Regionales 1 abr al 30 jun 2012		Inter-Regional Testing 1 Apr to 30 Jun 2012/ Pruebas Interegionales 1 abr al 30 jun 2012		User Testing 1 Jul to 14 Nov 2012/ Pruebas usuarios 1 Jul a 14 Nov 2012		Type of Solution Converter or Upgrade/ Tipo de Solución o Mejora	Date of Acceptance of Both Present and New Format 1 Jul 2012/ Fecha de Aceptación de Actual y Nuevo Formato 1 Jul 2012	Remarks
		State/ Estado	Date/ Fecha	User/ Usuario	Date/ Fecha	User/ Usuario	Date/ Fecha			
	Resistencia	Paraguay Asuncion	30Aug/ Ago					FDP Manual	July/Julio 2012	
		Uruguay Montevideo	30Aug/ Ago					AMHS Upgrade/ Mejoras		
		Brasil Curitiba	20Jul							
Bolivia		Argentina Cordoba	20Jul					FDP Manual	TBD	
		Brasil Amazónico Curitiba	20Jul					AMHS Upgrade/ Mejoras		
		Chile Antofagasta	30Aug/ Ago							
		Paraguay Asunción	30Aug/ Ago							
		Perú Lima	20 Jul							
Brasil	Amazonico	Bolivia La Paz	20 Jul					Converter/ Conversor	July/Julio	
		Colombia Bogota	30Aug/ Ago					AMHS Upgrade/ Mejoras		
		Guyana Francesa Rochambeau	30Aug/ Ago							
		Guyana Georgetown	29Jun							
		Peru	20Jul							

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Estado / State	ACC	Regional Testing 1 Apr to 30 Jun 2012/ Pruebas Regionales 1 abr al 30 jun 2012		Inter-Regional Testing 1 Apr to 30 Jun 2012/ Pruebas Interegionales 1 abr al 30 jun 2012		User Testing 1 Jul to 14 Nov 2012/ Pruebas usuarios 1 Jul a 14 Nov 2012		Type of Solution Converter or Upgrade/ Tipo de Solución o Mejora	Date of Acceptance of Both Present and New Format 1 Jul 2012/ Fecha de Aceptación de Actual y Nuevo Formato 1 Jul 2012	Remarks
		State/ Estado	Date/ Fecha	User/ Usuario	Date/ Fecha	User/ Usuario	Date/ Fecha			
Chile	Antofogasta	Argentina Cordoba	30Aug/ Ago					Upgrade/ Mejoras FDP and/y AMHS		
		Bolivia LaPaz	30Aug/ Ago							
		Peru Lima	30Aug/ Ago							
	Santiago	Argentina Mendoza	30Aug/ Ago	Australia Brisbane	15Sep			Upgrade/ Mejoras FDP and/y AMHS		
				Nueva Zelandia Auckland	15Sep					
	Puerto Montt	Argentina Ezeiza ComodoroRiv adavia	30Aug/ Ago					Upgrade/ Mejoras FDP and AMHS		
	Punta Arenas	Argentina ComodoroRiv adavia	30Aug/ Ago					Upgrade/ Mejoras FDP and/y AMHS		

Estado / State	ACC	Regional Testing 1 Apr to 30 Jun 2012/ Pruebas Regionales 1 abr al 30 jun 2012		Inter-Regional Testing 1 Apr to 30 Jun 2012/ Pruebas Interegionales 1 abr al 30 jun 2012		User Testing 1 Jul to 14 Nov 2012/ Pruebas usuarios 1 Jul a 14 Nov 2012		Type of Solution Converter or Upgrade/ Tipo de Solución o Mejora	Date of Acceptance of Both Present and New Format 1 Jul 2012/ Fecha de Aceptación de Actual y Nuevo Formato 1 Jul 2012	Remarks
		State/ Estado	Date/ Fecha	User/ Usuario	Date/ Fecha	User/ Usuario	Date/ Fecha			
Colombia	Barranquilla	Panama	30Aug/ Ago	Curazao	15Sep			AMHS Upgrade/ Mejoras		
		Venezuela Maiquetia	30Aug/ Ago	Jamaica Kingston	15Sep					
	Bogota	Brasil Amazonico	30Aug/ Ago	COCESNA	1Jul			AMHS Upgrade/ Mejoras		
		Ecuador Guayaquil	30Aug/ Ago							
		Panama	20Jul							
		Peru Lima	20Jul							
		Venezuela Maiquetia	30Aug/ Ago							
Ecuador	Guayaquil	Colombia Bogota	30Aug/ Ago	COCESNA	1Jul			FDP Manual		
		Peru Lima	30Aug/ Ago					AMHS Upgrade/ Mejoras		
Guyana	Georgetown	Brasil Amazonico	29Jun	Trinidad Tabago Piarco	1 Oct			Upgrade/ Mejoras FDP and/y AMHS		
		Surinam Paramaribo	29Jun							
		Venezuela Maiquetia	30Aug/ Ago							

Estado / State	ACC	Regional Testing 1 Apr to 30 Jun 2012/ Pruebas Regionales 1 abr al 30 jun 2012		Inter-Regional Testing 1 Apr to 30 Jun 2012/ Pruebas Intereregionales 1 abr al 30 jun 2012		User Testing 1 Jul to 14 Nov 2012/ Pruebas usuarios 1 Jul a 14 Nov 2012		Type of Solution Converter or Upgrade/ Tipo de Solución o Mejora	Date of Acceptance of Both Present and New Format 1 Jul 2012/ Fecha de Aceptación de Actual y Nuevo Formato 1 Jul 2012	Remarks
		State/ Estado	Date/ Fecha	User/ Usuario	Date/ Fecha	User/ Usuario	Date/ Fecha			
French Guiana (France)	Rochambeau	Brasil Amazonico Atlantico	30Aug/ Ago	Trinidad Tabago Piarco	1 Oct			Upgrade/ Mejoras FDP and/y AFTN		
		Suriname Paramaribo	30Aug/ Ago							
Paraguay	Asuncion	Argentina Resistencia Cordoba	30Aug/ Ago					Upgrade/ Mejoras FDP and/y AMHS		
		Bolivia La Paz	20Jul							
		Brasil Curitiba	20Jul							
Panama	Panama	Colombia Barranquilla Bogota	20Jul	COCESNA	1Jul			Manual FDP and AMHS		
				Jamaica Kingston	1Jul					
Perú	Lima	Bolivia La Paz	20Jul					Upgrade/ Mejoras FDP and/y AMHS		
		Brasil Curitiba	20Jul							
		Chile Antofogasta	30Aug/ Ago							
		Ecuador Guayaquil	30Aug/ Ago							

Estado / State	ACC	Regional Testing 1 Apr to 30 Jun 2012/ Pruebas Regionales 1 abr al 30 jun 2012		Inter-Regional Testing 1 Apr to 30 Jun 2012/ Pruebas Interegionales 1 abr al 30 jun 2012		User Testing 1 Jul to 14 Nov 2012/ Pruebas usuarios 1 Jul a 14 Nov 2012		Type of Solution Converter or Upgrade/ Tipo de Solución o Mejora	Date of Acceptance of Both Present and New Format 1 Jul 2012/ Fecha de Aceptación de Actual y Nuevo Formato 1 Jul 2012	Remarks
		State/ Estado	Date/ Fecha	User/ Usuario	Date/ Fecha	User/ Usuario	Date/ Fecha			
Suriname	Paramaribo	Brasil Amazonico	29Jun	Trinidad Tabago Piarco	1 Oct			Upgrade/ Mejoras FDP and/y AMHS		
		Guyana Georgetown	29Jun							
		French Guyana Rochambeau	30Aug/ Ago							
Uruguay	Montevideo	Argentina Ezeiza Resistencia Curitiba	30Aug/ Ago					Manual AFTN Upgrade/ Mejoras FDP		
		Brasil Amazonico Atlantico Curitiba	30Aug/ Ago							
Venezuela	Maiquetia	Brasil Amazonico	30Aug/ Ago	Curazao	30Aug/ Ago			Upgrade/ Mejoras FDP and/y AMHS		
		Colombia Barranquilla Bogota	30Aug/ Ago	San Juan	30Aug/ Ago					
				Aruba	15Sep					
		Guyana Rochambeau	30Aug/ Ago	Trinidad Tabago Piarco	1 Oct					

APPENDIX B / APENDICE B

PUNTOS FOCALES PARA LA COORDINACIÓN DEL FORMATO DE PLAN DE VUELO / FOCAL POINTS FOR THE COORDINATION OF THE FLIGHT PLAN FORMAT

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Estado/State Organization	Autoridad / Authority		E-mail	T / F
	Area	Nombre y título / Name and Title		
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EUR 2012 TEST PLAN

**FOR THE OPERATIONAL EVALUATION WITH
EXTERNAL CLIENTS OF FUNCTIONALITY
ASSOCIATED WITH AMENDMENT 1 TO PANS-ATM**

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1. INTRODUCTION

This Test Plan defines the purpose, scope, procedures and schedule of activities for the Operational Testing of new or amended features in IFPS associated with Amendment 1 to PANS-ATM.

The intended audience of this Test Plan are the ICAO 2012 EUR Task Force members, all EUR region States, Aircraft Operators and all other ANSPs, Regions and Organisations involved in the operational deployment of Amendment 1 to PANS-ATM.

1.1. Scope

The testing activities described in this document are intended to address the flight planning changes introduced within the EUR region as a result of Amendment 1 to PANS-ATM. The main emphasis therefore is upon IFPS related processes and procedures.

This document describes only the testing activities involving external participation where stakeholders are encouraged to participate. It does not include the various internal testing activities i.e. Acceptance Testing, Regression Testing and Integration Testing.

The Operational Testing described in this document will permit participants to evaluate the impact of the modifications on procedures and systems.

1.2. Co-ordination

Overall co-ordination of 2012 Testing activities will be achieved via the 2012 Task Force and described within this document. Any change to the testing schedule, objectives or scenarios described in this document will be notified via amendment to:

- a) 2012 Task Force members;
- b) Test Coordinators - those having registered their participation to the OPT testing activities using the forms provided.

The practical execution of the different test activities described in this document will be performed by the System Acceptance Team (SAT) of Network Operations, referred throughout this document as the 'Test Team'.

1.3. Release Content

The functionality to support ICAO 2012 will be implemented within two release cycles of the CFMU development process, CFMU 15 in March 2011 and CFMU 16 in March/April 2012.

The CFMU 15 release contained the majority of functionality related to ICAO 2012 and agreed by the Task Force in June 2010. The CFMU 16 release will contain the additional changes agreed by the Task Force in November 2010 in addition to the implementation of changes to the CFMU profile calculation resulting from ICAO 2012 modifications e.g. DLE processing.



Not available until CFMU 16

- **REG syntax increase**
- Modification of CFMU profile due to:
 - DLE
 - DEPT/, DEST/ location
- AFTN line limit support
- **NONRNAV → RNAVX**
- **Use of NAV/, COM/, DAT/ for exemptions instead of EUR/**
- **Use of EUR/ for PROTECTED indicator**
- Clarified treatment of duplicate Field 18 Indicators
- Modified translation of some New STS indicators & modified Old/New decision logic
- Incorporation of additional indications within Mode S and B-RNAV checking algorithms
- Clarified priority treatment for STS indicators MEDEVAC & FFR
- Acceptance of Old and/or New format messages for the same FPL
- Update of SUR eqpt via AFP (EQCST)
- RPL acceptance of New before 15 Nov



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Figure 1 - CFMU 16 Content

1.4. Release Planning

CFMU 16 will be available for testing purposes from November 2011.

CFMU 16 will be available on the operational platforms IFPUV + IFPS from March 2012.

1.5. Documentation

There are three main reference documents for testing purposes which describe the CFMU implementation:

CFMU 2012 Requirements (URD)

CFMU Interface Manual for ICAO 2012 (UID)

IFPS & RPL Dictionary of Messages (DOM)

The URD describes all necessary changes, related to ICAO 2012 implementation, to be made to the CFMU systems. It is by definition a document that relates primarily to the CFMU systems. Some of the exchanges and data items described in the URD concern only CFMU and ANSPs making the URD a more suitable reference for ANSP stakeholders.

The UID describes the necessary changes from an external readers perspective and although it includes exchanges exclusive to CFMU/ANSPs it is nevertheless a better reference document for Aircraft Operators and flight plan originators generally.

The DOM is primarily an engineering document providing a detailed syntactic description of all CFMU related message exchanges in both ICAO and ADEXP formats. Unlike the URD

and UID it provides a complete description of the IFPS & RPL data exchanges, not just the 2012 related changes.

These documents are available via :

http://www.cfm.eucontrol.int/cfmu/public/standard_page/nos_work_programme_fpl_2012_impl_details.html

The **IFPS User Manual** has not yet been updated to reflect 2012 procedures. However, participants may have the need to consult current procedures. The IFPS User Manual is available via the CFMU Library under 'Handbook & Guides':

http://www.cfm.eucontrol.int/cfmu/public/standard_page/library_handbook_supplements.html

1.6. Objectives

1.6.1. General Objectives

The overall objectives of 2012 testing are to:

- a) demonstrate the new software functionality;
- b) enable the new functionality to be tested against client systems;
- c) enable knowledge to be gained of new procedures;
- d) enable familiarisation of client staff and CFMU staff with the new functionality.

1.6.2. Main Functional Objectives

- a) Demonstrate the ability of IFPS to correctly identify and validate New format flight plan and associated messages;
- b) Demonstrate the ability of flight plan originators to create New format flight plan and associated messages;
- c) Demonstrate the ability of ATC units to accept New format flight plan and associated messages;
- d) Demonstrate the ability of IFPS to accept and correctly distinguish between Old format and New format flight plans and related messages;
- e) Demonstrate the ability of IFPS to translate New format into Old format;
- f) Demonstrate the ability of IFPS to provide a transition from Old format to New format when required by the recipient and indicated via an environment setting specific to that recipient;
- g) Demonstrate the ability of IFPS to ensure that flight planning indicators specific to the CFMU and used to communicate between IFPS and client systems are not distributed to non-client addresses.

1.7. Test Activities

There are four main types of testing activities foreseen :

Activity	Main Participants
FPL Creation (IFPUV)	AO, ARO, CFSP
Static / Bulk Testing (Test Data)	ATC, AO, ARO, CFSP
Operational Testing (OPT)	ATC, AO, ARO, CFSP
Passive Testing	ATC, AO, ARO, CFSP

2. FPL CREATION (IFPUV)

The IFPS Validation facility (IFPUV) is available via several different means (see below) and can be used for two main purposes:

- a) to determine the validity of a New (or Old) format FPL message;
- b) to assist in finding a valid route or route portion within the CFMU area.

The IFPUV has been available since March 2011 for testing the validity of NEW format FPL messages, while at the same time continuing to support OLD format. In addition to the new error messages resulting from the new 2012 syntax, warning messages have been added to the application to ensure users are aware that New format should not be provided to the operational IFPS system until it is ready to accept New format in Spring 2012.

The function within the IFPUV to provide a valid route can be useful in the preparation of test FPL data. However, the route finding function is only available to those with secured (Protected) access to the CFMU portal.

2.1. Considerations

1. It should be noted that not all 2012 related syntax changes will be supported by IFPUV until the CFMU 16 release in March 2012 (see Figure 1 - CFMU 16 Content).
2. IFPS will accept and automatically correct some errors. Therefore a message accepted by IFPUV/IFPS as 'valid' is not always an accurate reflection of the message that IFPS will distribute to ATC units. For example, IFPS/IFPUV will accept Field 18 indicators in any order but will provide them to ATC units in the correct order.

2.2. Non-CFMU / External Users

Most 2012 changes are syntax related. As syntax errors are the first to be reported by IFPUV a valid route, even a route within the CFMU area, is not necessary to test the validity of a New format FPL. If the Dept, Dest and route do not penetrate the CFMU area of operations a 'No Errors' result will never be achieved however, once the error 'Not relevant to IFPS' has been reported (or any other route related error) the message has already passed the syntax.

2.3. Access

- a) Internet (CFMU Portal):
<https://www.public.cfm.eurocontrol.int/PUBPORTAL/gateway/spec/index.html>
(the IFPUV is on the lower right hand side of the portal)

Note: depending upon your browser settings the IFPUV application may not appear, particularly if you are using Internet Explorer versions 8 & 9. If this happens you will need to enable 'Compatibility mode', via the 'Tools' tab of your browser, and then re-start your browser session. If this does not resolve the problem please contact the CFMU Technical Helpdesk at: +32 2 7451997

- b) AFTN Address: EUCHZMFV
- c) SITA Address: BRUEY7X

3. STATIC / BULK TESTING

Static testing involves the sharing of input/output test data in the format of a file delivered via e-mail (see §6. CONTACTS). Messages are processed off-line in batch mode and results provided also via file format.

Static testing provides the following advantages:

- a) being able to test the complete suite of messages (eg. FPL→DLA→CHG→CNL);
- b) being able to create a large test file well in advance;
- c) being able to analyse the results off-line taking whatever time may be needed;
- d) being able to easily repeat the tests following some modifications and compare results
- e) no need for complex synchronisation of systems, test addresses, timing etc. as necessary for on-line testing

Care should be taken in the creation of the test data, in particular:

- any use of the DOF indicator vis-à-vis the date/time the tests are being performed;
- test data should be consistent with current environment data.

See also 4.5.2 & 4.8.

3.1. ATC Units

The IFPS Test Team has available a file of valid 2012 messages, primarily FPL and CHG messages, which can be used in the testing of ATC systems. Initially this file contains relatively simple examples of the more straight forward syntax modifications but as time progresses this file will increase in terms of test scenarios, adding more complex examples such as DOF changes etc.

The IFPS Test team will also make available a file containing examples of invalid test messages.

It should be noted that while an effort has been made to ensure the test data referred to above is relevant (penetrates the airspace) of as many ACCs as possible, the Test Team does not have the resources to provide dedicated static test data specific to each individual ACCs or airspace. However, as the route is generally of little consequence to the test objectives, which are primarily syntax related, it is not difficult for recipients of the test data to modify the Dept/Dest and Route in order to make it relevant to the system concerned. If necessary the IFPUV can be used to find valid routes.

3.2. Flight Plan Originators

In addition to the use of IFPUV (for FPL messages only), flight plan originators are encouraged to provide the CFMU Test Team (see CONTACTS) with a file containing

¹ Those interested in obtaining B2B access for the first time should consult the following brochure for further information and access application.
http://www.cfm.eucontrol.int/cfm/gallery/content/public/library/services/service_leaflets/leaf_b2b_latest.pdf

representative samples of all New format messages eg. FPL→DLA→CHG→CNL. The Test Team will process the file and provide the resultant IFPS output.

3.3. Non-CFMU / External Users

ANSPs located outside the IFPS area of operations and flight plan originators (Aircraft Operators, Flight Plan Service Providers, AROs) can participate in the exchange of static flight plan data. The only constraint is that the flights must have at least one portion of route within the IFPS area of operations.

4. OPERATIONAL TESTING (OPT)

On-line testing via normal networks using a dedicated CFMU test platform and supported by IFPS Operators. All OPT test session will include a pre-determined test scenario or test configuration which simulates the 15th Nov switch-over date. A detailed description is provided in § 4.14 and 4.15.

The OPT test sessions enable the complete suit of messages (FPL, CHG, CNL, DEP, DLA, RQP, RQS, AFP, APL, ACH, ACK, MAN, REJ) to be tested involving both flight plan originators (AOs, AROs, CFSPs) and ATS units (ACCs, UACs, APPs, TWRs, AROs).

4.1. Non-IFPS / Non-EUR Participation

4.1.1. Flight Plan Originators / Aircraft Operators

Flight Plan originators not normally operating into the IFPS or European region can participate but should be aware of the following:

- a) flight plans must contain at least one portion of the route within the IFPS area of operation;
- b) the result of the IFPS processing of each test message is provided via the appropriate ACK, MAN or REJ messages (see the IFPS User Manual for details) and will be returned to the address from which the test message was received.

4.1.2. ANSPs / ATC Units

An ANSP or ATC Unit located outside the IFPS area of operation can participate to an OPT session however in order to ensure that IFPS will send the resultant message to the unit concerned the test flight plan data must be submitted making use of the 'Re-addressing' feature of IFPS.

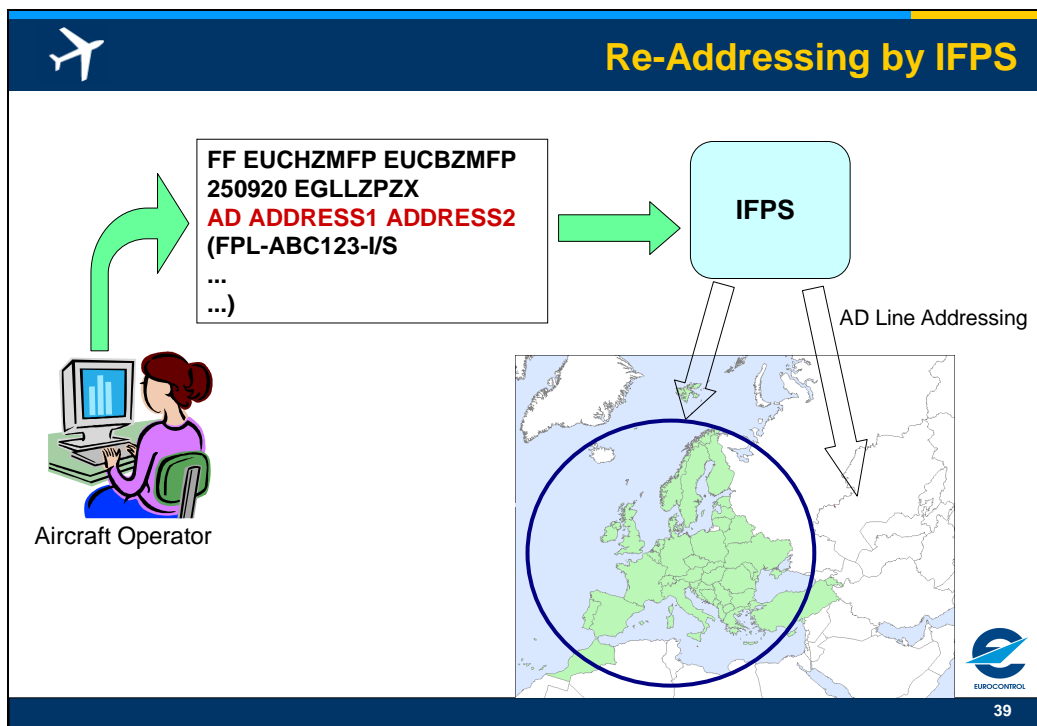


Figure 2 IFPS Re-Addressing Function (AD Line addressing)

For example: If Hong Kong ATC wishes to participate, using the test address 'VHHHZQZT' they should ensure test FPLs are submitted such as;

FF EUCHZMFT ← IFPS test address
AD VHHHZQZT ← Hong Kong test address provided via re-addressing mechanism
(FPL-VHH01XX-IS ← callsign using 'XX' to identify it as a test message
-B744/H-SXDE1GHIJ4J5RWYZ/SB2 ← 'New' format
-EGLL1125 ← relevant to IFPS
-N0480F310 BPK7F BPK M185 CLN UL620 ARNEM UP147 RKN UL980
PENЕК UM994 DENKO UN858 OSKUD/N0488F330 UN858 LAVAR UM874
ASKIL/K0902S1010 B102 UK R11 FV G3 AL B365 BK B923
GUTAN/K0888S1010 A368 URL G3 AKB A360 NALIK/K0880S1110 A360
ERULA/K0883S1130 A360 REVKI A460 KCA L888 SADAN Y1 OMBON B330
POU R473 SIERA
-VHHH1110 ZGSZ
-PBN/B2B3B4B5L1D2D3D4 NAV/RNVD1E2A1 EET/EHAA0021 EDVV0041 EDUU0100
EPWW0115 EYVL0154 UMMV0205 UUWV0228 UWPP0318 UWVW0340 UATT0359
UACC0454 UAAA0538 ZWUQ0633 ZLHW0732 ZPKM0851 ZGZU0957 VHHK1043
SEL/ADHJ REG/BHOT)

To assist with the creation of test messages which are relevant to the ATC unit concerned, it is highly recommended that an ATC unit participates together with its local Aircraft Operators and/or ARO.

It should however be noted that:

- c) flight plans must contain at least one portion of the route within the IFPS area of operation;
- d) the result of the IFPS processing of each test message is provided via the appropriate ACK, MAN or REJ messages (see the IFPS User Manual for details) and will be returned to the address from which the test message was received. If these messages are not needed or cannot be received this must be indicated via the Registration Form.

4.2. Test Schedule

The following on-line test sessions (OPT) are foreseen between February 2012 and November 2012. All sessions will use the CFMU 16 software release which means that all 2012 functionality will be available.

OPT1: 30 January – 3 February 2012

OPT2: 20 – 24 February 2012

OPT3: 7 – 11 May 2012

OPT4: 11 – 15 June 2012

OPT5: 3 – 7 September 2012

OPT6: 24 – 28 September 2012

The first day (Monday) of each test session will primarily be a technical testing day (OPT-TECH) enabling each participant to ensure that the test configuration is correct and that their addresses and parameter settings are correctly set.

The following generic schedule will apply to each session:

OPT-TECH (D-1, usually a Monday)

One session: 0900 to 1200 UTC

OPT SESSION (D → D+4, usually Tue-Fri)

Morning Session: 0900 to 1200 UTC

Afternoon Session: 1200 to 1500 UTC

4.3. Environment Data

The CFMU OPT test system will be loaded with the operational environment data at each AIRAC cycle. It will therefore remain consistent with current operations in terms of basic environment data. This is something that should be kept in mind by those maintaining test data.

In order to participate to a test session it may be necessary (particularly for ATC participants) for the Test Team to modify some of the information held in the CFMU database for the unit concerned. Typically this will concern address data and some 'flags' or parameter settings, see §4.5.

4.4. Registration

Those intending to participate in an OPT session are required to complete and return the appropriate 'Registration Form', at annex.

It should be noted that **registration is required for each individual OPT test session**. Failure to register, even if having participated to a previous OPT session, will mean the necessary addresses will not be configured in the CFMU communications system. As a result no messages may be received from or sent to that address.

4.5. Participant Configuration & Setup

The settings described below, will be automatically maintained over AIRAC cycles and will therefore last until the end of all OPT testing or until otherwise modified in accordance with the registration data provided for a subsequent OPT session.

4.5.1. Participant Address Data

Participants to the OPT testing sessions will be required to provide, via the Registration Form, an indication of:

For flight plan originators (Aircraft Operators, AROs, CFSPs):

1. the address from which test flight plans will be sent to IFPS;
2. willingness to receive the resultant ACK, MAN, REJ at the address specified under 1 above;

For ATC Units:

3. the operational unit or entity for which messages are requested to be received e.g. Amsterdam ACC, Brussels TWR, etc.
4. the test address to be used i.e. the test address that IFPS will assign to the unit specified under 3;
5. the information under 1 & 2 above in case the ATC unit also intends (or needs!) to submit test flight plans to the IFPS test system

4.5.2. Participant Parameter Settings (IFPS States only)

The following parameters will, by de-fault, be set by the IFPS Test Team for each participant in order to achieve the scenario described under §4.16 for all test sessions. If a unit wishes to deviate from the planned scenario then they should indicate the appropriate settings they wish to achieve via the registration form.

ICAO_2012_READY_DATE: a new parameter allowing the unit to indicate the date and time after which New format output will be accepted. Prior to the date/time specified, messages will be provided by IFPS in Old format only. After the date/time specified, messages will be provided in either Old or New format depending upon how they were received/accepted by IFPS.

FPL_DIST_TIME : an ATC unit can indicate how far in advance it wishes to receive flight plan data. A large setting will cause flight plans to be sent by IFPS almost immediately allowing an instant analysis of test results. The Test Team will automatically set this parameter to 360 mins. (6 hours) for each participating unit.

ICAO_ADEXP: the unit can specify whether ICAO or ADEXP format is required. The format specified in the Ops environment for the entity concerned shall be retained, unless otherwise specified.

4.6. Technical Test

A technical test exercise is scheduled the first day of the OPT session (see 4.2).

During the time period allocated for technical testing (usually the Monday morning), input/output to/from participating test addresses will be enabled.

Participants to the OPT session are invited to check that test messages are received by the IFPS test system and that output from the IFPS test system arrives to the correct test address(es). Any anomalies should be reported to the Test Team. See CONTACTS.

4.7. Reception of Test Messages

The operational repetitive flight plans (RPLs) will also be generated on the IFPS test system. This means that a participant ATC Unit may receive a copy of the operational flight plans generated by the test system from RPL data (in Old format of course).

In addition it should be remembered that other participants are also generating test flight plans which may penetrate 'your' airspace. A participating ATC unit may therefore receive many different test messages from different sources. It is therefore very important to clearly distinguish your test messages, see 4.8 below.

4.8. Test Flight Plans Identification

Test flight plans should be clearly identifiable so that IFPS Operators and recipient addressees can quickly identify them as such and identify their source.

It is strongly recommended that the callsign is modified to reflect the test nature of the message and the test participant. The following logic is proposed:

firstly: ICAO three letter designator of the AO or a three letter designator that is not one of the ones already allocated by ICAO (see ICAO Doc 8585) for an ATS participant (ARO)
followed by : a two digit reference number
followed by : the letters 'XX'
E.g.
DLH01XX 01st test FPL from Lufthansa
DDW14XX 14th test FPL from ARO Bremen

By following this rule test messages should not accidentally associate to either operational messages copied from the operational system or to other test messages.

4.9. Test Purpose Indication

It is highly recommended that an indication is made in Field 18 of the feature being tested e.g. RMK/PBN TEST or RMK/F10B SYNTAX TEST. This will assist the Test Team, who will be monitoring the invalid queue of messages, to know whether a particular error may be integral to the test or whether it is irrelevant to the test and could therefore be manually corrected.

4.10. Manual Message Processing

The IFPS test system will not be manned to the same level as the operational system. IFPOs will give priority to the treatment of test messages, identified by the callsign, see 4.8. IFPOs will reject the message when an error is encountered which is considered to be the main purpose of the test but will correct any other errors considered to be incidental. In this way the originator of the message can 'see' the system reaction through the error message received.

It should be noted that IFPO correction logic will, therefore, not be the same as under operational conditions. Telephone co-ordination will not normally be initiated and more manual rejections will result.

4.11. CFMU Test System Addresses / Access

Test messages may be sent directly to the test systems using the following addresses:

IFPS Test : AFTN : EUCHZMFT SITA : ANREP7X

Access to the test system will also be available via B2B.

4.12. IFPS Output

The distribution of messages by IFPS (ACK, MAN, REJ to flight plan originators and FPL, CHG, etc. messages to ATC units) shall be limited to those having indicated their willingness to participate in the testing through completion of the registration process.

Participants shall consider all messages that carry the IFPS test address (EUCHZMFT) as originator as having a non-operational status.

4.13. Telephone support during OPT Sessions

Test participants may contact the IFPOs (Test Team) during a test session for assistance when needed. As the Test Team may be very busy participants are encouraged to resolve their problems (and perhaps improve their own understanding in doing so!) and only contact the Test Team as a last resort, for example, when several corrections and re-submissions fail to provide the desired result.

4.14. Test Configuration for IFPS States (inc. 'Copy' Addressees)

The creation and management of the necessary settings to achieve the type of migration testing described below for different participants at different times throughout each of the test sessions would be extremely difficult to manage and chaotic to work with.

It is therefore planned to create a **standard test scenario for every test session which will apply to all participants.**

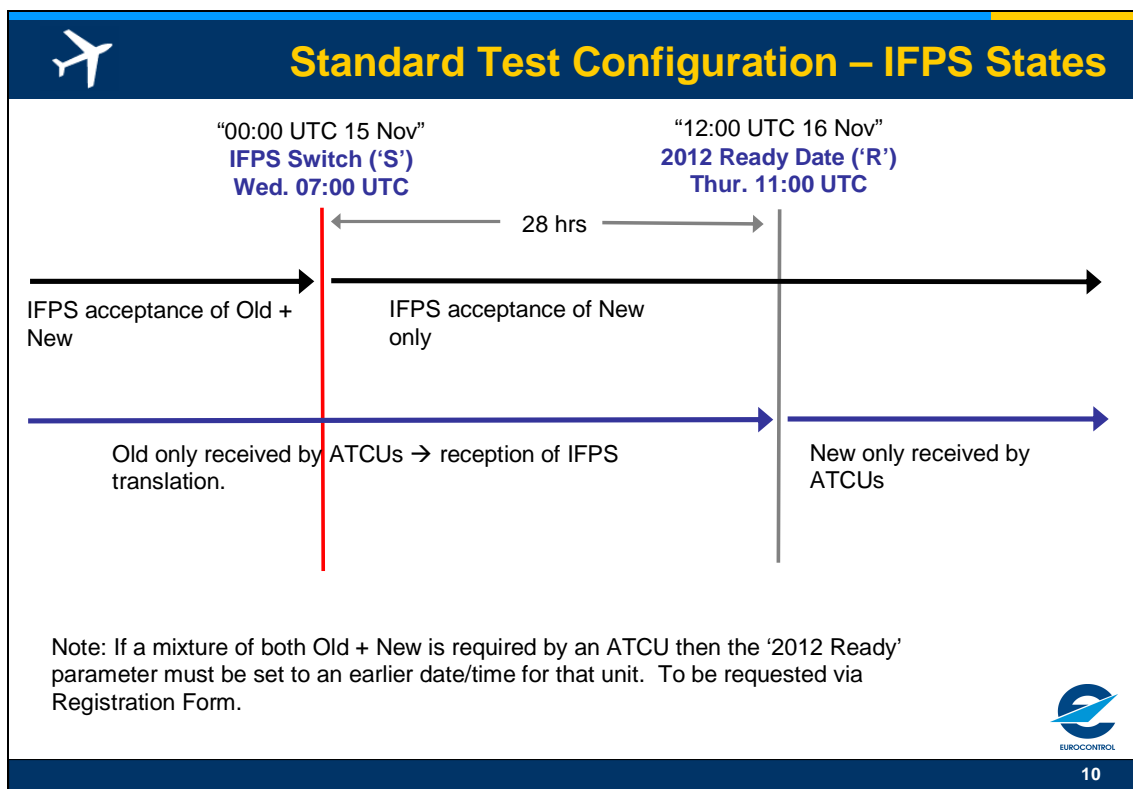


Figure 3 Test Configuration for IFPS States

The standard scenario sets the '2012 Ready Date' parameter to a setting 28 hours after the IFPS switch, thus allowing a clean switch from Old to New without the need for a period of mixed reception of both Old and New formats.

If an ATC Unit wishes to receive New format earlier than the de-fault setting, and therefore receive both Old and New formats, this must be indicated via the Registration form.

4.15. Test Configuration for Non-CFMU States

Non-CFMU States, including non-EUR States, can participate to the test sessions via use of the Re-Addressing function ('AD-line Addressees'), see § 4.1.

The '2012 Ready' parameter is not available to non-IFPS States. The IFPS processing for AD-line addressees is therefore different and as a result the scenarios, as shown below, for these States with regard to the 'Transition' and 'Rollover' tests are slightly different.

During the 2012 operational roll-over period IFPS will distribute FPLs to AD-line addressees:

- in Old format only prior to 00:00 UTC on 15 Nov 2012
- in New format, plus some residual Old format, from 00:00 UTC on 15 Nov 2012 onwards

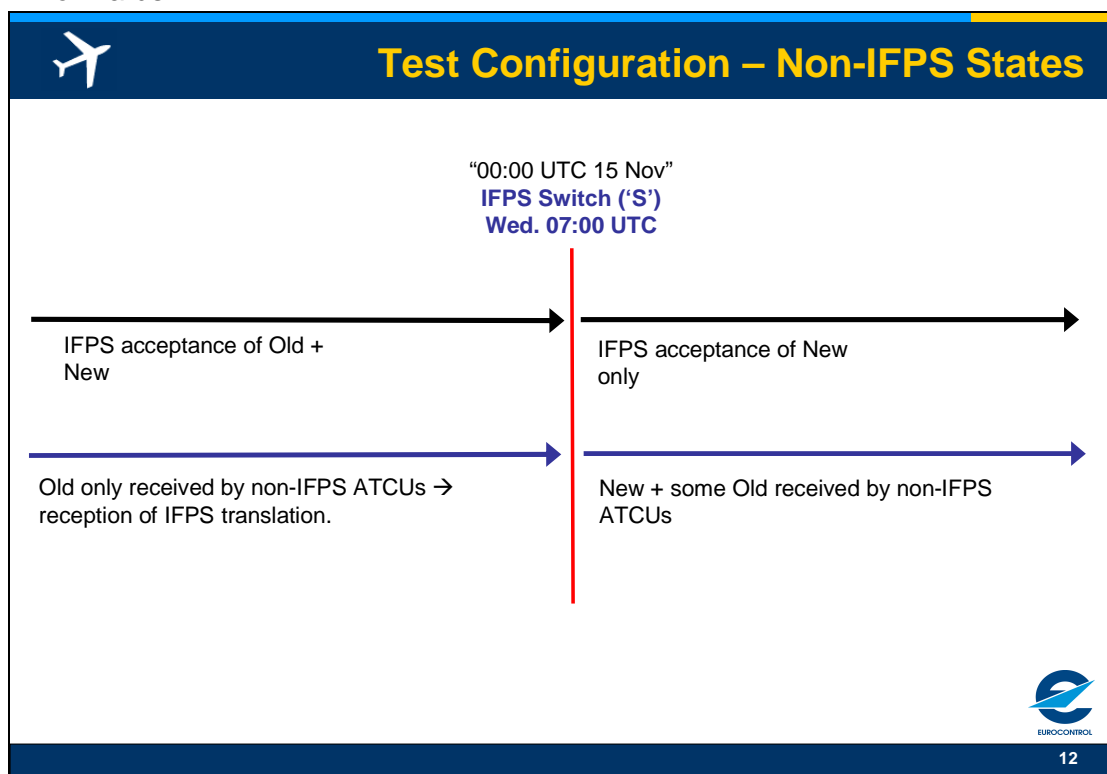


Figure 4 Test Configuration for non-IFPS States

4.16. OPT Test Cases

The main test areas can be categorized as follows:

- a) Message Syntax
- b) Transition and Translation
- c) Ops Date Rollover - IFPS acceptance of New only

4.16.1. Message Syntax

There are many basic syntax and semantic checks that can be performed on each of the impacted fields and within each of the different message types.

Most of these tests are simple to create meaning that no specific setup or configuration of the environment data, parameters etc., is required. Participants are therefore free to engage in syntax testing throughout any or all of the test sessions, as required.

It should be noted that, in accordance with configurations described above :

- a) IFPS acceptance of New format messages can be tested throughout the complete session;
- b) IFPS refusal of Old content can only be tested after 07:00 UTC on Wednesday;
- c) Reception by ATC units within the IFPS area (and Copy addresses) of New format can only be achieved after 11:00 UTC on Thursday;
- d) Reception by ATC units outside the IFPS area of New format can only be achieved after 07:00 UTC on Wednesday;
- e) Reception by ATC units within the IFPS area (and Copy addresses) of Old format messages translated from New can only be achieved prior to 11:00 UTC on Thursday;
- f) Reception by ATC units outside the IFPS area of Old format messages translated from New can only be achieved prior to 07:00 UTC on Wednesday.

4.16.1.1. DOF

Care needs to be taken in the creation of test data designed to test the DOF functionality.

The inclusion of a DOF coupled with the date/time at which the test is to be performed and taking the parameters described in 4.5.2 into consideration, may have an impact upon the outcome and achievement of the desired objective.

4.16.2. Transition and Roll-Over

4.16.2.1. Test Case Description for IFPS States

Example Scenarios:

Reference	TRANSLATION_OLD (TO)
Objective	1. Demonstrate the ability of IFPS to convert New format into Old format in accordance with ICAO_2012_READY_DATE parameter setting of the addressee 2. Demonstrate the ability of an ATC unit to process Old format converted from New format.
Pre-requisites (see §4.5.2)	<IFPS_SWITCH> set to 'New only' at time 'S' <ICAO_2012_READY_DATE> set to time 'R' (R = S + 28hr) <FPL_DIST_TIME> set to 6hr <MAX_FILING_TIME> set to 24hr
Test Data	C1. Valid New format messages relevant to the ATC unit concerned and with an entry time into the ATC units airspace (EOBDT) before 'R'
Expected Result	C1. Old format messages provided by IFPS to the ATC unit

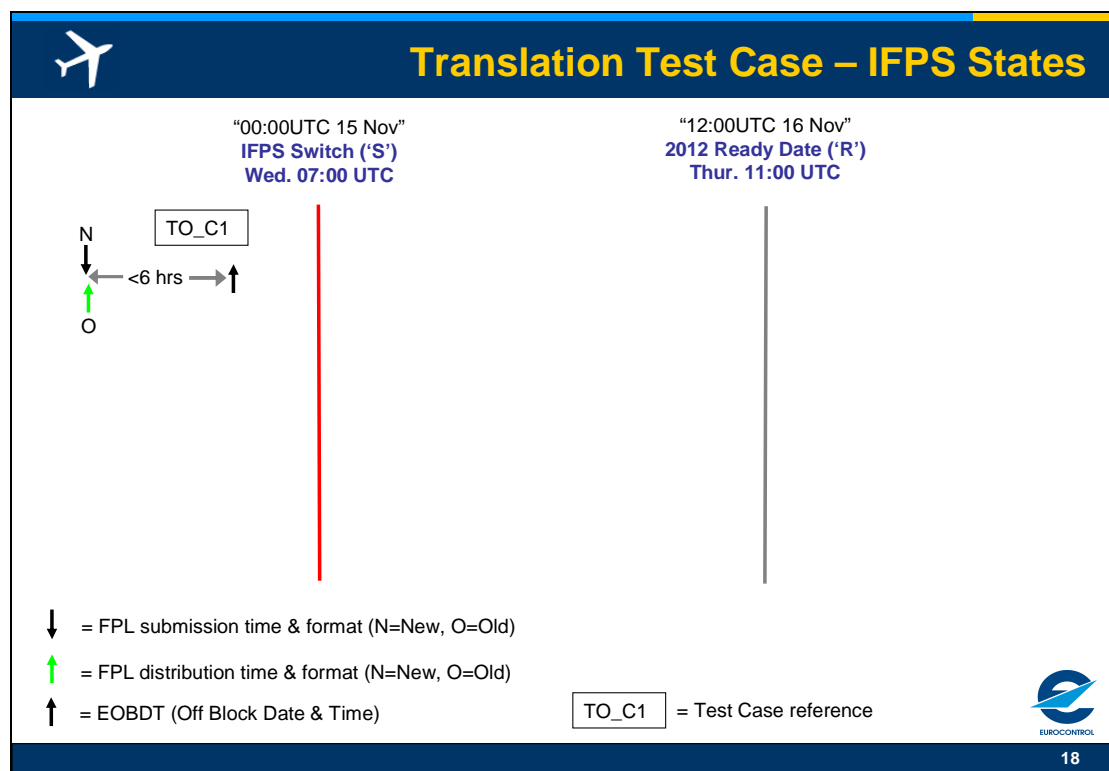


Figure 5 Translation Test Case for IFPS States

Reference	TRANSITION_NEW (TN)
Objective	<p>1. Demonstrate the ability of IFPS to provide New format in accordance with ICAO_2012_READY_DATE parameter setting of the addressee.</p> <p>2. Demonstrate the ability of an ATC unit to process New format.</p>
Pre-requisites (see §4.5.2)	<p><IFPS_SWITCH> set to 'New only' at time 'S'</p> <p><ICAO_2012_READY_DATE> set to time 'R' (R = S + 28hr)</p> <p><FPL_DIST_TIME> set to 6hr</p> <p><MAX_FILING_TIME> set to 24hr</p>
Test Data	<p>C1. Valid New format message sent to IFPS after 'R' with an entry time into the ATC units airspace (EOBDT) less than 6hr in the future</p> <p>C2. Valid New format message sent to IFPS before 'R' with an entry time into the ATC units airspace (EOBDT) less than 6hr in the future</p> <p>C3. Valid New format message sent to IFPS less than 1 hr before 'R' with an entry time into the ATC units airspace (EOBDT) greater than 7hr in the future</p>
Expected Result	<p>C1. New format messages provided by IFPS to the ATC unit</p> <p>C2. Old format messages provided by IFPS to the ATC unit</p> <p>C3. New format message provided by IFPS to the ATC unit 6 hr before EOBDT.</p>

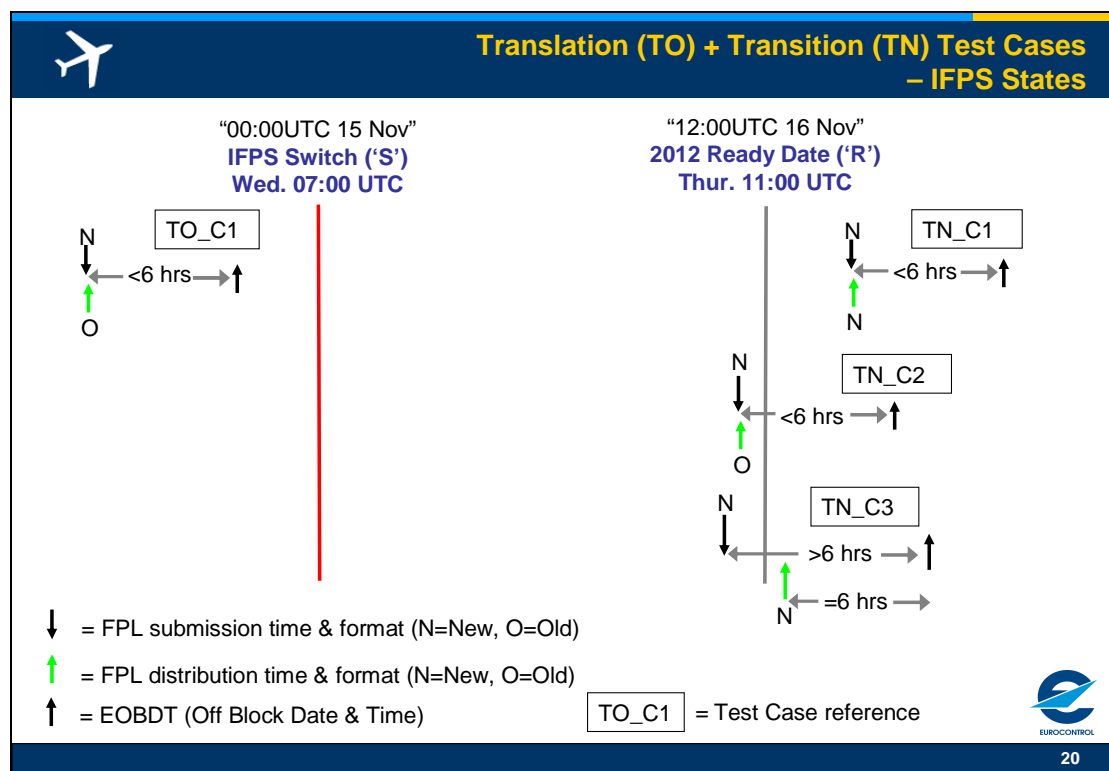


Figure 6 Translation & Transition Test Cases for IFPS States

Ops Date Rollover

At a given time (Operations = 00:00UTC on 15 Nov 2012) a switch can be set in IFPS to indicate that Old format messages processed from that moment onwards will no longer be accepted.

An ATC unit can achieve a clean switch from Old to New (no period of mixture of both Old and New) 36 hrs or more after IFPS stops accepting Old but for the purpose of testing we will use a period of 28 hrs.

Reference	ROLLOVER_SWITCH (RS)
Objective	1. Demonstrate the ability of IFPS to switch from accepting both Old and New formats to accepting New format only. 2. Demonstrate the ability of an ATC unit to achieve a clean switch from Old to New format.
Pre-requisites (see §4.5.2)	<IFPS_SWITCH> set to 'New only' at time 'S' <ICAO_2012_READY_DATE> set to time 'R' (R = S + 28hr) <FPL_DIST_TIME> set to 6hr <MAX_FILING_TIME> set to 24hr
Test Data	C1. Valid Old format messages sent to IFPS before 'S' with an entry time into the ATC units airspace (EOBDT) less than 'R'. C2. Valid New format messages sent to IFPS at any time with an entry into the ATC units airspace (EOBDT) less than 'R' C3. Valid Old format messages sent to IFPS before 'S' with an entry into the ATC units airspace (EOBDT) after 'R' C4. Valid Old format messages sent to IFPS after 'S'
Expected Result	C1. Reception from IFPS in Old format, at EOBBDT-6 hrs C2. Reception from IFPS in Old format, as translated by IFPS, at

	EOBDT -6hrs i.e. prior to <ICAO_2012_READY_DATE> time C3. Error – EOBDT outside acceptable range (<24hr in advance) C4. Error – Old format not accepted
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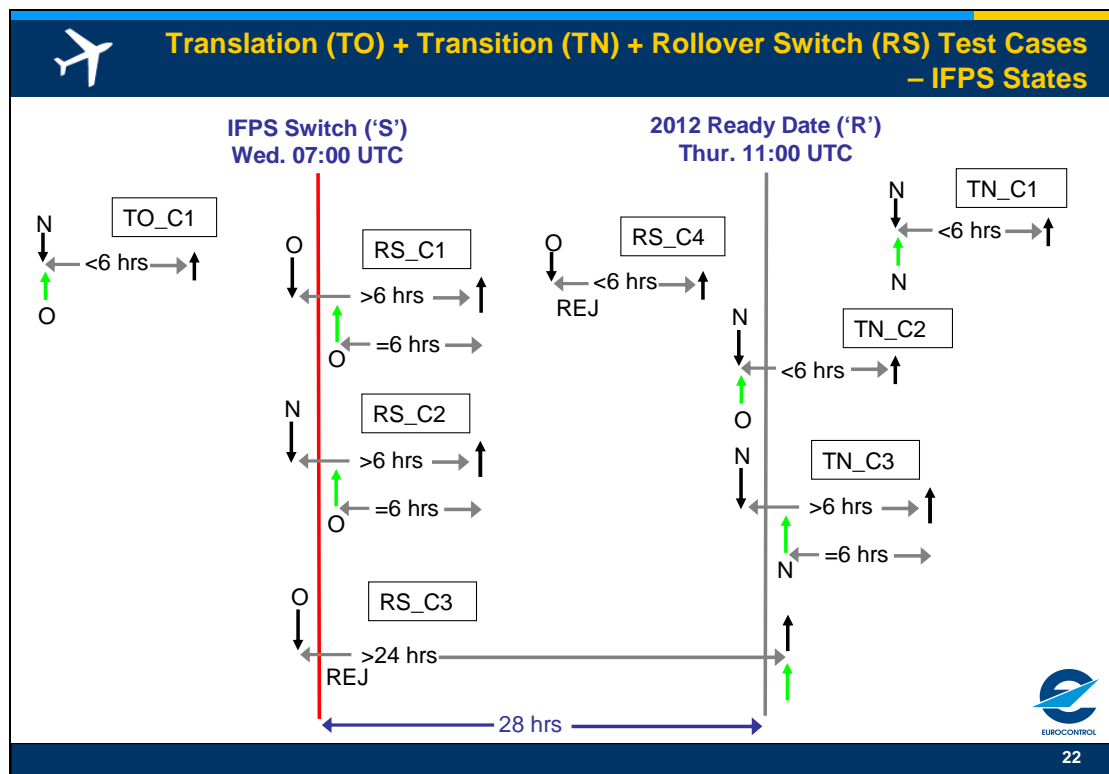


Figure 7 All Migration Test Cases for IFPS States

4.16.2.2. Non-IFPS States

Reference	AD-Line (AD)
Objective	<ol style="list-style-type: none"> 1. Demonstrate the ability of IFPS to switch from accepting both Old and New formats to accepting New format only. 2. Demonstrate the ability of IFPS to distribute to AD line addressees in Old format only ahead of the IFPS Switch date/time. 3. Demonstrate the ability of IFPS to distribute in New format following the IFPS Switch date.
Pre-requisites (see §4.5.2)	<IFPS_SWITCH> set to 'New only' at time 'S' <FPL_DIST_TIME_FOR_AD ADDRESSEES> set to 6hr <MAX_FILING_TIME> set to 24hr
Test Data	C1. Valid New format message sent to IFPS before 'S' with an entry time into the ATC units airspace (EOBDT) before 'S'. C2. Valid Old format messages sent to IFPS before 'S' with an entry time into the ATC units airspace (EOBDT) after 'S'. C3. Valid New format messages sent to IFPS before 'S' with an entry into the ATC units airspace (EOBDT) after 'S' C4. Valid Old format messages sent to IFPS before 'S' with an entry into the ATC units airspace (EOBDT) > 24hr in the future C5. Valid Old format messages sent to IFPS after 'S'
Expected Result	C1. Reception from IFPS in Old format

	C2. Reception from IFPS in Old format, at EOBDT-6 hrs C3. Reception from IFPS in New format at EOBDT -6hrs C4. Error – EOBDT outside acceptable range (<24hr in advance) C5. Error – Old format not accepted
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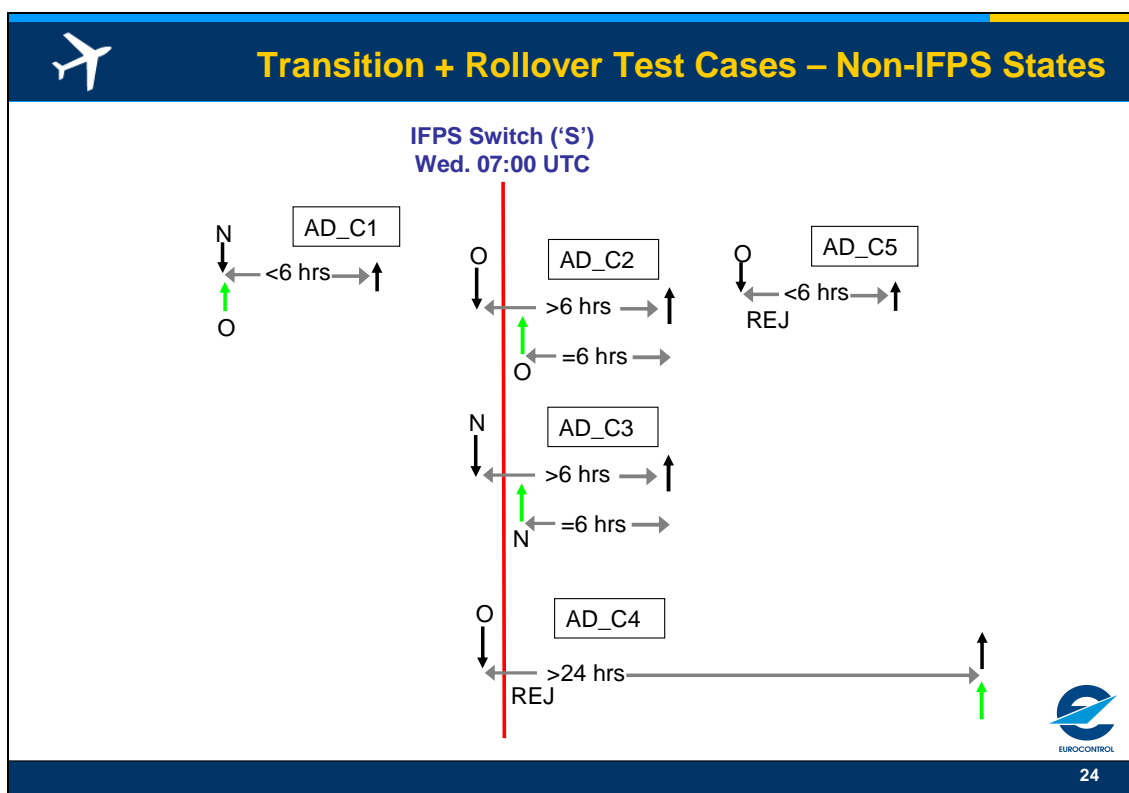


Figure 8 Transition & Roll-Over Test Cases for Non-IFPS States

5. PASSIVE TESTING

Passive testing refers to the ability of a stakeholder to continue to use the IFPS test platform outside the formal OPT test sessions.

No support however will be available in the form of manual intervention by the Test Team

5.1. Configuration

Normally the environment setup (addresses, parameters, etc.) that existed following the previous OPT session will remain and will be maintained across AIRAC cycles. This means the system will normally be in post-Nov 2012 mode i.e. IFPS acceptance of New only. Participants will therefore be able to send test 2012 format messages and receive the automated IFPS response.

It should be noted that the IFPS test system normally receives a copy of all operational messages (except during formal OPT sessions when it will be disabled). This means that, if you participated to OPT using an operational address, during Passive testing you will receive duplicate messages concerning these copied operational messages.

5.2. Participation

The IFPS test platform can be made available between OPT sessions to those having already registered and having participated to the previous OPT session.

The Test Team should be contacted 24 hrs in advance to determine whether or not the test platform is available and to ensure the correct addresses are configured in the CFMU communications system. Modification of parameter settings will only be possible if workload and test system usage for internal purposes permits.

6. CONTACTS

All testing related queries and requests :

Test Team:

E-Mail: dnm.fpl2012@eurocontrol.int

Phone: +32 2 7299785

Registration Form for 2012 Operational Evaluation (OPT)

- FLIGHT PLAN ORIGINATOR -

This form should be used by:

- Aircraft Operators;
- Aerodrome Reporting Offices (AROs);
- Flight Plan Service Providers;
- Others engaged in the creation of flight plans.

Note: One form should be returned for each unit/address wishing to participate.

Please complete using block letters and return as an e-mail attachment to:

SAT Team,
Operational Requirements & Acceptance
E-mail: dnm.fpl2012@eurocontrol.int

DO NOT USE THIS FORM IF YOU WILL PARTICIPATE AS AN ATC UNIT

A) Company Name : ICAO Designator :

B) Contact Person Name :
Telephone :
Fax :
E-mail :

C) Indicate the session(s) in which you want to participate by inserting an 'X' in the appropriate space in the table below.

Test Session	Participation (Please place an 'X' if you wish to participate)
OPT1 : 30 January – 3 February 2012	
OPT2 : 20 – 24 February 2012	
OPT 3 : 07 – 11 May 2012	
OPT 4 : 11 – 15 June 2012	
OPT 5 : 03 – 07 September 2012	
OPT 6 : 24 – 28 September 2012	

Registration Form for 2012 Operational Evaluation (OPT)

- FLIGHT PLAN ORIGINATOR -

D) Indicate the address from which you will send messages to the IFPS Test system :

E) Is the address given in D) your operational address? YES / NO

Note : If YES care should be taken to ensure that the ACK, MAN, REJ messages from the IFPS test system are **NOT** used operationally.

Registration Form for 2012 Operational Evaluation (OPT)

- ATC UNIT -

This form should be used by:

ATC Units (ACC, UAC, TWR, APP, ARO) wishing to receive flight plan data.

Note: One form should be returned for each unit/address wishing to participate.

Please complete using block letters and return as an e-mail attachment to:

SAT Team,
Operational Requirements & Acceptance
E-mail: dnm.fpl2012@eurocontrol.int

DO NOT USE THIS FORM IF YOU WILL PARTICIPATE AS AN AIRCRAFT OPERATOR OR FLIGHT PLAN SERVICE PROVIDER

A) State :

B) ATS Unit:

C) Contact Person Name :

Telephone :

Fax :

E-mail :

D) Indicate the session(s) during which you wish to participate by inserting an 'X' in the appropriate space in the table below

Test Session	Participation (Please place an 'X' if you wish to participate)
OPT1 : 30 January – 3 February 2012	
OPT2 : 20 – 24 February 2012	
OPT 3 : 07 – 11 May 2012	
OPT 4 : 11 – 15 June 2012	
OPT 5 : 03 – 07 September 2012	
OPT 6 : 24 – 28 September 2012	

E) Indicate the address where flight planning messages from the IFPS Test system are requested to be received:

Registration Form for 2012 Operational Evaluation (OPT)

- ATC UNIT -

- F) If the address given in E) is a test address, indicate the operational address(es) or unit(s) it replaces or simulates for the purpose of testing:

- G) If you intend to send test messages to the IFPS test address indicate the address you will use i.e the address from which IFPS will receive these messages:

Do you wish to receive ACK, MAN, REJ messages ? Yes / No

- H) If you are an IFPS State the standard test configuration will provide you with a clean switch (no mixed reception of both Old & New formats) from Old to New format at 11:00 UTC on the Thursday of each test session.

If you wish to change this configuration please indicate when you want to allow reception of New format messages:

Day:

Time (UTC):

Note: If you change the standard configuration then the test data descriptions provided in this document (EUR Test Plan) concerning 'Transition' will not be applicable.



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Ref.: AN 13/2.1-09/9

6 February 2009

Subject: Guidance for implementation of flight plan information to support Amendment 1 of the *Procedures for Air Navigation Services — Air Traffic Management*, Fifteenth Edition (PANS-ATM, DOC 4444)

Action required: Coordinate the transition to the new ICAO flight plan

Sir/Madam,

1. I have the honour to draw your attention to the content of Amendment 1 to the *Procedures for Air Navigation Services — Air Traffic Management*, Fifteenth Edition (PANS-ATM, Doc 4444) related to the amended flight plan form and new flight planning procedures.
2. The nature and scope of the amendment, as described in State letter AN 13/2.1-08/50, is to update the ICAO model flight plan form in order to meet the needs of aircraft with advanced capabilities and the evolving requirements of automated air traffic management (ATM) systems, while taking into account compatibility with existing systems, human factors, training, cost and transition aspects.
3. Considering that the transition from the current flight plan form and associated requirements to the new flight plan may present challenges for States and organizations involved in the processing of flight plans, ICAO has developed the guidance contained in the Attachment. The primary purpose of this guidance is to support a coordinated global effort during the transition period so that a successful and coordinated transition is achieved by the applicability date of 15 November 2012.
4. To support the transition, a public website is being developed by ICAO where States, Air Navigation Service Providers (ANSPs) and airspace users will be able to find information regarding the implementation status of the Amendment and where the most common issues and difficulties encountered will be discussed. States will be notified as soon as the site is available.

5. May I, therefore, request that all efforts be made to ensure a smooth transition to the new flight plan and that particular attention be paid to the pages referring to the conversion of new items 10 and 18 to the present items 10 and 18, which concern aircraft equipment and capabilities.

Accept, Sir/Madam, the assurances of my highest consideration.

Taïeb Chérif
Secretary General

Enclosure:

Guidance for implementation of flight plan information to support Amendment 1 of the *Procedures for Air Navigation Services — Air Traffic Management*, Fifteenth Edition (PANS-ATM, DOC 4444)

**Guidance for implementation of flight plan information to support Amendment 1 of the *Procedures for Air Navigation Services — Air Traffic Management*, Fifteenth Edition
(PANS-ATM, DOC 4444)**

1. INTRODUCTION

1.1. The guidance contained herein is provided to assist airspace users and Air Navigation Service Providers (ANSP) to implement the flight planning changes incorporated by Amendment 1 to Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc 4444) Fifteenth Edition.

1.2. Amendment 1 stems from the work of the Flight Plan Study Group (FPLSG). The nature and scope of the amendment is to update the ICAO model flight plan form in order to meet the needs of aircraft with advanced capabilities and the evolving requirements of automated air traffic management (ATM) systems, while taking into account compatibility with existing systems, human factors, training, cost and transition aspects.

1.3. The changes were announced by ICAO in State letter AN 13/2.1-08/50 dated 25 June 2008 and will become applicable on 15 November 2012.

1.4. The changes have considerable consequences on ANSP flight data processing systems that check and accept flight plans and related messages, use flight plan data in displays for controller reference, use data in ANSP automation and which support communication between ANSPs as the flight progresses. Preparation for the changes should therefore be made well in advance of the applicable date.

1.5. The changes also have consequences for airspace users. If a flight plan with new content is sent to an ANSP that has not prepared to accept the new content then it is likely that some information will be lost, misinterpreted or cause a rejection of the flight plan.

1.6. No start date has been given for implementation of the flight planning changes to commence; however, one reason for the State letter is to support the updating of flight plan data processing systems. The transition period for the changes is therefore from 25 June 2008 until 15 November 2012.

1.7. It is recognized that changes will be implemented by airspace users and ANSPs on individual schedules due to individual needs, however some coordination will occur.

1.8. It is essential to the success of this implementation that all airspace users and ANSPs be able to submit and process flight information in accordance with Amendment 1 to the PANS-ATM by 15 November 2012, as processing via present methods is not assured after that date.

1.9. This guidance does not change any provision in Annex 2 — *Rules of the Air* or the PANS-ATM regarding completion and acceptance of a flight plan.

2. OBJECTIVE

2.1. The purpose of the guidance contained herein is to support a coordinated global effort during the transition period so that a successful transition is achieved by the applicability date of 15 November 2012.

3. APPLICABILITY

3.1. This guidance applies to airspace users, ANSPs and Planning and Implementation Regional Groups (PIRGs). Note that flight planning services and related organizations involved in the processing of flight plans are considered part of the airspace user community and, as such, are covered under this guidance.

3.2. This document presents guidelines which should be considered when developing implementation plans for this amendment. Adherence to these guidelines will mitigate risks associated with the technical challenges inherent during the transition period and assure that users are able to meet flight planning requirements as individual ANSPs implement changes.

3.3. This document applies with immediate effect and continues until implementation of Amendment 1 to the PANS-ATM is complete.

4. SCOPE

4.1. This guidance is limited to transitioning to flight planning and Air Traffic Services (ATS) message changes defined in Amendment 1 to the PANS-ATM, including message content and submission instructions.

5. FLIGHT PLANNING ENVIRONMENT

5.1. PRESENT is defined as the present flight planning and ATS message formats as defined in the current version of the PANS-ATM.

5.2. NEW is defined as the flight planning and ATS message formats as specified in Amendment 1 to the PANS-ATM.

5.3. In order to allow performance case considerations to drive individual airspace user and ANSP implementation schedules, the ATM system will need to simultaneously support both PRESENT and NEW for a period of time.

5.4. Amendment 1 to the PANS-ATM contains changes to the length and content of items. The changes to content are as follows:

- Change the way aircraft equipment and capabilities are communicated to provide more details;
- Provide additional means of describing route way points (specifically bearing and distance from points other than navigation aids); and
- Permit specification of the date of flight in a standardised manner.

5.5. The present flight planning environment supports a variety of means of filing flight plans. For example flight plans can be filed directly by the airspace user to each ANSP individually or flight

plans can be filed by the airspace user at one location and then the ATM system distributes the flight plan. Amendment 1 does not specifically change these options; however the means of transitioning to Amendment 1 may impose some requirements during the transition.

5.6. The present ATM system supports a variety of means of ANSPs communicating flight plan data between ANSP systems, for example use of coordination messages where Amendment 1 implies changes of content.

6. IMPLEMENTATION GUIDELINES

6.1. These guidelines have been developed to facilitate concurrent use of both PRESENT and NEW by airspace user and ANSP flight data processing systems during the transition period.

6.2. Guideline 1

- a) As each ANSP transitions to NEW, it is essential that they also support PRESENT until the applicability date of 15 November 2012.
- b) There is no requirement for ANSPs to accept and process PRESENT after the applicability date, unless specified by the appropriate authority.
- c) This guideline relates to the situation when some ANSPs and/or airspace users do not implement the flight planning changes until the end of the transition period.

6.3. Guideline 2

- a) PIRGs are encouraged to plan and publish regional implementations sufficiently in advance of the applicability date so that airspace users and ANSPs can respond to and resolve any unforeseen operational issues.
- b) It is anticipated that implementation will occur progressively as each PIRG works with their member States/international organizations and airspace users to coordinate a regional transition prior to 15 November 2012.
- c) Transition plans should encourage all ANSPs to transition to NEW a certain period of time prior to 15 November 2012 to allow airspace users a transition period to NEW before the applicability date.
- d) Transition plans should take into account that the airspace user may not be able to make use of the new opportunities provided by NEW until an ANSP has transitioned. Even then, use of NEW may be restricted in its application if the flight still involves ANSPs who have not yet transitioned.

6.4. Guideline 3

- a) During the transition period and after an ANSP has advised that they can accept NEW, the determination to file NEW or PRESENT with that ANSP is the choice of the airspace user.

- b) It is expected that airspace users will make the decision on what format to file based on performance gains which may be achieved through capability information in Items 10 and/or 18 of NEW.
- c) It is intended that all airspace users will file NEW from the applicability date forward, as using PRESENT is not assured after that date.

Note – The following guidelines apply only to situations where ANSPs affected by a flight have not all transitioned to NEW.

6.5. Guideline 4

- a) During the transition period when not all ANSPs affected by a flight have transitioned to NEW, the airspace user must ensure that PRESENT is filed with ANSPs who have not yet transitioned.
- b) This can be achieved by the airspace user filing only PRESENT with all ANSPs (as ANSPs supporting NEW will also support PRESENT during transition).
- c) ANSPs using PRESENT may misinterpret, and may reject, flight plan information that is filed more than 24 hours in advance of flight. Filing more than 24 hours in advance of flight cannot be used if one or more ANSPs affected by a flight have not transitioned (unless those ANSPs already support filing more than 24 hours in advance of flight). Although ANSPs using NEW could accept the flight plan they may not be able to pass essential coordination to ANSPs using PRESENT.
- d) The airspace user may choose to file NEW to ANSPs that have transitioned and PRESENT to ANSPs that have not transitioned. However, without special transitional procedures, a situation can occur where the NEW would only be useable until the first ANSP along route of flight using PRESENT. This is because the ANSP using NEW will not be able to coordinate NEW with ANSPs using PRESENT.

6.6. Guideline 5

- a) To facilitate user decisions on whether to file PRESENT, NEW or a combination of PRESENT and NEW, ICAO will maintain a website listing each ANSP's ability to accept PRESENT or NEW.
- b) This information which will be publicly available is in addition to the normal methods of communication between an ANSP and its airspace users.
- c) Each ANSP will communicate, via State and ICAO Regional Offices, their ability to accept NEW to ICAO as soon as possible so that ICAO can ensure that complete and updated information is posted on the website. An ANSP advising of having completed transition to NEW is also indicating that they can coordinate with other ANSPs who have transitioned to NEW.

6.7. **Guideline 6**

- a) During the transition period, ANSPs who accept NEW may need to convert flight information to PRESENT for coordination with adjacent ANSPs who have not yet transitioned.
- b) It is strongly recommended for consistency that all ANSPs utilize the conversion table provided below so that airspace users and ANSPs have a common understanding of how NEW will be converted to PRESENT.
- c) PIRGs, States and ANSPs should be aware that valuable planning information may be lost during the conversion process, as shown in the conversion table.
- d) There is no intent for PRESENT to be converted to NEW during the transition period.

7. **CONVERSION OF NEW ITEMS 10 and 18 TO PRESENT ITEMS 10 and 18**

It is strongly recommended that all ANSPs utilize the table below to convert NEW Items 10 and 18 to the PRESENT for coordination with adjacent ANSPs which only accept PRESENT.

- Different agreements may be worked out between ANSPs for Item 18 information if the conversion would cause the message to be rejected by an ANSP which only accepts PRESENT.
- **CAUTION:** Some information will be lost from NEW during conversion, including certain information about capabilities, and information held in Item 18 indicators which do not exist in PRESENT such as DOF, DLE and TALT. As a partial mitigation, any information which would otherwise be lost from NEW may be translated into a single free text following RMK/ in Item 18 of PRESENT.

	NEW data in these columns		Converts to PRESENT data in these columns	
Com-Nav	Item 10	Item 18	Item 10	Item 18
	N		N	
	S		VOL	
	SF		S	
	A		Z	NAV/GBAS
	B		Z	NAV/LPV
	C		C	
	D		D	
	E1		J	DAT/n
	E2		J	DAT/n
	E3		J	DAT/n
	F		F	
	G	NAV/nnnn	G	
	H		H	
	I		I	
	J1		J	DAT/V
	J2		J	DAT/H
	J3		J	DAT/V

A-6

	J4		J	DAT/V
	J5		J	DAT/S
	J6		J	DAT/S
	J7		J	DAT/S
	K		K	
	L		L	
	M1		Z	COM/INMARSAT
	M2		Z	COM/MTSAT
	M3		Z	COM/IRIDIUM
	O		O	
	P1-P9(Reserved)			
	R	PBN/nn	Z	NAV/nnnn

Com-Nav	NEW data in these columns		Converts to PRESENT data in these columns	
	Item 10	Item 18	Item 10	Item 18
	T		T	
	U		U	
	V		V	
	W		W	
	X		X	
	Y		Y	
	Z	COM/NAV/DAT	Z	COM/ NAV/

Sur	N		N	
	A		A	
	C		C	
	E		S	
	H		S	
	I		I	
	L		S	
	P		P	
	S		S	
	X		X	
	B1			
	B2			
	U1			
	U2			
	V1			
	V2			
	D1		D	
	G1		D	

— END —



INTERNATIONAL CIVIL AVIATION ORGANIZATION

SOUTH AMERICAN REGIONAL OFFICE

**SAFETY ASSESSMENT FOR THE
IMPLEMENTATION OF AMENDMENT 1 TO THE
PANS/ATM (DOC 4444) RELATED TO THE NEW
FLIGHT PLAN FORMAT**

September 2011

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Executive Summary

1. The purpose of this document is to assess safety from the viewpoint of the South American region before Amendment 1 to the 15th Edition of ICAO's PANS-ATM (Doc 4444) takes effect with regard to the implementation of the new contents of the flight plan (NEW format) on 15 November 2012 and during the transition period starting on 1 July 2012, when airspace users are expected to use both the CURRENT and NEW formats.
2. The aim of this document is to serve States for reference purposes, as needed. It should be added here that this safety assessment does not release States from the responsibility for making their own assessments of safety as a result of the implementation of the new flight plan format, as stipulated in national action plans on the subject.
3. The ICAO guidelines for incorporating flight plan information pursuant to Amendment 1 to Doc 4444 were made known to the States at the SAM/IG meetings. The Implementation Group agreed to prepare an initial plan describing the amendment implementation strategy, together with an action plan determining the steps to be taken for the amendment's implementation on 15 November 2012. This action plan calls for the preparation of a safety assessment relating to the implementation of the new flight plan format.
4. The area covered in the safety assessment for the new flight plan format (FPL) extends to the borders of the SAM Region and encompasses the following FIRs: Antofagasta, Amazónica, Atlántico, Asunción, Barranquilla, Brazilia, Bogotá, Comodoro Rivadavia, Córdoba, Curitiba, Ezeiza, Georgetown, Guayaquil, La Paz, Lima, Maiquetía, Mendoza, Montevideo, Panama, Paramaribo, Puerto Montt, Punta Arenas, Recife, Resistencia, Rochambeau and Santiago.
5. The document describes the FPL system in the SAM Region and explains the hazard identification process and the consequences of implementing the new FPL format by analyzing aspects of the process for identifying risks for the implementation of the new flight plan format. The risks associated with implementation of the new flight plan format were then evaluated and mitigated and conclusions reached for the cited implementation.
6. It comes to an end by putting forward a series of recommendations for assessing operational risks associated with the implementation of the new FPL format that are intended for States and air navigation service providers.
7. From the description and examination of this safety study, it may be noted that the introduction and implementation of safety risk mitigation measures will ensure that these risks are reduced to an acceptable and, in some cases, a tolerable, level that will mean that the risk is controlled and that Amendment 1 to Doc 444 regarding the new flight plan format in the South American Region can be safely implemented. There are also some recommendations whose implementation is considered essential for keeping safety rates at an acceptable level. The HIRA form in Appendix A to Chapter 5 clearly spells out which tasks should be taken into consideration from a regional viewpoint by States and air navigation service providers in the South American Region.

Chapter 1: Prologue

1.1 Objective

1.1.1 The purpose of this document is to make a safety assessment from the viewpoint of the South American Region before Amendment 1 to the 15th edition of the ICAO Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc 4444), related to the implementation of the new contents of the flight plan (NEW format) as of 15 November 2012, becomes effective and during the transition period starting on 1 July 2012, when airspace users are expected to make use of both the CURRENT and NEW formats.

1.1.2 This document is also intended to serve States for reference purposes, when needed. It should be added here that this safety assessment does not release States from their responsibility for making their own evaluations of safety as a result of the implementation of the new flight plan format, as stipulated in national action plans on the subject.

1.1.3 Implementation of the new flight plan format will help to contribute directly to the accomplishment of the following Strategic Objectives of ICAO:

- **A. Safety** — *Enhance global civil aviation safety.*
- **C. Environmental protection and sustainable development of air transport** – *Promote harmonized and economically viable development of international civil aviation that does not unduly harm the environment.*

1.2 Scope

1.2.1 The safety assessment covered an area extending to the borders of the SAM Region and also considered several aspects of adjacent regions that could affect the implementation. The following FIRs were involved: Antofagasta, Amazonian, Atlantic, Asunción, Barranquilla, Brazilia, Bogotá, Comodoro Rivadavia, Córdoba, Curitiba, Ezeiza, Georgetown, Guayaquil, La Paz, Lima, Maiquetía, Mendoza, Montevideo, Panama, Paramaribo, Puerto Montt, Punta Arenas, Recife, Resistencia, Rochambeau and Santiago (see Figure 1).

1.3 General background information

1.3.1 ICAO informed the States in communication AN13/2.1-08/50, of 25 June 2008, about the publication of Amendment 1 to Doc 4444 (PANS-ATM), which serves to update ICAO's flight plan format to meet the needs of aircraft with advanced capabilities and the evolving requirements of automatic air traffic management (ATM) systems, while, at the same time, bearing in mind the compatibility of existing systems, human elements, instruction, cost and aspects of the transition.

1.3.2 On evaluating the creation of the new CNS/ATM Subgroup and its terms of reference and working programme, GREPECAS/15 examined the new flight plan model. Deeming it advisable to establish a CAR/SAM regional strategy for its implementation, it formulated Conclusion 15/35 "*Implementation of the new ICAO flight plan model*," in which States were asked to take the necessary measures to prepare for the transition and the CNS/ATM Subgroup to create an auxiliary body to elaborate the strategy for that transition.

1.3.3 South American Region Implementation Group (SAM/IG) Meetings considered the amendment's possible impact on automated systems, in the light of PBN implementation. It was noted that the amendment in question is complex and involves other aspects in addition to PBN and the Group was of the opinion that a regional strategy needed to be adopted to modify automated ATC systems.

1.3.4 As a result of all of this, the SAM/IG Meeting agreed to include a task in the working programme of the SAM PBN Implementation Group, calling for its assessment of the implementation of Amendment 1 to the PANS/ATM. This activity was also to serve as a basis and reference for the work entrusted to the above-cited specific GREPECAS CNS/ATM/SG Task Force. This activity was accordingly included in the work to be accomplished from 2009 until the conclusion of the implementation under the auspices of SAM Regional Project RLA/06/901.

1.3.5 In the course of the SAM/IG Meetings, the ICAO Guidelines for incorporating flight plan information pursuant to Amendment 1 to ICAO's 15th edition of the Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc 4444) were presented to the States. Based on discussions within the Implementation Group, it was agreed to draw up an initial plan, with a description of the strategy for implementing that amendment, together with an action plan that would spell out the measures to be taken for implementing the amendment on 15 November 2012 and during the transition period. That action plan calls for the preparation of a safety assessment relating to the implementation of the new flight plan format.

1.3.6 States in the SAM Region elaborated their action plans for implementing Amendment 1 to Doc 4444 based on the regional strategy and incorporating the various activities to be carried out during the implementation process.

1.3.7 ICAO has organized and conducted several different activities to help States with both the implementation process and the planning and elaboration of their action plans, as well as the performance of the tasks specified in those plans.

Chapter 2 Description of the SAM Region's flight plan system

2.1 General status of the SAM Region's flight plan system

2.1.1 The aim of the guidelines elaborated by ICAO for incorporating flight plan information in accordance with Amendment 1 is to help airspace users and air navigation service providers (ANSPs) make the flight plan changes to be incorporated as a result of Amendment 1 to Doc 4444 and to contribute to a coordinated global effort during the transition period to ensure its success by the date of application.

2.1.2 The guidelines do not amend any provision on complementing and accepting flight plans contained in Annex 2 — Rules of the Air or the PANS-ATM.

2.1.3 Amendment 1 to the 15th edition of the PANS-ATM, Doc 4444, basically stipulates the following changes:

1. Flight Plan

- a. Flight Plan Form: carriers and air traffic service units will observe all restrictions defined in aeronautical information publications (AIPs);
- b. Filing of the Flight Plan: changes in deadlines for filing flight plans;
- c. Item 7: Aircraft Identification: use of alphanumeric characters;
- d. Item 8: Flight Rules: specification of one or more changes in flight rules;
- e. Item 10: Equipment: changes in equipment and capability designations
- f. Item 13: Departure Aerodrome and Time
- g. Item 15: Route
- h. Item 16: Destination Aerodrome and Total Estimated Elapsed Time, Alternate Destination Aerodromes
- i. Item 18: Other Data

2. Air Traffic Service Messages

- a. Composition of CHG, CNL, DLA, DEP, RQP and RQS messages

2.1.4 The impact on ATM systems of the changes defined by ICAO, in the guidelines for implementing those changes and in the present scenario in the SAM Region, has been identified as affecting the regulatory, technical and operational fields, particularly those concerning the automated systems and operational personnel, air traffic controllers, flight plan operators, CNS experts and airspace users in general.

2.1.5 Insofar as the regulatory change is concerned, States should revise and adjust regulations concerning the application of Amendment 1 to Doc 4444 and the Operating Manuals of ATS and ARO/AIS units to bring them into line with the new operating procedures resulting from the implementation of Amendment 1.

2.1.6 In the technical area, the SAM Region today shows evidence of different degrees of technological evolution of ATM automation that can be classified into one of the following situations:

- SAM States possessing automated ACC systems (Flight plan and radar data processing): Argentina, Brazil, Chile, Colombia, Ecuador, French Guiana, Panama, Peru, Uruguay and Venezuela;

- States possessing automated ATM systems and that are currently updating those systems, like Brazil and Peru;
- States that have no automated ATM systems, but that will implement them shortly, like Guyana, Suriname and Paraguay; and
- States that have no automated ATM systems and that are not known to have any plans to acquire such systems in the short or medium term, such as Bolivia.

2.1.7 The AFTN is the principal means used in the Region today to transmit flight plans and is currently in transition to an AMHS system. All SAM States are expected to have AMHS systems installed by 2010. The communications system used to transmit AFTN information in the Region is the REDDIG.

2.1.8 There are many variables that need to be considered in the changes that will have a direct impact on operating personnel, particularly air traffic controllers and flight plan operators. That impact will be reduced if automated ATM systems are given the capacity to provide air traffic controllers with the necessary information for their air traffic planning and for sounding warnings whenever there is a change in the data filed in the Flight Plan.

2.1.9 In order to mitigate the impact, personnel must be given a significant amount of training in both the use of the new resources of the automated system and in manually processing Flight Plan data, as well as in making adjustments to the operating manuals.

2.1.10 A more specific analysis of those aspects can be found in the Strategy for Implementing Amendment 1 to the 15th Edition of the ICAO PANS-ATM (Doc 4444) in the CAR/SAM Regions (see **Appendix A**).

2.2 **Status after implementation of the new Flight Plan format (FPL)**

2.2.1 The changes in the Flight Plan format proposed in Amendment 1 to the PANS/ATM are able to meet the needs of aircraft with advanced capabilities and the evolving requirements of automated air traffic management (ATM) systems, while bearing in mind compatibility with existing systems, human factors, training, cost and aspects of the transition.

Appendix A to Chapter 2

STRATEGY FOR IMPLEMENTING AMENDMENT 1 TO THE 15TH EDITION OF THE ICAO PANS-ATM (DOCUMENT 4444) IN THE CAR/SAM REGIONS

(SAM/RA/02- Item 2 – Appendix B)

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1. Purpose

The purpose of this Document is to establish the strategy for implementing Amendment 1 to the 15th Edition of the ICAO PANS-ATM (Doc 4444) in the SAM Region, in response to conclusions GREPECAS 15/35 and SAM/IG/3-8.

2. General Considerations

ICAO, considering that:

- Dynamic management of the information will offer the most appropriate and integrated vision of the ATM situation in historical, present, planned or future terms and will provide a basis for decision-making by the entire ATM community;
- The *Global Air Traffic Management Operational Concept* (Doc 9854) calls for taking information management measures to support ATM operations by means of correct, quality and timely data; and
- ATM requirement N° 87 of the *Manual on Air Traffic Management System Requirements* (Doc 9882) defines the 4-D paths that will be used in traffic synchronization applications, in order to achieve ATM system performance objectives, and explains that both “ground” and “air” applications will be used extensively to create an efficient and safe air traffic flow during all flight phases.

ICAO informed the States in communication AN13/2.1-08/50, of 25 June 2008, about the publication of Amendment 1 to Doc 4444 (PANS-ATM), which updates the ICAO Flight Plan (FPL) format to meet the needs of aircraft with advanced capabilities and the evolving requirements of automated air traffic management (AFM) systems, while bearing in mind the compatibility with existing systems, human factors, instruction, cost, and aspects connected with the transition.

GREPECAS/15, on evaluating the creation of the CNS/ATM Subgroup and its terms of reference and working programme, examined the new model Flight Plan format and, considering that a CAR/SAM regional strategy should be established for its implementation, formulated Conclusion 15/35 “*Implementation of the new ICAO Flight Plan model.*” In that Conclusion, States are asked to take the necessary measures to prepare for the transition and the CNS/ATM//SG to create an auxiliary body to draw up the strategy for the transition.

The SAM/IG/2 Meeting evaluated the possible impact of this amendment on automated systems, in the light of PBN implementation. Inasmuch as the amendment in question was found to be complex and to involve other aspects, in addition to PBN, the Meeting was of the opinion that a strategy needed to be adopted to modify automated ATC systems.

Considering these elements, the Meeting agreed to include, within the working programme of the SAM PBN Implementation Group, the task of evaluating PBN implementation in the light of Amendment 1 to the PANS/ATM. This activity was to serve as support and background for the work entrusted to the above-cited GREPECAS CNS/ATM/SG Task Force. As a result, this task was included in the work to be done in the SAM Region in 2009 under the auspices of Regional Project RLA/06/901.

During the SAM/IG/3 Meeting, States were given the ICAO guidelines for incorporating the Flight Plan information called for by Amendment 1 to the 15th edition of ICAO Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc 4444).

Conclusion SAM/IG/3-8 considered that the RLA/06/901 Project should elaborate an initial plan describing the strategy for implementing that amendment for presentation to the SAM/IG/4 Meeting.

3. Principles

The following aspects were considered in preparing this document:

1. the sovereign will of the States;
2. that it would serve SAM States as a guidance manual for preparing their action plans for implementation of the contents of Amendment 1 to Doc 4444.

4. Application

This document is applicable to all SAM States and specifically to all air navigator service providers and airspace users.

5. Reference documents

This strategy follows the recommendations made by ICAO in the following documents:

- a) 15th edition of the ICAO PANS-ATM (Doc 4444)
- b) Amendment 1 to the 15th Edition of Doc 4444;
- c) Guidelines for incorporating Flight Plan information in keeping with Amendment 1 to the 15th edition of Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc 4444) (State Letter AN 13/2.1-09/9 of 6 February 2009);
- d) Final Report of GREPECAS 15; and
- e) Final Reports of the SAM/IG meetings.

6. Analysis

6.1. Amendment 1 to the 15th Edition of Doc 4444;

ICAO considered that in order to meet the needs of aircraft with advanced capabilities and the evolving requirements of automated air traffic management (ATM) systems, Flight Plan formats needed to be updated.

It accordingly published Amendment 1 to the 15th Edition of PANS-ATM, Doc 4444, which basically makes the following changes:

1. Flight Plan

- a. Flight Plan Format: carriers and air traffic service units will observe all restrictions decided upon in aeronautical information publications (AIP);
- b. Filing of the Flight Plan: changes in deadlines for filing flight plans;
- c. Item 7: Aircraft Identification: use of alphanumeric characters;
- d. Item 8: Flight Rules: specification of one or more changes in flight rules;
- e. Item 10: Equipment: changes in equipment and capability designations;
- f. Item 13: Departure Aerodrome and Time
- g. Item 15: Route
- h. Item 16: Destination Aerodrome and Total Estimated Elapsed Time, Alternative Destination Aerodromes
- i. Item 18: Other Data

2. Air Traffic Service Messages

Composition of CHG, CNL, DLA, DEP, RQP and RQS messages

6.2. Implementation Guidelines

In its letter AN 13/2.1-09/9, of 6 February 2009, ICAO defines the guidelines for incorporating Flight Plan information as called for by Amendment 1 to the Procedures for Air Navigation Services.

Generally speaking, ICAO stresses that the changes will have a pronounced impact on ANSP flight data processing systems that check and accept flight plans and associated messages, use Flight Plan data from screen presentations for controller reference purposes, use data for ANSP automation and facilitate communications among ANSPs during flights, and will also have consequences for airspace users.

Until a starting date is set for the application of changes in flight planning, the transition period is expected to run from 25 June 2008 to 15 November 2012.

It also acknowledges that the changes will be applied in keeping with the specific schedules of each ANSP and airspace user and will be based on their own individual needs, but that a certain degree of coordination will be required.

To conclude, it stresses that all parties involved in the issue must be in a position by 15 November 2012 to file and process flight information in keeping with the stipulations of Amendment 1 to the PANS-ATM.

The following considerations are presented in reference to the planning environment:

1. The present flight planning formats and ATS messages contained in the existing version of the PANS-ATM are defined as being CURRENT;
2. The flight planning formats and ATS messages specified in Amendment 1 to the PANS-ATM are defined as being NEW;
3. The ATM system should simultaneously support both CURRENT and NEW information for a certain period, in order to allow for time to deal with particular performance cases;
4. Amendment 1 does not alter the filing of flight plans by different means (individual filing of flight plans with each ANSP, filing of flight plans at a centralized location and their distribution by the ATM system), but the transition to implementation of Amendment 1 could impose some requirements during the transition period;
5. The Amendment makes changes in the contents of flight plan messages sent from one ANSP to another.

The contents of the ICAO guidelines are summarized as follows:

Guideline 1. Recommends that ANSPs have the capability to operate during the transition period using the two types of Flight Plan information, CURRENT and NEW. ANSPs will not be required to accept and process CURRENT data after 15 November 2012. This is applicable to situations in which some ANSPs and/or airspace users fail to apply the flight planning changes until the end of the transition period.

Guideline 2. Regional Planning and Implementation Groups are encouraged to plan and publish the changes sufficiently in advance of the application date. It considers that transition plans should bear in mind that airspace users will most likely be unable to make use of the new opportunities offered by the NEW information until ANSPs have made the transition and that even in that case the application of the NEW information could be limited if flights continue to involve ANSPs that have not yet made the transition.

Guideline 3. Explains that airspace users will decide whether to provide the ANSP with CURRENT or NEW information during the transition period, once the ANSP has reported that it is in a position to accept the NEW information.

Guideline 4. In the event that not all ANSPs have made the transition to use of the NEW information, airspace users should ensure that ANSPs that have not yet made the transition are given CURRENT information. It stresses its concern over the fact that ANSPs that use CURRENT information could misinterpret and reject information filed by airspace users more than 24 hours before flight time and that ANSPs that use NEW information may not be equipped to provide essential coordination to ANSPs that use CURRENT information.

Guideline 5. Reports that ICAO will maintain a website listing the capacity of each ANSP to accept CURRENT or NEW information. Each ANSP will inform its respective ICAO Regional Office about its capacity to accept the NEW information as soon as possible.

Guideline 6. Complementing Guideline 4, ANSPs that accept NEW information may convert the flight information into CURRENT information, for use in coordinating with adjacent ANSPs that have not yet made the transition.

6.3. Present scenario in the SAM Region

The SAM Region today shows evidence of the presence of different degrees of technological evolution in terms of ATM automation, which can be classified into one of the following situations:

- SAM States possessing automated ACC systems (Flight plan and radar data processing): Argentina, Brazil, Chile, Colombia, Ecuador, French Guiana, Panama, Peru, Uruguay and Venezuela. Many of the automated systems installed in the Region are based on the AIRCON (INDRA) solution, but using different versions.
- States possessing automated ATM systems and that are currently updating those systems, like Brazil and Peru;
- States that have no automated ATM systems, but will implement them in the short term, like Guyana, Suriname and Paraguay.
- States that have no automated ATM systems and that are not known to have any plans to acquire such systems in the short or medium term, such as Bolivia.

The implementation strategy should bear in mind the different degrees of evolution existing in the Region.

AFTN is the principal means used in the Region to transmit flight plans and is currently in transition to an AMHS system. All of the States in the SAM Region are expected to have installed AMHS systems by 2012. The means of communication used in the Region to transmit AFTN information is the REDDIG.

6.4. Impact

A macroanalysis is presented below of both the technical and operational impact on ATM systems, whether automated or not, and on the data communication systems, of the changes defined by ICAO, in the guidelines for implementing those changes and in the current scenario in the SAM Region.

6.4.1. Technical Impact

For States with no automated ATM systems, the changes in the new Flight Plan format will affect only AFTN or AMHS-based data communication systems, primarily in relation to the Human-Machine Interface (HMI) of the system terminals available at AIS offices or other specific sites for insertion into flight plans.

It should be stressed that changes in the Flight Plan format consist of the introduction of further options for filling in the Items in the format and that this could give rise to more errors in message creation by terminals, which do not have the capability to check data consistency, but only message syntax.

It is necessary to stress that those changes in the Flight Plan format introduce more options that could increase the likelihood of errors in filling it out.

For States possessing automated ATM systems, the changes will have a major technical impact, making adjustments necessary in at least the following subsystems: flight plan treatment, communication interfaces with other systems, control screen HMIs and recording and re-visualization.

These adjustments should take into account at least the following aspects:

- Make all of the changes called for in Amendment 1 and described in Item 6.1 of this Document;
- Give air traffic controllers all of the necessary information for air traffic planning and management, including warnings of changes in status of aircraft capacity;
- Make it possible to correctly transmit all Flight Plan information, whether CURRENT or NEW, to all control centres involved;
- Clearly define the sizes of the Items and their respective subdivisions, as well as the sequence of the data (for example: Data inclusion sequence for Item 10);
- Include the updating of all of the technical documentation of the system; and
- Carry out advance testing in order to validate the changes.

Therefore, the effort needed to change these systems should be considered, taking into account, as well, the problems inherent in technological obsolescence and insufficient technical training of maintenance personnel, which could create the greater financial expense of having to hire third parties and entail a larger risk of failure.

For States that are in the process of acquiring new automated systems, whether or not to replace existing ones, the impact will be felt on their specification, for they must be able to process the changes called for in the amendment.

Another important aspect is the need for ICAO to consider implementing a transition period during which ANSPs should have the capability to process both CURRENT and NEW information; this means adjusting their software so that it is able to recognize the information format that is being used.

6.4.2. Operational Impact

The changes will directly impact operating personnel, particularly air traffic controllers and flight plan operators.

Nonetheless, there are many variables that should be considered, among them the association of the data entered in different FPL Items (Items 10 and 18, for example), which could change in accordance with the aircraft status.

That impact will be less pronounced if the automated ATM system is given the capacity to provide air traffic controllers with the necessary information for air traffic planning and for issuing warnings whenever a change occurs in the scenario in regard to the data filed in the Flight Plan.

The operational difficulty existing during the transition period should also be considered, when it is important to have the capability of operating using both CURRENT and NEW information.

A clear and formal explanation of aspects not fully defined in Amendment 1 and in the guidelines is also necessary. A case in point is the use of COM/NAV in Item 10, where the letter S represents RTF VHF, VOR or ILS standard equipment, but does not refer to NDB.

In order to mitigate the impact, considerable staff training must be provided, both in the use of the new resources of the automated system and for manual Flight Plan data processing. Adjustments must also be made in the operating models and controversial matters must be clearly defined.

7. Implementation Strategy

7.1 Critical Criteria

The implementation of Amendment 1 in the SAM Region should consider the following aspects:

- Ensure that by 15 November 2012 all States and airspace users have made all of the changes called for in Amendment 1, and not just in some selected aspects of it;
- States that do not implement the amendment in its entirety before 15 November 2012 shall be obliged to publish those non-conformities in their AIPs as a “SIGNIFICANT DIFFERENCE.” Furthermore, failure to implement the change will be considered a deficiency and will be included on the List of Deficiencies in the SAM Region; and
- Ensure that, as of 15 November 2012, all States and airspace users accept and disseminate only the information of the NEW Flight Plan format and associated ATS messages, and disable all processing capabilities of the CURRENT format.

7.2 Preparation

In order to successfully implement the changes, States in the SAM Region first need to prepare an action plan that will take account of the impact the change will have on their systems, giving due consideration to the aspects covered in this strategy.

To be successful, States, coordinated by the ICAO Regional Office and GREPECAS, need to elaborate their action plans based on the impact the changes will have on their systems and considering the changes, guidelines and critical criteria defined above.

Those plans should cover at least the following subjects:

- Classification of the degree of evolution of their systems;
- Detailed assessment of the technical and operational impact;
- Solutions for reducing the impact, together with their respective schedules for implementation and the responsible parties;
- Deadline for implementing the solutions;
- Tests for validating the solutions;
- Technical and operational training programmes; and
- Contingency measures.

Those plans should be presented at the SAM/IG/5 Meeting.

The ICAO SAM Regional Office will monitor the following tasks:

TASK	START	END	RESPONSIBLE PARTY
Ensure that automated system requirements include all changes made in the FPL format	2009	2012	Each State will indicate the responsible party
Ensure appropriate modification of automated ATM systems, in order to be able to analyze the information correctly and properly identify the order in which the messages are received, so that no mistakes are made in interpreting the data	2009	2012	Each State will indicate the responsible party
Comparative analysis of Flight Plan data processed in the NEW format with data processed using the CURRENT format.	2010	2011	Each State will indicate the responsible party

It is also necessary for the States to jointly agree on the definition of possible points that are not clearly explained in the amendment before taking measures to adjust their systems.

7.3 Transition

During this transition phase, it is important to:

- Follow GREPECAS' guidance;
- Observe the ICAO guidelines described in paragraph 6.2;
- Act jointly with the coordinator of the implementation;
- Conduct the activities specified in the action plans, in order to mitigate the technical and operational impact of the changes;
- Recognize that the advantages for airspace users will only become effective when the changes are jointly implemented.

The transition period in the SAM Region for giving ANSPs the capability to process data using both the CURRENT and NEW Flight Plan formats will run from 18 July 2011 to 15 November 2012.

Even so, States are urged to implement the NEW format between 18 July 2011 and 20 July 2012 and not to use the NEW format before the transition period.

States should, therefore, stay up-to-date in coordinating the evolution of their action plans and report any possible changes in date, deadlines and so forth.

In addition, airspace users should take steps to ensure the precise and proper adjustment of their systems in accordance with the NEW and CURRENT Flight Plan formats.

The coordinating body for the implementation will hold periodic meetings to evaluate the plans, which will conclude with the meeting scheduled for 15 June 2011, where the decision will be taken to start the transition.

Each State should nominate a person to serve as a liaison for the necessary coordination with ICAO and with other States during the transition phase for making changes in the new Flight Plan format.

7.4 Post-Transition

States should stop processing Flight Plans using the CURRENT format starting on 15 November 2012.

They should also ensure that ATM systems, whether automated or not, correctly process all information contained in the NEW Flight Plan format, and also provide support for their operation.

Occasional difficulties noted should be evaluated and resolved by the parties involved, ANSPs and/or airspace users.

8 Administrative Aspects

States should evaluate all documents concerned with the subject, including Operational Letters of Agreement, Contingency Plans and Operational Models.

This document accordingly establishes the following process for all purposes:

1. The holding of periodic meetings and discussions to identify requirements and preferential technical solutions, alternatives and options for implementing the new Flight Plan format;
2. The sharing of reports and technical documentation, plans and programmes that may be needed to ensure the successful and timely completion of these efforts.
3. Under the coordination of the ICAO Lima Office, the planning, technical coordination and performance of activities with other SAM States.

9 Financial Aspects

Participating States, as well as individual administrations, will be responsible for covering any financial obligation in paying for any direct or indirect expenses incurred in carrying out this strategy, including those of buying equipment and spare parts, training technical and operational personnel, and establishing lines of communication, among other things.

The cost of any possible updating of the REDDIG to handle an increase in traffic will be shared equally among all of the States involved.

States should create the necessary mechanisms for implementing this strategy, such as through ICAO Technical Cooperation Projects under the coordination of the ICAO SAM Office.

Chapter 3: Hazard identification for the implementation of the new Flight Plan format

3.1 Introduction

3.1.1 The safety assessment was carried out in 7 stages or orderly steps, following the guidelines described in Doc 9859, the SMM Manual, as listed below:

Step 1: Preparation (or obtaining) of a full description of the system being evaluated and the environment in which it should operate.

Step 2: Identification of hazards and their consequences.

Step 3: Assessment of the risk, expressed in terms of its likelihood.

Step 4: Assessment of the risk, expressed in terms of its severity.

Step 5: Risk tolerance/index.

Step 6: Risk mitigation.

Step 7: Elaboration of safety assessment documents.

3.2 Analysis of the hazard identification process

3.2.1 A hazard is defined as a potential situation that could affect the acceptable level of safety. The materialization of a hazard has consequences that could have an impact on all spheres of operation, such as: technical aspects, loss of separation, increase in the service workload, etc. A clear understanding of the relationship between hazards and their consequences makes it possible to move on to the next stage, that of operational risk management, which is described in Chapter 4 of this document.

3.2.2 A regional workshop (SAM/RA/02) was planned and held on 5 to 9 September, in order to identify the hazards of implementing the new Flight Plan format. Participating in this workshop was a multidisciplinary panel of professionals and experts (see **Appendix A** to this Chapter) with a broad knowledge of and experience in the current FPL system and in the proposed changes, in safety management systems, human elements, automated systems and other areas of air navigation.

3.2.3 The hazard identification process is able to determine only the hazards that exist within a described system. For that reason, the system's coverage has been made broad enough to encompass all possible effects.

3.2.4 The effects on safety of a possible system loss or degradation will determine, in part, the characteristics of the operating environment of the new scenario or system to be implemented. For that reason, the description of that environment included all elements that could have a major impact on safety. Those elements vary from one case to the next; they could include, for example, the unique features of the system used in the State or the degree of automation of the ATS system and other related factors, which should be evaluated by States in making their own safety assessments.

3.3 Methodology for identifying hazards for the implementation of the new Flight Plan format

3.3.1 The methodology used is the one described in Doc 9859 (SMM Manual), which enables possible hazardous situations to be identified both logically and sequentially, thereby making it possible to determine the technical viability of implementing the new Flight Plan format in the SAM Region without impairing safety. A hazard identification and risk assessment (HIRA) form was adopted to document the process.

3.3.2 It is important to stress that the hazard identification process has enabled possible alternatives with a region-wide impact to be analyzed; these have ranged from alternatives with low incidence to the most probable scenario. As a result, “worst” conditions or contexts have been properly foreseen. It is also important to point out that the hazards recorded by this team of experts have been “believable,” given the context and operational experience of all participants.

3.3.3 At the conclusion of the different discussion activities of the SAM/RA/02 Workshop, a registry of hazards was prepared, containing a description of each, duly validated by the panel of experts.

3.4 **Hazard identification for the implementation of the new Flight Plan format**

3.4.1 All possible sources of system failures were studied during the hazard identification stage. The following sources, among others, were considered:

- a) equipment (design, physical and logical support);
- b) operational environment;
- c) regulatory elements, including their application, equipment certification, surveillance, etc.
- d) human operators;
- e) human-machine interface;
- f) operational procedures and practices;
- g) elements of defence, including factors like the supply of appropriate detection and warning systems, error tolerance of equipment and capability of equipment to recover from errors and failures;
- h) maintenance procedures;
- i) communication, including means, terminology and language;
- j) organizational elements, like resource allocation, operational pressures, etc.

3.4.2 During the hazard identification process, answers were specifically sought to questions like: “how could personnel interpret this procedure erroneously?” or “how could a qualified person misuse this new function or this new system (voluntarily or involuntarily) within the sphere of action of the implementation of the new FPL format?” or “What could turn out badly during the transition period or after the implementation of Amendment 1?” and so forth.

3.5 **Description of the hazards analyzed by the SAM/RA/02 panel**

3.5.1 The following hazards for the implementation del new Flight Plan format were identified:

- a) Failure to comply with agreements reached for the implementation of Amendment 1.
- b) Inadequate planning by ATCO in accordance with the contents of the New Flight Plan format.
- c) Loss, in the transition period, of Flight Plan information/data during the handling of Associated Messages between FIRs that apply and do not apply Amendment 1.
- d) Loss of information and/or flight information during the processing of Repetitive Flight Plans (RPL).

3.5.2 The specific components defined during the workshop as causes of hazards were determined for each of these hazards, as follows:

Hazard 1: Failure to comply with agreements reached for the implementation of Amendment 1

- a) Lack of an Action Plan for implementing Amendment 1.
- b) Lack of human resources.
- c) No motivation to make the change.
- d) Lack of Technological resources (equipment and software to support the processing of flight plans)
- e) Lack of economic resources (training budget; technological implementation);
- f) Lack of corporate communication and communication with users.

Hazard 2: Inadequate planning by ATCO, in accordance with the contents of the New Flight Plan format.

- a) Lack of, or inadequate, regulations for the filing, approval and processing of the Flight Plan and associated messages (RPL, FPL, CPL and CHG, DLA and CNL)
- b) Inadequate interpretation by ATCO of the new CPL data/information;
- c) Inadequate application by ATCO of the new CPL data/information;
- d) Failures in the presentation of CPL data in the flight progress strips.
- e) Failures in the presentation of CPL data on the runway label.
- f) Inadequate interpretation by ARO-AIS in the processing of the Flight Plan and of associated messages.
- g) Inadequate interpretation and/or application of the new Flight Plan format by flight operations officers and crews.
- h) Software failure in the processing of the Flight Plan and associated messages.
- i) Inadequate disclosure of the implementation of the new Flight Plan format.

Hazard 3: Loss, in the transition period, of Flight Plan information/data during the handling of Associated Messages between FIRS that apply and do not apply Amendment 1.

- a) Inadequate filling out in the NEW and CURRENT formats of Flight Plans and associated messages;
- b) Inadequate interpretation of the NEW and CURRENT contents during the Flight Plan acceptance process;
- c) Failure in the (automated or manual) conversion from the CURRENT to the NEW format of the Flight Plan and associated messages;
- d) Software failure in the processing of Flight Plans that present the DOF for associated messages;
- e) Failure in compliance with the sequence established in Amendment 1 for introducing data/information in Item 18 while generating/transmitting the FPL.
- f) Failure in the conversion of DOF data and route descriptions with course and distance for FIRs that do not apply Amendment 1.
- g) Failure in the updating of the ICAO FITS site with respect to the implementation status of Amendment 1 to Doc 4444.
- h) Failure in access to the ICAO FITS site with regard to the implementation status of Amendment 1 to Doc 4444.

Hazard 4: Loss of flight information and/or data during the processing of Repetitive Flight Plans (RPL)

- a) Incompatibility between the new data/information of Flight Plan Item 10 (equipment and capabilities) and RPL Box Q; and
- b) Failure in the order in which the data/information is filled out in RPL Box Q.

3.6 Conclusions reached in identifying hazards and judging the consequences for the implementation of the new Flight Plan format

3.6.1 After identifying the hazards and the specific components of those hazards, the different scenarios and consequences stemming from each of those hazards were analyzed.

3.6.2 Among the consequences examined by the workshop, one of the most critical aspects noted was the reduction of aircraft separation with an operational error ranging from low to moderate severity. In most of the cases studied, there was a significant increase in the workload of the ATC and of air traffic controllers (ATCO) that could result in a potential flight delay, with repercussions and disadvantages that could have a negative impact on the system.

3.6.3 The Working Group later identified the current defences/existing requirements for each hazard. These defences were evaluated in terms of regulations, existing terminology and, if relevant, existing instruction programmes. As a result, the following current defences/existing requirements were determined:

Regulations

- a) Requirements for implementing Amendment 1 to the 15th Edition of ICAO Doc 4444.
- b) Regulations for each providing State.
- c) Action plan - Implementation of the new Flight Plan format with the application of Amendment 1 to the 15th Edition.
- d) Guidance manuals for the elaboration of action plans for implementing Amendment 1.
- e) Conclusions of regional meetings, seminars and workshops.
- f) SAM table for conversion of the contents of Flight Plan Items 10 and 18 from the CURRENT to the NEW format.
- g) Operational letters of agreement among ATC units.

Technology

- a) Automated systems (Flight plan and radar data processing);
- b) Flight plan communication and transmission media using AFTN
- c) Flight plan communication and transmission media using AMHS
- d) Digital network (REDDIG)

Training

- a) Repeated refresher programmes
- b) Training programmes in new systems

3.6.4 Once the hazards had been identified and their consequences determined, steps were taken toward the risk management process that will be discussed in the following chapter.

Appendix A to Chapter 3

List of experts who participated in the SAM/RA/02 Workshop

BOLIVIA

Fernando Azuga
Miguel Ángel Castillo Ochoa
Fátima Luz Ontiveros
Jorge Rojas

BRAZIL

July César de Souza Pereira
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José Víctor Mondragón
Renzo Gallegos
Walter Warthon
Manuel Cabredo
Jorge Merino Rodríguez

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Rosanna Barú Banchieri

VENEZUELA

Henry Iván Rodríguez Manrique

OACI/ ICAO

Roberto Arca
Celso Figueiredo
Jorge Fernández
Onofrio Smarrelli

Chapter 4: Operational risk management process for the implementation of the new Flight Plan format

4.1 Introduction

4.1.1 During this stage of the process, the background elements defined in the previous chapter were analyzed and compared and, using this information, the methodology was applied to determine the associated level of risk. This stage of analysis was carried out in keeping with two variables defined as: **likelihood** of the occurrence of an event and the worst possible foreseeable scenario, seen as the **severity or seriousness** of an event, using a qualitative type analysis. The table of operational risks was then applied and subsequent actions, applicable by consensus of the panel of experts and that could efficiently minimize or contain operational risks associated with the implementation of the new Flight Plan format, were determined.

4.2 Aspects considered to determine the likelihood of risk

4.2.1 The table contained in the SMM Manual shown below and which is defined by ICAO as a tool for risk management analysis was employed for this stage of the study, together with some criteria applied by States in the Region that have experience in conducting safety assessments.

Table for determining the likelihood of an event

	Meaning	Value
Frequent	Likely to occur many times (has occurred frequently)	5
Occasional	Likely to occur some times (has occurred infrequently)	4
Remote	Unlikely to occur, but possible (has occurred rarely)	3
Improbable	Highly unlikely to occur (not known to have occurred)	2
Highly improbable	Almost inconceivable	1

4.2.2 This table is based on recorded data of operational experiences at the global level and is defined for each of the probabilities of an event's occurrence, in accordance with the associated quantitative details:

- Frequent: 1 to 10^{-3} per hour of flight
- Occasional: 10^{-3} to 10^{-5} per hour of flight
- Remote: 10^{-5} to 10^{-7} per hour of flight
- Improbable: 10^{-7} to 10^{-9} per hour of flight
- Highly improbable: $+ 10^{-9}$ per hour of flight

4.3 Aspects considered to determine the severity of risks associated with the implementation of the new Flight Plan format

4.3.1 It should be noted that this severity analysis constituted the fourth step of the operational risk assessment process, making it possible to determine the likelihood of an event in relation to its severity, which represents the essence of risk management.

4.3.2 All of the hazards and consequences identified in the preceding chapters were analyzed at this stage, with a view to determining the worst imaginable scenario and, using it as a reference point, identifying possible defences for promoting a stronger scenario able to tolerate operational errors.

4.3.3 The following table defined in the SMM Manual, together with some criteria applied by States in the Region, were used to determine this important risk management function:

Risk severity (seriousness)

Seriousness of the event	Meaning	Value
Catastrophic	-Destruction of equipment -Multiple deaths	
Hazardous	-Considerable reduction in safety margins, physical damage or such a heavy workload that operators are unable to perform their duties precisely and fully -Serious injuries -Major damage to equipment	B
Major	-Significant reduction in safety margins, reduction of the operator's skill in responding to adverse conditions due to an increased workload or as a result of conditions impeding his/her efficiency -Serious incident -Bodily injuries	C
Minor	-Interference -Operational limitations -Use of emergency procedures -Minor incidents	D
Insignificant	-Slight consequences	E

4.3.4 Once the **severity** of all identified consequences of hazards were judged and the results catalogued, in accordance with the risk assessment process, they were recorded in the HIRA table.

Chapter 5 Assessment and mitigation of operational risks associated with the implementation of the new FPL format

5.1 Introduction

5.1.1 The level of risk was determined at this stage of the process. It was gauged to determine its acceptability by comparing the various criteria listed in the tables. The aim was to evaluate the level of operational risk and to assign its respective tolerance rate, based on defences applied later. The idea has definitely been to reduce operational risk to an acceptable level (ALoS), while maintaining a realistic outlook in keeping with the Region's characteristics.

5.2 Criteria for mitigating operational risks

5.2.1 The acceptability of a risk will depend upon the result of the defences analyzed in the proposed scenario. For purposes of the implementation of the new Flight Plan format, the defences existing in the SAM Region were determined for each of the hazards identified (see paragraph 3.6 above).

5.2.2 The SAM/RA workshop used the table below to assess the safety risks, based on the current defences/existing requirements:

Safety risk assessment table

Risk probability	Risk Severity				
	Catastrophic A	Hazardous B	Major C	Minor D	Negligible E
Frequent 5	5A	5B	5C	5D	5E
Occasional 4	4A	4B	4C	4D	4E
Remote 3	3A	3B	3C	3D	3E
Improbable 2	2A	2B	2C	2D	2E
Extremely improbable 1	1A	1B	1C	1D	1E

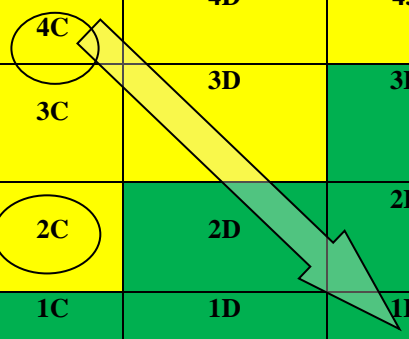


Figure 04 Pattern for risk tolerability assessment

5.2.3 Insofar as the concept of tolerable risk is concerned, there is an area between acceptable and unacceptable risks where the decision as to its acceptability is not clear and decisive. These latter risks belong to a category in which the risk may be tolerable if reduced as low as reasonably practicable (ALARP). Risks categorized as belonging in the intermediate area of the triangle of operational risk mitigation criteria (shown in the figure below) are marked as being acceptable, if the risk is mitigated. These risk levels may require taking a decision at the management level. Risks in this category are not classified as tolerable without careful consideration. Each case must be examined individually, as stated in the previous chapters, in the light of the costs and benefits to be derived from implementation of the proposed changes.

Table of operational risk mitigation criteria

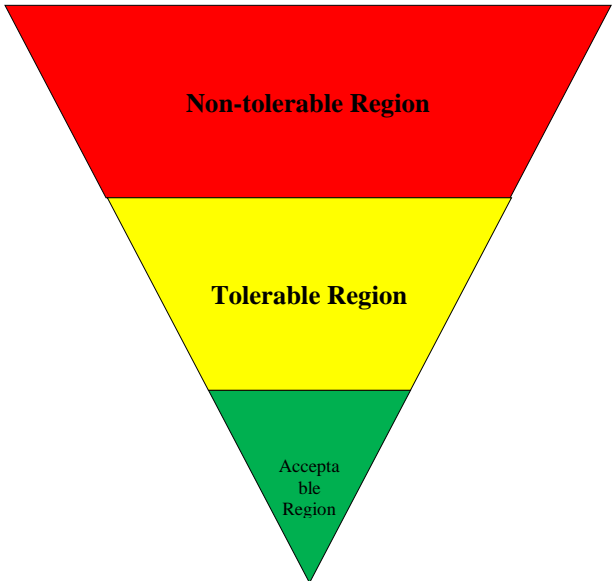
Suggested Criteria	Risk assessment rate	Suggested criteria
	5A, 5B, 5C, 4A, 4B, 3A	Unacceptable under existing circumstances
	5D, 53, 4C, 4D, 4E, 3B, 3C, 3D, 2A, 2B, 2C	Acceptable, based on risk mitigation. May require decision from the directorate
	3E, 2D, 2E, 1A, 1B, 1C, 1D, 1E	Acceptable

Figure 5 Tolerability pattern of safety risk

After considering the above information and examining the current defences/existing requirements, the SAM/RA workshop classified each identified hazard in the following way:

Hazard 1: Failure to comply with agreements reached for the implementation of Amendment 1

Occasional (4) Minor (D) - Acceptable if the risk is mitigated.

Hazard 2: Inadequate planning by ATCO, in accordance with the contents of the New Flight Plan format

Remote (3) Major (C) - Acceptable if the risk is mitigated.

Hazard 3: Loss, in the transition period, of Flight Plan information/data during the handling of Associated Messages between FIRs that apply and do not apply Amendment 1.

Occasional (4) Minor (D) - Acceptable if the risk is mitigated

Hazard 4: Loss of information and/or flight data during the processing of Repetitive Flight Plans (RPL)

Frequent (5) Minor (D) - Acceptable if the risk is mitigated

5.2.4 In all cases, the classification of the safety risks, after the analysis described above and application of the tables on the assessment and mitigation of those risks, revealed them to be acceptable, provided that action was taken to mitigate those risks.

5.3 **Description of measures for mitigating risks associated with the implementation of the new Flight Plan format in the SAM Region**

5.3.1 Using the results of the analysis for reference purposes, at this stage of the process risk management was applied and the projected scenario in the region was examined.

5.3.2 To facilitate the analysis, the mitigating and defensive measures that must be incorporated in order to keep risks at an acceptable level and obtain effective and safe implementation of the new Flight Plan format are described in detail below. The residual risk foreseen after its implementation is presented, together with the mitigating measures to keep the risk at a controlled level. The causes or components of the hazards and their relationship to the mitigating measures to be implemented can be noted more clearly in the HIRA form (**Chapter 5, Appendix A**), as follows:

Hazard 1: Failure to comply with agreements reached for the implementation of Amendment 1

- a) Drafting and complying with the Action Plan, which will make it possible to reduce the impact of cause 1;
- b) Having trained human resources available to implement the Action Plan, which will make it possible to reduce the impact of cause 2;
- c) The assistance of the ICAO Regional Office in helping States implement Amendment 1, which will make it possible to reduce the impact of causes 3 and 6;
- d) Conducting seminars, workshops and courses and publishing bulletins and the web page that report on the change, which will make it possible to reduce the impact of causes 3 and 6;
- e) Possessing the necessary technological and economic resources to implement the Action Plan, which will make it possible to reduce the impact of causes 4 and 5.

Residual risk: Improbable (2) Minor (D) -Acceptable

Hazard 2: Inadequate planning by ATCO, in accordance with the contents of the New Flight Plan format

- a) Revising and adjusting regulations concerning the application of Amendment 1 to Doc 4444, which will make it possible to reduce the impact of causes 1 and 2;
- b) Publishing the revised regulations far enough in advance to support the ATM community in the necessary training for implementing the contents of Amendment 1, which will make it possible to reduce the impact of causes 1 and 2;
- c) Preparing and disseminating AICs that contain guidelines and procedures for implementing Amendment 1, which will make it possible to reduce the impact of causes 1 and 2;
- d) Revising the Operational Manuals of the ATS and ARO/AIS units in order to adjust them to the new operational procedures stemming from the implementation of Amendment 1, which will make it possible to reduce the impact of causes 1 and 2;
- e) Planning, preparing and carrying out the training envisaged in causes 2, 3, 6, 7 and 9, ensuring that objectives are fulfilled and, if necessary, promoting occasional corrections;

- f) Evaluating whether the technical requirements already identified will ensure that causes 4, 5 and 8 do not arise and promoting occasional corrective technical measures;
- g) Updating its software to satisfy the requirements identified for the implementation of Amendment 1, with a view to guaranteeing that causes 4, 5 and 8 do not arise; and
- h) Conducting external and internal tests to ensure that causes 4, 5 and 8 do not arise.

Residual risk: Improbable (2) Major (C) -Acceptable if the risk is mitigated (controlled risk)

Hazard 3: Loss, in the transition period, of Flight Plan information/data during the handling of Associated Messages between FIRs that apply and do not apply Amendment 1.

- a) Preparing and disseminating AICs that contain guidelines and procedures for implementing Amendment 1, which will make it possible to reduce the impact of causes 1, 2, 3 and 5;
- b) Preparing an AIP Supplement containing guidelines and operational procedures for acceptance of the Flight Plan and the handling of associated messages during the transition period, which will make it possible to reduce the impact of causes 1, 2, 3 and 5;
- c) Planning the implementation, dissemination and training of the ATM community in operational procedures for elaborating, accepting and handling Flight Plans and associated messages during the transition period, which will make it possible to reduce the impact of causes 1, 2, 3 and 5;
- d) Preparing and displaying in the ARO/AIS rooms a checklist (conversion of data/information from the current to the new contents and a list showing the status of FIRs as to the application of the Amendment), in order to reduce errors in Flight Plan acceptance and handling, which will make it possible to reduce the impact of causes 1, 2, 3 and 5;
- e) Making arrangements to provide access to the ICAO FITS website in the ARO/AIS rooms, which will make it possible to reduce the impact of causes 1, 2, 3 and 5;
- f) Evaluating whether the technical requirements already identified ensure that causes 3 and 4 will not arise and promoting any occasional corrective technical measures;
- g) Maintaining the necessary software to meet the identified requirements for implementing Amendment 1, with a view to ensuring that causes 3 and 4 do not arise;
- h) Conducting external and internal tests to ensure that causes 3 and 4 do not arise;
- i) Updating the automated systems, when appropriate, to put the data/information for Flight Plan Item 18 in the order established in Amendment 1, which will make it possible to reduce the impact of cause 5;
- j) Establishing procedures for managing DOF information and route descriptions containing the course and distances when handling messages to FIRs that do not yet apply Amendment 1, which will make it possible to reduce the impact of cause 6;
- k) Establishing an effective procedure for updating the FITS website, which will make it possible to reduce the impact of cause 7;

- l) Establishing procedures to enable PSNA officials to immediately issue NOTAMs on any change in implementation status of the Amendment in national FIRs, which will make it possible to reduce the impact of cause 7; and
- m) Establishing an alternative procedure for failure of access to the FITS website, which will make it possible to reduce the impact of cause 7.

Residual risk: Improbable (2) Minor (D) -Acceptable

Hazard 4: Loss of information and/or flight data during the processing of Repetitive Flight Plans (RPL)

- a) Developing standardized procedures for conversion of RPL files produced by airline companies for dispatch to and insertion in automated air traffic control systems, which will make it possible to reduce the impact of cause 1; and
- b) Developing standardized procedures for RPL handling that make it impossible not to fill in the RPLQ Box with the priority stipulated by Amendment 1 regarding Flight Plan Item18, which will make it possible to reduce the impact of cause 2.

Residual risk: Remote (3) Insignificant (E) -Acceptable

APPENDIX A TO CHAPTER 5

HAZARD IDENTIFICATION AND RISK MANAGEMENT (HIRA) FORM

Description of Hazard Nº 1	Failure to comply with agreements reached for the implementation of Amendment 1					
Causes	Scenario	Current defences/Existing Requirements	Consequences associated with the hazard	Initial Risk Likelihood Severity	Mitigating Measures	Residual Risk Foreseen
1) Lack of an Action Plan for implementing Amendment 1; 2) Lack of human resources; 3) No motivation to make the change; 4) Lack of technological resources (equipment and software to support the processing of flight plan); 5) Lack of economic resources (training budget; technological implementations); 6) Lack of corporate communication and communication with users.	1) Organizational structure of the States and rest of the aeronautical community; 2) Transition phase; and 3) Global application of Amendment 1 as of 15 Nov. 2012.	1) Requirements for implementation of Amendment 1 to the 15 th Edition of ICAO Doc 4444. 2) Regulations for each providing State. 3) Action plan - Implementation of the new Flight Plan format through the application of Amendment 1 to the 15th edition. 4) Guidance manuals for preparing action plans for the implementation of Amendment 1. 5) Conclusions of the regional meetings, seminars and workshops.	1) Significant increase in the ATC workload. 2) Flight delays.	Occasional (4) Minor (D) Acceptable if the risk is mitigated	<u>Cause 1</u> 1/1 Elaborating and complying with the Action Plan, which will make it possible to reduce the impact of Cause 1; <u>Cause 2</u> 2/1 Having trained human resources available to implement the Action Plan, which will make it possible to reduce the impact of Cause 2; <u>Causes 3 and 6</u> 3/1 The assistance of the ICAO Regional Office in helping States implement Amendment 1, which will make it possible to reduce the impact of Causes 3 and 6; 4/1 Conducting seminars, workshops and courses and publishing bulletins and web pages that report on the change, which will make it possible to reduce the impact of Causes 3 and 6; <u>Causes 4 and 5</u> 5/1 Possessing the necessary technological and economic resources to implement the Action Plan, which will make it possible to reduce the impact of Causes 4 and 5.	Improbable (2) Minor (D) Acceptable

HAZARD IDENTIFICATION AND RISK MANAGEMENT (HIRA) FORM

Description of Hazard Nº 2	Inadequate planning by ATCO, in accordance with the contents of the New Flight Plan format					
Causes	Scenario	Current defences/Existing Requirements	Consequences associated with the hazard	Initial Risk Likelihood Severity	Mitigating Measures	Residual Risk Foreseen
1) Lack of or inadequate regulations for the filing, approval and processing of the Flight Plan and associated messages (RPL, FPL, CPL and CHG, DLA and CNL); 2) Inadequate interpretation by ATCO of the new CPL data/information; 3) Inadequate application by ATCO of the new CPL data/information; 4) Failures in the presentation of CPL data in the flight progress strip; 5) Failures in the presentation of CPL data on the runway label; 6) Inadequate interpretation by ARO-AIS in the processing of the Flight Plan and of associated messages; 7) Inadequate interpretation and/or application of the new	1) Interface, during the transition period, between ATC units that apply and do not apply Amendment 1; 2) Controlled airspaces; 3) Sectors with a large volume of traffic.	1) Requirements for implementation of Amendment 1 to the 15 th edition of ICAO Doc 4444. 2) Regulations of each providing State. 3) Action plan - Implementation of the new Flight Plan format through the application of Amendment 1 to the 15 th edition. 4) Guidance manuals for preparing Action Plans for the implementation of Amendment 1. 5) Conclusions of regional meetings, seminars and workshops. 6) Automated systems 7) Media for communication and transmission of flight plans. 8) Digital network	Reduction of aircraft separation with an operational error of low/moderate severity	Remote (3) Major (C) Acceptable if the risk is mitigated	<u>Causes 1 and 2</u> 1/2) Revising and adjusting regulations concerning the application of Amendment 1 to Doc 4444, which will make it possible to reduce the impact of causes 1 and 2; 2/2) Publishing the revised regulations far enough in advance to support the ATM community in the necessary training for implementing the contents of Amendment 1, which will make it possible to reduce the impact of causes 1 and 2; 3/2) Elaborating and disclosing AICs that contain guidelines and procedures for implementing Amendment 1, which will make it possible to reduce the impact of Causes 1 and 2; 4/2) Revising the Operational Manuals of the ATS and ARO/AIS units in order to adjust them to the new operational procedures stemming from the implementation of Amendment 1, which will make it possible to reduce the impact of Causes 1 and 2; <u>Causes 2, 3, 6, 7 and 9</u> 5/2) Planning, preparing and carrying out the training envisaged in causes 2, 3, 6, 7 and 9, ensuring that the	Improbable (2) Major (C) Acceptable if the risk is mitigated

Description of Hazard Nº 2	Inadequate planning by ATCO, in accordance with the contents of the New Flight Plan format					
Causes	Scenario	Current defences/Existing Requirements	Consequences associated with the hazard	Initial Risk Likelihood Severity	Mitigating Measures	Residual Risk Foreseen
<p>Flight Plan format by flight operations officers and crew;</p> <p>8) Software failure in the processing of the Flight Plan and associated messages.</p> <p>9) Inadequate disclosure of the implementation of the new Flight Plan format.</p>		<p>(REDDIG)</p> <p>9) Repetitive refresher programmes and training programmes in new systems</p>			<p>objectives are fulfilled and, if necessary, promoting the adoption of occasional corrections;</p> <p><u>Causes 4, 5, and 8</u></p> <p>6/2) Evaluating whether the technical requirements already identified will ensure that causes 4, 5 and 8 do not arise and promoting occasional corrective technical measures;</p> <p>7/2) Updating its software to satisfy the requirements identified for the implementation of Amendment 1, with a view to guaranteeing that causes 4, 5 and 8 do not arise;</p> <p>8/2) Conducting external and internal tests to ensure that causes 4, 5 and 8 do not arise.</p>	

HAZARD IDENTIFICATION AND RISK MANAGEMENT (HIRA) FORM

Description of Hazard Nº 3	Loss, in the transition period, of Flight Plan information/data during the handling of Associated Messages between FIRs that apply and do not apply Amendment 1,					
Causes	Scenario	Current defences/Existing Requirements	Consequences associated with the hazard	Initial Risk Likelihood Severity	Mitigating Measures	Residual Risk Foreseen
<p>1) Inadequate filling out of the Flight Plan and associated messages in the NEW and CURRENT formats;</p> <p>2) Inadequate interpretation of the NEW and CURRENT contents during the Flight Plan acceptance process;</p> <p>3) Failure in the (automated or manual) conversion from the CURRENT to the NEW format of the Flight Plan and associated messages;</p> <p>4) Software failure in the processing of Flight Plans that present the DOF for associated messages;</p> <p>5) Failure in compliance with the sequence established in Amendment 1 for introducing data/information in Item 18 while generating/transmitting the FPL.</p>	<p>1) Handling of Flight Plans and associated messages regarding international flights between FIRs that apply and do not apply the NEW content;</p> <p>2) Coordination of the traffic between FIRs in adjacent States;</p> <p>3) Controlled airspace;</p> <p>4) Sectors with high traffic density; and</p> <p>5) States with a low level of automation</p>	<p>1) Requirements for implementation of Amendment 1 to the 15th Edition of ICAO Doc 4444;</p> <p>2) Regulations of each providing State;</p> <p>3) Action plan - Implementation of the new Flight Plan format through the application of Amendment 1 to the 15th Edition of the ICAO PANS-ATM (Doc 4444);</p> <p>4) Guidance manuals for preparing Action Plans for the implementation of Amendment 1;</p> <p>5) Conclusions of regional meetings, seminars and workshops;</p> <p>6) SAM Conversion Table from the CURRENT to the NEW contents of Flight Plan Items 10 and 18;</p>	<p>Significant increase in ATC workload</p>	<p>Minor (4) Occasional (D)</p> <p>Acceptable if the risk is mitigated</p>	<p><u>Causes 1, 2, 3 and 5</u></p> <p>1/3) Elaborating and disclosing AICs that contain guidelines and procedures for implementing Amendment 1, which will make it possible to reduce the impact of causes 1, 2, 3 and 5;</p> <p>2/3) Elaborating an AIP Supplement containing guidelines and operational procedures for acceptance of the Flight Plan and the handling of associated messages during the transition period, which will make it possible to reduce the impact of causes 1, 2, 3 and 5;</p> <p>3/3) Planning the implementation, disclosure and training of the ATM community in operational procedures for elaborating, accepting and handling Flight Plans and associated messages during the transition period, which will make it possible to reduce the impact of causes 1, 2, 3 and 5;</p> <p>4/3) Preparing and displaying in the ARO/AIS rooms a checklist (conversion of data/information from the current to the new contents and a list showing the status of FIRs as to the application of the amendment), in order to reduce errors in Flight Plan</p>	<p>Improbable (2) Minor (D)</p> <p>Acceptable if the risk is mitigated</p>

Description of Hazard N° 3	Loss, in the transition period, of Flight Plan information/data during the handling of Associated Messages between FIRs that apply and do not apply Amendment 1,					
Causes	Scenario	Current defences/Existing Requirements	Consequences associated with the hazard	Initial Risk Likelihood Severity	Mitigating Measures	Residual Risk Foreseen
<p>6) Failure in the conversion of DOF data and route descriptions with course and distance for FIRs that do not apply Amendment 1.</p> <p>7) Failure in the updating of the ICAO website (FITS) with respect to the implementation status of Amendment 1 to Doc 4444.</p> <p>8) Failure in access to ICAO's website (FITS) with respect to the implementation status of Amendment 1 to Doc 444.</p>		<p>7) Automated systems;</p> <p>8) Flight Plan communication and transmission media;</p> <p>9) Digital network (REDDIG);</p> <p>10) Repeated refresher programmes and training programmes in new systems</p>			<p>acceptance and handling, which will make it possible to reduce the impact of causes 1, 2, 3 and 5;</p> <p>5/3) Making arrangements to provide access to ICAO's FITS website in the ARO/AIS rooms, which will make it possible to reduce the impact of causes 1, 2, 3 and 5;</p> <p><u>Causes 3 and 4</u></p> <p>6/3) Evaluating whether the technical requirements already identified ensure that causes 3 and 4 will not arise and promoting any occasional corrective technical measures;</p> <p>7/3) Maintaining the necessary software to meet the identified requirements for implementing Amendment 1, with a view to ensuring that causes 3 and 4 do not arise;</p> <p>8/3) Conducting external and internal tests to ensure that causes 3 and 4 do not arise;</p> <p><u>Cause 5</u></p> <p>9/3) Updating the automated systems, when appropriate, to put the data/information for Flight Plan Item 18 in the order established in Amendment 1, which will make it possible to reduce the impact of cause 5;</p> <p><u>Cause 6</u></p>	

Description of Hazard Nº 3	Loss, in the transition period, of Flight Plan information/data during the handling of Associated Messages between FIRs that apply and do not apply Amendment 1,					
Causes	Scenario	Current defences/Existing Requirements	Consequences associated with the hazard	Initial Risk Likelihood Severity	Mitigating Measures	Residual Risk Foreseen
					<p>10/3) Establishing procedures for managing DOF information and route descriptions containing the course and distances when handling messages to FIRs that do not yet apply Amendment 1, which will make it possible to reduce the impact of cause 6;</p> <p><u>Cause 7</u></p> <p>11/3) Establishing an effective procedure for updating the FITS website, which will make it possible to reduce the impact of cause 7;</p> <p>12/3) Establishing procedures to enable PSNA officials to immediately issue NOTAMs on any change in implementation status of the Amendment in national FIRs, which will make it possible to reduce the impact of cause 7;</p> <p>13/3) Establishing an alternative procedure for failure of access to the FITS website, which will make it possible to reduce the impact of cause 7.</p>	

HAZARD IDENTIFICATION AND RISK MANAGEMENT (HIRA) FORM

Description of Hazard Nº 4	Loss of information and/or flight data during the processing of Repetitive Flight Plans (RPL)					
Causes	Scenario	Current defences/Existing Requirements	Consequences associated with the hazard	Initial risk Likelihood Severity	Mitigating measures	Residual Risk Foreseen
<p>1) Incompatibility between the new data/information of Flight Plan Item 10 (equipment and capabilities) and RPL Box Q; and</p> <p>2) Failure in the order in which the data/information is filled out in RPL Box Q.</p>	<p>1) RPL importation for automated systems;</p> <p>2) Handling of RPL lists among States that signed the RPL Letter of Agreement; and</p> <p>3) Large percentage of the daily RPL movement.</p>	<p>1) Requirements for implementation of Amendment 1 to the 15th Edition of ICAO Doc 4444.</p> <p>2) Action Plan – Implementation of the new Flight Plan format through the application of Amendment 1 to the 15th edition.</p> <p>3) Guidance manuals for preparing Action Plans for the implementation of Amendment 1; and</p> <p>4) Repetitive Flight Plan Letters of Agreement.</p>	<p>Significant increase in the ATCO workload</p>	<p>Frequent (5) Minor (D)</p> <p>Acceptable if the risk is mitigated</p>	<p><u>Cause 1</u></p> <p>1/4) Developing standardized procedures for conversion of RPL files produced by airline companies for dispatch to and insertion in automated air traffic control systems, which will make it possible to reduce the impact of cause 1;</p> <p><u>Cause 2</u></p> <p>2/4) Developing standardized procedures for RPL handling that make it impossible not to fill in the RPLQ Box with the priority stipulated by Amendment 1 regarding Flight Plan Item 18, which will make it possible to reduce the impact of cause 2.</p>	<p>Remote (3) Insignificant (E)</p> <p>Acceptable</p>

Chapter 6 Recommendations stemming from the safety assessment for the implementation of the new Flight Plan format

6.1 Introduction

6.1.1 This Chapter sets out the recommendations resulting from the qualitative study made by experts during the SAM/RA/02 workshop to determine the level of risk associated with the implementation of the new Flight Plan format.

The conclusion to be reached from what has been described and examined in this safety study is that the introduction and implementation of mitigating measures could keep safety risks at an acceptable and, in some cases, tolerable level. This means that the risk is controlled and that the implementation in the South American Region of Amendment 1 to Doc 4444 regarding the new Flight Plan format would be operationally safe. Some recommendations whose implementation is considered essential for keeping safety rates at an acceptable level are spelled out below. The HIRA Form in Appendix A to Chapter 5 clearly stipulates the tasks that, from the regional viewpoint, should be considered by States and air navigation service providers in the South American Region.

6.2 Recommendations

6.2.1 The commitment of States and Organizations in the Region, whether civil aviation authorities (DGCA), air navigation service providers (ANSP), air carriers or airspace users, is of basic importance for achieving the level of safety needed to implement Amendment 1 to Document 4444 with regard to the new Flight Plan format. What is needed is an extremely strong commitment from all parties involved to the execution of the Regional Action Plan and particularly of the national plans for implementing the new Flight Plan format.

6.2.2 **Civil aviation authorities** need to closely follow-up on and continuously monitor the preparatory activities that air navigation service providers, air carriers and different airspace users should carry out, providing coordination and assisting all actors in the process whenever necessary. They must also commit to develop, approve and publish, by the appropriate deadlines defined in the Regional and national Action Plans, the standards, regulations, advisory circulars and other documentation containing guidelines and procedures for implementing Amendment 1, so that the ATM community is able to comply with the agreements entered into at the regional and global levels.

6.2.3 They must also have sufficient trained human resources and the necessary technological and economic means to implement the Action Plan as appropriate. As an additional measure, authorities, when needed, should hold seminars, workshops and courses, publish bulletins and post sufficient information in their websites containing the expected changes and necessary documentation.

6.2.4 **Air navigation service providers** (ANSP) should carefully perform the activities stipulated in the Action Plans and, insofar as regulations are concerned, update the Operational Manuals of the ATS and ARO/AIS units, in order to bring them into line with the new operational procedures stemming from the implementation of Amendment 1. They should also prepare checklists to simplify the task of ARO/AIS personnel of replacing the CURRENT contents with the NEW information and a list specifying the Flight Plan application status in the FIRs. An in-depth analysis should be conducted, as well, of the internal operational letters of agreement within the ANSPs and ATC units and with units of adjacent States. In this connection, the letters of application of repetitive flight plans should be revised and standardized procedures developed for their treatment, as needed. For the transition period, ANSPs should draw up contingency plans and procedures to deal with sudden changes in the implementation status of Amendment 1.

6.2.5 When needed, they should update their software to put the sequence established in Amendment 1 in the proper order and in that way meet the requirements identified in that Amendment and fulfill the technical requirements to ensure its safe implementation.

6.2.6 ANSPs should take action, in the area of personnel training, to plan the execution, disclosure and training of the ATM community in the operational procedures for filling out, elaborating, accepting and handing Flight Plans and associated messages during the transition period.

6.2.7 The **ICAO South American Regional Office**, for its part, will continue to offer full support for the implementation of Amendment 1 to Doc 4444 by organizing regional events and facilitating the participation of States, ANSPs, air carriers and users in general. It must also make the necessary changes, together with States that have problems in implementing Amendment 1, in the mechanisms for assistance, whether they be specific missions or staff training. In addition, it should establish an effective alternate procedure for acceding to the FITS website in order to update the status of execution of the Action Plan for implementing the new Flight Plan format.

6.2.8 Although this safety assessment is aimed at States and service providers, **air carriers and airspace users** are a key player in the execution and fulfillment of Amendment 1 and as such should promote and apply the new Flight Plan format, in keeping with the Region's Action Plan. For that reason, it is important for the air carriers and airspace users involved to take the necessary measures to provide for mitigating action and measures in the areas of regulation, technology and personnel training, with a view to facilitating the implementation of the new Flight Plan format during both the transition period and as of the 15 November 2012 final deadline, after which only the NEW Flight Plan format will be accepted.

6.2.9 To repeat, the purpose of this safety assessment is to serve States for reference purposes. It should be stressed that this safety assessment in no way releases States from their obligation to make their own assessment of safety as a result of the implementation of the new Flight Plan format, as stipulated in national action plans on the subject.

6.2.10 In ending, it is recommended that the observations made and conclusions reached in this assessment of safety for the implementation of Amendment 1 to Doc.4444 should be conserved as part of the Region's safety library and should make it possible to jointly define the baseline for recording improvements suggested in the future with regard to risk management and the level of safety achieved by the SAM Region.

Appendix A Chapter 6

Definitions

Control Area: A controlled airspace extending upwards from a specified limit above the earth. The concept of Control Area also covers airways and the TMA.

Area Control Centre: A unit established to provide air traffic control service to controlled flights in areas under its jurisdiction.

Flight Plan: Specified information provided to air traffic service units, relative to an intended flight or portion of a flight of an aircraft.

CURRENT Flight Plan: Current flight planning and ATS message formats defined in the existing version of the PANS-ATM

NEW Flight Plan: Flight planning and ATS message formats specified in Amendment 1 to the PANS-ATM

Filed Flight Plan: The Flight Plan as filed with an ATS unit by the pilot or a designated representative, without any subsequent changes.

Current Flight Plan: The Flight Plan, including changes, if any, brought about by subsequent clearances.

Acronyms

ACC	Area Control Centre
AFTN	Aeronautical Fixed Telecommunication Network
AIC	Aeronautical Information Circular
AIM	Aeronautical Information Management
AIS	Aeronautical Information Service
AIP	Aeronautical Information Publication
ALARP	As Low As Reasonably Practicable
ALoS	Acceptable Level of Safety
AMHS	Automatic Message Handling System
ANSP	Air Navigation Service Provider
ATC	Air Traffic Control
ATCO	Air Traffic Controller
ATM	Air Traffic Management
ATS	Air Traffic Service
ARO	Air Traffic Services Reporting Office
CHG	Message to Change
CNL	Message to Cancel
CNS	Communications, Navigation and Surveillance
DEP	Departure Message
DLA	Delay Message
DEL	En Route Delay Message
DOF	Date of Flight
FIR	Flight Information Region
FITS	Flight Plan Implementation and Tracking System
FPL	Filed Flight Plan Message
GREPECAS	CAR/SAM Planning and Implementation Group
HIRA	Hazard Identification and Risk Assessment Form
ICAO	International Civil Aviation Organization
HMI	Human-Machine Interface
NOTAM	Notice to Airmen
PANS	Procedures for Air Navigation Services
PBN	Performance-Based Navigation
REDDIG	Digital network
RQP	Request Flight Plan
RQS	Request Supplementary Flight Plan
SAMIG	SAM Implementation Group
SAMRA	Workshop on the Safety Assessment of the South American Region
SMM	Safety Management Manual