



International Civil Aviation Organization

The Second Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/2)

Bangkok, Thailand, 4 – 8 October 2004

Agenda Item 5: Review regional and global airspace planning and implementation developments and provision of airspace safety monitoring services

**REVIEW OF THE REPORT ON THE EIGHTH MEETING OF THE
FANS INTEROPERABILITY TEAM (FIT/8)
INFORMAL PACIFIC ATC COORDINATING GROUP**

(Presented by the Secretariat)

SUMMARY

This paper reports on the Eighth Meeting of the FANS Interoperability Team (FIT/8) of the Informal Pacific ATC Coordinating Group (IPACG).

1. BACKGROUND

1.1 The Eighth Meeting of FANS Interoperability Team (FIT/8) was held in Tokyo, Japan, on 7-8 June 2004, followed by the Twenty-first Meeting of the Informal Pacific Air Traffic Control (ATC) Coordinating Group (IPACG/21). The IPACG FIT was established as a sub-group of the IPACG to oversee the problem reporting and end-to-end system performance monitoring processes.

2 SUMMARY OF DISCUSSIONS

FANS-1/A Operations Manual

2.1 The meeting was advised that 21 Request For Change forms (RFCs) were presented to the IPACG FIT/11 meeting held in February 2004, and of them, 19 RFCs were accepted. The meeting was also advised that the Pacific Operations Manual has been renamed the FANS-1/A Operations Manual, a copy of which was distributed in March 2004 to the IPACG FIT members. The meeting noted the amendments accepted at the IPACG FIT/11 meeting as well as the change of the title of the manual.

2.2 The FIT/11 discussed similar documents regarding FANS-1/A data link operations issued by other bodies. The ICAO Asia/Pacific Office has published the *ICAO Guidance Material on CNS/ATM Operations in the Asia/Pacific Region*, while the ICAO Europe Office has issued three documents, namely *Guidance Material for ATS Data Link Services in NAT Airspace*, *Guidance Material for ATS Data Link Services in NAT Airspace*, and *Guidance Material for FMC WPR Services in NAT Airspace*. It was advised that ICAO would not publish an operational manual, but would issue guidance material. The meeting noted that the FANS-1/A Operations Manual contains information which would not be appropriate to an ICAO guidance material but was valuable and indispensable for the FANS-1/A data link operation. The operators wished to have a single document mutually applicable to all areas.

Reports on the CRA and CRA Supporting Agency (CRASA) activities

2.3 The IPACG FIT CRAs have been continuing to process Problem Reports received from operators and service providers in the North and Central Pacific. The IPACG FIT CRA consists of two complementary organizations, each supporting their respective area.

2.4 The FAA CRA processes reports originating in or relating to occurrences in Oakland and Anchorage Oceanic FIRs. Resources for the FAA CRA are provided by the Boeing Company. Activities of the FAA CRA cover the South Pacific as well. The JCAB CRA processes reports originating in or relating to occurrences in Tokyo FIR. Resources for JCAB CRA are provided by the Air Traffic Control Association Japan (ATCA-J).

2.5 Reports submitted to one of these organizations but which are found to be more appropriately within the remit of other organization are transferred to the other organization.

2.6 The FAA CRA and JCAB CRA jointly presented the report of CRA and CRASA activities. It was advised that since the IPACG FIT/7 meeting in October 2003, the FAA CRA, responsible for processing reports originating in or relating occurrences in the Oakland and Anchorage Oceanic FIRs, received 9 new problem reports (PRs) from operators. The FAA CRA proposed closure of 5 PRs, which had all been closed by ISPACG FIT/11 in February 2004. 4 PRs were due to release of a new avionics software version. The IPACG FIT/8 agreed to close 5 PRs proposed by the FAA CRA.

2.7 The JCAB CRA is responsible for processing PRs originating in or relating to occurrences in the Tokyo FIR, and received 37 PRs since the IPACG FIT/7 meeting. The JCAB CRA proposed 14 PRs to be closed. During the review of the PRs to be closed, concern was raised for PR 10186 regarding different CPDLC messages displayed on two Control Display Units (CDU) (left and right seats in cockpit). While Boeing has issued an operations manual bulletin instructing flight crews to use the left CDU when the different CPDLC messages were displayed on the left and right CDUs, it was considered that a software change may be required to resolve this problem. The meeting therefore did not close PR 10186 and kept it open. The FAA CRA agreed to study this problem and report back to the next FIT meeting.

2.8 The FAA CRA discussed the following specific reports:

- B747-400 FMC ignores uplinks for one function (PR 377)
- B777 position report estimate incorrect after waypoint sequence (PR 446)
- KAKES black hole investigation (PR 447)
- B777 flight number synchronization problem (PR 449)
- Multiple reports from B777 (PR450)
- Ground system used wrong format for B777 (PR 451)
- Airplane transfers OK, but ATSU does not recognize transfer (PR 452)
- Unusual free text with vertical clearance request (PR 454)

2.9 The FAA advised that problems should be reported to the CRAs, and that problems will not be fixed if they are not reported. A problem reporting mechanism was discussed at the JCAB FANS Data Link Seminar in October 2002. A new software version, once it was released, should be obtained from Boeing and installed into airframes.

2.10 JCAB CRA reported on its activities since the IPACG FIT/7 meeting and the following PRs were discussed:

- Unreasonable message sent from a data link service provider (PR10191)
- ADS report error (PR10193)

- Data delay (PR10198, PR10201, PR10203, PR10207, PR10217)
- Inappropriate logon and CPDLC position report (PR10205)
- Abnormal display of flight path on ATC screen (PR10212, PR10215)
- Illegible CPDLC freetext (PR10216)
- Multiple reception of same CPDLC downlink messages (PR10222)

2.11 The meeting was asked if specific problems, which are considered to affect the application of distance-based separation minima using ADS/CPDLC, have been received or identified. The meeting felt that there were no such problems at this stage; however, the JCAB CRA agreed to study this and report to the next meeting.

Technical issues relating to use of MTSAT

2.12 JCAB advised the meeting that MTSAT-1R was delivered to the Tanegashima Space Center in Japan in March 2004 and is waiting for the launch, while MTSAT-2 is currently being manufactured by the Mitsubishi Electric Co. and will be delivered by the end of 2004. Due to the failure of the launch of the H2A rocket in November 2003, a launch recovery plan for the H2A has not been announced. It was advised that JCAB expects the MTSAT-1R launch in early 2005, and it will become operational 7 to 9 months after the launch.

2.13 The Office of Aeronautical Satellite Systems, JCAB presented information on the MTSAT system and discussed the following.

- Handover between MTSAT and Inmarsats during flight
- GES and satellite redundancy
- SATCOM ORT Editor
- Distribution of SATCOM message to each end-user

3.14 The meeting noted that JCAB does not intend to change, with the commissioning of MTSAT, the current air navigation charge for international flights operating within the Japanese FIRs; therefore, the air navigation charge for aircraft connecting with MTSAT will be the same as aircraft using HF voice and aircraft connecting with Inmarsat.

3.15 The meeting also noted that connection to MTSAT within the Japanese FIRs will not be mandatory, and selection of satellite service will be the decision of the operators. It was advised that JCAB is willing to participate in airline meetings to provide them with information on MTSAT.

Satellite Channel Data Format

3.16 Airbus presented information regarding satellite channel data format. The recent CPDLC testing of FANS-A + avionics, developed in accordance with RTCA DO-219 (ED100), in the North Atlantic had revealed a mismatch between uplinked satellite phone numbers and information displayed in the cockpit. The meeting was asked if IPACG plans to use CPDLC messages which refer to satellite channel coding. If so, it was suggested a test for uplinking the messages 117 and 120 be conducted. The meeting agreed that Tokyo ACC would conduct a test for sending these messages to an Airbus test bed from the Oceanic Data Processing (ODP) system, and that the outcome will be reported at the next meeting.

Airbus presentation regarding A380

3.17 Airbus presented information on the new A380. It was highlighted that the A380 is not as large as it is said, comparing it with the current B747. The size of A380 is 79.80 meters in length, less than 80 meters in width and 80 foot in height. The “80 x 80 box” was a design

requirement for minimizing infrastructure impact. Some 10 airports in the world have indicated that they would be capable of accommodating the A380. The inauguration flight for the A380 will be conducted in early 2005 and it will come online in mid 2006.

3.18 IFALPA stated that the A380 might reduce the operational efficiency on the ground at certain airports where taxiway and runway configurations would not accommodate the A380.

Possible factors causing data link connection failure

3.19 The JCAB CRA presented an analysis of the causes of data link connection failures. One month's data in January 2003 were analyzed. During the period, 3405 flights performed AFN logon to Tokyo ODP system. Of them, 2459 flights established connection at the first attempt, 875 flights established after the second attempt, and 71 flights were not able to establish connection. The following table depicts the causes of those 71 flights' failures:

Reception of DR1 (disconnect request) after CR1 (connection request) was uplinked	45.1 %
Related to FN AK (Reason Code = 4)	31.6 %
MAF (message assurance failure) was received after CR1	17.3 %
Time out after FN AK or CR1	5.9 %

ICAO Southeast Asia ATS Coordinating Group FANS Interoperability Team (SEACG FIT)

3.20 JCAB advised the meeting that the 11th meeting of the ICAO South-East Asia ATS Coordination Group (SEACG/11) and the 1st meeting of the SEACG FANS Implementation Team (FIT-SEA/1) were held in Bangkok, Thailand on 24 - 28 May 2004, and discussed ATS related issues and FANS-1/A data link operations over the South China Sea area.

3.21 JCAB presented to the FIT-SEA/1 meeting information detailing the roles and activities being undertaken by the JCAB CRA for the Tokyo FIR oceanic controlled airspace, and offered to undertake the role of CRA for the South China Sea area.

4. ACTION BY THE MEETING

The meeting is invited to review the IPACG FIT 8 report.

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