International Civil Aviation Organization

The 2nd Meeting of the Future Air Navigation Systems Interoperability Team-Asia (FIT-Asia/2)

Bangkok, Thailand, 28 – 29 March 2013

Agenda Item 4: Data Link Guidance Material

LOGON PROCEDURES, REJECTED LOGON PROCEDURES, AND NOTIFICATION OF CHANGES TO AIRCRAFT DETAILS

(Presented by Airservices Australia)

SUMMARY

This paper provides an overview of flight crew logon procedures, as well as highlighting the importance of notification of changes to aircraft details.

This paper relates to –

Strategic Objectives:

*A: **Safety** – Enhance global civil aviation safety*

Global Plan Initiatives:

GPI-17 Data link applications

1. INTRODUCTION

1.1 Prior to data link services being available, an ATS Unit must receive a logon from the aircraft. This logon may be an initial logon (initiated by the flight crew), or a logon as a result of the address forwarding process initiated by another ATS Unit.

1.2 When a logon is received from a FANS-1/A aircraft, an ATSU should attempt to correlate (or match) the logon with a flight plan that is held by the ATSU. Information that should be used by the ATS Unit for this correlation may include a combination of the aircraft identification, registration and/or the aircraft address (24 bit code).

1.3 After correlating a logon with a flight plan, a ‘logon acknowledgement’ is sent by the ATS Unit back to the aircraft.

1.4 If the logon cannot be correlated with a flight plan, the logon is rejected by the ATSU and a ‘logon rejection’ message sent back to the aircraft.

2. DISCUSSION

2.1 To minimise rejected logons, the Global Operational data Link Document (GOLD) contains the following logon procedures for flight crews:

> *"2.2.2.3.2 To perform an initial AFN logon the flight crew enters flight-specific information (e.g. aircraft identification and aircraft registration) into the aircraft system. The flight crew also enters the four character ICAO identifier of the ATSU to which the AFN logon is to be sent."*

2.2 In the event that a logon is rejected, the most likely reason is because the data in the logon does not match the flight plan held by the ATS Unit. Analysis of rejected logon data indicates that a number of flight crews simply re-transmit a logon containing the same incorrect information. There is little point in doing this!

2.3 GOLD contains the following procedures for flight crews in the event of a rejected logon:

> *"2.2.2.4.3 If the AFN logon is rejected, the flight crew confirms that the aircraft identification and aircraft registration in the FMS matches the information provided in the flight plan and, as appropriate:*
>
> *a) Makes the necessary corrections; or*
> *b) Contacts ATC or AOC to correct the flight plan; and then.*
> *c) Reinitiates the AFN logon.*

2.4 An initial analysis of ACARS data for the Brisbane FIR (YBBB) revealed that during December 2012, 263 logons were received that were rejected (out of a total of 8722 logons), a failure rate of 3%.

2.5 While this is a relatively small percentage of logons, a comparison of rejected logons per operator shows that logon rejections are much more common for some operators compared with others.

2.6 55 of the rejected logons were due to incorrect aircraft identification, and the majority of the remaining rejected logons were due to incorrect aircraft registration.

Incorrect Aircraft identification in logon	
Use of 2 character IATA designator	16
Addition of leading zeros in the aircraft identification (e.g. "ABC**000**1")	29
Entering the departure point instead of the aircraft identification	1
Entering the flight number without the 3 character ICAO designator (e.g. "123")	1
Miscellaneous (generally typographical)	8
Total	55

2.7 Incorrect aircraft registration

2.7.1 The most common reason for a logon to be rejected is because a different airframe is being used for the flight than that notified in the original flight plan. If such an airframe change occurs, it is important for the operator to ensure that this information is notified to all ATS Units that may be affected by such a change. An extract from *PANS-ATM Doc 4444* follows:

> *"11.4.2.2.4 MODIFICATION (CHG) MESSAGES*
> *A CHG message shall be transmitted when any change is to be made to basic flight plan data contained in previously transmitted FPL or RPL data. The CHG message shall be sent to those recipients of basic flight plan data which are affecte*d by the change."

2.7.2 If the airframe has changed, the CHG message should, as a minimum, notify both the change in registration **and** the aircraft address, if this information was contained in the original flight plan.

2.7.3 If an ATS Unit becomes aware of an incorrect aircraft registration and/or aircraft address (e.g. due to a rejected logon), after confirming the aircraft details, the ATS Unit should initiate a CHG message so that other ATS Units are aware of the change. Failure to do so may result in address forwarding failures for ATS Units later in the flight.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) Be aware of the GOLD flight crew procedures associated with initial and rejected logons;

b) Be aware of the importance of notification of changes to aircraft details, such as registration; and

c) Discuss any relevant matters as appropriate.

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