



NPF/SIP/2010-WP/12

New Flight Plan

Saulo Da Silva
International Civil Aviation Organization

**Workshop on the development of
National Performance Framework for
Air Navigation Systems
(Nairobi, 6-10 December 2010)**



Presentation Outline

- **Background**
- **Amendment 1 to PANS-ATM**
- **Flight Plan Environment**
- **Transition Strategy**
- **Checklist tasks**
- **Implementation Guidelines**
- **FITS**
- **Summary**



Background

- **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.**
- **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.**



Background

- **The new ICAO flight plan provisions are necessary to allow ATM systems to make optimum use of advanced aircraft capabilities (RVSM, PBN, ADS, etc) already onboard the aircraft.**
- **Amendment to the flight plan is an interim step towards a completely revamped system of interaction between aircraft and the ATM system, wherein the aircraft will be an integral part of the ATM system as envisaged in the Global ATM Operational Concept.**



Amendment 1 to the PANS-ATM

- 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 equipage 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 standardized manner.
- 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.



Flight planning environment

- **PRESENT** is defined as the present flight planning and ATS message formats as defined in the current version of the PANS-ATM.
- **NEW** is defined as the flight planning and ATS message formats as specified in Amendment 1 to the PANS-ATM.
- In order to allow performance case considerations to drive individual airspace user and ANSP implementation schedules, the ATM system may need to simultaneously support both **PRESENT** and **NEW** for a period of time.



Transition Strategy

- In order to ensure an orderly transition from the present flight plan to the new one, common transition strategies should be adopted.
- A basic checklist in the form of a performance framework form (PFF), has been developed to provide a common planning mechanism.
- The amendment to flight plan provisions has been made in such a way that existing indicators have not been re-used or re-assigned with different meanings.
- Additionally, the present flight plan format has been retained. This has been done to promote a simplified and orderly transition.



Checklist Tasks

- 1. Ensure that the automation requirements of local systems are fully adaptable to the changes envisaged in the new FPL provisions.**
- 2. Ensure the ability of FDPS's to parse information correctly and to correctly identify the order in which messages are received, to ensure that misinterpretation of data does not occur.**
- 3. Analyze each individual data item within the various fields of the new flight plan, comparing the current values and the new values to verify any issue regarding the applicability of service provided by the facility itself or downstream units.**
- 4. Ensure that there are no individual State peculiarities or deviations from the flight plan provisions.**
- 5. Ensure that the accepting ATS Reporting Office accepts and disseminates all aircraft capabilities and flight intent to all the downstream ACCs as prescribed.**



Check List tasks (cont.)

- 6. Plan the transition arrangements to ensure that the changes from the present to the new ICAO FPL provisions occur in a timely and seamless manner and with no loss of service.**
- 7. In order to reduce the change of double indications it is important that any State having published a specific requirement(s) which are now addressed by the amendment should withdraw those requirements in sufficient time to ensure that aircraft operators and flight plan service providers, after 15 November 2012, use only the new flight plan indications.**
- 8. Establish a process to track the implementation status and inform the ICAO regional offices on an ongoing basis.**



Transition Guidance

- **Considering the challenge that may represent the implementation for some States/ANSPs a transition guidance has been developed by ICAO to assist airspace users and Air Navigation Service Providers (ANSP) to implement the flight planning changes.**



Implementation guidelines

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



Implementation guidelines - Scope

- The implementation guidelines are 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.
- The implementation guidelines do not change any provision in Annex 2 — *Rules of the Air* or the PANS-ATM regarding completion and acceptance of a flight plan.



Implementation guidelines - Objective

- **The purpose of the implementation guidelines are 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.**



Implementation guidelines - Applicability

- The implementation guidelines apply to airspace users, ANSPs and Planning and Implementation Regional Groups (PIRGs).
 - *Note: 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.*
- The implementation guidelines present points 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.



Guidelines Summary

- **Guideline 1:** As each ANSP transitions to NEW, it is essential that they also support PRESENT until the applicability date of 15 November 2012.
- **Guideline 2:** 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.
- **Guideline 3:** 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.
- **Guideline 4:** 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.
- **Guideline 5:** 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.
- **Guideline 6:** 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.



Guideline 1

- **As each ANSP transitions to NEW, it is essential that they also support PRESENT until the applicability date of 15 November 2012.**
 - **There is no requirement for ANSPs to accept and process PRESENT after the applicability date, unless specified by the appropriate authority.**
 - **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.**

G2



Guideline 2

- **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.**
 - **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.**
 - **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.**
 - **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.**



Guideline 3

- **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.**
 - **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.**
 - **It is intended that all airspace users will file NEW from the applicability date forward, as using PRESENT is not assured after that date.**



Guideline 4

- *Note – The following guidelines apply only to situations where ANSPs affected by a flight have not all transitioned to NEW.*
- **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.**
 - This can be achieved by the airspace user filing only PRESENT with all ANSPs (as ANSPs supporting NEW will also support PRESENT during transition).
 - 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.
 - 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.



Guideline 5

- **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.**
 - This publicly available information is in addition to the normal methods of communication between an ANSP and its airspace users.
 - 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.
 - The FITS (Flight Plan Implementation Tracking System) public website is located at: <http://www2.icao.int/en/FITS/Pages/home.aspx>
 - This site will be populated by ROs.



Guideline 6

- **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.**
 - **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.**
 - **PIRGs, States and ANSPs should be aware that valuable planning information may be lost during the conversion process, as shown in the conversion table.**
 - **There is no intent for PRESENT to be converted to NEW during the transition period.**



Conversion of new items 10 and 18 to present items 10 and 18

- It is strongly recommended that all ANSPs utilize the conversion table developed by ICAO 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.



COM-NAV Items Conversion

Com-Nav	NEW data in these columns		Converts to PRESENT data in these columns	
	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
	J4		J	DAT/V
	J5		J	DAT/S
	J6		J	DAT/S
	J7		J	DAT/S
	K		K	
	L		L	



COM-NAV Items Conversion (cont.)

Com-Nav	NEW data in these columns		Converts to PRESENT data in these columns	
	Item 10	Item 18	Item 10	Item 18
	M1			COM/INMARSAT
	M2			COM/MTSAT
	M3			COM/IRIDIUM
	O			
	P1-P9 (REVERVED)			
	R	PBN/nn		NAV/nnnn
	T		T	
	U		U	
	V		V	
	W		W	
	X		X	
	Y		Y	
	Z	COM/NAV/DAT	Z	COM/ NAV/



SUR Items Conversion

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	



Flight Plan Implementation Tracking System (FITS)

- The FITS (Flight Plan Implementation Tracking System) public website is located at:
 - <http://www2.icao.int/en/FITS/Pages/home.aspx>
- This information is publicly available in addition to the normal methods of communication between an ANSP and its airspace users.
- This site is being populated by ROs based on information received from States.
 - Each ANSP will communicate, via State, 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.



Change Consequences

- **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.**
- **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.**



Change Consequences(cont)

- **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.**
- **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.**



Summary

- **The amendment to the flight plan and related provisions in the PANS-ATM has been made in such a way as to be backward compatible in the sense that existing indicators and alphanumeric have not been re-used or re-assigned with different meanings. Additionally, the present flight plan format has been retained. This has been done to promote a simplified and orderly transition**
- **The impact of the modifications to flight data processing systems will vary from one air navigation service provider and State to another depending on their data requirements, the level of validation necessary and the types of systems in place. However, a basic checklist should be followed**



Summary

- **To support the transition, a public website was 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 were already notified on the deployment of the system (State Letter AN 13/2-2010/31) .**



Thank you.

Saulo da Silva
sdasilva@icao.int