



*International Civil Aviation Organization*

**The Twenty-First Meeting of the APANPIRG ATM/AIS/SAR Sub-Group  
(ATM/AIS/SAR/SG/21)**

Bangkok, Thailand, 27 June – 01 July 2011

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**Agenda Item 5: Review of other relevant meetings**

**SUMMARY REPORT OF THE ELEVENTH MEETING OF FANS IMPLEMENTATION  
TEAM FOR SOUTH-EAST ASIA (FIT-SEA/11)**

(Presented by the Secretariat)

**SUMMARY**

This paper summarizes the report of the 11<sup>th</sup> Meeting of FIT-SEA for review by the meeting. Action by ATM/AIS/SAR/SG/21 is at paragraph 3.

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-17 Data link applications

**1. INTRODUCTION**

1.1 The 11<sup>th</sup> Meeting of the FANS Implementation Team for South-East Asia (FIT-SEA/11) was held at the ICAO Asia and Pacific Regional Office, Bangkok, Thailand on 3 May 2011.

**2. DISCUSSION**

**Review of ADS/CPDLC Implementation**

Outcomes of RASMAG/13 and 14

2.1 The meeting reviewed the outcome of the 13<sup>th</sup> and the 14<sup>th</sup> meetings of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/13 and 14, August 2010 and February 2011, respectively).

*ADS-C/CPDLC Data Link Performance Monitoring*

2.1.1 RASMAG/14 noted the information presented and recommended appropriate action to encourage air navigation service providers (ANSPs) to provide data link performance data to the Central Reporting Agencies (CRAs). Accordingly, RASMAG/14 proposed a recommendation as follows:

**Recommendation RASMAG 14**

*Noting the pre- and post-implementation system performance monitoring required by Annex 11 – Air Traffic Service (Para 2.26.5), the Global Operational Data Link Document (GOLD) and the Guidance Material for End-to-End Safety and Performance Monitoring of Air Traffic Service Data Link Systems in the Asia/Pacific Region, States are invited to ensure that the appropriate data link performance monitoring is undertaken and reported to CRAs/FITs, as required, in a timely manner.*

**ADS/CPDLC Operation within the Ujung Pandang FIR and the Proposal for the Ujung Pandang FIR to Join FIT-SEA***Traffic Flows*

2.2 The traffic flows in the Ujung Pandang flight information region (FIR) were different from the flows in the Jakarta FIR. The traffic flows within the Ujung Pandang FIR were mostly serving the traffic from East Asia to Australia and vice versa while flows within the Jakarta FIR were from Australia to South East Asia and the Middle East and vice versa. There were five ATS routes serving the traffic flows, namely A461, B472, B473, R340 and G578, in connection with the Manila FIR, and two ATS routes in connection with the Kota Kinabalu FIR, namely B583 and B584. It was also noted in the report of the 13<sup>th</sup> Meeting of the FANS Implementation Team for the Bay of Bengal (FIT-BOB/13, February 2011) that the traffic flows in the Ujung Pandang FIR had closer relation with the FIT-SEA activities rather than those of FIT-BOB.

*Discussion*

2.3 IATA agreed that the traffic flow in the Ujung Pandang FIR was predominantly north-south while the traffic flow in the Jakarta FIR was east-west. Even though the two contiguous FIRs belong to a State with another FIR in between, there should not be a problem for those FIRs to belong to different FITs from the view point of the traffic flow, thus agreeing with Indonesia that the Ujung Pandang belongs to FIT-SEA. Singapore supported Indonesia's request.

2.4 The Secretariat advised the meeting that in order for the Ujung Pandang FIR to become a member of FIT-SEA, there was no need to amend the TOR of FIT-SEA as it does not specifically list the member FIRs. The Rapporteur drew to the attention of the meeting that the TOR of the FIT-SEA CRA agreed at FIT-SEA/3 (November 2005, Bangkok) would need to be amended as it defined the area of services for CRA services for airspace outside radar and VHF coverage within the Ho Chi Minh, Manila and Singapore FIRs. The area of service of FIT-SEA CRA would be amended to add the Ujung Pandang FIR.

## **Central Reporting Agency – South-East Asia**

### Report of FIT-SEA CRA

2.5 Japan informed the meeting that CRA-Japan had been providing CRA services according to the TOR that was agreed upon by FIT-SEA/3.

#### *System Performance*

2.6 CRA-Japan informed the meeting that from April 2010 to February 2011, 94.51% of downlink messages were delivered within 1 min, and 99.14 % were within 3 min in Singapore. The CPDLC downlink performance for the 1 min criteria was marginally (0.49%) short of the FOM standard.

2.7 Average uplink success rate in this year in Singapore was 99.98%. In regard to the auto transfer success rate, there is no prescribed standard in the FOM. Average auto transfer success rate in this year was 95.5%.

2.8 CRA-Japan also informed that meeting that 95% of downlink messages took an average of 56 sec, and 99% of downlink messages took an average of 1 min 43 sec in Ho Chi Minh.

2.9 Average uplink success rate in this year in Ho Chi Minh was 98.74%. It was marginally less than the success rate specified in the FOM. Average auto transfer success rate in this year was 92.6%.

#### *Discussion*

2.10 The Rapporteur noted that the PRs were from a single source and encouraged the State member to submit PRs. Airline operators were also encouraged to submit PRs to the CRA. To facilitate more timely submission, the Rapporteur suggested reviewing the PR submission mechanism to allow for earlier receipt by the CRA. This will ensure that data that needs to be retrieved from the data link service providers (DSP) are still available as he noted that the PR analyses by Japan required additional information in order to complete the investigations.

### Review of ADS/CPDLC Operations in the Singapore FIR

2.11 Singapore presented a presentation of the ATS Data Link System Performance/Operator Review of ADS/CPDLC Operations in the Singapore FIR for the period May 2010 to Mar 2011.

#### *Performance*

2.12 Monthly Periodic Status Reports were prepared and submitted regularly to CRA-Japan. The reports indicated that the ATS data link system performance was within the FOM criteria except for downlink message delivery in the earlier part of the review period. It was noted that the downlink message delivery performance for the 1 min criteria for February 2011 onwards had improved and had been since maintained at a performance level that met the FOM criteria.

2.13 The mean CPDLC uplink delivery time was 98% and 99.9% for the 120 sec and 360 sec criteria, respectively. The total reject rate remained low with an average of 0.02%. The data link service availability remained high and the Next Data Authority (NDA) success rate was 95.32%.

2.14 As previously noted at FIT-SEA/9 (May 2009, Bangkok) and FIT-SEA/10, there were performance issues for downlinks in both the Singapore and the Ho Chi Minh FIR. This was a known performance issue that was attributed to the B777 type, which formed a majority amongst the aircraft types operating FANS in the Singapore FIR.

2.15 During this period, Boeing provided a fix to the operators. All 26 of Singapore Airline's AIMS-2 equipped B777 had completed the upgrade, with 10 out of the remaining 51 AIMS-1 equipped B777 were still in progress. Although it was expected to take time for all the aircraft to be updated, those upgrades had resulted in improved downlink performance from February 2011 onwards.

#### ADS/CPDLC Implementation in the Ho Chi Minh FIR

2.16 Viet Nam reported that they had been officially providing data link services on eight RNAV routes (L625, L628, L642, M765, M768, M771, N500 and N892) in the oceanic area of the Ho Chi Minh FIR since April 2008.

#### *Operational Status*

The status of ADS/CPDLC operations:

- Based on the daily records, there were more than 300 aircraft flying on the above RNAV routes, only half of which had been equipped with both ADS and CPDLC.
- There are about 100 aircraft having ADS/CPDLC connection with Ho Chi Minh system.

Technical status:

- Ground system: There was no modification to ground system, and the system was working satisfactorily.
- ACARs link: With dual link provided by ARINC, there was no unplanned interruption, and the connection between CAAV system and service provider's server was stable.
- Data link transfers between Ho Chi Minh and Singapore ACCs had been taking place smoothly.

CPDLC Uplink/Downlink Messages:

- Downlink messages: 95 percentile had duration of 01: 00 min and the 99 percentile was 01: 43 min.
- Uplink messages: 95 percentile had duration of 01: 00 min and the 99 percentile was 02: 20 min.
- Success rate: 99 percent.

PRs:

- There was no PR reported to the CRA.

### Progress of ADS/CPDLC Trial Operations in the Manila FIR

2.17 Philippines reported that the Phase 1A of the trial operations was conducted from 8 November 2010 to 11 February 2011. The trial period was from 0300 to 0900 UTC. Four airlines participated in the data link trial.

2.18 From 14 February 2011 up to the present, the Phase 1B operational trial was ongoing. The trial period was from 0100 to 1300 UTC. Seven airlines were taking part in the trial.

#### *Outcome of the Phase 1A Operational Trial*

2.19 Data on the system performance during the Phase 1A of the data link trial operations, i.e. for the period from 8 November 2010 to 11 February 2011, were provided to the Philippines by SITA. Subsequently, those data were sent to FIT-SEA CRA (CRA-Japan). Based on the data collected, Manila attained encouraging figures for the success rate of uplink and downlink messages delivery per month. The majority of the problems encountered during the Phase 1A were problems with connection or log on to RPHI.

#### *Status of the Phase 1B Operational Trial*

2.20 Starting from 14 February 2011, Manila progressed to the Phase 1B of the trial operations wherein seven airlines were participating. PRs and system performance reports for the trial period were regularly submitted to CRA-Japan.

#### *Preparations for the Next Phase*

2.21 Phase 2 of the trial operations will be divided into two sub-phases, i.e. Phases 2A and B. The Draft Supplementary LOA had already been prepared. It would be finalized as soon as discussions with adjacent ACCs were completed. As a requirement for the trial involving the participation of all FANS 1/A equipped aircraft, Manila drafted an AIP Supplement.

2.22 IATA queried the timeline to proceed to the Phase 2A trial. After discussions between the Philippines and the Secretariat, there were two actions for the Philippines to complete before moving on to the Phase 2 trial in 2011. One was to amend the operational letters of agreement (LOA) with the neighbouring ACCs and the second was that an AIP supplement should be published two AIRAC cycles before the commencement of the Phase 2 trial. The Philippines was invited to inform the upcoming ATM/AIS/SAR/SG/21 in June and APANPIRG in September 2011 of the estimated time schedule in an IP.

2.23 The Rapporteur congratulated the Philippines on the progress made in data link trials and noted that CRA-Japan had been providing CRA services to the Philippines on a bilateral cooperation basis. The meeting agreed that the arrangement with CRA-Japan could continue during the Phase 1 so as not to interfere the on-going trial, and the Phase 2 trial would need to be authorized and coordinated under the auspices of FIT-SEA and the responsibility of CRA-Singapore.

#### Setting Up of CRA-Singapore

2.24 Singapore had offered to set up and fund an alternative CRA arrangement for the South China Sea region. This arrangement will be for an initial period of three years to facilitate the expansion of data link operations in the South East Asia region, after which a review will be done.

*Terms of Reference of FIT-SEA CRA*

2.25 Whilst it was originally envisaged that there would not be any change to the TORs, a change to the area of FIT-SEA CRA services would be necessary to accommodate the participation of the Ujung Pandang FIR in FIT-SEA. In order for CRA-Singapore to act as FIT-SEA CRA under the authorization of FIT-SEA, a data confidentiality agreement shall be signed between CRA-Singapore and the States that provide data link services or will implement data link trials, namely, Indonesia, the Philippines, Singapore and Vietnam. Besides establishing a data confidentiality agreement with their DSP, States shall also establish this arrangement with Boeing who will be supporting CRA-Singapore in providing technical expertise for CRA activities. Singapore informed the meeting that PRs may be submitted directly by ATS providers, airlines and data link service providers (DSPs) directly to Boeing, who will provide a copy to CRA-Singapore, in accordance with the data confidentiality arrangements.

2.26 In response to query from the Secretariat, Singapore clarified that CRA-Singapore had already been able to accept PRs since April 2011, subject to signing of the data confidentiality agreement.

2.27 The meeting noted and discussed the information, the changes to the CRA arrangement (in particular PR submission procedures) and was invited to establish a data confidentiality arrangement with CRA-Singapore, DSP and Boeing.

2.28 The Secretariat appreciated that Singapore took over the role of the CRA for the South East Asia region. It was noted that the Philippines were currently providing PRs to CRA-Japan on a bilateral cooperation basis. The Philippines was invited to conclude the data confidentiality agreement with CRA-Singapore as soon as possible. Japan agreed that the current bilateral assistance would be continued until the official service provision starts by signing the confidentiality agreement and/or the Phase 2A starts. The point of contact of CRA-Singapore is Mr. Kwek Chin Lin, Senior Air Traffic Control Manager (Systems), Civil Aviation Authority of Singapore, whose email address is [kwek\\_chin\\_lin@caas.gov.sg](mailto:kwek_chin_lin@caas.gov.sg).

**3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) note that the Ujung Pandang FIR has come under the responsibility of FIT-SEA from FIT-BOB;
- b) note that the CPDLC downlink performance of Ho Chi Minh and Singapore for the 1 min criteria was marginally (0.49%) short of the FOM standard;
- c) note that the Philippines will move on to the Phase 2A data link operational trial in the Manila FIR to involve all the operators by the end of 2011;
- d) note that CRA-Singapore has been established since 1 April 2011. States are requested to conclude confidentiality agreements as soon as possible.

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