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International Civil Aviation Organization

THE FIFTH MEETING OF AERONAUTICAL TELECOMMUNICATION NETWORK (ATN) IMPLEMENTATION CO-ORDINATION GROUP OF APANPIRG (ATNICG/5)

Kuala Lumpur, Malaysia, 31 May – 4 June 2010

Agenda Item 13: **Review outcome of Flight Plan & ATS Messages Implementation Task Force/2 meeting**

REPORT ON THE SECOND MEETING OF THE ASIA/PACIFIC ICAO FLIGHT PLAN & ATS MESSAGES IMPLEMENTATION TASK FORCE AND SEMINAR (FPL&AM/TF/2 & SEMINAR)

(Presented by the Secretariat)

SUMMARY

Asia/Pacific ICAO Flight Plan & ATS Messages Implementation Task Force was created by APANPIRG to facilitate the implementation of Amendment 1 to Annex 15 as per the prescribed schedule. This paper presents a brief report on the outcome of the second meeting of the Task Force

1. Introduction

1.1 Second meeting of The Asia/Pacific ICAO Flight Plan & ATS Messages Implementation Task Force was held back to back with a Seminar from 17 to 20 November, 2009 in Bangkok, Thailand. 45 participants from 13 States (Australia, Hong Kong China, DPR Korea, India, Japan, Malaysia, New Zealand, Philippines, Republic of Korea, Singapore, Thailand, USA and Vietnam) and one international organization (IATA) participated in the meeting and the seminar.

1.2 The meeting, in addition to reviewing the outcome of related meetings also reviewed the available documentation and guidance materials for their adequacy. Various aspects of implementation in Asia/Pacific region were identified and discussed. Based on the information available, an interim Strategy to be adopted for the implementation of New Flight Plan format was developed.

1.3 A seminar on implementation aspects of the new ICAO Flight Plan and associated ATS messages was held on 17 November 2009. Speakers from Australia, New Zealand, USA and IATA made presentations on the subjects related to the subject.

2. Discussion

2.1 A seminar on the implementation of First Amendment to the Annex 15 was organized on 17 November 2009 at ICAO APAC Office, Bangkok. Presentations were made by the experts in field on various issues related to the implementation. Participants of the seminar specifically appreciated the presentations on case studies made by Australia and the United States. The seminar was reminded that in addition to the obvious impacts on airline flight planning systems and ATC automation systems, many States had a large number of ancillary systems that would also be affected by the changes to flight plan and ATS messaging formats.

2.2 A structured approach to implementation was advocated, with the following steps which could be included in the implementation plan:

- Assembly of a Focus Team
- Identification of Affected System
- Identification of systems changes
- Identification of operational impact
- Formulation of a transition plan
- Harmonization with adjacent ANSPs
- Execution of a suitable Test Strategy
- Communication with the users
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2.3 USA brought out 27 primary changes in the New Flight Plan and through a detailed analysis identified the impact of each change on the flight plan filers, flight planning services, flight data processing system and flight data users. A brief description of the differences identified between the proposed amendment and the existing system are given in the **Appendix A** to this paper.

2.4 APANPIRG/20 after reviewing the outcome of FPL&AM/1 meeting included the implementation of new flight plan and ATS messages as one of the eighteen Asia/Pacific Regional Planning Objectives and adopted an interim implementation strategy for New Flight Plan Format.

2.5 A number of clarifications have been sought on the interpretation and requirement of contents in many fields.

2.5.1 <u>FPL Field Sizes</u>

A number of clarifications sought by FPL&AM TF/1 related to defining the field size (number of characters) for various fields in the flight plan. Meeting was of the opinion that it was not possible for the software coders to work with open ended fields and so in every case a field size has to be specified. In practice this means that coders in each State were obliged to individually decide and apply parameters for each field length. Rather than persisting with these ad-hoc local solutions, the meeting considered that agreeing on an Asia/Pacific requirement for a defined number of characters per field or sub field that also complied with relevant Annex 10 Volume II AFTN provisions would result in worldwide standard. FPL Parameters Working Group was established and tasked with working out a suitable number for relevant flight plan fields.

2.6 Meeting also decided on the categories of information that are required to be included in the Asia/Pacific Regional Guidance Material on the issue. The document named *Asia/Pacific Guidance Material for the Implementation of Amendment 1 to Procedures for Air Navigation Service – Air Traffic Management (PANS – ATM Doc 4444)* in its draft form was presented to the Task Force.

2.7 Meeting also reviewed the Conversion Table prepared on the methodology for translating New to Present format for application during the transition to full implementation of Amendment 1 provisions. This is necessary to manage the circumstances where a flight plan is filed in New format but the ANSP is still using Present (Old) system.

2.8 ICAO Flight Plan Implementation Tracking System (FITS) website has been created with the address http://www2.icao.int/en/FITS/Pages/home.aspx to help the ANSPs and airspace users to monitor global implementation status of the new ICAO flight plan system.

2.9 States including Australia, India, Japan, Thailand, USA while presenting their implementation plans highlighted the critical issues being faced by them. One of the major issues which was recognized is that the Amendment is only a recommendation to the PANS-ATM (Doc 4444) and it is not compulsory for the States to adopt it.

2.10 Analysis by Japan indicates that the 120 hour submission provision is not likely to have a significant impact on AIDC messaging because messaging occurs with the actual conduct of flight and the AIDC messaging essentially does not begin until the flight has actually commenced. However, arrangements will have to be made to accommodate the new requirements for fields 10 and 18 in the AIDC.

2.11 Transition arrangements from the existing FPL system to the new FPL system were presented by the States.

2.12 Third Meeting of Asia/Pacific ICAO Flight Plan & ATS Messages Implementation Task Force (FPL&AM/TF/3) has been scheduled from 14 to 16 July 2010.

3. Action Recommended

3.1 Meeting is invited to note the outcome of FPL&AM TF/2 meeting.

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APPENDIX A

Sl. No.	New Requirement	Description
1.	Date of Flight	New field 18 item will be optionally allowed which permits filing up to 120 hours in advance
2.	ACID format (Field 07)	Presently only letters and numbers are permitted. No change in this rule
3.	Field 10	Presently series of 1 to 25 letters followed by an stroke followed by 1 to 2 letters. Maximum length of the subfields before and after the stroke increased
4	GPS Augmentation for landing capability	Two new capabilities expressed in ICAO Field 10a: a) GBAS landing capability b) LPV (APV with SBAS) Purpose of LPV is to fly ILS look alike procedures
5	ACARS capability	Three new fields 10a designators added to describe ACARS capability in the aircraft E1: FMC WPR ACRAS – send FMC Waypoint Reports via ACARS E2: D-FIS ACARS – Weather information via ATIS, VOMET through ACARS E3: PDC ACARS – Pre Departure Clearance through ACARS
6.	CPDLC Capability	CPDLC to designated by a 'J' in ICAO Field 10a with the details of the capability described in Field 18. Now most of those details are designated with Field 10a thorough the following designators J1 CPDLC ATN VDL Mode 2 J2 CPDLC ATN FANS 1/A HFDL J3 CPDLC ATN FANS 1/A Mode A J4 CPDLC FANS 1/A Mode 2 J5 CPDLC FANS 1/A SATCOM (INMARSAT) J6 CPDLC FANS 1/A SATCOM (MTSAT) J7 CPDLC FANS 1/A SATCOM (Iridium)
7	Satellite RTF	FPL will now allow a flier to specify one of several satellite communication capabilities M1 ATC RTF SATCOM (INMARSAT) – ATC radiotelephone capability via INMARSAT] M2 ATC RTF (MTSAT) – ATC radiotelephone capability via MTSAT M3 ATC RTF (Iridium) – ATC radiotelephone capability via Iridium
8	VHF/8.33 kHz	Amendment designates 'Y' for the 8.33kHz channel separation capability in VHF

Sl. No.	New Requirement	Description
9.	ADS-B capability	Presently only non-descriptive 'D' is available in Field 10b for ADS for ADS capability. New format expands Field 10b to provide details: B1 ADS-B with dedicated 1090 MHz ADS-B Out capability B2 ADS-B with dedicated 1090 MHz ADS-B Out and In capability U1 ADS-B Out capability using UAT U2 ADS-B Out and In capability using UAT V1 ADS-B Out capability using VDL Mode 4 V2 ADS-B Out and In capability using VDL Mode 4 In addition
10	ADS-C capability	Existing FPL format only allows a non-descriptive 'D' for ADS capability in Field 10b. Following options are added to describe ADS-C capability D1 ADS-C with FANS 1/A capabilities G1 ADS-C with ATN capabilities
11	FRD with 5 letter base fix	Current FPL format specifies for a Fix Radial Distance (FRD) that the base fix must be a NAVAID with 2-3 letter name. The amendment makes use of a 2-5 character base fix allowable.
12	DEP, DEST and Alternate Format	Present FPL does not provide explicit guidance on how to enter a departure or destination in Field 18. The original instructions were geared towards providing a human readable description, and did not anticipate automation attempts to process location. The location can be either a Lat/Lon, an FRD or a Fix Name as described
13	Required Field 18 Format	In the existing format, Field 18 is supposed to be populated in the 'preferred' sequence. The amendment removes the word 'preferred' and now makes a defined sequence. Now hyphens not be used in Field 18 and the use of oblique strokes has been restricted.
14	Reason for Special Handling (STS/) Requirements	In current flight plan, STS/ is a free text field. Amendment makes it controlled with following options ALTRV for flight operated n accordance with altitude reservation ATFMX for flt approved for exemption from ATFM FFR for fire fighting FLTCK for flight check or calibration of navaids HAZMAT for flight carrying hazardous material HEAD for flight with Head of State HOSP for medical flight HUM for flight operating for humanitarian mission MARSA for flt which military assumes responsibility for separation MEDEVAC for lift critical medical emergency evacuation NONRVSM for non RVSM capable flt SAR for flt engaged in Search and Rescue STATE for flight engaged in military, custom or police service

Sl. No.	New Requirement	Description
15	Performance Based Navigation Capability	Amendment provides mechanism for filing the capabilities of the aircraft/crew/FMS for PBN in Field 18. RNAV Specifications A1 RNAV 10 (RNP10) B1 RNAV 5 all permitted sensors B2 RNAV 5 GNSS B3 RNAV 5 DME/DME B4 RNAV 5 VOR/DME B5 RNAV 5 INS or IRS B6 RNAV 5 LORAN C C1 RNAV 2 all permitted sensors C2 RNAV 2 GNSS C3 RNAV 2 DME/DME C4 RNAV 2 DME/DME/IRU D1 RNAV 1 all permitted sensors D2 RNAV 1 GNSS D3 RNAV 1 DME/DME D4 RNAV 1 DME/DME/IRU RNP Specifications L1 RNP 4 O1 Basic RNP 1 all permitted sensors O2 Basic RNP 1 GNSS O3 Basic RNP 1 DME/DME O4 Basic RNP 1 DME/DME/IRU S1 RNP APCH S2 RNP APCH with BARO-VNAV T1 RNP AR APCH with RF (special authorization required) T2 RNP AR APCH without RF (special authorization required)
16	Delay at a fix (DLE/) capability	The amendment introduces the ability to specify (in Field 18, after DLE/) a delay at a significant point. The significant point in the route.
17	Alternate Take-off Airport (TALT/)	Amendment introduces capability to specify an alternate departure airport in Field 18, using a new indicator TALT. Rules are essentially the same as DEP/DEST.
18	EOBT in Flight Data change message	Currently Doc 4444 specification of CHG, DLA and CNL messages indicate that Field 13 in those messages should include only 13a (the departure airport) and not 13b (the departure time). The amendment changes the message definition to include 13b
19	DOF in flight data change message	By accepting a date of flight in FPL, the date of flight must also be provided in second order message (CHG, DLA and CNL). The specification indicates Field 18 should be included in the messages.

Sl. No.	New Requirement	Description
20	Standard Equipment Definition	The current definition of S in Field 10a is ADF, VOR, VHF RTF and ILS. Amendment changes this to VOR, VHF RTF, and ILS. ADF has been removed
21	Meaning of 'other' equipment	An item 'Z' in ICAO Field 10a indicates that there is additional information in Field 18. The amendment slightly changes what it is referring to; a Z is used to refer to additional data in COM/or NAV; it now indicates there is additional data in COM/, NAV/ or DAT/
22	Required Comm. Performance	An RCP type is a label that defines a performance standard for operational communication transaction. Each RCP type denotes values for communication transaction time, continuity, availability and integrity applicable to the most stringent operational communication transaction supporting an ATM function.
23	Additional Surveillance Capabilities	Amendment introduces the ability to file a new indicator SUR/ in Field 18 to describe any additional surveillance capability not listed in Field 10b.
24	Content of Field 18 (TYP/) Type of aircraft	Amendment provides direction for now to include multiple aircraft types for formation flights and number of each aircraft type in the formation. This information is to be specified in TYP/ in Field 18.
25	Message Originator	Amendment adds an ORGN/ indicator in Field 18 for use by a flight planning service to indicate the AFTN address or other contact information for the flier that originated the FPL.
26	A/C Performance (PER)	Existing requirements for PER/ in Field 18 are simply to include information as required by ATS units; it is essentially a free test field. Amendment changes this to require a single letter category as per ICAO Doc 8168 Vol. 1, Section 1.3 which describe the categories
27	Enhanced Mode – S Surveillance Capability	Enhanced Surveillance entails the use of Downlink Aircraft Parameters (DAPs). Controller Access Parameter (CAP) service is the most prominent one. System improvements like the Level Bust Alerting Tool, enhanced tracking and improved nets are also considered.