



International Civil Aviation Organization

**The Fourth Meeting of the Asia/Pacific ICAO Flight Plan and ATS Messages
Implementation Task Force (FPL&AM/TF/4)**

Bangkok, Thailand, 2 – 3 June 2011

Agenda Item 5: Aspects of implementation in Asia/Pacific region

COORDINATION FOR THE TRANSITION TO THE NEW FLIGHT PLAN FORMAT

(Presented by the Secretariat)

SUMMARY

This paper presents the results of a survey that was conducted to determine Asia/Pacific (APAC) State issues for the transition from PRESENT to NEW FPL format.

This paper relates to –

Strategic Objectives:

- A: *Safety – Enhance global civil aviation safety*
- C: *Environmental Protection and Sustainable Development of Air Transport – Foster harmonized and economically viable development of international civil aviation that does not unduly harm the environment*

Global Plan Initiatives:

GPI-12 Functional integration of ground systems with airborne systems

1. INTRODUCTION

1.1 APANPIRG/21 discussed Amendment 1 to the *Procedures for Air Navigation Services – Air Traffic Management* (PANS-ATM, Doc 4444), fifteenth edition, relating to changes to the ICAO flight plan form (FPL). APANPIRG/21 agreed to Conclusion 21/13, which emphasised the need for urgent and appropriate coordination with neighbouring States and FIRs:

Conclusion 21/13 – Coordination for the Transition to the NEW Flight Plan Format among States

That, as the global and the regional harmonization is crucial in implementing the NEW flight plan format by 15 November 2012, States start close coordination soon with adjacent States/FIRs on transition about, but not limited to:

- i) *difference of timing for transition between the States/FIRs;*
- ii) *operations in the mixed environment of PRESENT and NEW;*
- iii) *operational transition for AIDC; and*
- iv) *procedures when ATS messages are not processed properly.*

2. DISCUSSION

2.1 The APAC Regional Office issued State Letter T 3/10.1.20 – AP039/11 (ATM) dated 24 March 2011, which contained a survey for States to respond by 20 May 2011. The survey is reproduced as follows:

- a) Differences of transition timing between your State and other States/FIRs or the Regional FPL phased implementation plan, if any;
- b) Impact Assessment – what effect will the implementation of Amendment 1 may have, including, but not limited to:
 - i) procedures and data exchange mechanisms in your State;
 - ii) operational transition for AIDC;
 - iii) unprocessed ATS messages;
 - iv) PRESENT and NEW mixed environment operations;
 - v) any systems in your State that will not be ready by 15 November 2012 (if so, please list the systems concerned and the expected readiness dates);
 - vi) plans to minimise the consequences of any interoperability outside your State;
- c) Test Readiness – please indicate when systems in your State will be able to begin testing (provide AFTN addresses as appropriate); and
- d) Acceptance of NEW format – advise when your State will begin accepting flight plans in the NEW format (note – prior to 15 November 2012, this would mean that both NEW and CURRENT flight plan formats could be accepted).

2.2 Nine administrations responded to the survey, details of which are contained in **Appendix 1**. Those that responded indicated a high level of compliance with the Amendment 1 transition dates. Most respondents either indicated minimal transition impact or no information on this matter was submitted. Of particular note was the extensive transition impact information provided by the USA. There was a difference in the manner that some States handled unprocessed ATS messages – some messages would be rejected back to the originator while others would be forwarded for manual correction.

2.3 There were a number of responses indicating some administrations were prepared to accept PRESENT and NEW formats after the 15 November 2012 transition date, notwithstanding the advice in State Letter AN 13/2.1-09/9 dated 06 February 2009 that this action was not required.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) discuss the information contained in this paper;
- b) discuss the need for implementation status reports;
- c) discuss how the transition testing between ANSPs and users will actually work; and
- d) clarify how the activation of NEW format on 15 NOV 12 will work (in terms of timing, what to do with plans received in the present format, etc).

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Appendix 1: State Survey Responses

Issue	Differences in Timing		Impact Assessment						Testing	Acceptance
	Phase 2 transition	Phase 3 transition	Procedures, data	AIDC messages	Unprocessed messages	Mixed environment	Systems not ready	Inter-operability	External test start	NEW format
APAC State										
Australia ¹	01/04/12	26/07/12	TBA ²	TBA	TBA	TBA	TBA	TBA	01/04/12	26/04/12 ³
DPRK	01/04/12	01/07/12	TBA ⁴	TBA	TBA	TBA	TBA	TBA	01/04/12	01/07/12
Fiji	01/04/12	01/07/12	TBA ⁵	TBA	TBA	TBA	TBA	TBA	TBA	TBA
Japan	01/04/12	01/07/12	Transition ⁶	AIDC ⁷	Rejected	-	Nil	No plans	01/04/12	18/10/12 ⁸
Macao China	01/04/12	01/07/12	Internal ⁹	-	-	-	-	-	01/04/12 ¹⁰	15/11/12 ¹¹
New Zealand	01/04/12	01/07/12	Nil	Nil ¹²	Manual	Nil	Nil	Nil ¹³	01/04/12	TBA/07/12
Philippines	01/04/12	01/07/12	Minimal ¹⁴	Minimal	Minimal	Minimal	Minimal	Minimal	01/04/12	TBA ¹⁵
ROK	01/04/12	01/07/12	Nil	Nil	Nil	Transition ¹⁶	Nil	Nil	01/04/12	18/10/12
Singapore	01/04/12	01/07/12	Minimal ¹⁷	Nil ¹⁸	Manual	Workload ¹⁹	Nil	Nil	01/04/12	01/07/12 ²⁰
Pakistan	01/04/12	01/07/12	No effect	-	-	-	-	-	WIE ²¹	WIE
USA	01/04/12	01/07/12	Significant ²²	Minor ²³	-	Minimal ²⁴	-	-	01/12 ²⁵	01/07/12

¹ Australia is also implementing FPL 2012 in the Honiara and Nauru FIRs, and providing assistance to Indonesia.

² Australia is currently working through the SMS and Project Delivery process and planning requirement.

³ Australia has previously indicated it may be able to process both PRESENT and NEW format after 15/11/12.

⁴ The Democratic People's Republic of Korea is currently discussing this with neighboring States.

⁵ Fiji has identified two solutions and conducted a CBA, coordination with adjacent FIRs has commenced.

⁶ Japanese front-end system will convert PRESENT to NEW from 18/10/12.

⁷ Japan and neighboring States will only accept PRESENT format AIDC messages from 18/10/12 and 15/11/12.

⁸ Japan cannot handle PRESENT format after 15/11/12.

⁹ Macao NOTAM Database and ATC FDP systems need upgrading but this will not affect implementation.

¹⁰ Macao test readiness is dependent on neighboring ANSPs.

¹¹ Macao response does not indicate if it can accept NEW format before 15/11/12.

¹² New Zealand will exchange AIDC messages in either PRESENT or NEW format by using a variable set parameter.

¹³ New Zealand will consider accepting both PRESENT and NEW formats after 15/11/12 for contingency.

¹⁴ The Philippines assesses the transition impact as minimal because of a lack of FPL automation.

¹⁵ The Philippines is expected to complete testing well ahead of implementation date and can accept NEW plans after that.

¹⁶ The Republic of Korea will install converters to operate in the mixed environment; coordination with Japan is on-going.

¹⁷ Singapore is procuring a FPL converter to convert between PRESENT and NEW formats.

¹⁸ Singapore plans to implement AIDC with Ho Chi Min after 15/11/12, converter may handle both formats.

¹⁹ Singapore expects an increase in workload manually processing both formats and extra cost to maintain equipment.

²⁰ Singapore plans to be able to accept both PRESENT and NEW formats after 15/11/12 for a short period, contingent on the converter.

²¹ Pakistan can start testing with immediate effect AFTN OPKCFPLN; PCAA AHMS is compliant with NEW FPL but ATM system vendor coordination is still in progress.

²² **Medical Flights**

The definition of MEDEVAC and HOSP are incompatible with the current procedures the FAA uses for medical flights (i.e. the term LIFEGUARD is used for life-critical flights requiring priority). Therefore, the FAA is updating procedures to be consistent with MEDEVAC and HOSP. This will affect filing instructions, phraseology, and ATC procedures.

Approved Non-RVSM Flights in Oceanic Airspace

Flights that are approved for Non-RVSM operations in Oceanic Airspace currently are instructed to file APVD NONRVSM in Field 18 STS/.

Under Amendment 1 rules, NONRVSM is permitted but not the FAA terminology. FAA filing instructions and procedures will have to be updated. In addition, the FAA needs to coordinate with other ANSPs to ensure use of NONRVSM by other states will not conflict with the FAA interpretation (i.e. that NONRVSM means Non-RVSM operations in RVSM airspace are approved, not just requested).

Non-RNP 10 Flights in Oceanic Airspace

Flights that do not meet RNP-10 requirements for oceanic airspace are currently instructed to file this information in Reasons for Special Handling (STS/) so that it is highlighted to domestic controllers handling flights transitioning to that airspace. The Amendment 1 rules make this practice infeasible, so a new procedure (and related automation) is needed.

Flights Carrying Hazardous Materials

The United States currently uses various annotations in Remarks (RMK/) to note shipment of hazardous materials. In order to comply with use of STS/HAZMAT as defined in Amendment 1, these procedures will need to change.

Changes to Proposed Flight Plans Requiring Full Route Clearance

The FAA uses a unique flight data field to communicate when a flight plan route has been changed after being filed, and thus needs a Full Route Clearance (FRC). The FAA currently uses a non-standard indicator in Field 18, IRMK/, for this purpose. Amendment 1 discourages the use of non-standard indicators; therefore a new procedure will be needed.

Performance-Based Navigation

The FAA instructs users to file specific information in NAV/ to indicate Performance Based Navigation capability in compliance with FAA standards. The capability is filed with respect to departure, arrival, and en-route capability. The Amendment 1 PBN/ capability does not replicate the capabilities of the current FAA practice, so the FAA is issuing special instructions to indicate continued compliance with FAA NAV/ instructions will be required, in addition to filing requirements for PBN/ that other states will expect.

Impacts on Automation

A number of FAA systems are impacted by Amendment 1, including

1. Air Traffic Control Systems which accept flight plans directly from Airlines, from commercial service providers, and from Flight Services systems and
2. Flight Services systems which accept flight plans directly from General Aviation users and file them with FAA ATC systems.
3. Traffic Management and offline data-analysis systems

Affected Air Traffic Control Systems

1. En Route Automation Modernization (ERAM). This system is currently operational at two Air Route Traffic Control Centers (ARTCCs) and is scheduled to be installed in 18 more, eventually controlling all en route airspace over the contiguous 48 states.
2. Ocean 21. This system is currently operational in oceanic airspace at New York ARTCC, Oakland ARTCC, and Anchorage ARTCC.
3. Host Computer System (HCS). This system is currently operational at 18 ARTCCs, and is scheduled to be replaced over the next several years by ERAM. Until recently, no changes were planned for the HCS but changes to the ERAM schedule make updates necessary.
4. User Request Evaluation Tool (URET). This system provides controller displays and evaluation tools in conjunction with the HCS. It, too, will be replaced by ERAM. Because of the limited remaining life of this system, changes will be minimal and will result in controllers having direct access to the NEW flight plan content only through a command-line interface. The GUI interface provided by this tool will continue to support only the PRESENT flight plan data.
5. Flight Data Processor 2000 (FDP-2000). This system is currently operational at Anchorage ARTCC and provides flight planning services for part of the airspace.
6. Offshore Flight Data Processing System (OFDPS). This system is currently operational at the Honolulu Control Facility (HCF) and provides flight planning services for an area out to 250 NM from the Hawaiian Islands and surrounding Guam.

Affected Flight Services Systems

1. Aeronautical Information System Replacement (AISR). This system is operational at every ARTCC and provides a workstation to send and receive messages over AFTN. Other airspace users also use this system to file flight plans.
2. FS-21. This system is operational at automated flight service stations, and provide a means for flight services specialists to submit flight plans to the ATC automation that have been received by phone.
3. Direct User Access Terminals (DUATS) - Two vendors provide systems that allow pilots to directly file flight plans with FAA Air Traffic Control systems via the internet.
4. Operational and Supportability Implementation System (OASIS). This system is operational at selected flight service stations.

Traffic Management and Offline Data Analysis Systems

Various automated systems that process flight data will be affected if they use the affected ICAO data fields (i.e. Field 10 and Field 18). None of these systems are used for operational Air Traffic Control, and meeting the scheduled dates is not dependent on any of these systems.

²³ **Filed Flight Plans from Users**

Flight plans from users will be impacted. The FAA has been analyzing its flight planning instructions, and is communicating with users via monthly teleconferences and a web site (<http://www.faa.gov/go/fp2012>). Communication includes which specific features in the flight plan are relevant to FAA operations, i.e. which items need to be filed to obtain specific services in FAA controlled airspace.

Flight Data exchange between FAA Facilities

The engineering analysis by each system has identified changes to flight data messages transmitted between facilities, and system changes will reflect the updated interfaces.

Flight Data exchange between FAA and international partners

Data exchange is governed largely by a set of Interface Control Documents, include one each for the NAM, NAT, and PAC regions. The FAA is participating in updates to each of these ICDs, which will then govern the primary changes to AIDC interfaces between affected states. Note that even with the ICD updates, some details are left to bi-lateral agreements, so additional work between States has also been taking place.

²⁴ **Operational Concept for Mixed Operations**

Once NEW content flight plans are permitted, FAA systems will accept either NEW or PRESENT content plans. Each flight plan accepted will be designated, depending on its content, as either NEW, PRESENT, or Indeterminate. An Indeterminate plan is one that is valid under either the NEW or the PRESENT format rules.

Air Traffic Control operations during this time period are expected to be compatible with PRESENT content; i.e. it is not expected that any features requiring NEW content should be activated during the transition period.

All interfaces in the transition period will be switchable according to the status of the interfacing system, i.e. FAA automation will either send NEW format flight plan data when available, or will down-translate using the translate tables developed in the APAC region working group to generate a PRESENT format flight plan.

Note that FAA capabilities will vary by system. Ocean 21 and ERAM will allow controllers to work with either NEW or PRESENT content flight plans, depending on which was filed. The user interface in the legacy Host and URET systems will display flight planning data as PRESENT content, regardless of whether NEW or PRESENT was filed. However the Host system will maintain NEW content data and coordinate that content with external systems as needed. This will put some limitations on FAA use of NEW content data at legacy facilities until ERAM deployment is complete.

AIDC Operations during Transition

AIDC operations during transition will follow the concept outlined above: each interfacing system will be switchable so that if there are any differences in implementation timing, the FAA will be able to send PRESENT content flight planning data to any international partner that requires it.

²⁵ **System Updates- Readiness for Testing**

The FAA goal is to have all systems ready for ANSP to ANSP testing and some flight plan filer testing by March 2012. The current status of each affected system relative to that goal is as follows:

System	Engineering	Software Development	Expected Test Readiness Date
ERAM	Done	Not started	March 2012
Ocean 21	Done	Done	January 2012
HCS	Started	Not started	March 2012
URET	Started	Not started	March 2012
FDP-2000	Started	Not started	January 2012
OFDPS	Not started	Not started	January 2012
AISR	Started	Not started	March 2012
FS-21	Done	Started	March 2012
OASIS	Started	Not started	March 2012
DUATS	Not started	Not started	March 2012

The primary risks with respect to making these dates include:

1. Integrating ICAO Amendment 1 changes with ongoing development and deployment of ERAM
2. Resource constraints caused by concurrent programs

Strategies for testing include initial testing using systems at the FAA technical center, followed by testing at operational facilities. AFTN addresses for systems being tested will be coordinated with the affected parties as needed.

Acceptance of NEW Plans (start of transition)

The FAA goal is to have all systems ready to accept new plans by July 2012.

We have high confidence that this goal will be met for the Oceanic system (Ocean 21), since development and initial testing is complete. The majority of international AIDC interfaces are with the Ocean 21 system, so that testing will be able to proceed as planned with low risk.

Assuming development proceeds according to the schedule above, the primary risk to start of transition for domestic operations (ERAM, Host, URET, OFDPS, and FDP-2000) is the result of testing. The proposed testing phase is short enough that any significant problems (e.g. inconsistencies in interpretation between regions) may not be correctable and still meet the July 1, 2012 planned start to transition. That said, the FAA expects that a later start to this date, within reason, does not put the November 15th date at risk.

Readiness for November 15, 2012 (NEW operations only)

At this point the FAA expects to be ready for NEW operations by the stated date of November 15, 2012.

The FAA plans, consistent with the European plan, to instruct users to being NEW only operations on November 12 so that no PRESENT plans should be left in the system by the mandated date.